

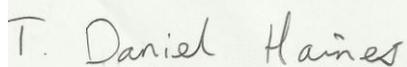
**Building the Empire, Building the Nation: Water, land,  
and the politics of river-development in Sind, 1898-1969**

Timothy Daniel Haines

A thesis submitted in fulfilment of the requirements of the degree of Doctor of  
Philosophy (PhD), Royal Holloway College,  
University of London.

## Declaration of Work

I, Timothy Daniel Haines, hereby declare that this thesis and the work presented in it is entirely my own. Where I have consulted the work of others, this is always clearly stated.



Signed.....

Date.....04 April 2011.....

## Abstract

Major attempts to control the natural environment characterized government 'developmental' activity in twentieth-century Sind. This thesis argues that the construction of three barrage dams across the River Indus, along with a network of irrigation canals, enacted human control over nature as a political project. The *Raj* and its successor state in Sind, Pakistan, thereby claimed legitimacy through their capacity to benefit humans by re-modelling the landscape. These claims depended on an implied narrative of material progress, which irrigation development was expected to bring about, in a province considered technologically and socially backward.

In allocating land that was newly made available for cultivation, government officials found an unprecedented opportunity to also re-shape agrarian society. As well as providing the means by which 'ideal types' of cultivator could be encouraged to proliferate, the development of Sind's irrigation system was based on concepts of modernization that promoted increasing state intervention in agrarian life to render a 'disordered' society more easily governable. This trend was constrained, however, by successive administrations' need to balance the lure of radical modernization against the powerful claims on new land of local magnates.

The colonial belief in the agricultural, economic, and social benefits of large-scale irrigation projects was transplanted into the post-colonial state. The construction of irrigation works, the colonization of land, and their political implications before and after Independence are therefore analyzed, in order to demonstrate how and why the logic of large infrastructure schemes remained consistent. At the same time, differences in how successive administrations framed and enacted barrage projects are shown to have depended on contemporary

circumstances. In the process, the thesis sheds new light on the tensions between and within the central and provincial governments, demonstrating the contested nature of concepts of Imperial governance, nation-building, and material progress.

## Table of Contents

<b>DECLARATION OF WORK .....</b>	<b>2</b>
<b>ABSTRACT.....</b>	<b>3</b>
<b>ABBREVIATIONS .....</b>	<b>7</b>
<b>A NOTE ON SPELLING AND NAMES .....</b>	<b>8</b>
<b>MAP OF PAKISTAN .....</b>	<b>9</b>
<b>MAP OF SIND'S RIVER AND BARRAGES.....</b>	<b>10</b>
<b>ACKNOWLEDGEMENTS.....</b>	<b>11</b>
<b>INTRODUCTION .....</b>	<b>13</b>
WATER IN SOUTH ASIA .....	18
INTRODUCING SIND.....	21
METHODOLOGY AND SOURCES .....	26
CHAPTER OUTLINE .....	30
<b>CHAPTER 1: THE JAMRAO CANAL AND THE BEGINNING OF SCIENTIFIC IRRIGATION IN SIND</b> <b>.....</b>	<b>34</b>
SIND BEFORE AND AFTER BRITISH ANNEXATION .....	36
THE LAIKPUR CANAL.....	42
THE JAMRAO CANAL .....	47
COLONIZATION OF THE JAMRAO PROJECT .....	53
CONTROLLING IRRIGATION AND CULTIVATION ON THE JAMRAO TRACT .....	68
CONCLUSION .....	74
<b>CHAPTER 2: THE SUKKUR BARRAGE AND SIND'S TRANSFORMATION .....</b>	<b>78</b>
PLANNING THE SUKKUR BARRAGE .....	79
<i>The 1912 Despatch</i> .....	82
<i>The 1920 Despatch</i> .....	87
CONSTRUCTING THE BARRAGE.....	92
CEREMONIAL EVENTS.....	98
LAND DISTRIBUTION POLICIES .....	105
CONCLUSION .....	118
<b>CHAPTER 3: FROM EMPIRE TO NATION: IRRIGATION AND GOVERNANCE DURING</b> <b>PROVINCIAL UPHEAVALS.....</b>	<b>122</b>
THE SUKKUR BARRAGE AND SIND'S CONSTITUTIONAL STATUS.....	124
SEPARATION GRANTED: AGRICULTURE AND THE LEGISLATURE .....	130
WARTIME DEVELOPMENT SCHEMES.....	145
'PROGRESS' AFTER PARTITION .....	151
CONCLUSION .....	159
<b>CHAPTER 4: THE NATION-STATE VERSUS THE NATURAL ENVIRONMENT .....</b>	<b>161</b>
THE NEW BARRAGES.....	162
FEATS OF ENGINEERING.....	172
RATIONALIZATION OF RESOURCES: ONE UNIT.....	183

DEVELOPMENT OF THE BARRAGE AREAS .....	187
DRAINAGE: SETBACKS IN 'PROGRESS' .....	195
CONCLUSION .....	207
<b>CHAPTER 5: THE POLITICS OF LAND AFTER INDEPENDENCE .....</b>	<b>210</b>
BARRAGE LAND, REFUGEES, AND CENTRE-PROVINCE TENSIONS.....	212
LAND IN EARLY 1950S SIND.....	217
LAND UNDER THE ONE UNIT ADMINISTRATION .....	226
COLONIZATION AND LAND REFORMS UNDER MARTIAL LAW .....	234
COLONIZING THE GUDU BARRAGE.....	253
CONCLUSION .....	256
<b>CONCLUSION .....</b>	<b>258</b>
EPILOGUE.....	276
<b>BIBLIOGRAPHY .....</b>	<b>278</b>
PRIMARY SOURCES .....	278
(i) <i>Private papers</i> .....	278
Oriental and India Office Collections (IOR), British Library, London .....	278
(ii) <i>Official records</i> .....	278
Institute of Sindhology, University of Sindh, Jamshoro .....	278
Government of Sindh Archives, Karachi (G.S.A.) .....	278
Maharashtra State Archives, Mumbai (M.S.A.) .....	278
National Documentation Centre, Islamabad (N.D.C.) .....	278
Oriental and India Office Collections (IOR), British Library, London .....	279
United Kingdom National Archives, Kew (U.K.N.A.).....	279
United States National Archives, College Park, Maryland (U.S.N.A.) .....	279
(iii) <i>Official publications</i> .....	279
Institute of Sindhology, University of Sindh, Jamshoro .....	279
Maharashtra State Archives, Mumbai (M.S.A.) .....	280
Oriental and India Office Collections (IOR), British Library, London .....	280
Pakistan Institute for International Affairs, Karachi.....	281
School of Oriental and African Studies, London .....	281
(iv) <i>Newspapers and periodicals</i> .....	281
SECONDARY SOURCES .....	282
(i) <i>Publications</i> .....	282
(ii) <i>Unpublished printed matter</i> .....	290
(iii) <i>Electronic material</i> .....	290
<b>APPENDIX: PHOTOGRAPHS OF SUKKUR BARRAGE WORKS.....</b>	<b>291</b>

## Abbreviations

*B.L. = British Library, London*

*ConRep = Fortnightly Confidential Report*

*G.S.A. = Government of Sindh Archives, Karachi*

*I.O.R. = India Office Records, British Library, London*

*M.S.A. = Maharashtra State Archives, Mumbai*

*MSS Eur = European Manuscripts collection at the British Library, London*

*N.D.C. = National Documentation Centre, Islamabad*

*N.W.F.P. = North-West Frontier Province*

*P.D. = Political Department*

*P.W.D. = Public Works Department*

*R.D. = Revenue Department*

*R.G. = Record Group*

*U.K.N.A. = United Kingdom National Archives at Kew*

*U.S.N.A. = United States National Archives at College Park, Maryland*

*V-AID = Village Agricultural and Industrial Development Programme*

*W.A.P.D.A. = Water and Power Development Authority*

## A note on spelling and names

Personal names, place-names, and words transliterated from Indian languages can all be rendered in a variety of spellings. These spellings have also tended to change over time.

Spellings in this thesis have been rendered without diacritical marks. For place names, spellings contemporary with the source material have normally been preserved. During the period covered by this thesis, the name of the province was spelled “Sind” (now “Sindh”). For personal names, the most common Roman script spellings for individuals are used. This means that the same name can have different spellings for different individuals, so “Mohammed Ali Jinnah” but “Ghulam Muhammad”. Common words of indigenous origin, such as “*zamindar*” and “*hari*”, have been rendered in their usual modern forms.

Where any of the above appear in direct quotations, the original spellings have been preserved. Non-English words have been italicized in the text, except in direct quotations, where the source’s usage has been preserved.

The names of the barrages themselves present more difficulties. The first barrage was known during the planning phase as the Sukkur Barrage, then as the Lloyd Barrage (after the Governor of Bombay who authorized its construction), and eventually reverted to Sukkur Barrage. Contemporary usage appears to have been subject as much to an author’s preference as to its formal name. Because “Sukkur Barrage” was overall the most commonly-used name, it has been referred to as such here.

The second barrage was initially known as the Kotri Barrage, and then renamed the Ghulam Muhammad Barrage after a Governor-General of Pakistan. It has now reverted to Kotri Barrage. However, because Ghulam Muhammad Barrage was almost exclusively used at the time, this is how the name appears in the thesis.

The third barrage, the Gudu Barrage, has kept the same name but had a variety of spellings. The form adopted here seems to be the most consistently used over time.

Again, in direct quotations, the original names and spellings have been reproduced.

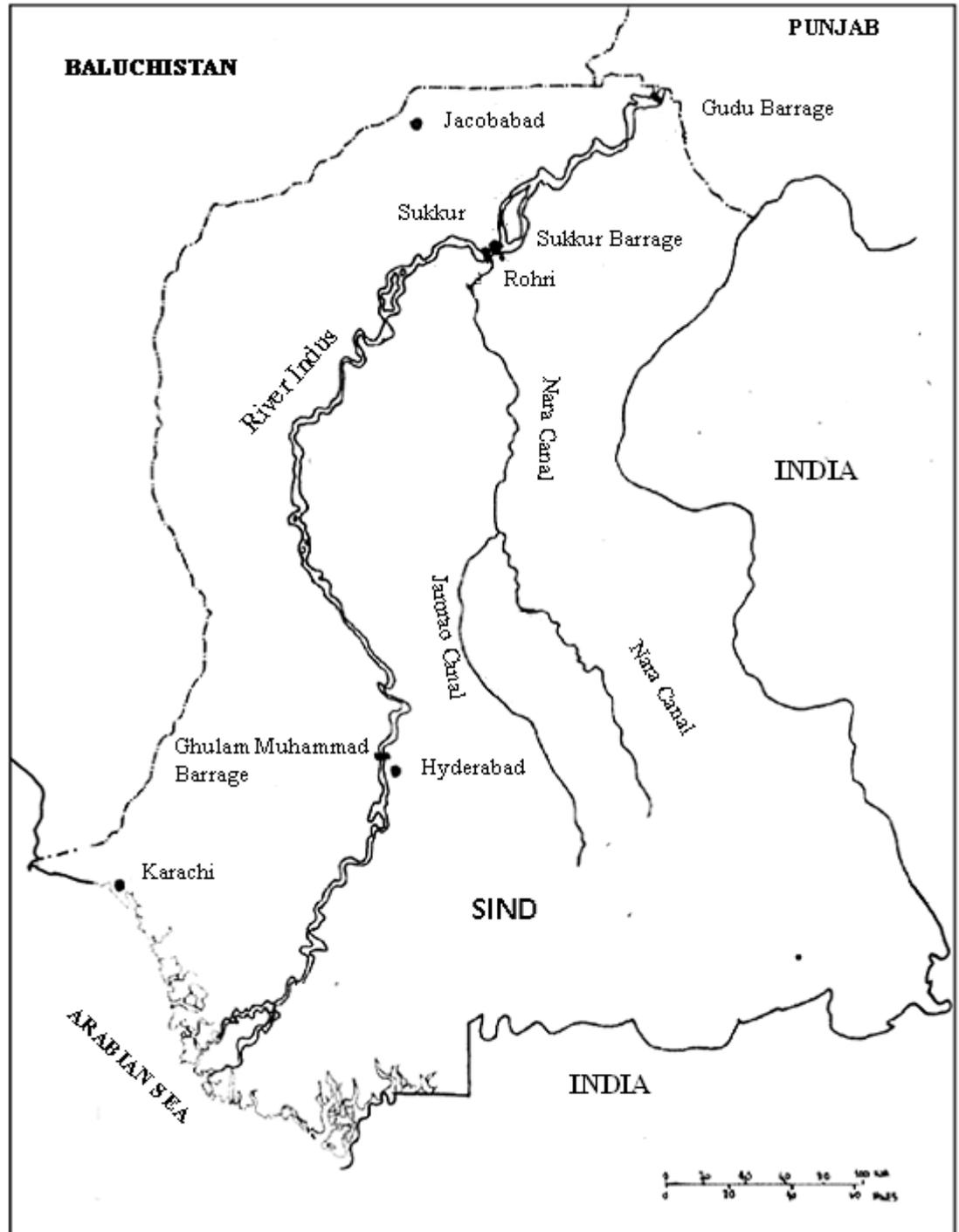
## Map of Pakistan



Adapted from 'Pakistan Political Map',  
<http://www.mapsofworld.com/pakistan/pakistan-political-map.html> (retrieved  
07.01.2011).

N.B. This map is intended to be indicative and not definitive.

## Map of Sind's river and barrages



Adapted from N.a., *Ferozsons Atlas for Pakistan* (Lahore: Ferozsons, 1986), pp.20-21.

N.B. This map is intended to be indicative and not definitive.

## Acknowledgements

Throughout this project, I have been grateful for the guidance and encouragement of my supervisor, Dr. Sarah Ansari, who allowed me to explore the heights of historiography but never to stumble over the edge. Other faculty members at Royal Holloway, University of London, particularly Prof. Francis Robinson, Dr. Taylor Sherman, and Dr. Markus Daechsel, have given wise advice and invaluable feedback on various iterations of chapters, as has Dr. William Gould at the University of Leeds.

I should like to acknowledge the financial support for The Arts and Humanities Research Council, through a three-year PhD scholarship, and of the Institute for Historical Research, London, which awarded me a six-month Thornley Junior Research Fellowship to facilitate the final stages of research and writing.

During research trips to India, Pakistan, and the U.S.A., I received help from more people than I could hope to acknowledge. The staff at the following libraries and archives deserve my thanks and praise: in Karachi, the Sindh Government Archives and the Pakistan Institute for International Affairs; in Hyderabad, the Institute for Sindhology at the University of Sindh, Jamshoro; in Islamabad, the National Documentation Centre; in Mumbai, the Maharashtra State Archives; in College Park, Maryland, the United States National Archives; in London, the United Kingdom National Archives at Kew and the British Library Asia, Pacific and Africa Reading Room. I benefited greatly from the help and guidance of many officials serving in the Government of Sindh, particularly at the Sindh Irrigation and Drainage Authority, Hyderabad, and the Revenue Department record office, Sukkur. Dr. Ally Ercelan and the staff at the Pakistan Institute for Labour Education and Research, Karachi, welcomed me to Pakistan on my first ever visit, and helped me to find my feet. Special thanks go to the following people for their kind advice and tireless attempts to help me find the records I was looking for: in Karachi, Dr. Hamida Khuhro, Muzamil Halepota, Dr. Kalimullah Lashari, and Mohammed Ali Shah; in Hyderabad, Prof. Aijaz Qureshi, Zulfiqar Halepoto, and Mujeeb-ur-Rehman Abassi. In Islamabad, Saleem Ullah Khan, formerly Director of the National Documentation Centre, took an especially kind and helpful interest in my research.

This thesis could not have been completed without the moral and practical support of friends, colleagues, and fellow-travellers. Caroline Bates and Dr. Dhara Anjaria proved true friends and impeccable hosts in, respectively, Karachi and Mumbai. Dhara later read and commented on drafts of the entire thesis in full – a feat far beyond the call of duty. My partners in historiographical crime, Sana Ansari and Lata Parwani, made conducting research in Karachi and Hyderabad familiar and, dare I say, often fun. Sana's parents, Seema and Javed, also took me under their wings. On my return to London, Benedict Elliott Smith, Natasha Choudry, and Benjamin Barritt did wonders for my mental state while I was writing up. Finally, my

love and gratitude to my parents, Sue and Lawrence Haines, who have always supported me, and first taught me how to think.

## Introduction

*I do not know much about gods; but I think that the river  
Is a strong brown god—sullen, untamed and intractable,  
Patient to some degree, at first recognised as a frontier;  
Useful, untrustworthy, as a conveyor of commerce;  
Then only a problem confronting the builder of bridges.  
The problem once solved, the brown god is almost forgotten  
By the dwellers in cities—ever, however, implacable.  
Keeping his seasons and rages, destroyer, reminder  
Of what men choose to forget. Unhonoured, unpropitiated  
By worshippers of the machine, but waiting, watching and waiting.  
-T.S. Eliot, 'The Dry Salvages' (1931)<sup>1</sup>*

From the closing decades of the nineteenth century to the middle of the twentieth, those who governed Sind, a province of British India until 1947 and thereafter of Pakistan, constructed major irrigation works that extended the supply of water for agriculture to barren land, and improved the reliability of the water supply to existing farmland. The British-headed administration completed the Jamrao Canal in 1899 and went on to build a large barrage at Sukkur in 1932, while after Independence the new government completed two more barrages, the Ghulam Muhammad Barrage in 1955 and the Gudu Barrage in 1962. In 1885-1890 the area of irrigated agricultural land in Sind was 792,000 ha; irrigation development increased this to 5,604,000 ha by 1970-71,<sup>2</sup> greatly strengthening the local economy, and helping to alter the socio-economic and political makeup of Sind. But while successive administrations loudly proclaimed that irrigation projects were being undertaken for the good of Sind's cultivators, and celebrated the transformation of Sind's landscape that modern science and technology could effect, the extent of the rhetoric involved raises questions about whether these proclamations should be taken at face value. This thesis, therefore, explores the political dimensions of

---

<sup>1</sup> T.S. Eliot, *The Dry Salvages* (London: Faber and Faber, 1931), part I, ll.1-14.

<sup>2</sup> Jayantha Perera, *Irrigation Development and Agrarian Change: A study in Sindh, Pakistan* (Jaipur: Rawat, 2003), pp.61, 187.

irrigation development, and asks why – and to whose benefit – the projects in Sind were undertaken.

The idea of harnessing and controlling nature on a grand scale, upon which Sind's canal and barrage projects depended, has long been a particular concern of rulers and states, from the scientific management of royal forests in late seventeenth century Prussia and Saxony, to the electricity-generating Hoover Dam in Colorado in the early twentieth. At the same time, environmental conditions always play a part in delineating the possibilities and limits of human activity, as works by Gadgil, Guha, and Madsen have suggested in the context of small-scale case studies.<sup>3</sup> On a larger scale, Davis has established the effects of unstable geological conditions on human behaviour at the cultural, political and economic levels by integrating the ecological history of the *El Niño* climactic system into more conventional histories of European colonial expansion in Asia, Africa, and South America.<sup>4</sup> In a related vein, Mitchell has underlined the complexity of political, economic and environmental circumstances in twentieth century Egypt, showing how human and non-human actors interacted to produce events.<sup>5</sup>

The particular role of modern states in the relationship between humans and the environment has been crucial, as Scott has claimed in his examination of the philosophy and politics of schemes to 'improve the human condition'. These projects, in his view, were characterized by their reduction of complex natural and social environments to simplified pictures that allowed more apparently rational and efficient schemas to be put in their place. Such reductionism gave those who

---

<sup>3</sup> Madhav Gadgil and Ramachandra Guha, *This Fissured Land: An ecological history of India* (Delhi: Oxford University Press, 1992); Stig Toft Madsen's Introduction in his edited volume *State, Society and the Environment in South Asia* (Richmond: Curzon, 1999).

<sup>4</sup> Mike Davis, *Late Victorian Holocausts: El Niño famines and the making of the Third World* (London; New York: Verso, 2001).

<sup>5</sup> Timothy Mitchell, *Rule of Experts: Egypt, techno-politics, modernity* (Berkeley; London: University of California Press, 2002), esp. ch. 1.

planned and executed the projects a false sense that they could control complex processes.<sup>6</sup> Such processes were not only environmental, but also human, and attempts to control the environment and re-order nature have thus carried deep political implications. Mitchell, for instance, argues that the 1942 malaria epidemic in Egypt provided a valuable opportunity for foreign agencies such as the Rockefeller Foundation to present themselves as detached centres of rationality and intelligence as they brought new disease-control techniques to bear on the crisis. After decolonization, the continued activities of foreign 'advisors' in Egypt, especially the United States Agency for International Development, perpetuated the relationship between the West and the non-West as one construed in terms of the latter's lack of the former's expertise, technology, and management skills.<sup>7</sup> As Adas had previously asserted, the American 'modernization paradigm' displaced the colonial 'civilizing mission' as the main ideal of Western dominance outside Europe and North America after decolonization.<sup>8</sup>

Mitchell is right to identify the possession of certain kinds of knowledge as crucial to power-relationships. The link between knowledge and power in colonial contexts, particularly knowledge of native societies, is well established.<sup>9</sup> Specifically regarding the kind of technical knowledge needed to assert control over the environment, scholars such as Headrick and Baber have demonstrated that knowledge of the 'universal principles' of post-Enlightenment science, and the ability to apply them, were extremely important in allowing Europeans to subjugate

---

<sup>6</sup> James C. Scott, *Seeing Like a State: How certain schemes to improve the human condition have failed* (New Haven; London: Yale University Press, 1998).

<sup>7</sup> Mitchell, *Rule of Experts*, pp.209-242.

<sup>8</sup> Michael Adas, *Machines as the Measure of Men: Science, technology, and ideologies of Western dominance* (Ithaca; London: Cornell University Press, 1989), pp. 402-412.

<sup>9</sup> See Edward W. Said, *Orientalism* (London: Routledge and Kegan Paul, 1978); Partha Chatterjee, *The Nation and its Fragments: Colonial and postcolonial histories* (Princeton: Princeton University Press, 1993).

and rule Africans and Asians.<sup>10</sup> As Adas suggests, this kind of knowledge was not only used by colonial governors to their own advantage, but the self-conscious possession of it played a significant part in formulating colonial ideas about Western dominance over the non-West. As he would have it, colonialists felt that what they perceived as their own pre-eminence in inventiveness and superior understanding of the workings of the natural world justified their monopolization of leadership and managerial roles in colonized societies. By the late nineteenth century, the degree to which a culture was able to control its environment determined its rank on the scale from savagery to civilization.<sup>11</sup> Scientific and technical knowledge has been, therefore, crucial both in the extension of empires and imperial states, and in the self-perception of colonial rulers.

The notion of the 'state', however, cannot be taken for granted in the context of river politics. Indeed, the way in which we understand states has much to gain from examining their participation in large-scale attempts to re-order the natural environment. Gellner, among others, has rejected Weber's definition of the state "as that agency within society which possesses the monopoly of legitimate violence,"<sup>12</sup> as too simplistic. For him, "the 'state' is that institution or set of institutions specifically concerned with the enforcement of order", where a political division of labour has allowed such specialisation.<sup>13</sup> Schulze notes that Machiavelli first used the term '*lo stato*' to refer to "the organization of political power".<sup>14</sup> This

---

<sup>10</sup> Daniel R. Headrick, *The Tools of Empire: Technology and European imperialism in the nineteenth century* (New York; Oxford: Oxford University Press, 1981), part 3; Zaheer Baber, *The science of empire: scientific knowledge, civilization, and colonial rule in India* (Delhi; Oxford: Oxford University Press, 1998), p.9.

<sup>11</sup> Michael Adas, *Machines as the Measure of Men*, pp.205-215.

<sup>12</sup> Ernest Gellner, *Nations and Nationalism* (Ithaca, New York: Cornell University Press, 1983), p.3.

<sup>13</sup> Gellner, *Nations and Nationalism*, p.4.

<sup>14</sup> Hagen Schulze, *States, Nations and Nationalism: From the Middle Ages to the present*, trans. William E. Yuill (Oxford: Blackwell, 1996), p.30. On the relationship between postcolonial nation-formation and colonialist epistemology, see: Partha Chatterjee,

definition is arguably too broad to be useful in a context where large, well-organized government agencies engage in complex tasks such as infrastructure development, which is a common feature of attempts to control the environment. Alavi's emphasis on military-bureaucratic 'oligarchies', which he identifies as common in post-colonial states, and their relationship with 'exploiting classes' within and outside former colonies, might be a more helpful way to view the often centralized, 'top-down' approach to governance in countries where river-development proved to be most intensive in the twentieth century, such as Egypt, India, and Pakistan.<sup>15</sup> Adas, Scott and Mitchell certainly suggest that this is true, highlighting as they do the imposition of such schemes by the governors on the governed.

A helpful element present within this last approach to the state is its emphasis on what states do, as well as how they are composed. Other understandings prioritize the way that 'the state' is perceived and experienced by ordinary people. Recently, this has opened up a field of enquiry that questions the 'meaning' of the state from a variety of viewpoints, including its relationship with gender, ethnicity and religious identity.<sup>16</sup> This work has often been based on oral history, and has been significantly influenced by sociology and anthropology, both in terms of research methods and analytical frameworks. A collection edited by Fuller and Benei, for example, is chiefly concerned with anthropological approaches to

---

*Nationalist Thought and the Colonial World: A derivative discourse?* (London: Zed Books, 1986).

<sup>15</sup> See Hamza Alavi, 'The State in Postcolonial Societies: Pakistan and Bangladesh', in Kathleen Gough and Hari P. Sharma (ed.s), *Imperialism and Revolution in South Asia* (London; New York: Monthly Review Press, 1973).

<sup>16</sup> In South Asian historiography, this trail was blazed by influential studies of the 1947 Partition of India. See, for example, Urvashi Butalia, *The Other Side of Silence: Voices from the partition of India* (New Delhi; London: Penguin, 1998); Ritu Menon and Kamla Bhasin, *Borders & Boundaries: Women in India's partition* (New Brunswick: Rutgers University Press, 1998). Important later works in this line include Veena Das, *Life and Words: Violence and the descent into the ordinary* (Berkeley; London: University of California Press, 2007); Vazira Fazila-Yacoobali Zamindar, *The Long Partition and the Making of Modern South Asia: Refugees, boundaries, histories* (New York; Chichester: Columbia University Press, 2007).

what they term the 'everyday state' in modern India.<sup>17</sup> Likewise, an edited volume by Hansen and Stepputat has questioned the link conventionally drawn between states, territory, and sovereignty.<sup>18</sup> By exploring river politics, this thesis will test notions of what the state meant in colonial and post-colonial contexts. It will use irrigation development to examine the relationship between different branches of government, and between the administration and the people. It will also consider the relationship between the state, the environment, and science and technology.

## Water in South Asia

One technology crucial to human attempts to control nature is irrigation. Managing water – its supply, storage, and distribution – has long been a lynchpin of civilization in much of the world. Wittfogel identified irrigation works with state power in ancient Asian and Middle Eastern civilizations, arguing that 'hydraulic societies', whose agriculture and economies depended on artificial irrigation, tended to be regulated by strong, centralized states. Only well-organized bureaucracies, with the state's relatively immense resources at their disposal, could carry out the necessary work of diverting river-flows and managing the distribution of water on a large scale.<sup>19</sup> Wittfogel's conclusions have been challenged by more recent scholars such as Dolatyar and Gray,<sup>20</sup> but his notions of the influence of climatic and hydrological conditions on societies, and the important role of states in such societies, have informed subsequent thinking about irrigational civilizations.

---

<sup>17</sup> C. J. Fuller and Veronique Benei, *The Everyday State and Society in Modern India* (London: Hurst, 2001).

<sup>18</sup> See the Introduction to Thomas Blom Hansen and Finn Stepputat (ed.s), *Sovereign Bodies: Citizens, migrants and states in the postcolonial world* (Princeton: Princeton University Press, 2005).

<sup>19</sup> Karl A. Wittfogel, *Oriental Despotism: A comparative study of total power* (New Haven: Yale University Press, 1957), pp. 22, 161.

<sup>20</sup> Mostafa Dolatyar and Tim S. Gray, *Water Politics in the Middle East: A context for conflict or co-operation?* (London: Macmillan, 2000), pp.3-6.

In the modern era, colonial and post-colonial states have played a determining role in river-control and irrigation-development in, for example, the Nile Basin (Egypt, Sudan, Ethiopia, Tanzania, and Rwanda), Palestine, and South Asia. Important debates have included strategies for reducing conflict and increasing co-operation where river basins are shared by two or more nation-states and the impact of colonial rule on irrigated areas.<sup>21</sup> At the same time, the international development community has, since decolonization after the Second World War, been concerned with schemes to improve water provision in developing countries.<sup>22</sup>

South Asia features prominently among the world's centres of man-made irrigation. Much of the subcontinent is dry, and requires artificial water supplies to supplement natural rainfall. In South India, water is stored in and distributed from artificial reservoirs or 'tanks',<sup>23</sup> while North Indian irrigation is dominated by river basins, which today host large networks of canals. India and Pakistan share the Indus Basin, while the Ganges-Brahmaputra-Meghna Basin, which is formed around the confluence of those three rivers, stretches through India and Bangladesh, as well as China and Nepal.

In the subcontinent's arid northwest, irrigation works that divert water from the River Indus into canals are essential to sustain agricultural and municipal societies. In this region, an irrigation canal can help turn barren wastes into productive farmland. Scholarly work on the colonial irrigation system has uncovered a great deal about the politics and economics of canal irrigation elsewhere in British

---

<sup>21</sup> Terje Tvedt, *The River Nile in the Age of the British: Political ecology and the quest for economic power* (London; New York: I.B. Tauris, 2004); K. Gaarde, 'British Colonial Water Legislation in Mandatory Palestine', in R. Coopey and T. Tvedt (ed.s), *A History of Water, Volume 2: The political economy of water* (London: I.B. Tauris, 2006).

<sup>22</sup> World Commission on Dams, *Dams and Development: A new framework for decision-making* (London: Earthscan, 2000).

<sup>23</sup> See David Mosse, 'Colonial and Contemporary Ideologies of 'Community Management': The case of tank irrigation development in South India', *Modern Asian Studies*, 33:2 (1999): 303-338.

India, and its social impacts. Some debate exists about whether canals benefited Indian peasants, with Stone's examination of canals in the mid-nineteenth century North-West Province answering in the affirmative,<sup>24</sup> while Whitcombe notes the deterioration of agricultural land through over-watering and poor drainage, and the malarial conditions created by the pools of stagnant water that lay on poorly-drained land.<sup>25</sup> Both authors focus on the finances of canal irrigation, showing how the state and farmers gained, to varying degrees, from capital outlays on irrigation systems. Islam's work on canal colonies in the Punjab also privileges irrigation's financial aspects.<sup>26</sup>

Other studies of the Punjab's canal colonies, by Ali and Gilmartin, do more to illuminate the social and political implications of canal irrigation. Ali claims that agricultural colonization had a profound impact on the position of the state *vis à vis* the people in the Punjab, where the state controlled not only canal water but also the manner in which land was disposed of, to whom it was allotted, and the types of tenurial rights that were to prevail. "The greater strength of the state," he argues, echoing Wittfogel, "its 'entrenchment' in society, arose out of its pivotal role in this region of hydrological agriculture."<sup>27</sup> Making a similar point, Gilmartin asserts that the "control of irrigation was a hinge between the power of the local 'community' and that of the state."<sup>28</sup> Gilmartin's analysis goes further than Ali's in recognizing the importance of canal development in officials' perceptions of themselves and the

---

<sup>24</sup> Ian Stone, *Canal irrigation in British India: Perspectives on technological change in a peasant economy* (Cambridge: Cambridge University Press, 1984), p.70.

<sup>25</sup> Elizabeth Whitcombe, 'Irrigation', in Dharma Kumar (ed.), *The Cambridge Economic History of India, Volume 2: c.1757 c.1970* (Cambridge: Cambridge University Press, 1983), p.735.

<sup>26</sup> M. Mufakharul Islam, *Irrigation, Agriculture, and the Raj: Punjab, 1887-1947* (New Delhi: Manohar, 1997), esp. ch. 6.

<sup>27</sup> Imran Ali, *The Punjab Under Imperialism, 1885-1947* (Princeton: Princeton University Press, 1988), p.62.

<sup>28</sup> David Gilmartin, 'Scientific Empire and Imperial Science: Colonialism and irrigation technology in the Indus Basin', *The Journal of Asian Studies* 53:4, (November 1994): 1127-1149, p.1134.

state's role. He discusses the increasing influence over irrigation policy of technical knowledge, residing chiefly in the Public Works Department, at the expense of revenue officers' intimate knowledge of local customs.<sup>29</sup> Controlling water, then, became one of the key responsibilities of the colonial state in India, and at the same time one of the most important ways in which it could influence, and maintain control over, Indian communities.

Gilmartin and Ali portray the relationship between irrigation, officials, and cultivators on a relatively small scale. Studies of irrigation in South Asia could benefit, however, from an interrogation of the relationship between the state and the environment in a broader sense, including the role of discourses of material progress and the notion of controlling the environment. This thesis will therefore seek to illuminate how important a place irrigation development held in the establishment of ideas about the colonial and post-colonial state's legitimacy. In other words, it will ask whether schemes to harness rivers were significant as markers of human endeavour. In light of the importance of technical ability in irrigation development, the thesis will also consider the role of scientific knowledge in large-scale projects, especially the question of how far engineering expertise was self-consciously deployed in the cause of consolidating state authority.

## Introducing Sind

Within South Asia, river-control and the state's role in it is particularly important in Sind, which depends almost wholly on the River Indus for fresh water. The Indus, which is joined by the last of its tributaries shortly before entering the province, bisects Sind and meets the sea at the southern coast. Over thousands of years, the river has deposited silt on Sind's soil as it changed its course, making the country

---

<sup>29</sup> Gilmartin, 'Scientific Empire', pp.1135-1137.

highly fertile. Before twentieth-century irrigation led to soil fertility becoming exhausted in many areas, almost all the land in Sind could be farmed if water were brought to it.

Accordingly, Sindhi agriculture has been dependent on the Indus to water crop-fields. This was true of the Indus Valley Civilization, the remains of which, dating back to 3000 BCE, have been found at Mohenjo-Daro in Sind and Harappa in the Punjab. These settlements appear to have depended on the river almost wholly for their sustenance. When Muhammad bin Qasim invaded India in 711, Sind already possessed a canal system, and this was the backbone of the regional economy when the East India Company conquered Sind in 1843. Cheesman and Khuhro have recognized the importance of the subsequent development of this canal system under the *Raj*, but have not extensively considered its relationship with concepts of state legitimacy as part of the colonial 'civilizing mission'.<sup>30</sup> Given the vital importance of river-control to the sustenance of life in Sind, irrigation deserves greater attention.

The building of Sind's barrages, and the Jamrao Canal, were certainly major events. Perera has understood the state-sponsored development of Sind's irrigation system, by both the colonial and Pakistani governments, as the trigger of major agrarian changes, but indicates that very little has changed in the relationship between cultivators, landlords, and the state.<sup>31</sup> If the building of barrages and canals has done little to alter the way that farm labour is organized, it has had other kinds of effects on the province – negative as well as positive. In the words of Alam, Sahota and Jeffry, "Many of today's water problems in the Indus basin have their

---

<sup>30</sup> David Cheesman, *Landlord Power and Rural Indebtedness in Colonial Sind, 1865-1901* (London: Curzon Press, 1997), pp.21-23, 75-77; Hamida Khuhro, *The Making of Modern Sindh: British policy and social change in the nineteenth century* (Oxford: Oxford University Press, 1999), esp. ch. 4.

<sup>31</sup> Perera, *Irrigation Development and Agrarian Change*, pp.27-28.

roots in the colonial period – salinity, drainage, inadequate water pricing, poor maintenance, provincial conflict, and ineffective bureaucratic organization.”<sup>32</sup> In this portrayal, the state apparatus cannot combat the physical and mechanical challenges posed by the landscape, or to regulate itself properly; nor can the national state regulate its constituent provinces’ rivalries. Bengali and Shah have made the point the Pakistani state’s “fetish” for capital- and technology-intensive, foreign-debt-funded, environmentally-degrading approaches towards irrigation seeks technological fixes for social and political problems, which tend only to displace such problems and remove them elsewhere.<sup>33</sup>

General agreement exists, then, that the state has been crucial in projects to tame the Indus and make it available for agricultural uses. Unanswered questions remain, however, about how river-control has been understood by those who built and operated irrigation systems, what kind of knowledge they deployed, and why this might have been important. What kind of social and political effects did they expect such schemes to produce? This thesis seeks to draw out the philosophy shared by Sind’s rulers – on both the provincial and national (British Indian or Pakistani) scales – which helped to determine how the economic and social development of the province was actively promoted. At the same time, it explores the political and social implications of the kind of large-scale, technology-intensive development projects that the barrages and canals epitomized.

Sind’s history is crucial to understanding the political importance of barrages and canals, but is not comprehensively covered by existing scholarship. Sind holds a peripheral place in English-language studies of colonial India, and a more integral, though by no means dominant, position in studies of Pakistan. Only a handful of

---

<sup>32</sup> U. Alam, P. Sahota, and P. Jeffry, ‘Irrigation in the Indus Basin: A history of unsustainability?’, *Water Science & Technology: Water Supply* 7.1 (2007): 211-218, p.216.

<sup>33</sup> Kaiser Bengali and Nafisa Shah, ‘Introduction’, in Kaiser Bengali (ed.), *The Politics of Managing Water* (Karachi; Oxford: Oxford University Press, 2003), p.xi.

substantial works cover Sind's history after its annexation by the British in 1843. There are several reasons why this may be the case. Sind was located on the north-western fringe of British India, geographically remote from the Imperial capitals in Calcutta and subsequently New Delhi. While administered as part of the Bombay Presidency between 1847 and 1936, it was barely contiguous with the Presidency proper and accessible only from the sea. In north-western India, Sind was eclipsed in fame and political importance by its northern neighbour, the Punjab, which had a bigger population and economy, and a privileged position in colonial official imaginations.

With the advent of Pakistani independence in 1947, Sind's national world shrank and it suddenly formed a much greater proportion of the sovereign unit of which it formed a part, but its subordination to the Punjab continued. The brief tenure of Karachi, Sind's major city, as the federal capital of Pakistan did little to enhance the status of the province itself, as the city was administratively separated from the province after 1948. In 1955, Sind lost its political-administrative personality when it was amalgamated into the new West Pakistan Province, where again it fell under the Punjab. At the same time Sindhi politics were typically inward-looking and factional, meaning that the province was often disconnected from mainstream political events elsewhere in the subcontinent.<sup>34</sup> After Independence, the 'national' political scene revolved around the politics of the Punjab and East Bengal. Input from Pathans and Urdu-speaking refugees located in Karachi and other urban centres also took precedence over that of Sindhis.<sup>35</sup>

Yet despite its geographical and political marginality, Ansari and Cheesman have both identified the region's very peripheral nature as a reason to examine it

---

<sup>34</sup> See Noel Boreham, 'Decolonisation and provincial Muslim politics: Sind, 1937-47', *South Asia* 16:1 (June 1993): 53-72.

<sup>35</sup> See Ian Talbot, *Pakistan: A Modern History* (London: Hurst and Company, 2005), pp.138-143, 161-164, 106-110.

during the colonial period precisely because this affords an opportunity to examine the workings of imperialism away from the more celebrated centres of power. In Cheesman's words, "the British Empire was won and lost in the apparent backwaters like Sind," where the constant day-to-day negotiations of collaborative rule were played out in relative peace.<sup>36</sup> Ansari has explored the province as a case study of the relationship between Muslim religious elites and a colonial state, again stressing its isolation from Imperial centres, and argued that this can offer thoughts on the wider questions surrounding Muslim responses to colonial rule across the European empires.<sup>37</sup> In a similar vein, Khuhro has asserted that nineteenth-century British Sind provides valuable insights on how the 'European [colonial] mind' was exercised.<sup>38</sup> Ansari has also applied a similar logic to a study of responses by Sindhis and refugees to their newfound sharing of Karachi after Partition, making a case both for Karachi's importance within Pakistan, and Sind's value as a case study for the larger historical question of community and identity as contested issues.<sup>39</sup>

This handful of works necessarily leaves many historical stones unturned. As well as assessing the relationship between the state and the environment, this thesis' investigation of the politics of river-development will address some of the gaps in existing literature. Because extending and managing the irrigation system was a major part of the state's activities, and was of interest to higher levels of government outside the province, the thesis will examine the relationship between the administration in Sind, and its suzerains in Bombay, Delhi, and London – and, later, Karachi or Islamabad. Because water was used to irrigate farmland, the politics of land use, ownership and tenancy are essential to understanding the

---

<sup>36</sup> Cheesman, *Landlord Power*, p.12.

<sup>37</sup> Sarah F. D. Ansari, *Sufi Saints and State Power: The pirs of Sind, 1843-1947* (Cambridge: Cambridge University Press, 1992), pp.6-7.

<sup>38</sup> Khuhro, *The Making of Modern Sindh*, p.x [sic].

<sup>39</sup> Sarah Ansari, *Life After Partition: Migration, community and strife in Sindh, 1947-1962* (Karachi; Oxford: Oxford University Press, 2005), p.2.

implications of irrigation development: this, too, is a concern of the thesis. Land politics have received only passing mention in studies of Pakistan.<sup>40</sup> This thesis offers a new interpretation of Ayub Khan's 1958 land reforms programme, as well as land issues more generally, where they have connected with the politics of irrigation development.

## Methodology and sources

The thesis examines a variety of documentary evidence connected with government involvement in irrigation in Sind, of different types and from different periods. For the colonial period, the staple sources are correspondence between officials in the Governments of Sind, Bombay and India, with additional reference to communications between the Government of India and the British Government in London, as represented by the Secretary of State for India. Non-official sources, especially contemporary newspapers, are also used to demonstrate the currency of the progress ideal outside officialdom.

The types of sources that predominate vary according to topic and chapter. Public Works and Revenue files form the basis of the documentation used in Chapters 1 and 2, and have been drawn from a number of sources. The British Library's holdings of official correspondence emanating from India are complemented by the private papers of officials working in the subcontinent. These often contain duplicates of documents that can also be found in the official correspondence registers, and are especially useful for copies of those that were not sent to London for the India Office's records. Much of the analysis of land

---

<sup>40</sup> See Talbot, *Pakistan: A modern history*, pp.165-166, 230-232; Ayesha Jalal, *Democracy and Authoritarianism in South Asia: A comparative and historical perspective* (Cambridge: Cambridge University Press, 1995), pp.145-146.

colonization policy relating to the Sukkur Barrage in Chapter 2, for instance, is based on the Dow Papers.

Documents that were not sent to London can also sometimes be found in collections outside the U.K. Much of the correspondence quoted in Chapter 1 was found in the Sindh Government Archives, Karachi, and the Maharashtra State Archives, Mumbai. As Sind was part of the Bombay Presidency until 1936, many records pertaining to the province were sent to Bombay and are still held there. Other documents were retained by the Commissioner-in-Sind's office, and form the basis for the Sindh Government Archives. Both collections, however, suffer from inconvenient cut-off points, due to changes in conventions for archiving official correspondence in the 1920s.

Combining records from London, Karachi, and Mumbai allows a picture to be constructed of officials' views and actions relating to irrigation development. However, once colonization was well-established, official interest in the projects *at the levels from which records have been preserved* seems to have dried up, and the intriguing topic of the changing social and political relationships in the Sind canal colonies needs to be approached obliquely, through references in later sources. In this respect, the decennial Censuses of India and Pakistan have been helpful in outlining some of the demographic changes resulting from canal irrigation, and include some information on the growth of different ethnic, linguistic, and religious populations during the period under study.

With the administrative separation of Sind from Bombay in 1936 came a new type of politics: that of the Provincial Assembly, made up largely of Sindhis and operating under the 1935 Government of India Act, which provided for elected representatives exercising much greater political control over the provincial administrations. Because most of the Sind Assembly's members were influential

landlords, its *Proceedings* provide an invaluable source for the study of how Sindhi *zamindars* (landlords)<sup>41</sup> adjusted to the new Sukkur Barrage system in Chapter 3. In conjunction with documents relating to the movements for and against the separation, they have been especially helpful in tracking the changing role of the Sukkur Barrage in Sindhi politics during the 1920s and 1930s. For the later 1930s and 1940s, they have also been considered in combination with correspondence between Governors of Sind and Viceroys (contained in both official registers and private papers). These form the most direct window onto the matters that were preoccupying the higher levels of the administration, and it is instructive that agricultural and irrigational matters continued to feature with regularity throughout the 1930s and the Second World War, despite the great weight of constitutional and political questions that arose from the Provincial Governors' new role as managers of provincial legislatures.

For the post-independence era, the majority of sources used in this study have been obtained from the consular records of the United States and United Kingdom. Both countries, and especially the U.S., kept extensive records on issues such as political upheavals, Pakistan's economy, and the development projects to which their governments were contributing. While consular report-writers often

---

<sup>41</sup> Large landowners in Sind were always known as '*zamindars*', and typically the term meant Muslim landed gentry; though sometimes the term also referred to smallholders and peasant proprietors. *Zamindars* – in the more encompassing sense – held their land directly from government or a *jagirdar*, and paid land revenue on it according to acreage. The lot of their tenants, or *haris*, was very poor. They held land from the *zamindar*, who could usually throw them off at any time. They had almost no rights, did not necessarily work for the same *zamindar* in consecutive seasons, and usually had to grow whatever crops the *zamindar* demanded. Moreover, they had to bear the costs of cultivation themselves, often taking out a loan from the *zamindar* – or from the local *bania*, as arranged by the *zamindar* – in order to buy equipment and seeds, and hire oxen. Added to these costs were various others imposed by the *zamindars*: for example, contributions to the *deh kharch* fund to meet expenses incurred by the *zamindar* on village business. *Haris* were often trapped in a cycle of debt. This system had preceded British rule, and they had done very little to change it despite frequently referring to it as 'backward' or 'feudal'. *Haris*' lack of occupancy rights generally led them to favour quick returns over long-term improvements to the land or to their cultivation methods. After all, if the land was ruined it was the *zamindar*'s problem, not theirs. Cheesman, *Landlord Power*, pp.60-75.

depended on intelligence provided by locals, who had their own agendas to push, these records provide a wealth of specific and contextual detail about Sind's barrage projects. The National Documentation Centre, Islamabad, has furnished additional information regarding the attitudes and actions of the central government, and many Pakistani official publications are available in the British Library. Matters of special interest to politicians and the public, such as the settling of East Pakistanis on Ghulam Muhammad Barrage land in the 1960s, were well-recorded in high-level government documents, and garnered much attention from contemporary newspapers. These kinds of special land allocation provide a window into the specific politics of the barrage lands.

Indeed, the last two chapters also make more use of contemporary newspapers than the first parts of the thesis. Several major English-language dailies had large circulations, such as the Karachi *Dawn* and Lahore's *The Pakistan Times*. Newspapers are not the most reliable historical source: in Pakistan their reports were sometimes mutually contradictory, and the press was not always free. Ayub Khan's regime (1958-1969), for example, kept the press on a tight leash. Newspapers also often had particular affiliations: *Dawn* generally took a pro-refugee stance, while *The Pakistan Times* often opposed the government during the 1950s. Newspaper reports should therefore be treated with caution. However, they often provide rare insights into the way that development projects were perceived by the Pakistani public, and conversely they could operate as a mouthpiece for administrations trying to promote their development work. Either way, they can inform us about the political 'meanings' of the barrages, and reactions to them. Moreover, newspapers are often virtually the only source of detailed information about contemporary everyday events, and so, despite their imperfections, they are

valuable in this study, when treated with caution. Efforts have been made to check consular and newspaper sources against each other wherever possible.

## Chapter outline

**Chapter 1** is concerned primarily with the construction and colonization of the Jamrao Canal in southern Sind during the 1890s and 1900s. It explores the extent to which this early project was innovative in terms of mixing the political benefits that accrued from 'settling' Sindhis onto agricultural land alongside those associated with the introduction of the 'modern' cultivation methods and social structures developed in the neighbouring Punjab province since the 1880s. The tensions between the different goals of the local administration - and how far it was able in practice to resolve them - reveal much about the state's role in Sind in the late nineteenth century. **Chapter 2** then turns its attention to the much larger Sukkur Barrage, located in upper Sind, which came into operation in 1932 after years of planning and construction. The barrage project promised to draw Sind into an even more closely regulated framework of governance, and yet ultimately the 'revolutionary' effect that it was expected to have on Sind's agro-economy did not extend into the framework of governance that existed in India. However, the project acquired considerable symbolic value as a visible demonstration of the colonial state as a force for 'progress' in India.

The concept of 'material progress', which dominated official understandings of the Sukkur Barrage, played an important part in provincial politics from the 1920s onward, and was ultimately translated into rhetoric surrounding 'nation-building' after Independence. Following discussion about the Sukkur Barrage's wider significance, **Chapter 3** considers how the politics of irrigation connected with broader political developments in the period between the Sukkur Barrage's

completion, and Sind's first years as part of independent Pakistan. Debates about the separation of Sind from the Bombay Presidency in the interwar years demonstrated that the most vocal class of Sindhis – or, at least, those to whom the administration was most likely to listen – shared the view of British officials that the barrage system was a force for both moral and material good, and from the late 1930s, Sind's burgeoning political class entered into lively debates about the way in which the administration managed the new barrage. Irrigation remained equally important during the Second World War, when the barrage's transformative potential was realized and local wartime food surpluses allowed Sind to sell large quantities of grains to deficit provinces. Against the backdrop of wartime uncertainty about the long term future of the British administration in India, the Government of Sind produced plans for the post-war development of the province, and, as this chapter argues, immediately after Pakistani Independence in 1947 the idea of 'material progress' embodied in the Sukkur Barrage was recast by the new government in a nationalist framework as 'nation-building'.

In **Chapters 4 and 5**, which explore post-independence developments, the chronological approach of the preceding chapters is replaced by a thematic analysis. **Chapter 4** considers the symbolic and political aspects of the construction of new Sind Barrages at Kotri and Gudu. It asks why these projects were undertaken, and how far the new barrages were perceived by Pakistani officials, in keeping with the views of their colonial predecessors, as the solution to the problem of raising agricultural productivity in Sind. Yet the location of the barrages at the heart of the new administration's search for legitimacy also points to the extent to which their symbolic value may have transcended the immediate demand for food production. By examining their construction and opening ceremonies, the chapter will evaluate how far there was continuity with the discourses of earlier colonial ceremonies,

albeit reconfigured as a marker of Pakistan's national progress rather than of Imperial superiority. However, the rhetoric of the 1950s and 1960s was not matched by government achievements when it came to the practical development of the barrage areas, and problems of severe drainage and waterlogging problems served to undermine the ideal of development and good governance associated with these schemes.

**Chapter 5** addresses the theme of land politics, again after Independence. While the high-flown rhetoric and technicist discourses examined in Chapter 4 provide insights into the barrages' impact locally and nationally, much of their importance lay in the administration's disposal of the land that they irrigated. The allocation of barrage land had to contend with the day-to-day politics of the districts in which the land was situated, as well as with the politics of the Sind Legislative Assembly (and, after 1955, the West Pakistan Provincial Assembly), which meant that the process was slow and difficult. Despite all the talk of modernization and rationalization that underpinned the ways in which the barrages were publicly presented, the considerable power of *zamindars* and other agrarian interest groups in Sind endured, affecting how far the expectation established during British times - that barrage irrigation would significantly reform the structure of the agrarian economy and encourage a 'progressive' attitude among Sindhis - was actually met.

This thesis, then, examines ways in which the control and use of water for agriculture, a vital natural resource, affected the nature of the state in Sind between c. 1898-1969. It asks how the construction of these projects, the management of the water that they made available, and the distribution of irrigated land formed a central part of the loose concept of 'progress' by which pre- and post-Independence governments claimed legitimacy for their rule. It tests the hypothesis that this concept prompted action to increase Sind's production and consumption capacities,

with the belief that improving the material condition of agricultural producers would have huge social, political, economic, and moral benefits.

## Chapter 1: The Jamrao Canal and the beginning of scientific irrigation in Sind

*In Sind, human intervention could transform the environment. This made it an ideal laboratory for optimistic Victorians to live out their dream of setting the world to rights through perseverance, science and public works.*

-Cheesman (1997)<sup>1</sup>

The link between irrigation canals and state authority in Sind preceded British rule by more than a millennium, but from the late nineteenth century the British administration introduced a new kind of irrigation project: in which water distribution was more closely controlled by engineers, and the social makeup of colonizers was more closely controlled by revenue officers. The first of these projects, the Jamrao Canal, heralded a more comprehensive system of bureaucratic control over both people and the natural environment than had ever been seen before in Sind. Moreover, it set a precedent for later, larger-scale projects, particularly the Sukkur, Ghulam Muhammad, and Gudu Barrages. During the construction and colonization of the Jamrao Canal, officials developed the attitudes that also governed these later projects. The Canal was an important innovative feature in the development of the state's relationship with the province, and it is the aim of this chapter to assess how and why the Jamrao Canal was a focal point for change. This took the form, it is argued, of a discourse of scientific irrigation management.

This chapter also demonstrates the strong continuity that the Canal had with earlier British irrigation projects. It argues that, despite many innovative features, the project was rooted in the political and economic concerns that

---

<sup>1</sup> David Cheesman, *Landlord Power and Rural Indebtedness in Colonial Sind, 1865-1901* (London: Curzon Press, 1997), pp.29-30.

governed all colonial activity in the province, some of which originated in the pre-British period. While these concerns were common across British India in the nineteenth century, the specific conditions of power in Sind had a large impact on the political meanings of the project – in other words, its implication for the relationship between branches of the government, influential Indian groups, or individuals such as Sindhi *zamindars* (landholders) ‘indigenous’ to the Jamrao tract, and immigrant Punjabi cultivators. The chief example of the tension between the Canal’s modernizing potential and the political realities of governance in Sind was the attempted settlement of the province’s former rulers, the Talpur Mirs, on the Canal tract. This move demonstrated the delicate balancing act that officials performed to prevent one of the Jamrao project’s novel aspects (*i.e.* a systematic colonization scheme) from upsetting Sind’s existing conditions. Similar concerns can be seen in the importation of Punjabis to colonize Canal land. Moreover, the Jamrao Canal was not the only canal to be constructed in Sind during the late nineteenth century. An earlier project, the Laikpur Canal, provided a crucial opportunity for officials in the Sind administration and in the Presidency headquarters at Bombay to debate the merits of different approaches to the allocation of land irrigated by government canals. The extent to which Jamrao Canal policies adhered to and differed from these approaches again demonstrates the mix of continuity and change that the project heralded.

Until now, most scholarship on canal-building and colonization in this period has been directed towards the Punjab, Sind’s neighbour to the north. At the time, too, the Punjab’s canal colonies, constructed from 1885, were often taken to be the archetype of ‘meaningful’ canal irrigation development. The development of Canal Colonies in the western part of the province is one of the most heavily researched aspects of irrigation in colonial India, having received significant critical attention

from Ali, Islam, and Gilmartin. It was, too, the subject of books published while the *Raj* was still in place, most notably Malcolm Darling's *The Punjab Peasant in Prosperity and Debt* (1925), which was sufficiently influential to be cited in the Indian Central Cotton Committee's 1929 report.<sup>2</sup> Sind's own officials sought to distinguish the features that had made these Colonies successful, in order to reproduce certain elements in Sind's own irrigation development. These officials were not, however, under the illusion that techniques and structures that had found favour in the Punjab were necessarily translatable into the Sindhi context. The Punjab-centrism of existing scholarship has skewed our understanding of what canal-digging meant in social and political terms, and so one of this chapter's functions is to establish the distinctiveness of Sind's irrigation experience, while keeping in mind the important influence its northern neighbour exerted.

### **Sind before and after British Annexation**

The centrality of the River Indus to Sind's agricultural, economic, and demographic character long pre-dated the British colonial regime, implying that Sind's environment had a bearing on governance there that survived regime changes. Governors under the Mughal Emperor Akbar (reigned 1556-1605) were unfamiliar with irrigated agriculture, and mismanaged the canals, but the system was still operational at the end of the eighteenth century. Panhwar for one credits the Kalhoras (1700-1783) with good irrigation management – improving the canals, settling 'wild' tribes to agrarian life, and greatly increasing the area under cultivation.<sup>3</sup> Under their successors, the Talpur Mirs (1783-1847), local *zamindars*

---

<sup>2</sup> Indian Central Cotton Committee, *General Report on Eight Investigations into the Finance and Marketing of Cultivators' Cotton* (Bombay: C.V. Thomas, 1929), p.13.

<sup>3</sup> M.H. Panhwar, *History of Sindh Irrigation: 3500 B.C. - present* (Islamabad: Government of Pakistan, Ministry of Science and Technology, Pakistan Council of Research in Water Resources, 1991), p.66.

looked after the small branch canals and watercourses on their own land, while the government was responsible for clearing the larger feeder canals. For this service a charge, '*hukaba*', was levied from *zamindars*, and a system of statutory labour was also practised in some areas.<sup>4</sup>

In 1843, Sind and its canal system acquired a new overlord when the territory was conquered by Sir Charles Napier, a British general who had been tasked with providing support to the British expeditionary force that was attacking Afghanistan. The Talpur Mirs, a clan with origins in Baluchistan but which by then ruled Sind, were nominally allies of the East India Company, but once the ill-fated Afghan expedition had run its calamitous course, Napier accused them of treachery and annexed their territory after a swift military campaign.<sup>5</sup> The annexation was not welcomed in London, but the Company accepted a *fait accompli* and did not restore the Mirs to power. Sind instead became a province of British India, and Napier its first – and, for almost a century, last – Governor. His time in charge was controversial, drawing stinging attacks from contemporaries such as Colonel James Outram, the Company's Political Agent in Sind before annexation.<sup>6</sup> The published diaries of Keith Young, Napier's senior legal officer, portrayed Napier as a capricious tyrant.<sup>7</sup> After his retirement, Sind was incorporated into the Presidency of Bombay and administered by a Commissioner-in-Sind, who was answerable to the Governor of Bombay. Napier's style of government in Sind was not allowed to develop into a tradition of frontier Governors. Khuhro has, however, credited him with realising that the success of any Sind government's revenue policies depended on its

---

<sup>4</sup> Hamida Khuhro, *The Making of Modern Sindh: British policy and social change in the nineteenth century* (Oxford: Oxford University Press, 1999), p.153.

<sup>5</sup> Robert A. Huttenback, *British Relations with Sind, 1799-1843: An anatomy of imperialism* (Berkeley; Los Angeles: University of California Press, 1962), chs. 4-6.

<sup>6</sup> Matthew A. Cook, 'After Annexation: Colonialism and Sindh during the 1840s' (unpublished doctoral thesis, Columbia University, 2007), ch. 3.

<sup>7</sup> Keith Young, *Scinde in the Forties* (London: n.p., 1912; repr. Karachi: Indus Publications, 1994), p.25.

effectiveness in keeping the canals in working order, whereas his immediate successors did not.<sup>8</sup> His recognition of irrigation's importance was matched by Lord Ellenborough, Governor-General at the time, who wrote of their mutual desire to improve the canals in order to "give proof to the people of Scinde [*sic*] of the advantage they will derive from being placed under an enlightened and beneficent government".<sup>9</sup>

The canal system inherited by the British was wide-ranging and sophisticated, and many of its technical and administrative features survived almost unchanged during the early British period. The revenue distinction between public canals and private wells, which had predated the Arab conquest, was maintained. For most cultivated land, water had to be lifted from the canal to the fields (on average, 12-14ft). This meant that irrigating agriculture was usually arduous and time-consuming. Much less commonly, if the canal were raised sufficiently, water could be allowed to flow onto the field.<sup>10</sup> In addition the system provided for extensive *kharif* (summer) irrigation but only very limited *rabi* (winter) cultivation. Most agricultural land was unproductive for half the year, yielding no benefit to cultivators or to the state. Perennial irrigation, *i.e.* the provision of water during both summer and winter, was the ideal goal of British officers in Sind throughout the second half of the nineteenth century, but little was done to bring it about. The annual irrigation of lands by water obtained during the Indus's inundation therefore remained fundamental to the practice of agriculture across nearly the whole of the province, which made *kharif* by far the more important cultivation season.

Continuity with the past was not, however, necessarily welcome. It was a truism among early British officers in Sind that the Talpur Mirs had ruined the canal

---

<sup>8</sup> Khuhro, *Making of Modern Sindh*, p.xxviii.

<sup>9</sup> Lord Ellenborough, Governor-General of India, to Charles Napier, Governor of Sind, June 1843, cited in Khuhro, *Making of Modern Sindh*, p.154.

<sup>10</sup> Cheesman, *Landlord Power*, p.25.

system by neglecting their annual duty to clear silt and sediments from the channels, thus allowing the water's flow to become impeded.<sup>11</sup> Furthermore, Colonel Richard Strachey, the Inspector-General of Irrigation in India, wrote in 1867 that many difficulties "arise from the rude manner in which the irrigation channels have been formed in the first instance".<sup>12</sup> These included unstable heads (*i.e.* the point at which a canal connected with the Indus was liable to shift, breaking the link between the canal and its water supply), silt build-ups caused by mis-aligned inclination, and badly constructed channels. Strachey also criticized the canal administration, lamenting the fact that British canal engineers were little more than "superior Overseers of the annual canal clearances, under the direction of the Revenue District Officers".<sup>13</sup>

Sind's canals were in physical and administrative disarray, but such criticisms did not lead to any fundamental renovation of Sind irrigation. Napier's short-lived and ineffectual Canal Department was closed when he left the province. Instead, British resources focussed on subjugating the country, and the canal system was given only the bare minimum of maintenance. As Strachey's lament suggested, good engineering was subordinated to revenue and political considerations, and plans prepared by individual engineers and administrators were shelved by higher authorities. Most notably, Lieutenant J.G. Fife's 1855 proposal to remodel the whole Sind canal system was (in the words of the 1907 Gazetteer of the Province of Sind) "of alarming magnitude and was not adopted", neither at the time, nor when it was again urged by the Executive Engineer of Hyderabad Canals in 1891. Fife also

---

<sup>11</sup> Panhwar cites James Hughes, Deputy Collector of Shikarpur in 1847, and Richard Burton. Panhwar, *History of Sindh Irrigation*, p.73. Lieutenant Postans, writing in 1841, is cited by E.H. Aitken, *Gazetteer of the Province of Sind* (Karachi: 'Mercantile' Steam Press for the Government [of Bombay?], 1907), p.258.

<sup>12</sup> Colonel Richard Strachey, 'Irrigation in Sind' (unpublished memo), 31.01.1867, p.2, Strachey Papers, MSS Eur F127/206, British Library [henceforth 'B.L.'].  
<sup>13</sup> Strachey, 'Irrigation in Sindh', p.2.

proposed a second project, the Sukkur Canal, which was sanctioned by Government in a very reduced and modified form in 1861.<sup>14</sup>

Yet despite the limit to technical advances in pre-Sukkur Barrage British irrigation, a number of important administrative changes occurred. The *cherr* system of forced labour was abolished (at least in principle) by the Government of Bombay in the late nineteenth century.<sup>15</sup> This meant that the prevailing arrangement for canal clearance in Sind – in which *zamindars* had a duty to provide the labour force – was replaced by a cash-paid, hired workforce. The Government began to take land revenue payments in cash rather than in kind, whereas the latter had predominated under the Talpurs.<sup>16</sup> Thus monetary payments were established as an increasingly important mechanism for the transaction of public business, and the latter innovation placed cultivators more directly in the market system of agriculture. A parallel codifying trend could be seen in the Government's acquisition of as many branch canals as possible,<sup>17</sup> and its taking on of more direct responsibility for canal clearance. Previously this task had been performed by *zamindars* at the local level; now it had become an official matter, and Sindhi irrigation provision was further ensnared in the British administration's web of institutionalisation and codification. Beginning in 1887, an 'Irrigational Settlement' was introduced into the country piecemeal, which determined land revenue according to the type of irrigation practised upon it.<sup>18</sup>

---

<sup>14</sup> Aitken, *Gazetteer*, p.262. Fife's second proposal was for four lines of canals, one leaving the river at Rohri and running parallel to the river's left (eastern) bank until it entered the Fuleli Canal near Hyderabad; another leaving the river at Sukkur and running parallel to the right bank until it entered the Western Nara Canal; and the third and fourth both leaving the river at Jerruck, the latter to end in Karachi. Fife also tentatively suggested a fifth canal, running from Mithrao to Wanga Bazaar.

<sup>15</sup> On *cherr* and irrigation, see David Gilmartin, 'The Irrigating Public: The state and local management in colonial irrigation', in Stig Toft Madsen (ed.), *State, Society and the Environment in South Asia* (Richmond: Curzon, 1999), pp.252-258.

<sup>16</sup> Aitken, *Gazetteer*, p.401.

<sup>17</sup> Cheesman, *Landlord Power*, p.25.

<sup>18</sup> Aitken, *Gazetteer*, pp.406-407.

These changes, however, were fragmented and haphazard. Although water was integral to both agriculture and governance in Sind, no coherent plan for genuinely renovating Sindhi irrigation and agriculture – technically or administratively – was acted upon. In this respect, Sind was both typical and atypical of north-western India. Sind's dependence on canal irrigation was reflected in parts of the Punjab and the North-Western Province (N.W.P.), which were similarly arid. Parallels were also drawn between Sind and other parts of the British Empire, such as Egypt and the Sudan.<sup>19</sup> Fife was even sent to Egypt in 1856 to determine whether Egyptian irrigation techniques should be imported into Sind, although he reported that Sind's engineers had little to learn there and should instead look to north-western India for inspiration.<sup>20</sup> The Superintendent of Canals in the N.W.P., who had also spent time in Egypt, confirmed the validity of Fife's findings.<sup>21</sup> India in the nineteenth century was, then, the laboratory in which colonial irrigation techniques were developed.<sup>22</sup> However, Sind lagged far behind its neighbours in irrigation development under British rule. In the N.W.P., East India Company engineers had begun renovating the Western and Eastern Jumna Canals as early as the 1820s; in 1840, work had started on the expensive Ganges Canal at

---

<sup>19</sup> See Robert Burton Buckley, *Irrigation Works in India and Egypt* (London: E. & F.N. Spon, 1893); 'Lord Stanley & the Lloyd Barrage', n.d., Dow Papers, MSS Eur E 372/1, B.L. Conversely, when Britain was given the post-First World War Mandate in Palestine by the League of Nations, Indian irrigation experiences helped to guide the new administration. K. Gaarde, 'British Colonial Water Legislation in Mandatory Palestine', in R. Coopey and T. Tvedt, *A History of Water, Volume 2: The political economy of water* (London; New York: I.B. Tauris, 2006), p.178.

<sup>20</sup> Captain J.G. Fife to Major General Charles Maddington, Chief Engineer of Public Works in the Bombay Presidency, 07.04.1856, Public Works Department (General) vol. 59 of 1856, compilation 572, Maharashtra State Archives, Mumbai [henceforth 'M.S.A.'].]

<sup>21</sup> Lieutenant Colonel R. Baird Smith, Superintendent of Canals N.W.P., to Colonel W.E. Baker, Secretary to Government of India Public Works Department [henceforth P.W.D.], 17.07.1856, Public Works Department (General) vol. 59 of 1856, compilation 572, M.S.A.

<sup>22</sup> Daniel R. Headrick, *The Tentacles of Progress: Technology transfer in the age of imperialism, 1850-1940* (New York; Oxford: Oxford University Press, 1988), p.196.

Haridwar, intended to irrigate the whole of the Upper Doab.<sup>23</sup> In much of northern India, administrative power and water provision were intimately connected, and the government invested a great deal of capital in strengthening this relationship. In Sind, however, the physical infrastructure that facilitated it remained virtually unchanged.

## The Laikpur Canal

Irrigation remained, however, an essential part of the government's activities in Sind. Operating canals required a constant process of negotiation in which officials put forward overlapping and competing definitions of the state's responsibilities, privileges, and objectives. This was seen particularly during the 1880s, when irrigation work in Sind began to intensify. After the relative stagnation of the mid-1800s, canals such as the Desert, Unharwah and Begari Canals in Upper Sind, and the Eastern Nara works in Thar Parkar district, were constructed during the century's later decades. As the 1890s commenced, several important new schemes were in progress: a new feeder to the Western Nara Canal, expected to irrigate 55,000 acres on the right bank of the Indus in Shikarpur and the northern portion of the Karachi Collectorates; the improvement of the Renwah Canal, designed to increase the supply of water to land already cultivated, and to extend irrigation to 28,000 acres in Sakrand Taluka of Hyderabad district; as well as improvements to the Fuleli Canal and the extension of the Eastern Nara system.<sup>24</sup>

These irrigation projects were by no means the biggest known to colonial India, but their importance in Sind's development lay in the debates that they encouraged among officials about the value of such schemes, and the state's place

---

<sup>23</sup> Graham P. Chapman, *The Geopolitics of South Asia: From early empires to the nuclear age*, 2<sup>nd</sup> Edition (Aldershot: Ashgate, 2003), p.119.

<sup>24</sup> 'Minute by His Excellency the Governor', 07.04.1890, pr.3-8, Government of Bombay Revenue Department [henceforth 'R.D.'] vol. 116 of 1890, compilation 260, M.S.A.

in them. Attention was drawn firstly to the fact that the piecemeal historical development of canal irrigation in the province had not been conducive to the formulation of a standard code for getting their commands (*i.e.* the area of land that they irrigated) settled and cultivated. In 1896 the Commissioner-in-Sind, Sir Evan James, pointed out that "new Canals have seldom been made in Sind, and there are no general rules for giving out the land upon them." In the past, canals in Sind had been used as much to pacify the wilder tribes of the interior as to significantly increase cultivation, and so their colonization had been carried out piecemeal according to contemporary political needs. On the three frontier canals – the Begari, Unarwah, and Desert systems – the Deputy Commissioner for the Upper Sind Frontier had distributed the lands himself, granting them *gratis* to the Baloch Sirdars and tribes, "the object being to reclaim them from rapine and plunder and induce them to take to peaceful pursuits."<sup>25</sup>

The situation was similar in the Punjab, also a new territory, where the British regime needed to provide employment for the disbanded Sikh army after the annexation of the Punjab in 1849. Digging canals provided short-term work, and the infrastructure for settling the ex-fighters into agriculture.<sup>26</sup> As one officer wrote of Multan in that year, "the people [...] are predatory herdsmen, little engaged in agriculture, and without extensive means of irrigation [...] To give them the means of cultivating would be the most efficient aid to the Magistrate".<sup>27</sup> The British began

---

<sup>25</sup> Commissioner-in-Sind James to Secretary to Government of Bombay R.D., 08.10.1896, R.D. vol. 147 of 1897, compilation 1486, M.S.A.

<sup>26</sup> Chapman, *The Geopolitics of South Asia*, p.126.

<sup>27</sup> Lieutenant Hugh James, 'Canals of the Mooltan District' (November 29, 1849), *Selections from the Records of the Punjab Administration, Old Series*, No. 1, I.O.R.; cited in David Gilmartin, 'Scientific Empire and Imperial Science: Colonialism and irrigation technology in the Indus Basin', *The Journal of Asian Studies* 53.4 (1994): 1127-1149, p.1132.

to consider proposals for extending irrigation into the thinly-populated western frontier districts as early as the 1860s.<sup>28</sup>

Yet whereas the Punjab administration took a systematic approach to canal construction and colonization from the 1880s onwards, which gave greater weight to demographic and economic questions, Sind's irrigation development remained less systematic. Lord Sandhurst, the Governor of Bombay, felt that irrigation practices should be regulated, arguing that it would be unwise to put too much implicit trust in the local officers of a province with Sind's irregular frontier history. "old fashions and ancient practices which are survivals of the former paternal system of administration", the Governor wrote, were no longer suitable, but would "die hard" as long as the old administrative order remained active in the province. It was, he concluded, time for general rules for land distribution and colonization in Sind to be framed.<sup>29</sup> Commissioner James, on the other hand, emphasized the vital importance of local political conditions, which could only be assessed by officers within Sind, and asserted that the relationship between the government and its rural allies must be respected: "It may be well to remind Government that when distributing land in Sind, every consideration has to be given to the claims of local Zamindars on the spot." Moreover, he quoted the authority of his predecessor Bartle Frere<sup>30</sup> to remind his superiors in Bombay that almost any land in Sind was subject to some kind of ownership, which was bound to be asserted once water had been brought to the land, however long it had lain dormant.

James's caution in this matter may be attributed to his keen sense that the British regime in Sind rested on fragile political foundations. Expectations of

---

<sup>28</sup> Imran Ali, *The Punjab Under Imperialism, 1885-1947* (Princeton: Princeton University Press, 1988), p.5.

<sup>29</sup> 'Note by the Governor', 15.09.1896, pr.1, R.D. vol. 147 of 1897, compilation 1486, M.S.A.

<sup>30</sup> Khuhro has credited Frere with providing Sind with a working administration. Khuhro, *Making of Modern Sindh*, pp.xxxiii-xxxv.

bolstered crop outturns and higher revenue receipts had to be set against the risk of alienating the administration's traditional support base, namely the *jagirdars* and *zamindars*, and the difficulties that the administration inevitably encountered when trying to navigate the maze of customary rights and agreements that governed agrarian society. Sounding aggrieved, James asserted an ambition to good governance that looked beyond the accountant's ledgers. An irrigation officer, he wrote, may be excused for

looking on a new canal as a mere machine made by Government, solely as an investment, and for extracting as much hard coin [as possible] at the start from the people who will depend on it for their living. But the Commissioner and the Government have higher views of their duty towards subject-races, and so long as just & moderate assessments are imposed, (and in Sind the assessments remunerate Government amply for their outlay) it is desired that the people as well as the Treasury should profit by the new canal.<sup>31</sup>

James's indignation expressed a concern about pressures on his administration from above (from London and from the upper echelons of governments in India) as relentless as those from below (from the collaborators whom local officers were both unwilling and unable to circumvent). His invocation of a "duty towards subject-races" spoke to a paternalist conception of colonial governance. This duty operated primarily in terms of the relationship between local power-holders and the administration, and tended to encourage the regime's role in India to be viewed through an aristocratic prism. This was the principle by which the post-annexation rule of Sind had been established, and according to which it had been maintained during the following decades. It had little to do with the demands of scientific irrigation and engineering, nor with systematic attempts to alter the society being governed.

---

<sup>31</sup> Commissioner-in-Sind James to Secretary to Government, R.D., Bombay, 08.10.1896, pr.1-3, R.D. vol. 147 of 1897, compilation 1486, M.S.A.

Now, there was change in the air, however limited and piecemeal. As in the Punjab, officials in Sind hoped to tease out a new class of agrarian collaborators, whose power would be more diffuse because they were more numerous and were not traditional, aristocratic magnates. A member of the Bombay secretariat, writing about the Laikpur Canal scheme in Hyderabad District, noted that there were no projects in Sind “so large as to call for colonisation schemes such as exist in the Punjab”; but that did not mean that Sind should not take a leaf out of the Punjab’s book, especially where the increasingly systematic nature of colonization was facilitated by closer official supervision of day-to-day cultivation. “these schemes are highly successful,” he wrote of the Punjab colonization projects. “Cultivation has been brought from congested districts [...] and [these cultivators] have developed prosperous villages. The schemes have been considered important enough to require the superintendence of special settlement officers”, picked from the best I.C.S. men, rather than leaving the work to regular revenue officials, as was done in Sind. Government should not aim to interfere with the established discretionary powers of local officers, he argued, but “it would be a doubtful policy to allow the lands of Sind, made valuable by new canals, to be developed in haphazard fashion. Government [...] ought to obtain full assurance that uniformity, method, and judgement are observed in so important a branch of administration.”<sup>32</sup> In other words, although irrigation construction was proceeding at a more sedate pace than in the Punjab, the local government must take a more systematic and rational approach than had hitherto been its practice.

The Laikpur Canal debate resulted in a Government of Bombay resolution, in which the Governor-in-Council ordered that customary rights and “the expediency of reclaiming from predatory habits the wilder tribes by the grant of land” should be

---

<sup>32</sup> A member of the Bombay secretariat, note, 14.9.1896, pr.3-4, collection of notes marked 3561B, R.D. vol. 147 of 1897, compilation 1486, M.S.A.

respected, but that public auction should be the chief means of allocating government land.<sup>33</sup> This decision represented acceptance that speculation on landed property was an inevitable evil born of the market system which the British were encouraging in rural India. Sindhi agriculture, or rather the British regime's relationships with Sindhi agriculturalists, had long been considered to be under threat from the indebtedness of Muslim landowners, and the attendant prospect of their land falling into the hands of Hindu moneylenders who were often presumed to lack sufficient local standing to maintain order in the countryside. In a similar manner, the administration had mixed feelings about allowing land to be sold to outsiders who might only be buying up agricultural land for financial speculation. Nevertheless, Bombay's Governor-in-Council demonstrated the irrepressibly pragmatic financial instinct that underpinned his government's operations by concluding that it would be better for the government to receive the money of such speculators at auction, than for the land to be given away on easy terms to *zamindars* who might sell it on anyway.<sup>34</sup> At this stage, Bombay was not yet willing to resort to granting the land on condition that it could not be sold on for a set number of years. Officials' influence over *zamindars* and cultivators was not to become significantly stronger until the rules governing colonization and agriculture on the Jamrao Canal came into effect at the turn of the century.

## The Jamrao Canal

In the context of such a haphazard approach to building and operating new canals in Sind, the Jamrao Canal in the southeast of the province heralded an important shift. It inaugurated a new phase of irrigation development in Sind that was more

---

<sup>33</sup> Government of Bombay R.D. Resolution 1419, dated 19.02.1897, pr.3, in collection of notes marked 3561B, R.D. vol. 147 of 1897, compilation 1486, M.S.A.

<sup>34</sup> *Ibid.*

intensive and systematic. As such, it laid the roots for the twentieth century's huge barrage irrigation schemes that occupy the attention of later chapters in this thesis. Constructed in 1898-1899, the Jamrao Canal project relied on migrant labourers from outside the province, especially Punjabis and Baluchis.<sup>35</sup> This was due to the sparseness of Sind's population, which the local administration was always keen to point out as a limiting factor in any development project, because it forced up labour costs<sup>36</sup> and suggested the danger that Sindhi *haris* would desert the *zamindars* who employed them in order to take up other work elsewhere.<sup>37</sup> The canal was an extension to, and significant renovation of, the existing Eastern Nara canal system, and provided irrigation water to 934,300 acres, although only a third was cultivated each year because limited water supplies were rationed.

Importantly, the canal was designed to provide water for both *kharif* and *rabi* cultivation, which would enable more crops to be produced during a year, whereas existing Sind canals provided almost exclusively for *kharif* irrigation. The Jamrao was, like all main canals constructed in Sind since annexation, a government project. The administration in Sind recognized that irrigation development would have to be state-driven and could not rely on a proactive public reception, unlike in the Punjab where the greater enthusiasm of rural magnates for building and maintaining their own canals led to a higher incidence of private canal construction and ownership.

In fact, the state's precise role in Sindhi irrigation was a product of constant negotiation between government departments and officials. Canals were important enough in Sind that the negotiations that accompanied their development – and

---

<sup>35</sup> Executive Engineer First District Jamrao Canal to Superintending Engineer Indus Left Bank Division, 28.06.1898, pr. 3, R.D. file 69A of 1896-99, vol.I, Government of Sindh Archives, Karachi [henceforth 'G.S.A.'].  
<sup>36</sup> Commissioner-in-Sind James to Chief Secretary to Government, R.D., Bombay, 21.07.1898, p.2, R.D. file 69A of 1896-99, vol. II, G.S.A.

<sup>37</sup> Cheesman has argued that, in fact, official dismay at population scarcity in Sind was a powerful factor in determining the overall shape of colonial agrarian policy in nineteenth-century Sind. Cheesman, *Landlord Power*, esp. ch. 2.

even their day-to-day maintenance – were significant in defining the state’s powers and responsibilities towards its subjects. In order to regulate and control the act of getting water from the Indus to the fields, the colonial administration became engaged in a complex set of relationships, which continually evolved. This process was often organic, and the picture was built up gradually on a case-by-case basis as the interpretation of irrigation rules was adapted to a variety of situations on the ground. While the Sind administration was alert to the lessons to be learned from similar projects in the Punjab, the latter could not be translated directly into a Sindhi context because of the complexity of existing rights to land in Sind. With the construction and colonization of the Jamrao Canal, this same process continued, but it was an accelerated one with the scope for significant change.

The difference was, in some respects, due to the size and expense of the Jamrao project. Excavation of the main Jamrao Canal began in 1898, and was completed the following March; most of the system was brought into operation by May 1900, utilizing existing canals and *karias* wherever possible. Unusually, the project was completed a year ahead of schedule, and the canal was therefore considered to be Rs. 175,000 in credit before water even began to flow. From the outset, therefore, the canal seemed to promise resounding success. But it was also a more complex and ambitious project than Sind had previously seen. The hydraulic technology that underpinned it, and which allowed water to be brought to the fields twice per year rather than once, meant that more intensive cultivation would be possible. Moreover, the colonization of the canal was to be undertaken on more rationalized, modernist lines than previous canals, with a strong interregional component. In this sense it had much in common with the contemporary Punjab colonies. The construction project itself shared some of the Punjab colonies’ frontier romance: the work was tough, and several engineers who were assigned to

the project 'broke down' after a few months in the desolate, burning hot landscape.<sup>38</sup> As Gilmartin has argued, the Punjab colonies were important in the development of British officialdom's self-image. They allowed the administration to re-shape a hostile landscape and demonstrate the worth of European science, technology, and human endeavour, in what the Punjab Irrigation Manual described as a "bold and magnificent conception".<sup>39</sup> The same analysis could be applied to the Jamrao Canal, which was also conceived as a self-consciously scientific project in contrast with the haphazardly constructed and settled canals of Sind's past.

Why, then, was such an arduous task undertaken? The state, as the project's instigator, naturally expected to gain something from the work. The earlier Laikpur Canal debates had demonstrated the range of economic and political motives that the administration had for canal construction, but in order to understand the particular relationship between irrigation and governance in which the Jamrao Canal was located, it is necessary to ask briefly how such projects were financed. Irrigation works in British India fell, by this time, into two categories: 'productive' and 'protective' works. This distinction had been drawn within a few months of the transfer of power from the East India Company to the British Crown, following the Mutiny in 1857, when a committee had been set up under Richard Strachey in order to classify public works expenditure. The committee divided the latter into two categories, the first of which was 'State Works'. Essentially non-remunerative projects, these were constructed to fulfil the state's duties towards the public, and included barracks, law courts, and schools. The second category,

---

<sup>38</sup> Government of Bombay P.W.D. Resolution W.I.-1399, 10.06.1902, pr.1, R.D. vol. 150 of 1902, compilation 1486, M.S.A. Both engineers and workmen suffered from cholera and malaria; one engineer wrote that "at first the country was a dismal desert where no provisions nor even drinking water at some places could be got". Executive Engineer, Jamrao Canal Southern District, to Superintending Engineer, Indus Left Bank Division, 09.04.1902, quoted in P.W.D. Resolution W.I.-1399, 10.6.1902, pr.1.

<sup>39</sup> Cited in Gilmartin, 'Scientific Empire', p.1132.

‘Works of Internal Development’, were essentially commercial projects. These were expected to profit both government and community; they included all municipal and marine improvements, and all engineering operations focused on agriculture, especially irrigation works.<sup>40</sup> The first category was to be financed purely by current provincial revenue surpluses, the second by money borrowed in London.

Irrigation works retained an ambiguous dual status because they could turn a profit, while also being recognized as important for the ‘public good’. Successive governments in India, influenced by different political and social ideas from Britain, took differing views on the value of state intervention into matters of public good, rather than cleaving to its traditional focus on security and revenue-collection. Under Marquess Ripon’s Governor-Generalship (1880-1884), for example, the Government of India accepted the need for broader state intervention in areas such as local self-government and education, and especially in relation to agrarian issues such as land reform, agricultural experimentation and outreach programmes. Paradoxically these new initiatives, which included elements of social engineering and conscious policies for economic development, accompanied a growing pessimism among British officials in India about their capacity for ‘improving’ the country.<sup>41</sup>

Sind’s agriculture relied on the Indus rather than the failure-prone annual monsoon common to most of the subcontinent, and the province was thought to be largely safe from famine.<sup>42</sup> Irrigation development was therefore undertaken with an eye to profit, rather to protect against food scarcity. The good financial sense of this approach appeared to have been borne out by experience. Sind possessed a

---

<sup>40</sup> Elizabeth Whitcombe, ‘Irrigation’, in Dharma Kumar (ed.), *The Cambridge Economic History of India, Volume 2: c.1757 c.1970* (Cambridge: Cambridge University Press, 1983), p.692.

<sup>41</sup> Peter Robb, *Liberalism, Modernity, and the Nation* (New Delhi: Oxford University Press, 2007), p.33.

<sup>42</sup> Aitken, *Gazetteer*, p.255.

good record on productive irrigation works: in the early 1890s, Sind and Madras were the most successful on this front, with the canal-irrigated agricultural 'heartlands' of northern India, the N.W.P. and the Punjab, lagging behind.<sup>43</sup> According to estimates made in 1897, before the Canal was constructed, the revenue receipts from Jamrao Canal land were expected to more than cover interest charges on the project within the fifth year after the completion of the works, and the Canal was expected ultimately to return a 6.77% profit per year on the total outlay.<sup>44</sup> In 1903, when the Canal had been in operation for three years, it was predicted that within ten years the revenue gained from the Canal would exceed interest charges by a comfortable Rs. 1,924,744, and that the total capital outlay plus interest charges would be covered by 1931.<sup>45</sup>

When considering irrigation development, the Sind administration could look not only to its own experience of profitable canal construction, but also that in the Punjab, which at the time was the site of the biggest and most intensive development of canal irrigation in India. These huge canal colony projects began in 1885, opening up virgin land for colonization and cultivation in the western part of the province. Despite the greater vulnerability of the Punjab to famine, these works were, like Sind's canals, considered productive rather than protective, and were expected to return a profit on government capital outlay, as well as provide economic benefits to the population at large. In this the colonies were remarkably

---

<sup>43</sup> Buckley, *Irrigation Works in India and Egypt*, p.278. Note, however, that Buckley expected the Punjab, as well as the North-West Frontier Province, to catch up with Sind soon; and indeed only a decade later the Irrigation Commission considered the Punjab to be the province in which irrigation works could be constructed with the greatest confidence of remuneration, even on protective works. East India (Irrigation), *Report of the Indian Irrigation Commission 1901-1903. Part II – Provincial* (London: His Majesty's Stationery Office, 1903), p.1.

<sup>44</sup> P.W.D. Resolution 113 W.I.-1377, 29.09.1896, *Bombay Public Works Proceedings (Imperial) for year 1897*, p.816, IOR/P/5322, B.L.

<sup>45</sup> 'Statement of Financial anticipations', 17.03.1903, in Government of Bombay, Public Works Department, *Report on the Jamrao Canal Project, Sind* (Bombay: Government Central Press, 1907), p.6.

successful, and the huge extension of cultivated acreage swelled the provincial coffers. The gross revenue earned by Punjab canals classed as Productive Works would increase from Rs. 14.6 *lakhs* per year during 1860-1869 to Rs. 800 *lakhs* during 1937-1946, and by the year 1945-46 the net profit exceeded the total capital expenditure by more than 200%. These spectacular profits were not gained instantaneously, and appeared only once the Colonies had been working for decades; hence, during the period under consideration in this chapter, profits were more modest, standing at 7.5% of capital outlay during 1897-1905.<sup>46</sup> Indeed, Ali has convincingly argued that the Colonies' financial (and agri-developmental) potential was consistently neglected in favour of political and military expediencies.<sup>47</sup> This should not, however, be allowed to obscure the fact that financial gain – or at least financial viability – was the bottom line for these projects, as it usually was for all levels of government in India. Similarly, the Jamrao Canal is best understood as a project designed to further a mixture of economic, social, and political aims, while being constrained by a similar variety of factors.

### **Colonization of the Jamrao project**

Building the Jamrao Canal was one endeavour, but arranging for colonists to put the land it watered under the plough was quite another. This had traditionally been a matter for revenue officers on the spot, but in this case external authorities took a stronger interest. Jamrao tract colonization attracted the attention not only of the Governments of Bombay and India, but even the Secretary of State for India in London, who sanctioned a five-year colonization scheme for the Canal in 1899. Colonization crystallized the tension between local officers' discretion and higher

---

<sup>46</sup> M. Mufakharul Islam, *Irrigation, Agriculture and the Raj: Punjab, 1887-1947* (New Delhi: Manohar, 1997), pp.129-133.

<sup>47</sup> See Ali, *Punjab Under Imperialism*, p.156.

levels of authority that had characterized debates about Laikpur Canal land only a decade earlier. For the Jamrao Canal to meet its purpose, colonists had to be tempted onto the land, those who would make for the most 'suitable' grantees had to be selected, and then it had to be ensured that they actually grew the necessary crops. This process was captured in a great deal of colonial correspondence, as officials debated both the principles and finer points at stake. The arguments deployed therein and the action that the administration actually took revealed two overlapping but competing priorities: firstly, the need to maintain the political stability of the colonial administration's rule in Sind, and secondly, the lure of encouraging or imposing 'scientific', financially productive cultivation. Both concerns were underpinned by officials' keen awareness that their actions had ultimately to result in the revenues raised through land sales and agricultural taxes at least covering the cost of the project's construction, and preferably turn a profit for the government. The tension between granting land to 'scientific' Punjabi peasants and yeomen, and politically important but unproductive Sindhi aristocrats, exemplified this.

The influence of the first of these concerns will be addressed here through a study of the administration's policies to determine to whom land should be allocated. As it transpired, Jamrao land was chiefly used as a resource for settling problems and exploiting opportunities that presented themselves in Sind and its neighbouring areas. The second concern is shown to have influenced village layout and cultivation rules; moreover the canal's 'scientific' construction and regulation was also to be accompanied in many places by colonists who would cultivate the land according to scientific principles. Not coincidentally, these cultivators were also expected to be easier to govern. It is argued that the financial, social-political, and 'moral' aspects of the project were not as distant from one another as might be

assumed. Rather, officers sought an ideal type of cultivator who would be both loyal and productive. The fact that no complete separation is possible between the 'scientific' and 'political' aspects of the colonization work indicates colonization's multivalency.

The colonization of the canal demonstrated first and foremost the concern for stability that so preoccupied the British in India. 85% of available land was given to *zamindars* whose estates were in or adjacent to Jamrao tract: they automatically had first refusal on new squares adjoining their existing estates. This policy was expressed in terms of concern for the pre-existing legal rights held by these *zamindars* over the land,<sup>48</sup> but this barely masked the unease that the administration felt about upsetting the status quo, and its need to maintain the stability of local agrarian society in areas bordering the Jamrao tract. By contrast, only 12% of land was allocated to settlers from outside Sind, mainly peasants from overcrowded regions of the Punjab. 2% was granted to *zamindars* from other parts of Sind, who were carefully selected as loyal and reliable people who would run their farms efficiently. These men had to settle on the Jamrao tract itself and were not permitted to bring any *haris* with them who were already cultivating lands irrigated from government canals in Sind: they had to recruit locally or import foreigners. This condition underlined official worries about the destabilization of Sind's demographic makeup, as had the use of Punjabis and Baluchis for construction work. The remaining 1% of land was given on the same terms to military pensioners, capitalists (grantees in this class were expected to farm large areas, explicitly for profit) and to a few men of political significance.<sup>49</sup> Ironically, the recipients of the bulk of these grants – the 'indigenous *zamindars*' – were the

---

<sup>48</sup> Commissioner-in-Sind James to Secretary to Government of Bombay R.D., 08.10.1896, pr.2, R.D. vol. 147 of 1897, compilation 1486, M.S.A.

<sup>49</sup> Cheesman, *Landlord Power*, pp.76-77.

subjects of the least discussion during the formulation and execution of colonization policy. Determining who was eligible to buy land was a relatively simple matter for the local officers on the spot, under the Colonization Officer's charge. By contrast, the settlement of other groups attracted far more attention in surviving, available documents. The lack of extant information on grants to indigenous *zamindars* suggests that these were perceived as a fundamentally local matter for local officers, and so accepted as an extension of normality in Sind and left outside the immediate control of higher authorities.

The way in which the administration dealt with the project, and the effect that this had on the populace, was intimately tied to notions of the colonial regime's moral right to govern, as the Commissioner-in-Sind's earlier correspondence on the Laikpur Canal had suggested. The Talpur Mirs, relatively small in number but great in political consequence, were one special group that exemplified the problems connected with this mindset. The questionable morality of British rule in Sind had been a thorn in the side of Napier's administration, and the rejuvenated Sind that he had promised had not materialized despite fifty years of Imperial rule. As the descendents of the ruling families of Sind at the time of the annexation, who had reached accommodations with Napier's government, the Talpurs had an important place in the social fabric over which the British maintained their rule: their utility as local aristocratic collaborators had been an integral part of the British system of control over rural Sind ever since Napier's 'reconfirmation' of their *jagirs* (areas of land on which the grantee, known as a *jagirdar*, was allowed to keep part or all of the land revenue rather than returning it to the state). However, the relationship between the Mirs and the British had always remained uneasy, and by the time the Jamrao Canal was built, the administration had begun to perceive them as an embarrassing remnant of a deeply corrupt and lethargic system. Moreover, most

Talpurs relied on Government pensions and grants in order to maintain themselves and their families in a style appropriate to their royal heritage.

The Government of Bombay had recently decided that the practice of supporting the Talpurs had outlived its usefulness and was now merely a financial burden, and so their pensions should be cancelled. Sind's administration, however, had no desire to see disaffected Talpurs stir up trouble, especially as a recent anti-British uprising among the Hurs – a group who proclaimed devotion to the Pir Pagaro, an influential hereditary saint, and claimed to act in his name when violently attacking those who they thought had done wrong to the Pir – had demonstrated the danger that Sind's normally placid aristocracy could pose. In light of this Evan James, the Commissioner-in-Sind, took pains to emphasize to the Jamrao Canal Colonization Officer "very strongly that it is more important to get a Talpur settled than a Panjabi Colonist," even though the latter could be expected to cultivate more crops.<sup>50</sup> The Talpurs' favoured status was, he went on, due to their earlier dispossession at the hands of the early British regime. The Commissioner was keenly aware that the material rewards that played an important part in underpinning the loyalty of landlords under the Imperial system could not be completely removed without political consequences. "if the Talpurs are not provided for," he wrote, "they will remain a very persistent thorn in the side of the Govt [*sic*], so do your very best to help Govt to get rid of them and let them be swallowed up in the ranks of the zamindars. There will never be so good an opportunity again."<sup>51</sup> James was incorrect: the resettlement opportunities afforded by the Sukkur Barrage would later provide an ample opportunity of the same kind.

---

<sup>50</sup> Commissioner-in-Sind James to L. Robertson, Jamrao Canal Colonization Officer, 04.12.1900, Political Department [henceforth "P.D."] file 4 of 1902, compilation 4, pp.73-74, G.S.A.

<sup>51</sup> Commissioner-in-Sind James to L. Robertson, Jamrao Canal Colonization Officer, 04.12.1900., P.D. file 4 of 1902, compilation 4, pp.73-74, G.S.A.

His comment, however, pointed to the relative novelty of the Jamrao scheme in Sind, and the immediate political uses to which large new tracts of government-owned lands could be put.

The resettlement of the Talpurs was a wide, somewhat vague endeavour, and not very systematic, but the political gains were potentially great. For officials, removing the Mirs from their ancestral lands and re-settling them in a new area represented an opportunity to break their power and modernize Sindhi agrarian society, and forge new relationships between the Crown and its subjects. There is no doubt that James had deliberate ambitions to reduce the power and prestige of the Talpurs, whom he considered a remnant of the pre-annexation regime and an unwelcome drain on Government resources. "It is of great importance", he had written in 1899, "to get this troublesome and at present useless and discontented class merged amongst the zamindars and their pensions from the state absorbed."<sup>52</sup> James's "higher view" of the government's duty towards subject-races evidently allowed room for the disposal of subjected elements which the government – as personified by himself, the Commissioner-in-Sind – found distasteful and of little use. Political benefits of this kind, however, could only come at an economic cost. Large sums of money were set aside to provide grants and loans to Talpurs who were willing to take up Jamrao land, and the grants were usually rent-free for one lifetime. Stopping pensions would not, therefore, save money in the short- or even medium-term.<sup>53</sup> Instead, the long-term financial benefits of stopping Talpur pensions combined with the more immediate benefits of breaking their power to make the Talpurs a worthy target for settlement on the Jamrao tract.

---

<sup>52</sup> Memo by Commissioner-in-Sind James, 14.11.1899, P.D. file 4 of 1902, compilation 4, p.72.

<sup>53</sup> Collector of Sukkur to Commissioner-in-Sind Giles, 03.02.1902, pr.3, P.D. file 4 of 1902, compilation 4, pp.17-18, G.S.A.

Other officers took a friendlier view of the Mirs. Once Jamrao colonization was well underway, the Colonization Officer noted that under the colonization rules for the Talpurs "the intention has apparently been to make them settle on the lands in order that they may be merged into the population."<sup>54</sup> However, up to that point only six Talpurs had been willing to take up Jamrao grants. As a result, the Colonization Officer felt that the administration should encourage them to take up good land on easy terms, and then persuade them over the long-term to move their households onto the lands once they saw that the land could provide for their families.<sup>55</sup> Similarly, the Collector of Sukkur – the officer in charge of the country in which many of the Talpurs resided – was sympathetic to their condition, and suggested that their noble lineage threw responsibility for maintaining their dignity onto the government. "The condition of these Talpurs," he wrote in 1902,

gentlemen of high birth with the traditions of hereditary rule to look back upon and now often - literally - hard put to it for their daily bread, has long been well known [...] and this opportunity that has now been given to them to make a decent livelihood for themselves and their descendents is one which I consider should not be hampered by want to liberality.

Like James, the Collector and the Colonization Officer saw agriculture as the Mirs' saviour, as something that would lift them out of their degradation and set them on a productive and useful track (to Government and to themselves). The Collector argued that the alienations of revenue concurrent with granting land to the Mirs was "a mere trifle compared to the result obtained if we succeed in removing the long standing reproach which the presence of this indigent nobility in our midst I think undoubtedly throws on us."<sup>56</sup> In the end, James's successor as Commissioner-

---

<sup>54</sup> Mahomed Yakub, Jamrao Canal Colonization Officer, to Commissioner-in-Sind, 13.02.1902, pr.4, P.D. file 4 of 1902, compilation 4, p.111, G.S.A.

<sup>55</sup> Mahomed Yakub, Jamrao Canal Colonization Officer, to Commissioner-in-Sind Giles, 13.02.1902, pr.6, P.D. file 4 of 1902, compilation 4, p.111, G.S.A.

<sup>56</sup> Collector of Sukkur to Commissioner-in-Sind Giles, 12.02.1902, pr.5., P.D. file 4 of 1902, compilation 4, pp.31-2, G.S.A.

in-Sind, H.C. Mules, took a softer line with the Talpurs, recognising that it would not be practical to require them to live on their land permanently, nor to disperse into the general populace and lose their sense of self.<sup>57</sup> Under these conditions, colonization by the Mirs continued apace, and 49 Talpur grants were made by mid-March 1902.<sup>58</sup>

In one sense, the treatment of the Talpurs fitted in with the wider aims of the Jamrao project, because the Mirs were expected to be part of the movement towards a rationalized process of irrigation and agricultural production. To officials who often saw the Talpurs as remnants of a passed time, maintained in an artificially privileged position by the government's generosity without giving sufficient reciprocal benefit to the state, what could be more attractive than dissolving this stubbornly old-fashioned, unenterprising class into the new, regulated, productive agrarian society that the Canal was expected to sustain? Therefore the attempt to settle the Talpurs on the Canal could be seen as part of the wider trend in north-western India to purposely shape the kind of society that would go hand-in-hand with modern irrigation systems. On another level, however, the treatment of the Talpurs manifested the established pattern of political uses of irrigated land in Sind, arrived at through an equally hoary process of compromise and negotiation between officials and Indian subjects. What distinguished the Talpurs from other 'tribes' that the British had shunted around Sind onto canal tracts was their prestige as Sind's former rulers, and their consequent legally-encoded right to claim financial support from the government. Indeed, the case of the Talpurs rather demonstrated the limits of the government's ability to put rationalizing schemes of social, as

---

<sup>57</sup> Commissioner-in-Sind Giles to Mohammad Yakub, Jamrao Canal Colonization Officer, 25.02.1902, pr.4, P.D. file 4 of 1902, compilation 4, p.129, G.S.A.

<sup>58</sup> Mohammad Yakub, Jamrao Canal Colonization Officer, to Commissioner-in-Sind Giles, 19.03.1902, pr.1, P.D. file 4 of 1902, compilation 4, p.193, G.S.A.

opposed to technical, engineering into place. Compromise had to be made, therefore, over residency criteria and dispersal amongst other colonists.

Another overtly political use to which Jamrao land was put was in 'rehabilitating' a group that had rebelled against British authority, following the Hur rebellion in south-eastern Sind between 1894-1896. The Hurs had, by the 1890s, earned a reputation for lawlessness, especially after the formation of an active outlaw band in the late 1880s. After a brief quiet period, this band re-emerged in 1894 and carried out increasingly violent attacks on people associated with the government, and more generally on people who opposed them. The band found a great deal of support among Hur communities, and the police employed coercive tactics against these communities as well as against the outlaws themselves.<sup>59</sup> Evan James, then still Commissioner-in-Sind, wrote to the Governor of Bombay about the long and difficult suppression of this rebellion. Arguing that the Criminal Tribes Act, under which groups of people classed as 'criminal' by heredity and habit could be controlled and forced into agricultural life,<sup>60</sup> could not practically be extended to Sind, James concluded that he would pin his hopes for settling the Hurs into "a better mode of life" on punitive police measures and "The importation, too, into their neighbourhood of Baluchis, Cabulis and Panjabis, which I shall try and effect when the Jamrao Canal is opened".<sup>61</sup>

This 'better mode of life' was, of course, peaceable agriculture along government-approved lines. A few years earlier, while Deputy Collector of Sehwan in 1893, James had written:

---

<sup>59</sup> See Sarah F.D. Ansari, *Sufi Saints and State Power: The pirs of Sind, 1843-1947* (Cambridge: Cambridge University Press, 1992), pp.57-76.

<sup>60</sup> On the Government of Punjab's ill-fated attempts to turn members of 'criminal tribes' into agriculturalists, see Andrew J. Major, 'State and Criminal Tribes in Colonial Punjab: Surveillance, control and reclamation of the 'Dangerous Classes'', *Modern Asian Studies* 33:3 (July, 1999): 657-688.

<sup>61</sup> Commissioner-in-Sind James to Lord Sandhurst, Governor of Bombay, 17.06.1896, pr.15, Dow Papers, MSS Eur E 372/1, B.L.

A district with canals in order, means a district where there is a certainty of cultivation, and every incentive to extend it – a district where the cultivators must be, if they wish it, happy and prosperous. If the canals are out of order and not looked after as they ought to be, the reverse will surely be the case.<sup>62</sup>

This observation was indeed made the basis of one of the government's moves to permanently break the Hurs' power. After their defeat, the completion of the Jamrao Canal meant that Mari families from Johi on the Indus's right bank, and tribal Khosas from the desert tracts, were joined by Baluchis and Pathans in their thousands. Most of the latter were military pensioners whose loyalty to the government was proven. In addition, the administration used Jamrao land to reward leading individuals for help during the crisis: for example Nawab Shahbaz Khan, the chief of the Bugti tribe, was given 4,000 acres land near Sanghar in return for their chief's offer of 200 men to assist in controlling the Hurs.<sup>63</sup> Thus, the Jamrao project took on a further immediate political importance, and played a significant part in the regime's attempt to keep Sind pacific.

The two colonization cases considered so far were geared towards particular situations within Sind, but the administration saw no reason why colonists should not be drawn from outside the province. Indeed, Sind had always been a destination for immigrants, and populations were often mixed in the areas bordering Baluchistan, the Punjab, and Rajputana. Sind's historic links with Baluchistan meant that, apart from the large number of 'Sindhis' who could trace their recent lineage to Baluch families, Baluchis living in Baluchistan and along the Sind-Baluchistan borderland – especially on the Upper Sind Frontier – were often drawn towards the prospect of acquiring new agricultural land in Sind. The Bugtis were one example of a Baluch tribe receiving Jamrao land. The Native States that

---

<sup>62</sup> Cited in Khuhro, *Making of Modern Sindh*, p.122.

<sup>63</sup> Ansari, *Sufi Saints*, p.75; Cheesman, *Landlord Power*, p.76. See also Deputy Commissioner Thar Parkar to Commissioner-in-Sind James, 04.04.1898, pr.2, R.D. vol. 69A of 1896-99, G.S.A.

lay nearby Sind, especially Rajputana, provided another potential source of colonists. In addition, Sind's administrative links with the Bombay Presidency made it more likely that colonists could be brought in from western India – although in practice, it was only personnel from the Bombay army regiments who would come from the 'Presidency proper'.

The idea of settling grantees from outside Sind onto Jamrao Canal land was not, then, radical in terms of Sind's demographic history. However, the Deputy Commissioner of Thar Parkar, who was responsible for allocations of Jamrao land before the Colonization Officer's appointment, was strongly opposed to selling land to buyers from Native States. "Unless the Jhamrao [*sic*] is to be worked as a financial speculation pure and simple", he wrote to the Commissioner-in-Sind in 1898, "I am strongly of opinion that except in special cases no hopes of receiving land thereon should be held out to subjects of foreign states".<sup>64</sup> Soon afterwards, he reiterated that officials and *jagirdars* of Native States should not be allowed Jamrao land, and predicted that "the difficulty for the Colonization officer will be – not to obtain sufficient colonists, but to select from the immense number of applications, those of men who may be trusted to prove good landlords and loyal subjects of Government".<sup>65</sup> Perhaps it was the allegiance that officers and aristocrats from the Native States were expected to have to their own Princes which made them seem unsuitable colonists: their loyalty to the British Government was questionable, because they were not used to being directly ruled by the same.

Instead, and in keeping with the Sind administration's having sought inspiration in the Punjab Canal Colonies, the majority of foreign grantees were drawn from the Punjab. The figure of the Punjabi peasant was much favoured in

---

<sup>64</sup> Deputy Commissioner Thar Parkar to Commissioner-in-Sind James, 04.04.1898, pr.2, R.D. vol. 69A of 1896-99, G.S.A.

<sup>65</sup> Deputy Commissioner Thar and Parkar to Commissioner-in-Sind James, dated 19.05.1898, pr.6, R.D. vol. 69A of 1896-99, G.S.A.

colonial imaginations, and had formed the backbone of the colonization of new lands in their home province. Whereas the administration in contemporary Sind maintained its power through collaboration with big landholders, *jagirdars*, and 'loyalist' Baluchi tribal leaders, the government in the Punjab sought a more diffuse structure of rule by prioritizing peasant and yeoman grants on its canal colonies. There was a direct economic motive for this: it was not in the government's interests to allow large rent-receiving grantees to claim a portion of the agricultural produce, which could be more rationally distributed between the producers themselves and the state.<sup>66</sup> Politically, after the 1857 Mutiny, a stable peasantry came to be defined as one of the bedrocks of British rule in the Punjab,<sup>67</sup> and with the Canal Colonies the administration was able to consolidate this class's already dominant position in the province by favouring it with liberal land grants. The colonization rules were framed so as to maintain grantees' status as peasants, rather than allow them to become landlords. Most colonists were expected, for example, to cultivate their land using their own families and menials, but without tenants. In other words they were not expected to function as landlords. This was also partly because the Punjab authorities wished to prevent a rush of labourers from neighbouring districts to the colonies, thereby preserving the class structure and economic viability of the old settled districts in the western Punjab. However, as with the Talpurs in Sind, the government's landlord allies in the Punjab were not neglected.<sup>68</sup> Grants to ex-military servicemen on the colonies also helped to confirm

---

<sup>66</sup> Ali, *Punjab Under Imperialism*, pp.13-16.

<sup>67</sup> Gilmartin, 'Scientific Empire', p.1132.

<sup>68</sup> It has been suggested that the bolstering of this class by large colony land grants would be partially responsible for the landlord-dominated Unionist Party's relative success in limiting the nationalist movements' impact on twentieth-century Punjab. Islam, *Irrigation, Agriculture and the Raj*, p.143.

the attractiveness of loyalty to the regime, in the Indian Army's most important recruiting ground.<sup>69</sup>

Punjabis were expected to bring their officially-approved ethos of hard work onto the Jamrao tract. As well as making a crucial contribution to the area's agricultural economy in their own right, they were expected to set a good example to Sindhi landowners and cultivators. But officials were wary of potential conflicts between locals and immigrants, and were careful to keep 'foreigners' separate from Sindhis, in one of the Jamrao project's most rigid instances of social engineering. Immigrants were not to be given land in the same village – and thus on the same *karia* (small watercourse taking off from a canal) – as indigenous *zamindars*, reducing the potential for conflict over water-sharing. Immigrant colonists were to be settled in large enough groups to form autonomous communities, which were even ordered according to the colonists' origins. By July 1901, two villages had been settled by Amritsar Sikhs and one by Jalandhar Sikhs; nine villages were of Punjabi Muslims; three villages contained Kachhis from Cutch; one village was home to Muslims from Jaisalmer in Rajputana; and one village had been bought up by a Punjabi capitalist, who had brought cultivators from the Punjab himself.<sup>70</sup> This kind of segregation had an immediate practical aspect: one reason for the exclusion of Sindhis from areas marked off for 'outsiders' was the "great danger of these areas being frittered away in small grants to Sindhi zamindars" under the pressure that local *zamindars* and even subordinate officials would otherwise bring to bear on the canal administration.<sup>71</sup> This would only exacerbate the ancient Sindhi problem of fragmented, scattered landholdings, and fatally interrupt the ordering of cultivation

---

<sup>69</sup> Ali, *Punjab Under Imperialism*, pp.109-134.

<sup>70</sup> L. Robertson, Jamrao Canal Colonization Officer, 14.07.1901, to Commissioner-in-Sind Giles, pr.4-9, accompanying P.W.D. Resolution A.I.-1138 of 1901, 31.05.1901, R.D. vol. 196 of 1901, compilation 1486, M.S.A.

<sup>71</sup> Note by L. Robertson, Jamrao Canal Colonization Officer, 14.07.1901, pr.15.

which the Jamrao project's logic demanded.<sup>72</sup> On another level, officials were concerned to limit the socio-political upheaval that these migrations – and indeed the Jamrao project more generally – could spark. Allowing immigrants to mix with Sindhis and with each other was expected sooner or later to lead to unrest, and even the favoured Punjabis were also held responsible for causing “trouble” in some areas which they settled.<sup>73</sup>

Community management, of which the separation of different immigrant groups formed a part, also had important implications for the way that the project related to colonial rule. The segregation of Jamrao immigrants into ‘their own’ villages had a parallel function to the grouping of colonists on the Punjab Colonies into district- and caste-groups: it maintained parallel social structures and allowed the authorities to rely on established, highly mediated ways of relating to communities and community members. The segregation of Punjabis of different origin into different Jamrao tract villages also perpetuated the approach to canal colony villages taken in the Punjab itself, where official understandings of these villages depended on their continuity with aspects of ‘traditional’ peasant life. Gilmartin and Daechsel have both argued that colonial officials in the Punjab insisted on viewing canal colonies and even urban Lahore through the lens of an idealized Punjabi village social structure, with the result that an easily regulated model of village society was imposed on, and taken up to the advantage of, certain members of otherwise complex and irregular communities.<sup>74</sup> In particular, Gilmartin asserts

---

<sup>72</sup> Inheritance laws meant that landholdings were split between a landowner's heirs, and one inheritor's shares of the land would not necessarily be contiguous. This meant that people and ploughs often had to travel significant distances, up to several miles, to cultivate different plots of land in turn. See Mushtaqur Rahman, *Deh Dali Nandi, West Pakistan: A study of cultural factors in land use* (Karachi: Pakistan Institute of Geography, 1965), p.15.

<sup>73</sup> Government of Bombay P.W.D. Resolution W.I.-1399 of 1902, 10.06.1902, pr.6, R.D. vol. 150 of 1902, compilation 1486, M.S.A.

<sup>74</sup> David Gilmartin, ‘Migration and Modernity: The state, the Punjabi village, and the settling of the canal colonies’, in Ian Talbot and Shinder Thandi (ed.s), People on the Move: Punjabi

that the Punjab government's decision to use the 'village' as the vessel for settling canal colonies held critical implications for the colonies' role as harbingers of modernity: colonists would leave their villages, he argues, but not the social framework which their villages provided.<sup>75</sup> In effect, the Jamrao's segregated villages transplanted the Government of Punjab's management of Punjabis into Sind, along with the cultivators themselves.

Official decisions pertaining to land usage could also have Imperial resonances. The Governments of Bombay and India both saw the potential for expanding the Jamrao lands' uses beyond crop-production and revenue-raising. For example, the Horse and Mule Breeding Commission's 1901 proposal that horses and mules for military use could be bred on government land in canal colonies<sup>76</sup> was answered by the Sind administration's decision to use some of the land to breed camels for the same purpose. Indeed, the Jamrao Canal Colonization Officer offered to reserve 2,000 acres of land on the Jamrao Canal and 20,000 on the Dad Canal for camel-breeding, which would produce an estimated 1,373 camels. This too followed the precedent set in the Punjab, where 2,073 squares (expected to produce 2,331 camels) had been allotted as camel-breeding grants on the Chenab Canal. The grants were progressing well, according to the Chenab Colonization Officer, and the camels were indeed appearing. Moreover, this officer felt that on the Jhelum Canal, everyone who was granted land should be made responsible for producing a camel,

---

colonial and post-colonial migration (Oxford: Oxford University Press, 2004), pp. 3-20; Markus Daechsel, 'De-urbanizing the City: Colonial cognition and the people of Lahore', in *ibid.*, pp. 21-44. The planning and re-modelling of built environments was not unique to the Punjab in this period, nor to British India. Mitchell has argued that Europeans could not understand Middle Eastern cities as public space, because they lacked features which stood apart and addressed themselves to the observing subject, such as street names, signs, or open spaces with imposing facades. Indeed, following a visit to Paris in the late 1860s, an Egyptian administrator, teacher and engineer named Mubarak Ali began to clear Cairo's slums in order to protect public health and make the city easier to police and more conducive to commerce. Timothy Mitchell, *Colonising Egypt* (Cambridge: Cambridge University Press, 1988), pp.32, 63-67.

<sup>75</sup> Gilmartin, 'Migration and Modernity', p.11.

<sup>76</sup> See R.D. Resolution 5199, 24.07.1901, R.D. vol. 195 of 1901, compilation 1484, M.S.A.

mule or cart when necessary for war purposes.<sup>77</sup> The concern at all levels of government, from the Government of India to local officers, for schemes that would aid India's war-readiness belied the fact that, despite the relatively pacific nature of northwestern India, the eyes of the administration were always turned towards the extraterritorial threats to British India which Russia embodied, and to the possibility of internal revolt. As in Rudyard Kipling's 1901 novel *Kim*, the Great Game was an ever-present factor: the strategic security of the British Empire in Asia and the Middle East depended on the Indian Army, and provinces such as Sind and the Punjab, on the fringes of direct British control, were expected to contribute. The importance of camel-breeding grants in Sind and the Punjab serves as a reminder that the provincial governments' enthusiasm for revenue, social experimentation and politically-useful prestige were not the only factors in colony development: the Empire's strategic needs could impinge on, and if necessary overrule, such parochial concerns.

### **Controlling irrigation and cultivation on the Jamrao tract**

As well as arranging for colonization on the Jamrao tract, the administration also determined which crops should be grown and how farmland would be laid out. This was crucial to the project's financial success, because revenue receipts from Jamrao land would have to go a long way towards repaying the debt incurred by the Government of Bombay in constructing the project, and to its technical success, as only enough water was available for one third of the cultivable land to be farmed each year. Agriculture formed the basis of the economy, in Sind as in most of British India, and the state's contact with the population revolved around the collection of agricultural taxes as well as (in Sind's particular case) providing irrigation water. The

---

<sup>77</sup> Correspondence pertaining to this is reproduced in R.D. Resolution 5199, 24.07.1901, R.D. vol. 195 of 1901, compilation 1484, M.S.A.

legal codification of agricultural practice was therefore an important way in which the administration could assert control over cultivators and, thereby, over the agrarian economy. Officials utilized the lack of customary rights on this virgin land to create an opportunity for the rationalization of the agricultural production process. For a start, land on the Jamrao was to be given out only for agricultural purposes:<sup>78</sup> the Government wanted a square return on the capital it was investing in creating conditions for higher agricultural yields, and other types of land usage would be less profitable. Perhaps the most important of the state's decisions about land-use at the time was the prohibition of rice-growing. This was motivated by the huge amount of water that rice required, which would have far outstripped the Jamrao's designed volume of supply. Draining the fields of excess water afterwards would also have posed a great problem, since sufficient drainage facilities did not exist on the Jamrao tract. Severe waterlogging and salt deposits on the soil would have resulted, rendering the land useless.

Such a restriction, however, troubled many of the officials involved in the project, including those in the Governor's circle. "The Sind Irrigation settlements contemplate perfect freedom to the cultivators in planting any crops they may desire," the Revenue Secretary to the Government of Bombay informed the Government of India, "but for the proper economy and distribution of water on the Jamrao Canal the Irrigation Department will have a voice in the conditions under which occupancies may be given, so far as the kinds of crops to be grown and the area to be watered annually are concerned."<sup>79</sup> The Commissioner-in-Sind rejected the Government of Bombay's suggestion that Jamrao colonists should simply be forbidden to cultivate rice, because it contravened the principle of the irrigation

---

<sup>78</sup> *Bombay Government Gazette* 10.05.1900, p.976.

<sup>79</sup> Secretary to Government of Bombay, to Secretary to Government of India Revenue and Agricultural Department, 26.09.1898, pr.14, R.D. file 69A of 1899, vol.I, G.S.A.

settlements. However, he understood the imperative against rice cultivation on the tract, and fully supported its prevention by the indirect means of restricting the water supply so that not enough water was available to cultivators for rice cultivation.<sup>80</sup>

Yet regret at curbing cultivators' freedom could not mask the technocratic and authoritarian effect of the land- and water-use rules on the relationship between cultivators and officers. All aspects of the Jamrao Canal's operation were intended to be rationally controlled by the Public Works Department (P.W.D.), which sometimes conflicted with cultivators' accustomed irrigation practices. Colonists who were used to taking as much water as they wanted while an inundation canal was flowing found it difficult to adjust to a system in which a farmer upstream could divert the watercourse's supply onto only one square of his fields at a time, allowing downstream users to take water between each turn. As the Colonization Officer explained, outlets were designed only to deliver a certain amount of water in a given time, set by engineers and not by cultivators themselves. The reason for this, he went on, was to ensure that sufficient water remained in the canal for the later re-watering that crops would require to grow properly, whereas the supply in inundation canals often failed towards the end of the growing season.<sup>81</sup>

This was an example of the ethos of the project, which was led by technical imperatives to which people had to conform, rather than by fitting the project to the wants or needs of the users. The layout of villages on the Jamrao tract was geared towards enabling this. In the Canal administration's terminology, a 'village' included both the residences of cultivators and the fields that they worked. Unlike most

---

<sup>80</sup> Memo from Commissioner-in-Sind Giles, 14.02.1901, pr.1-6, R.D. vol. 196 of 1901, compilation 1486, M.S.A.

<sup>81</sup> Jamrao Canal Colonization Officer to C.-in-S Giles, 28.02.1902, *Proceedings of the Government of Bombay, Revenue Department (Lands), January-July 1902*, IOR/P/6473, p.540, B.L.

villages in Sind, village boundaries on the Jamrao Tract were demarcated before the canal was completed, and before colonists moved into them. Based partly on the system of villages laid out in the Chenab Canal Colony, the tract was divided into 444 separate villages, each of which obtained water from one or more outlets from one of the minor canals that branched off from the main Jamrao Canal. Within each village, the land was divided into squares of 16 acres, which were then (in principle) further divided into one-acre squares, so that the distribution of water could be precisely controlled, although in practice cultivators were lax about building the barriers necessary for dividing up the 16-acre squares. Villages were supposedly limited to 2,000 acres in area, and watercourses to 3 miles in length, designed to optimize the efficiency with which water could be distributed. In fact, both often exceeded these limits.<sup>82</sup>

While it was intended that technical principles would govern village layouts and the use of water, the logistics of maintaining close technical control often defeated the administration. Yet despite the irregularities found on the Jamrao tract, these villages and the accompanying water distribution system were far more ordered and regular than those found elsewhere in Sind. This partly allowed for closer supervision of living conditions by officials; similarly, one near-contemporary economic investigation into the canalization of the Punjab, whose villages were taken as the model for the Jamrao tract's, extolled their "marked sanitary advantages over the ordinary Punjab villages which just grow with the needs of the community without definite plan".<sup>83</sup> As Mitchell has argued in the case of village reconstruction in nineteenth century Egypt, colonial building projects aimed at order, removing crowded and haphazard native villages and replacing them with

---

<sup>82</sup> For details on village layout and water distribution on the Jamrao tract, see Government of Bombay, Public Works Department, *Report on the Jamrao Canal Project*, pp.3, 71-73.

<sup>83</sup> Paul Paustian, *Canal Irrigation in the Punjab* (New York: Columbia University Press, 1930; repr. New York: AMS, 1968), p.65.

new, regular, neat villages laid out according to a plan.<sup>84</sup> Jamrao tract villages exemplified a colonial approach to Sind that began with a plan for a new phenomenon and proceeded to enact it, rather than working with what already existed. This approach was often impossible, as during the resettlement of the Talpurs: in that case, officials were severely limited by practical politics. Laying out villages, on the other hand, gave them an opportunity to match a closely-controlled canal with closer control of people and agricultural space.

Increased technical control over the Jamrao Canal and its tract marked a shift towards technocracy that characterized contemporary developments in Indian irrigation,<sup>85</sup> and this was celebrated by the Superintending Engineer in overall charge of the Canal. He favourably compared it with the neighbouring Mithrao Canal, extolling the virtues of the fact that the whole of the Jamrao tract was divided into small irrigation villages, each with its own water course, made of sufficient size only for that village, and controlled by subordinates employed for that express purpose. On the Mithrao, by comparison, "the old Sind system prevail[ed] - large karias, made on no particular system and with merely the nominal control of Revenue Tapadars - no control at all."<sup>86</sup> Indeed, the same officer complained shortly afterwards that, even on the Jamrao, not enough control was exerted over cultivation by the Revenue Department, and that the people would only understand the system if water allocations were put under the P.W.D.<sup>87</sup>

Dunn's accusations may have been the result of inter-departmental bad blood as much as a carefully considered response to a problem; and conversely other officers could become frustrated with P.W.D. officers when the latter based

---

<sup>84</sup> Mitchell, *Colonising Egypt*, pp.44-45.

<sup>85</sup> Gilmartin, 'Scientific Empire', pp.1135-1137.

<sup>86</sup> Note by Superintending Engineer Indus Left Bank Division, 17.07.1901, R.D. (Lands) (July-December 1901), IOR/P/6239, p.2411, B.L.

<sup>87</sup> Superintending Engineer Indus Left Bank Division to Commissioner-in-Sind Giles, 05.08.1901, R.D. 69A of 1900, G.S.A.

their actions on technical principles, without reference to the realities of local cultivation practices.<sup>88</sup> But however unsubtle engineers' understanding of cultivation conditions could be, a technical understanding of irrigation, rather than extensive knowledge of local farming conditions, reigned supreme during the administration of the Jamrao Canal. The Jamrao project, then, seems to have helped the process by which the local knowledge prized by revenue officials was slowly displaced in India by the universal principles of engineering. This was not a simple battle of ideas, however. Rather, tensions between departments and their habitual ways of viewing Sind were constrained by circumstances. Elsewhere the administration did not have, in Commissioner Giles's words, "even a fraction of the establishment necessary to supervise every private channel," whereas "On the Jamrao every occupant [was] bound to make his watercourses on plans and in positions approved of by the Canal Officers".<sup>89</sup> Given the financial stake that the government held in the Jamrao project, and the prestige that was attached to a canal designed and built by the British rather than inherited from the Talpurs or earlier rulers, it was unsurprising that the Government took care to ensure the scheme's success at the expense of established, less restrictive relationships with agriculturalists. Dunn's urging of tighter administrative control over cultivation and water allocation by engineers, rather than revenue officials, also foreshadowed the supremacy of science and technology as the lynchpins of material development: the valorization of engineering, and its close association with the British and elite indigenous ruling classes, would come to underpin the rhetoric surrounding large-scale irrigation projects throughout the twentieth century.

---

<sup>88</sup> Commissioner-in-Sind Giles to Collector of Hyderabad, 11.12.1901, P.W.D. 67 of 1902, G.S.A.

<sup>89</sup> Commissioner-in-Sind Giles to Superintending Engineer Indus Left Bank Division, 07.02.1902; and Commissioner-in-Sind Giles to Superintending Engineer Indus Left Bank Division, 27.02.1902, P.W.D. file 67 of 1902, G.S.A.

## Conclusion

How much difference, then, did the Jamrao Canal make to Sind? After all, the Jamrao tract was only a small proportion of Sind's territory, and the great majority of cultivation in Sind was still practised on the old inundation canals.<sup>90</sup> While the 1911 census commissioners reported that new irrigation works were responsible for drawing in 20,000 people born outside Sind in the decade 1901-1911, they ascribed this to the Dad, Nasrat, Mahiwah and Navlakhi canals, as well as the Jamrao. That the Jamrao Canal contributed significantly to the dramatic population growth in that decade of Thar Parkar district (the highest in Sind at 22%), however, did show that it was an important feature of the province's south-east. It was also responsible, along with the colonization of the Nara Canal, for a five-fold increase in immigration into Sind from the Punjab. The administration's efforts to increase the productive population in this sparsely-populated district, drawing migrants from outside the province rather than risking the depopulation of other parts of Sind, had paid off. Moreover, the census commissioners highlighted the direct link between state-led irrigation provision and population by stating that, across Sind, increases in population on a per *taluka* basis had varied according to the opening of new irrigation facilities.<sup>91</sup> In a fertile but thinly populated land such as Sind, population increases were linked with increases in productive capacity and prosperity.

But Sind's continued 'backwardness' and reputation for stagnation was a favourite bugbear of the administration well into the twentieth century. Although the Jamrao project represented the rationalized water distribution and cultivation that officials associated with 'modern' agriculture it was only a forerunner of things

---

<sup>90</sup> East India (Irrigation), *Report of the Indian Irrigation Commission 1901-1903. Part II*, p.40 pr.89.

<sup>91</sup> P.J. Mean and G. Laird MacGregor, *Census of India, 1911. Volume VII: Bombay, Part I, Report* (Bombay: Government Central Press, 1912), pp.32-47.

to come. This is not to suggest that the Canal's officers saw it as a stage in a specific programme: the perpetual debates about fully renovating Sind's irrigation system had long predated the scheme, and despite its success there was no certainty at this stage that a weir would eventually be constructed in Upper Sind. The Irrigation Commission of 1901-1903 reported that, on the technical evidence provided by Sind engineers themselves, and in view of the huge capital outlay involved, a large-scale weir project should not be initiated in Sind. Nor was the matter closed, however, as the same Commission recommended that a thorough investigation be made into the question, and that a weir scheme be prepared and held ready in case of future need; meanwhile, improvements should be made to the existing canal system where possible.<sup>92</sup>

Much of the Jamrao Canal's importance lay in its effect on the theory and practice of irrigational administration in Sind. It was a modernizing project, one that aimed to introduce into Sind a new kind of irrigation and cultivation, and which adhered to an ideal of careful resource use and greater productivity. This was in essence a statist vision, placing bureaucratic control at the heart of the process. Yet while a narrative that posits the Jamrao as an early inroad of an inevitable modernity into a formerly peripheral and stagnant territory is attractively neat, it would be flawed. The modernizing aspects of absorbing the Talpur Mirs into the project and thereby removing one of the most visible reminders of pre-British 'feudal' rule from the country in general should not be allowed to obscure the financial and political imperatives behind the endeavour.

On the other hand, other features of the project did suggest that it had an important place in the broader changes that were occurring in agriculture in north-western India at the turn of the century. Moreover the overwhelming

---

<sup>92</sup> East India (Irrigation), *Report of the Indian Irrigation Commission 1901-1903. Part II*, p.44 pr.92.

predominance of agriculture in both Sind and the Punjab means that the story of agriculture is a vital part of the region's social, political and economic histories. The introduction of greater state intervention in agricultural practise, and the reciprocal attempt to create the conditions in which ideal-type cultivators could flourish and spread their beneficent influence, lay at the heart of the Jamrao project. This type of control was not always limited to the canal colonies: for example the Punjab's 1900 Alienation of Land Act, which forbade the passing of land from agricultural to non-agricultural castes, and allowed land transfers only within related agricultural groups within each district, applied to the whole province. The Act has been described as "a remarkable piece of paternalistic legislation"<sup>93</sup> in the face of the intensive marketization and 'modernization' of agriculture on the Canal Colonies. In Sind, there was no equivalent prohibition on land alienation, but a raft of less comprehensive orders served to limit landowners' rights to dispose of their assets however they pleased. The fearsome list of conditions on which Jamrao land was leased demonstrated the legal rigidity with which the administration was ready to protect and support the newly rigid agricultural landscape that it had created. This list mirrored those issued in the Punjab, adjusted for Sind conditions but intended to bring about a similar level of control. The idea of creating a more rational irrigation system and, by extension, more rational cultivators in Sind hinged on the relationship between the state as the provider of water and the collector of revenue and the cultivator as an individual actor, especially when it came to self-cultivated peasant grants. Yet this individual was not to be wholly a free agent, but one who would practise agriculture on officially-approved lines. The Jamrao project may have been limited in scale, but it was consonant with the massive changes occurring in the Punjabi landscape, with attendant effects on politics, society, and demographics.

---

<sup>93</sup> Ali, *Punjab nder Imperialism*, p.5.

As the Sind administration went forward into the twentieth century, it would become more assertive in its arguments for extending the Jamrao's modern conditions across the province – an argument that would become increasingly trenchant in the face of an altered India after the First World War.

## Chapter 2: The Sukkur Barrage and Sind's transformation

*A white-bearded and saffron-robed saint from the north stretched his arms in benediction over each of the canals and in a loud voice intoned a solemn song of praise and prophecy. He gave rather more thanks to God and less to the engineers than His Excellency had done, and was less concerned with history and more with poetry. He looked like a man from a thirsty land, and his picture of the blessings brought by irrigation was a vivid one.*

-The Times of India (1932)<sup>1</sup>

After the experiment of the Jamrao Canal, the colonial government in Sind decided to build a much larger project: a barrage, located at Sukkur in Upper Sind, which would regulate the flow of the Indus and provide water to a huge area. As with the Jamrao Canal, officials were quick to see the prospect of reinforcing and re-configuring the link between state power and irrigation to the administration's advantage, as well as to encourage commercialized agriculture. This project was, they maintained, revolutionary (even though the idea of a barrage across the Indus in Sind had first been mooted in 1847):<sup>2</sup> by far the biggest seen in Sind, and a rival to those under development in the Punjab in terms of size, cost and grandeur. In 1923, London sanctioned a scheme that would improve the reliability of irrigation water supplies to more than 1.5m acres of existing agricultural land, and irrigate for the first time more than 2.6m acres. Indeed, the Sukkur Barrage became one of the province's defining features, and the colonial regime lost no opportunity to claim it as proof of the wisdom and beneficence of their rule, staging publicity events such as an opening ceremony, and promoting the project in newspapers. However, the project's grand potential to re-shape Sindhi rural politics and society – as well as the

---

<sup>1</sup> 'Sukkur Barrage at Work: I – Altering the Face of the Land', *Times of India*, 12.12.1932, in Dow Papers, MSS Eur 372/2, B.L.

<sup>2</sup> Sir M. Visvesvaraya and Nawab Ali Nawaz Jung Bahadur, *Report on the Lloyd Barrage and Canals Project in Sind* (Bombay: Government of Bombay, 1929), pr.12.

physical environment – was always constrained by the colonial state’s need for financial stringency. By examining the reports and correspondence that pertained to the barrage’s planning and building, this chapter shows that a tension between what the officials concerned wanted to do, and what they were able to do, influenced how the barrage was built and its tract colonized. Most of these issues were raised and debated in the form of letters between officials concerning the proposed projects, and it is from this correspondence that the bulk of the evidence in this chapter is drawn.

### **Planning the Sukkur Barrage**

Two major proposals for a barrage at Sukkur were submitted from the Government of Bombay to His Majesty's Government in London, via the Government of India, in 1912 and 1920. During this period, the political and environmental challenges that the Sind administration faced intensified: a long-running dispute over the right to use Indus waters flared up between Bombay and the Punjab, while a severe drought in Sind in 1918 challenged the received opinion that the Indus's waters would always guard Sind from food shortages. Officials’ concerns about the revenue thereby lost, and potential political instability, forced a revision of the complacency surrounding the administration’s management of the environment in Sind, especially as Indian anti-colonial politics escalated after the First World War.

The renewed debate about a barrage in Sind began almost immediately after the Irrigation Commission had rejected the Sind administration’s desire to build a weir on the Indus. In 1904 Dr T. Summers, the Supervising Engineer of the Indus Left Bank, toured his area and concluded that Sind needed perennial irrigation immediately. His report justified the preparation of detailed estimates and plans for a Rohri canal and Sukkur weir, which was sent to London in 1912. While seeming to

be a dry proposal for a technical project, this correspondence was underlain by a profound if incompletely articulated sense that the position of the British in India was changing, and that the government had to take a more active role in the development of Indians' material welfare if its power were to be preserved.

One of the most important aspects of this changing role was an increasing official recognition of the dangers of famine, which had come to underpin discussions about irrigation in India by the beginning of the twentieth century. The terrible droughts of the 1890s have been credited by historians with shocking the British in India out of their neglect of unprofitable public irrigation works,<sup>3</sup> but this did not mean that the British in India suddenly abandoned their belief in market forces. On the contrary, officials usually favoured keeping state intervention in everyday affairs to a minimum. The first Famine Commission (1880) confirmed that the minimum of government interference in private trade should be allowed during times of scarcity, because (they reported) the commercially-driven flow of foodstuffs from productive to famine-struck areas had proved their worth in 1877, when grains were sent from the north to relieve the Deccan.<sup>4</sup> The success of this *laissez-faire* approach was, moreover, credited to Indians' commercial use of the British-built railway system: an example of *just enough* state intervention. Similarly, the Irrigation Commission recommended a raft of new state-funded irrigation projects to reduce the risk of famine in India, but emphasized that the extension of irrigation

---

<sup>3</sup> Elizabeth Whitcombe, 'Irrigation', in Dharma Kumar (ed.), *The Cambridge Economic History of India, Volume 2: c.1757-c.1970* (Cambridge: Cambridge University Press, 1983), p.678.

<sup>4</sup> Indian Famine Commission, *Report of the Indian Famine Commission. Part I: Famine Relief* (London: Her Majesty's Stationery Office, 1880), p.49. The question of state intervention in famine in colonial India has received a huge volume of critical attention. See, for example, Elizabeth Whitcombe, 'Famine Mortality', *Economic and Political Weekly* 28.23 (June 5, 1993): 1169-1179; David Hall-Matthews, *Peasants, Famine and the State in Colonial Western India* (Basingstoke: Palgrave Macmillan, 2005); Mike Davis, *Late Victorian Holocausts: El Nino famines and the making of the third world* (London; New York: Verso, 2001).

by private works was at least equally important.<sup>5</sup> This view was shared by the then Commissioner-in-Sind, R. Giles, who told the Commission that “By assuming the entire management of the canals we have spoilt the people for the construction of new private canals.”<sup>6</sup> Moreover Sind, relying as it did on inundation agriculture rather than the annual monsoon, was thought at that time to be largely safe from food scarcity.<sup>7</sup> Accordingly, the Irrigation Commission had recommended that plans for an Indus barrage in Sind be put on hold, and that existing canals could be made a great deal more efficient instead.<sup>8</sup>

The assumption that the Indus would always provide water in Sind, however, came to be challenged. The Punjab lay upstream of Sind, and had earlier access to Indus waters than the latter. Consequently, the canal colonies, and projected works such as the Triple Valley scheme, were considered by officials in Sind and Bombay to pose a threat to the amount of water which would be available in Sind. If vast volumes of water were taken from Indus tributaries in the Punjab, Sind’s supply would be reduced. By the early twentieth century many large irrigation works were being constructed,<sup>9</sup> and the Governments of Bombay and India believed that these posed a threat to Sind’s existing irrigation system. In light of this concern Sir John Benton, Inspector-General of Irrigation in India, had gone to

---

<sup>5</sup> East India (Irrigation), *Report of the Indian Irrigation Commission, 1901-1903. Part IV – Appendix* (London: His Majesty’s Stationery Office, 1903), p.120.

<sup>6</sup> *Ibid.*, p.73.

<sup>7</sup> Edward Hamilton Aitken, *Gazetteer of the Province of Sind* (Karachi: Government of Bombay, 1907), p.255.

<sup>8</sup> East India (Irrigation), *Report of the Indian Irrigation Commission 1901-1903. Part II – Provincial* (London: His Majesty’s Stationery Office, 1903), pp.42-43.

<sup>9</sup> Between 1880 and the turn of the century, Punjab’s outlay on irrigation came to be by far the greatest of any part of India, increasing threefold. Arun Banerji, *Finances in the Early Raj: Investments and the external sector* (New Delhi; Thousand Oaks; London: Sage, 1995), p.114. The lack of major irrigation projects in Sind, relative to those in the Punjab, was marked: during the second half of the nineteenth century, the Upper Bari Doab, Sirhind and Chenab canals were built and integrated into a province-wide system. Graham Chapman, *The Geopolitics of South Asia : From early empires to the nuclear age* (Aldershot: Ashgate, 2003), p.127. Unlike the old inundation system in Sind, these new developments were perennial. M. Mufakharul Islam, *Irrigation, Agriculture and the Raj: Punjab, 1887-1947* (New Delhi: Manohar, 1997), p.138.

Sind in 1906 to enquire into the possibility of providing perennial irrigation.<sup>10</sup> In March 1912, seven months before the despatch of the barrage plan, Benton wrote that two projects – the Punjab Triple Canal and the Upper Swat Canal in the North-West Frontier Province (N.W.F.P.) – would significantly affect Sind. However, he pronounced that these projects, and further proposed Punjab works, could not legitimately be halted when Sind had the option of constructing weirs on the Indus to ensure its own water supply.<sup>11</sup> The Jamrao Canal project had demonstrated that perennial irrigation projects could work in Sind, having boosted Sind's prosperity and successfully attracted colonists.

### **The 1912 Despatch**

The proposal for a barrage submitted to the Secretary of State for India in 1912 relied on the prospect of financial returns, in the shape of increased land revenue receipts, to promote the project's worth. It estimated a reasonable return of Rs. 3,859,457 in revenue in the tenth year after completion.<sup>12</sup> These figures were accompanied by strong expressions of the idea that Sindhi cultivation was far from fulfilling the potential it would have if given appropriate technological support. The poor quality of Sind's irrigation infrastructure, which was unable to negate this instability, was considered to have prevented the development of intensive agriculture such as that seen in the Punjab. This argument was encapsulated in the despatch's introduction:

Irregular hot weather supplies have however resulted in wasteful methods of cultivation and insufficient cold weather supplies have stunted the development of rabi crops. To devise a productive scheme having an assured and perennial supply of water has been a problem before our canal engineers

---

<sup>10</sup> Visvesvaraya and Bahadur, *Report on the Lloyd Barrage*, pr.12.

<sup>11</sup> Indeed, this had to be done "if Sind [were] not to be ruined". Sir John Benton, 'Review of the proposed Sukkur Barrage and Rohri Canal Irrigation Project, Sind', 08.03.1912, pr.2, IOR/P/8976, B.L.

<sup>12</sup> Despatch from the Government of India P.W.D. to Secretary of State for India Crewe, P.W. no. 30, 24.10.1912 [henceforward '1912 despatch'], pr.24, IOR/P/8976, B.L.

during the past fifty years, of which the present project represents the outcome and a part solution.<sup>13</sup>

The desire for intensive irrigated agriculture spoke to the British desire to draw colonial possessions into the Imperial and international market systems. In Sind and across British India, an integral part of the Imperial system was the use and promotion of market capitalism.<sup>14</sup> Washbrook has shown that British rule was attended by (though not necessarily the only cause of) a near-universalization of peasant commodity production, due in large part to British export interests and foreign demand for Indian primary products.<sup>15</sup> Similarly, Stein has argued that “A general objective of colonial policy was to enhance agrarian commercialization and its link to world trade”; this was effected by, among other changes, the monetization of revenue collection and the promotion of “irrigation schemes intended to increase the acreage under cash crops”.<sup>16</sup> Both of these phenomena occurred in Sind. Ludden has demurred somewhat, arguing that capitalism was not a wholly foreign imposition on ‘village’ India: land revenue in the Mughal period, “even when collected in kind, was made liquid and useful as state revenue through markets in agrarian commodities, including crops but also myriad village products”. However, Ludden does admit that away from the coastal trading centres,

Agricultural surpluses were small; commercial wealth trickled through the rural economy and could be gathered to any extent only in major urban centres [...] where merchants collected profits from long-distance trade and royal authorities collected tribute.<sup>17</sup>

---

<sup>13</sup> 1912 despatch, pr.2.

<sup>14</sup> Amiya Kumar Bagchi, ‘Foreign Capital and Economic Development in India: A schematic view’, in Kathleen Gough and Hari P. Sharma (ed.s), *Imperialism and Revolution in South Asia* (London; New York: Monthly Review Press, 1973), p.49.

<sup>15</sup> David Washbrook, ‘South Asia, the World System and World Capitalism’, in S. Bose (ed.), *South Asia and World Capitalism* (Delhi: Oxford University Press, 1990), pp.41, 56.

<sup>16</sup> Burton Stein, ‘Introduction’, in Burton Stein (ed.), *The Making of Agrarian Policy in British India 1770-1900* (Oxford: Oxford University Press, 1992), p.17.

<sup>17</sup> David Ludden, ‘World Economy and Village India, 1600-1900: Exploring the agrarian history of capitalism’, in Bose (ed.), *South Asia*, pp.166, 176-177.

Sind, which lay at the crossroads of several important trade routes between India, the Persian Gulf and Arabia, was the home base of many international traders;<sup>18</sup> but these Hindu merchants did not have the power (nor necessarily the desire) to promote the systematic commercialization of Sindhi agricultural production.

By contrast, the British administration had both. One striking example of the push towards growing crops for market was officials' repeated experiments with cotton-growing. The chief crops in Sind at the turn of the twentieth century had been rice, wheat, and two locally-grown grains called *bajri* and *juari*. The last two were staples for the local workforce, with no significant export market. Indigo and tobacco, two of the British Empire's favourite cash-crops, were hardly grown at all. Oilseeds and cotton were among Sind's chief exports, but were only cultivated on respectively one-ninth and one-twelfth the acreage of cereals, and so the vast majority of Sind's crops were not suitable for export. Because of the importance of cotton to the Imperial economy,<sup>19</sup> experiments to improve the yield and quality of cotton grown in Sind had begun in 1846, with disappointing results. Further failed experiments were carried on until 1906, when a suitable high-quality seed was finally bred. This process was subsidized by the Government of Bombay, which also undertook the marketing and propagation of the seed;<sup>20</sup> in doing so, the government declared its stake in further integrating Sind into the international markets.

---

<sup>18</sup> On which, see Claude Markovits, *The Global World of Indian Merchants, 1750-1947: Traders of Sind from Bukhara to Panama* (Cambridge: Cambridge University Press, 2000), esp. ch. 1.

<sup>19</sup> Cotton's place in India's economy, and the threats to India's dominance in the cotton trade from Lancashire and the U.S.A. which spurred the intensification of Indian cotton-growing, have been treated by Douglas A. Farnie, 'The Role of Cotton Textiles in the Economic Development of India, 1900-1900', in Douglas A. Farnie and David J. Jeremy (ed.s), *The Fibre that Changed the World: The cotton industry in international perspective, 1600-1990s* (Oxford: Oxford University Press, 2004).

<sup>20</sup> T.F. Main, Assistant Inspector-General of Agriculture in Sind, 'The Improvement of Cotton in Sind', c. 1906, Dow Papers, MSS Eur E372/1, B.L.; Aitken, *Gazetteer*, p.227.

By introducing more stable cultivation conditions, in which commercial crops could be reliably grown, the Sukkur Barrage was expected to make agriculture more profitable. This can be demonstrated by briefly turning to the 1920s, when the project was underway. Hugh Dow – later the Governor of Sind, but then the financial adviser to the Government of Bombay on the Sukkur Barrage project – wrote that cultivators had previously been often unable to choose which crops they would cultivate, because in the absence of a well-developed irrigation system, the choice of crops to be cultivated was perforce determined by the timing of the annual inundation. Though perhaps wishing to grow cotton, the cultivator would often be forced to use *bajri* instead.<sup>21</sup> In the context of the Empire’s commercial functions, official enthusiasm for improving irrigation facilities could well have been stimulated by the links between the colonial economy and global markets. The aim of increasing the province’s productive capacity was itself underpinned by a firm conception of India as a producer of primary goods and consumer of finished products in the Imperial division of labour, which reserved the middle-ground of manufacture to capitalists in Britain, the Imperial centre.<sup>22</sup>

The problem of an unpredictable environment was, in official eyes, closely intertwined with the failings of Sindhis themselves, who were considered to be slovenly and ineffective cultivators. Shades of opinion varied as to how far Sindhi attitudes had been determined by the environment in which they lived. The author

---

<sup>21</sup> Hugh Dow, ‘Note on Sind’, c. mid-late 1920s, Dow Papers, MSS Eur E372/1, B.L.

<sup>22</sup> This leads us to a well-established point which bears another repetition: the commercialization of British India was not intended by its colonial overseers to create in India conditions equivalent to those in the industrialised states. It was, instead, intended to be a source of raw materials for British industry, and a consumer market for their finished products. Thus India was expected to have a place in the modern international market system, but a specifically limited one. This was the view advocated by J.S. Mill and, shortly afterwards, a young John Maynard Keynes. Islam, *Irrigation*, p.18. After decolonization, Wallerstein presented an influential description of capitalist imperialism in which the ‘core’ economies of the imperial metropolises exploited the labour and resources of less-‘developed’ ‘peripheral’ and ‘semi-peripheral’ economies, *i.e.* their colonies. Immanuel Wallerstein, *Historical Capitalism with Capitalist Civilization* (London: Verso, 1995).

of the 1907 *Sind Gazetteer* had lamented that leisure took precedence over work in Sindhi agrarian culture:

the truth is that, in the absence of competition, ambition and every other stimulus which urges the husbandman to get the most he can out of his field, the Sindhi has for generations cherished the gentler ideal of allowing his field to divorce him as little from his hookah as might be compatible with keeping the latter filled.<sup>23</sup>

In the light of British officials' experiences of settling Punjabis in both the Punjab canal colonies, and in Sind on the Jamrao and Nasrat tracts, the suitability of Sindhis for the colonization of virgin perennially-irrigated lands was viewed with some scepticism, whereas Punjabis were considered to be model farmers for arid, canal-irrigated land. However, hope was held out for the improvement of Sindhi attitudes once the barrage came into operation. As the Government of Bombay argued in 1910, the introduction of perennial irrigation would, over many years, encourage an increase in population, and population pressure on the land. This land-starved populace would, in theory, follow the example set by the Agricultural Department and "the better class of cultivator" on the tract to greatly intensify cultivation.<sup>24</sup> This attitude was taken up with increasing enthusiasm in later years, and Dow wrote that once a stable water supply was assured, "the traditional indolence and fatalism of the Sindhi cultivator may be sought in vain".<sup>25</sup>

When the Government of India sent the 1912 despatch to London, however, there was still no guarantee that the project would be approved. The Secretary of State, the Marquess of Crewe, appointed a committee under Colonel J.W. Ottley to review the plan and advise him whether it deserved execution. This committee, the 'London Committee', reported against the scheme in December 1913, arguing that the work was unlikely to prove productive, and that Sind's existing inundation-canal

---

<sup>23</sup> Aitken, *Gazetteer*, p.240.

<sup>24</sup> Joint Secretary to the Government of Bombay to Secretary to the Government of India, P.W.D., 05.12.1910, IOR/P/8976, B.L.

<sup>25</sup> Hugh Dow, 'Note on Sind', n.d. (c. mid-late 1920s), MSS Eur E372/1, B.L.

system was adequate to the province's requirements. It also denied that the Punjab's withdrawal of water from Indus tributaries posed a real threat to Sind. However, the London Committee ruled that a plan and estimates for a barrage scheme should be prepared and held ready, in case it became necessary in the future.<sup>26</sup> The 1912 plan, then, was cursed by its authors' inability to demonstrate either its profitability or its absolute necessity. Like the Irrigation Commission before it, the committee accepted the idea of the Barrage scheme as desirable but not as necessary.

### **The 1920 Despatch**

The Government of Bombay received the committee's report in March 1914, and disputed its rulings that the scheme would be unprofitable, and that the existing canals system was adequate protection against Punjabi withdrawals. Bombay realized that the scope of the project had to be widened if London were to be convinced of its necessity.<sup>27</sup> Initial work began on a new plan in 1916 but was held up by the First World War, and little was done until 1918. The revised plan, now named the Sukkur Barrage and Canals Project, was submitted by the Government of India to the Secretary of State for India in 1920. This again proposed a barrage at Sukkur, but the proposal for a single Rohri Canal had transformed into something much grander: on the right bank, a (smaller) Rohri Canal, two *kharif*-only Feeder Canals to take water to Khairpur state, and extensions and modifications to the existing Eastern Nara Canal; on the left bank, the North Western, Central Rice and the Dadu Canals.<sup>28</sup> It was approved by both Houses of Parliament in Britain in August 1921, and formally sanctioned by the Secretary of State for India in 1923.

---

<sup>26</sup> Visvesvarya and Bahadur, *Report on the Lloyd Barrage*, pr.13.

<sup>27</sup> Visvesvarya and Bahadur, *Report on the Lloyd Barrage*, pr.13-14.

<sup>28</sup> Visvesvarya and Bahadur, *Report on the Lloyd Barrage*, pr.17.

The obvious question, then, is what had changed between 1912 and 1923? The immediate answer is twofold: a poor inundation in 1918, which threatened the province with famine; and the volatile post-First World War political situation in India. Before these came about, however, Sind initially continued to press the case that irrigation projects in the Punjab threatened to reduce the volume of water available downstream. The matter remained under discussion in the Governments of Bombay and India. Sir Michael Nethersole, who succeeded Benton as Inspector-General of Irrigation, wrote in 1916 that for technical reasons it was difficult to determine even the general trend of Punjab effects on Sind irrigation, and impossible to be specific. But, he went on, there was overwhelming evidence that Sind water levels could fall extremely low, and that Punjab withdrawals must undoubtedly “enhance this menace to Sind irrigation”.<sup>29</sup> Moreover, Nethersole challenged the London Committee’s view that Punjab works, including protective embankments, had led to usefully higher river levels in Sind. The issue, Nethersole argued, was not the general level but the level extant at critical times for watering crops, and these certainly were threatened by Punjab withdrawals.<sup>30</sup>

Nethersole’s support gave the planning process continued impetus, but the case took a new turn after 1918. In that year, the inundation was abnormally low, and Sind came to the brink of famine. With the failure of the inundation the province had a grain deficit for the first time since the British annexation, and could not feed its own people let alone export to other provinces. This lent the barrage project the possibility of a protective as well as productive role,<sup>31</sup> which was

---

<sup>29</sup> ‘Note by Mr. N. Nethersole, C.S.I., Inspector-General of Irrigation in India, on the Sukkur Barrage Project, Sind’, 07.01.1916, pr.4-5, accompanying Bombay Resolution WI-4945, IOR/P/10062, B.L.

<sup>30</sup> ‘Note by Mr. N. Nethersole’, pr.12-13.

<sup>31</sup> Retrospective scholarship has questioned the value of canals to subsistence agriculture in India. Whitcombe, for example, has criticised British canal irrigation as characteristically inefficient and inflexible, and in many cases positively harmful to local populations.

emphasized by the Government of Bombay and the Commissioner when the revised plan was sent to the Government of India in July 1920. The plan also emphasized that the 1920 inundation had been very late and damaged the cotton crop,<sup>32</sup> a significant source of revenue for the Sind government. The issue of contention in the debates about Punjab withdrawals – *i.e.* was perennial irrigation in Sind necessary or merely desirable? – was now, the Commissioner-in-Sind argued, resolved.<sup>33</sup> Although the barrage was still proposed as a productive work, the spectre of famine could now be used to give Bombay's arguments a more immediate force.

Famine in Sind, as throughout twentieth-century India, was understood by the British as not just a humanitarian issue, but a financial and political one. Food shortages hurt Government revenues: the plan noted that a Sind barrage would have averted the 1918 disaster, and the surplus value in crops grown in that year would have been £10 million in a conservative estimate.<sup>34</sup> In terms of law-and-order, the food shortages that had swept other parts of India in 1896-1897 and 1899-1902 caused their victims enormous suffering, but also prompted direct threats to British rule when starving peasants took the law into their own hands. During the 1896-1897 famine, for example, peasants in the Central Provinces assaulted grain depots rather than face the appalling conditions and indignity of government poorhouses, as Davis puts it.<sup>35</sup> After 1918, Sind and the Government of

---

Whitcombe, 'Irrigation', esp. p.735. On the other hand, Stone has argued that British canal-building in the United Provinces (now Uttar Pradesh) was beneficial, despite its drawbacks. Ian Stone, *Canal Irrigation in British India: Perspectives on technological change in a peasant economy* (Cambridge: Cambridge University Press, 1984), p.70.

<sup>32</sup> H.O.B. Shourbridge, Acting Secretary to Government of Bombay, to Secretary to Government of India P.W.D., 30.07.1920, pr.3, IOR/P/10797, B.L.

<sup>33</sup> 'Memorandum by the Commissioner-in-Sind', 14.07.1920, pr.3, enclosed with Shourbridge to Secretary to Government of India P.W.D., 30.07.1920, IOR/P/10797, B.L.

<sup>34</sup> H.O.B. Shourbridge, Acting Secretary to Government of Bombay, to Secretary to Government of India P.W.D., 30.07.1920, pr.3.

<sup>35</sup> Davis, *Late Victorian Holocausts*, p.148.

Bombay could argue that the instability of Sind's agricultural environment threatened not only government revenues, but also the regime's control over the population.

The implicit political threat that famine presented was made explicit in the Commissioner's memorandum, which claimed that the question of irrigation development was becoming dangerously politicized in Sind:

Apart from the material benefit to Government, and still more to the people of the province, there can be no doubt that the project will have a beneficial and steadying political effect. The agricultural classes of Sind [...] were always loyal and well-affected [...] but the leaven of agitation has been introduced among them, and no efforts are being spared to make them discontented with the measures of Government. It is open for agitators at present to point out that comparatively little has been done in Sind of recent years in the way of great works by Government. The engineering projects carried to completion and success in the neighbouring provinces of the Punjab and North-West Frontier are well known to many Sindhis. The more educated have heard of the canal works that have been or are about to be executed in the United Provinces and Madras. They can read of the schemes sanctioned for the water-ways of Bengal. The great protective irrigation works in the process of execution in the Deccan are well known. The undertaking of a great scheme such as that now proposed in Sind would undoubtedly have an excellent effect.<sup>36</sup>

The Commissioner, then, was appealing to the idea that a grand, large-scale modernization project would bolster British prestige in the province, and distract attention away from nationalist claims against the colonial power. Sindhi *zamindars*, traditionally regarded as pacific, had grown restless as a result of the Khilafat Movement, which protested at the deposing of the Caliph, the political leader of the Ottoman Empire and a leading figure in the Islamic world, by the Allies after the Ottomans' defeat. This restlessness was exacerbated across India by the extension of wartime powers to suppress public expressions of dissent into peacetime.<sup>37</sup>

---

<sup>36</sup> 'Memorandum by the Commissioner-in-Sind', 14.07.1920, pr.5, enclosed with Shourbridge to Secretary to Government of India P.W.D., 30.07.1920, IOR/P/10797, B.L.

<sup>37</sup> This was in an era when the colonial rulers had begun to face more united and assertive political challenges from Indians. The Indian National Congress and the All-India Muslim League, the two most significant proto-nationalist lobbying groups in India, had temporarily joined forces and held their annual sessions jointly in 1915 and 1916. This new threat helped

Moreover, the positive impact of reforms announced in 1909 by John Morley, the Secretary of State, and Lord Minto, the Viceroy, had been outweighed by the negative impact made by the government's use of the repressive powers that they had granted.<sup>38</sup> By the time the Commissioner's memorandum was written, the predominantly urban Khilafat leadership in Sind had obtained the co-operation of many *pirs*, who brought with them the massed support of their rural followers. The British authorities became concerned, and the Government reacted by arresting leading Khilafatists, in line with state action across India.<sup>39</sup> Since Sind was an overwhelmingly agricultural province, it was the rural upper classes – and not the urban middle classes associated with nationalist sentiment elsewhere in India – whose loyalty had to be fought for. The barrage could challenge the agitators by, quite simply, making life 'better' for the *zamindars* and *haris* who worked the land. Although the Khilafat Movement was not directly referred to, the agitation that it inspired certainly was. As the provincial authorities endeavoured to navigate these troubled waters, the implicit political weight of the 1912 plan turned into the over politicization of the barrage scheme in the 1920 plan.

The final element in the 1920 plan's favour was that the financial forecast had improved. Both the 1912 and 1920 plans had expressed the opinion of senior

---

to prompt the Secretary of State for India's tour of India in 1917, during which he received delegations of 'representative' Indian opinion. These discussions included ways to ostensibly make government more responsive and representative. This tour, and the resulting Montagu-Chelmsford constitutional reforms, highlighted the concern that the *Raj* felt for its stability and its recognition that it must modify its approach to appear to be working with 'Indian opinion'. However, this dialogue was accompanied by a contrary increase in repressive measures. The Defence of India Act had been passed in 1915, granting the government emergency wartime powers to control political unrest. These powers were extended into peacetime by the 1919 Rowlatt Act, protests against which at Jallianwalla resulted in a virtual massacre of the protesters and the imposition of martial law across the Punjab.

<sup>38</sup> See R.J. Moore, *Liberalism and Indian Politics, 1872-1922* (London: Edward Arnold, 1966), ch. 6.

<sup>39</sup> On the growth and suppression of the Khilafat Movement in Sind, see Sarah F.D. Ansari, *Sufi Saints and State Power: The pirs of Sind, 1843-1947* (Cambridge: Cambridge University Press, 1992), pp.77-100.

officials that the cost and revenue estimates were sound,<sup>40</sup> and both plans went into considerable depth to explain and justify how these estimates were calculated; but the 1920 plan offered better returns. It projected a 5.57% return at 10 years, and a handsome 10.5% at 30 years. The 1912 plan, by contrast, had estimated only a 4.28% return on the sum-at-charge at 10 years. Presented with a stronger argument for the barrage's political (and humanitarian) necessity, and a more attractive financial proposition, the Secretary of State was willing to sanction the scheme.

## Constructing the barrage

The construction of the project proved as contentious as its planning, especially as far as its finances were concerned. It remained, however, within the familiar framework of public works projects described in Chapter 1. The project was ultimately to be paid for by the Government of Bombay (this responsibility was transferred to the newly-constituted Government of Sind in 1936), but in the short- and medium-term it was financed by loans advanced to the Government of Bombay by the Government of India. London kept a tight reign on construction works finances, with the Secretary of State's sanction required for various rises, *e.g.* in 1925 for extra expenditure of Rs. 255 *lakhs* for steel and iron work, and machinery

---

<sup>40</sup> The letter in which the Government of Bombay requested the Government of India's sanction of the project in the 1912 despatch stated that "The Governor [of Bombay] in Council has no hesitation in accepting the estimates for the Rohri Left Bank Canal. They have been prepared with great ability and foresight by Dr. Summers"; and that "The Commissioner in Sind has prepared the revenue estimates with great care and extreme caution. [...] The estimates can be trusted to be more accurate than is usual in the case of large schemes of the kind, for, the conditions under which they have been prepared were particularly favourable". Joint Secretary to the Government of Bombay to Secretary to the Government of India P.W.D., 05.12.1910, pr.7, 14. Indeed, this letter is concerned overwhelmingly with technical and financial details. Similarly the Commissioner-in-Sind's memo, enclosed in the Government of Bombay's 1920 submission to the Government of India, states that "The Commissioner need only say that he considers that there is no reason to believe that the estimates from the revenue point of view are otherwise than correct." 'Memorandum by the Commissioner-in-Sind', 14.07.1920, pr.1, enclosed with Shourbridge to Secretary to Government of India P.W.D., 30.07.1920, IOR/P/10797, B.L.

and plant equipment.<sup>41</sup> This was a testament to the project's importance, and its massive cost. However, this control was subject to repeated demands from Sind for more funds. The initial estimate put forward in 1920, of a little over Rs. 184 million, had risen to approximately Rs. 204 million by February 1928. Moreover, the project's financing attracted some criticism. The Government of India's decision to provide only loans for barrage works, rather than to actually pay part of the cost, was the subject of acrimony in a *Times of India* article.<sup>42</sup>

It also attracted adverse comment in a report commissioned by the Government of Bombay and prepared by Sir M. Visvesvarya and Nawab Ali Nawaz Jung Bahadur, two Indian engineers. This report recommended that the Government of Bombay should ask the Government of India to take over some of the barrage debt. The Government of India, however, refused to do so, and the Bombay government publicly responded to Visvesvarya and Bahadur's suggestions in an appendix to a pamphlet about the barrage. The two engineers, it said, had not taken account of the fact that the barrage debt would be mostly cleared by revenue raised on the land once the barrage and canals were operational. The provincial government constitutionally had control over revenue rates, and so the Government of India was unwilling to take over the debt if it could not also take over the source of remuneration.<sup>43</sup> Although the pamphlet did not state as much, it implied that the Government of Bombay would be unwilling to relinquish control over the rates, and so the barrage debt remained where it was. The barrage was a uniquely massive and complex project in Sind, requiring some re-organisation of the region's administration, but at the level of Presidency-centre relations it was not such a

---

<sup>41</sup> Government of Bombay P.W.D. Resolution no. 947, 07.10.1925, MSS Eur E 372/2, B.L.

<sup>42</sup> 'Sind and its Future', *Times of India*, 11.01.1932, in Dow Papers, MSS Eur 372/2, B.L.

<sup>43</sup> N.a., *Reviews of Administration in the Bombay Presidency No. II: Sind and the Lloyd Barrage. Fifth Edition (As revised up to December 1932)*, (n.p.: Government of Bombay, February 1933), Appendix 3, pr.iv. Henceforward '*Sind and the Lloyd Barrage*'.

major event as to encourage either side to overstep the normal financial boundaries set between them.

Bombay was not the only government with a stake in the barrage project, however. Nasirabad Tehsil of the neighbouring Baluchistan States Agency was also to receive barrage water under the scheme, and the Government of Bombay, concerned to emphasize that this should be done as a productive work rather than for political gain, insisted that irrigation in Nasirabad Tehsil should be conducted under the same conditions as on ordinary land in Sind. The latter's revenue rates would be applied, and rice cultivation was to be restricted, following the Jamrao Canal's precedent. The Government of Bombay also proposed that the Government of India should directly pay for the costs incurred in building the barrage and extending a canal into Nasirabad, and that Nasirabad should be brought under Sind's administrative control. This would simplify such financial arrangements by making the Government of Bombay wholly responsible, and would allow Bombay irrigation and revenue officers to control the canal in the same manner as in the rest of Sind, whereas the Baluchistan administration was inexperienced in operating under Bombay revenue rules. It was also noted that incorporating Nasirabad into Sind, under the Deputy Commissioner, Upper Sind Frontier, would bring under one administration the tribes such as the Bugtis who currently held land in both British Sind and Baluchistan, and simplify policing and other government matters.<sup>44</sup> This would make it easier to capture the bandits who had historically troubled the frontier, and then taken refuge across the border where Sind's police could not follow without special permission. Bombay's suggestion followed the precedent of the earlier canalization of upper Sind in John Jacob's day, when improved law and

---

<sup>44</sup> Secretary to the Government of Bombay, P.W.D., to Secretary to the Government of India, Department of Industries and Labour, Public Works Branch, 23.02.1927, R.D. file 8551-L of 1925, G.S.A.

order was expected to follow the extension of irrigation into 'wild' lands. In the late 1920s, although Sind had long been considered a settled province, canals were still perceived to some extent as conduits for the administration's authority. Just as the canals were dug into virgin land, governance would cut into the tribal areas.

The matter was further complicated when, after construction had begun, it transpired that the canal would irrigate a portion of Kalat State as well as Nasirabad Tehsil; this had not been realized during the planning stage because the Baluchistan authorities had no maps of Nasirabad Tehsil, and so had not been able to determine exactly where the canal would flow.<sup>45</sup> Eventually it was agreed that the existing provincial boundaries would remain in force. The Government of India would take financial responsibility for irrigation outside Sind, meaning that it paid the cost of construction and maintenance but assessed the land revenue, kept the revenue receipts, and granted remissions as its agents saw fit, while Bombay irrigation officers would actually operate the canals.<sup>46</sup> Again, although alternatives were raised, the Governments of India and Bombay agreed to maintain their familiar roles with relatively little alteration to allow for the new irrigation conditions. The number of financial and legal issues, which have only been touched on here, surrounding the extension of an irrigation system from its 'home' province into another was a testament to the complexity of governance in colonial India, where modes of administration varied between areas for expediency or historical continuity. The scale of the Sukkur Barrage project, and the fact that it spilled over into Baluchistan, made it a novelty. As with the general financial arrangements between the Government of India and the Government of Bombay, however, the

---

<sup>45</sup> Revenue Officer, Lloyd Barrage & Canals Scheme, to Commissioner-in-Sind Thomas, 29.07.1930, R.D. file 8551-L of 1925, G.S.A.

<sup>46</sup> 'Terms of agreement concluded between the Government of India and the Government of Bombay for the extension of irrigation from the Khirtar Branch ex the North Western Canal in the Nasirabad Tehsil in Baluchistan', draft preferred by the Advocate-General, n.d. [c.1932], R.D. file 8551-L of 1925, G.S.A.

distinct administrations showed the capacity to incorporate it into their normal operations. While the question of inter-provincial water rights was very important in the case of Sind's relationship with the Punjab, the impact of the financing and construction of the barrage within Sind itself by far eclipsed the importance of its extra-provincial tendrils.

The actual construction of the barrage and canals was another story. No infrastructure project of comparable scale had ever been undertaken in Sind, and none was in progress in the contemporary Bombay Presidency.<sup>47</sup> As such, it was a golden opportunity for the P.W.D. to prove its worth and the efficacy of the latest scientific methods of construction, which began in July 1923 and continued until the barrage was opened in January 1932. The dam itself was a huge river regulator, consisting of 66 spans, each 60ft wide. The rate of flow through these spans was controlled by steel sluice-gates. Naturally, the foundations of the spans had to be laid on the river-bed itself. This necessitated the construction of huge cofferdams, *i.e.* walled enclosures on the bed. The river would flow around the sides, and work could be done inside in the relative dry.<sup>48</sup> In close proximity to the barrage were the head regulators for the eight trunk canals. On the right bank of the river were the Northwestern, Rice and Dadu Canals; on the left bank, the Eastern Nara, Rohri,

---

<sup>47</sup> Public Works Department of the Bombay Presidency, *Irrigation Administration Report Part II, For the Year 1933-34* (Karachi: Government Press, 1937), p.1.

<sup>48</sup> A *Times of India* article gives a sense of the massive difficulty of carrying out this work: "These cofferdams have been constructed of interlocking steel piling driven deep into the sandy bed of the river, and inside them the work has been carried on, often at a level twelve or fifteen feet below the surrounding river. The cofferdams have been of a size never before attempted or thought possible, and when it is realized that the area enclosed by this season's cofferdams was about 46 acres, and that within it as many as five thousand men at a time were working many feet below the level of the river, the magnitude of the task and the weight of the responsibility which have been shouldered by the engineers in charge can easily be imagined. The difficulties and risks have during the last two seasons been gravely increased by the exceptional height of the river floods." 'Progress on the Lloyd Barrage', *Times of India*, 03.10.1930, in Dow Papers, MSS Eur 372/2, B.L.

Khairpur Feeder East and Khairpur Feeder West Canals.<sup>49</sup> These allowed the flow to different areas of Sind to be regulated individually. Further regulators, at intervals along each main canal, allowed water to be controlled and diverted to different subsidiary canals.

Alongside technical challenges, getting the work done was complicated by the question of who should do it. The P.W.D. argued that using purely manual labour on the project would have cost 50% more, and also have been a disaster for Sindhi *zamindars*, whose agricultural operations would have been brought to a standstill when their *haris* left farmland unattended in order to work on the project. By using dragline machines to dig out the canal beds, the government claimed to have done the equivalent of the work of 77,000 coolies during each five-month winter construction 'season', thereby not interrupting cultivation, and reducing the logistical problems of getting workers to construction sites.<sup>50</sup> A fixation on using machines to dig as a sign of 'modern' construction methods remained prevalent in both official and non-official discourses, British and Indian. The importance of this for the administration's self-image, and the image that it wished to project to the public at home and in India, will be considered when the opening ceremony is discussed below. However, not all machines performed as well as had been anticipated, especially at the barrage site itself; a good deal of the work that had been intended to be done by machines had to be done by hand.<sup>51</sup> Certainly the priority was to get the work done in whatever manner possible, despite the attraction of showing off modern British and American technology in the form of plant machinery.

---

<sup>49</sup> Public Works Department of the Bombay Presidency, *Irrigation Administration Report Part 2 – Sind, For the Year 1932-33* (Bombay: Government Central Press, 1935), p.13.

<sup>50</sup> *Sind and the Lloyd Barrage*, pr.14-15.

<sup>51</sup> Visvesvarya and Bahadur, *Report on the Lloyd Barrage*, pr.32.

The changes wrought on the province by the construction process also extended into the status of privately-owned land in Sind. Firstly, some of the land on which the works were constructed was appropriated from private individuals. Secondly, the land in the proposed barrage zone was 'rectangulated', a process similar to the demarcation of village and field limits on the Jamrao Canal. During this process, the Survey of India divided agricultural land into 320-acre rectangles, which the Sukkur Barrage and Canal Project's Revenue Officer further divided into one-acre plots. These were then levelled, in order to facilitate the distribution of water. Notably, the process was compulsory: the state was able to exercise significant control over private land. The literal re-shaping of the Sindhi agricultural landscape extended down to this one-acre level, and was designed to suit the state's requirements for an orderly, easily-regulated and chargeable irrigation system. Land for headworks, canals, distributaries, and all channels other than water-courses were acquired by government, and their previous owners were 'paid' for them. (Watercourses were cultivators' own responsibility anyway). However, this payment was credit given to *zamindars* against the amounts which they owed to government for the construction of watercourses.<sup>52</sup> Thus, *zamindars* hardly stood to make a profit from the enterprise, and in fact the 'payment' they received propagated the extension of state power.

### Ceremonial events

On 24 October 1923 Sir George Lloyd, the Governor of Bombay, laid the foundation stone for the Lloyd Barrage, as it was then called. The event took place, according to

---

<sup>52</sup> *Sind and the Lloyd Barrage*, Appendix III, pr.iii. This contrasted with the system used in the Punjab, where no compulsion was used to relieve *zamindars* of land, but those *zamindars* who surrendered none would get no water. Office of Financial Adviser to Sind P.W.D. to Sir Henry S. Lawrence, Finance Department, Bombay, pr.2-3, dated Lahore 20.02.1926, Dow Papers, MSS Eur E 372/2, B.L.

one report, 'Amid scenes of gorgeous splendour, attended with pomp and ceremony rarely excelled even in the presence of Kings and Princes'.<sup>53</sup> To understand the political implications of the barrage project, this section will examine this ceremony and a similar one held to celebrate the completion of the project in 1932, and publicity materials associated with them. These afford a unique insight into the way that the projects were publicly presented, *i.e.* how officials desired the project to be seen, and at the same time the ceremonies demonstrated something about the way that celebrations of the regime's power over the environment reinforced state authority. Spectacles denoting Imperial power and celebrating achievements were, of course, nothing unusual in the *Raj*'s political vocabulary; Haynes has argued that ceremonies connected with Imperial power were, far from being empty gestures, perceived as a crucial space for the construction of political authority in the provinces by both their British and elite Indian participants.<sup>54</sup>

In light of this, it is not unreasonable to see the barrage ceremonies as helping to construct the political meaning of the project, especially from the administration's point of view. Indeed, the events crystallized clearly the dominant official attitudes towards Sind and Sindhi cultivators. The barrage ceremonies were located firmly on the 'European' side of Hansen and Steppaut's description of how the European colonial states in the non-West sought to assert both legitimacy and *de facto* power: "Colonial sovereignty was constructed slowly and piecemeal and oscillated between confrontation and alignment, between spectacular representation of European might and culture, and incorporation of local idioms and

---

<sup>53</sup> 'World's Greatest Irrigation Project', *The Daily Gazette* 25.10.1923.

<sup>54</sup> Douglas Haynes, 'Imperial Ritual in a Local Setting: The Ceremonial Order in Surat, 1890-1939', *Modern Asian Studies* 24:3 (July 1990): 493-527.

methods of rule.”<sup>55</sup> Moreover, they argue, colonial sovereignty was more dependent on spectacles and ceremony, along with demonstrative and excessive violence, than the forms of sovereign power that had emerged in contemporary Europe.<sup>56</sup> These ceremonies celebrated the engineering and logistical expertise that the colonial government could bring to bear on the twin problems of an unpredictable agricultural environment and an inefficient agrarian culture: the same problems identified by officials as correctable by the barrage’s regulation of perennial water flows. This could only be solved by the intellectual discipline of those trained in the natural sciences in the European tradition.<sup>57</sup>

Mitchell has influentially analysed the 1899 *Exposition Universelle* in Paris as a system of the representation of the non-West, and argues that the exhibition’s representations were extended into Europeans’ perceptions of the ‘real’ non-West, so that the world itself was intellectually ordered as a continuous exhibition. “This world-as-exhibition”, he argues, “was a place where the artificial, the model, and the plan were employed to generate an unprecedented effect of order and certainty.”<sup>58</sup> While the Sukkur Barrage ceremonies did not take place on anything like the scale of the *Exposition Universelle*, they made a political performance of the imprinting of order onto Sind that the barrage represented. When the foundation stone was laid, the Executive Engineer’s speech outlined the history of the project, from its roots in shelved nineteenth-century irrigation schemes to its sanctioning by the Secretary of State, casting the story of the barrage as one in which the tenacity of Sind’s British

---

<sup>55</sup> Thomas Blom Hansen and Finn Stepputat, ‘Introduction’ to their *Sovereign Bodies: Citizens, migrants, and states in the postcolonial world* (Princeton: Princeton University Press, 2005), p.19.

<sup>56</sup> Hansen and Stepputat, ‘Introduction’, p.4.

<sup>57</sup> On the importance that the British in India attached to the supposed superiority of their scientific knowledge over native worldviews, see Zaheer Baber, *The Science of Empire: Scientific Knowledge, Civilization, and Colonial Rule in India* (Delhi: Oxford University Press, 1998), esp. ch.1.

<sup>58</sup> Timothy Mitchell, ‘Orientalism and the Exhibitionary Order’, in Nicholas B. Dirks (ed.), *Colonialism and Culture* (Ann Arbor: University of Michigan Press, 1992), p.290.

administrators and engineers finally resulted in the construction of the barrage system, which would: “convert a desert into a garden, [and] also ensure prosperity to those cultivators who [...] live on from year to year in that demoralizing atmosphere which is produced by an uncertain and scanty supply of irrigation water.”<sup>59</sup> The Governor himself continued in an heroic vein, declaring that: “Nothing indeed could be more strikingly indicative of the magnitude of the problem which this Barrage is to solve than the long story of the many attempts that have been made to convert this great waterless tract into a land of rich harvests.”<sup>60</sup>

Similarly, a representative of the Hyderabad District Local Board asserted that the barrage's ‘magnificence and the beneficial effects [...] are not excelled by any attempt that has yet been made for harnessing any of the great rivers of the world.’<sup>61</sup> The Governor also expressed an early indication of the celebration of the barrage as a material fact which would become such a strong recurring theme of the later ceremonies: “It is hardly possible to imagine how fine an appearance of massive yet elegant strength this giant work will present to the travellers who approach it by any of the great main roads which it will serve to connect.”<sup>62</sup> These predictions might seem over-eager, but their importance lay in the way that the speakers sought to depict a revolutionary transformation of Sind’s landscape, and in doing so to demonstrate that the barrage was a powerful manifestation of the fruits of human endeavour, and particularly of British officers’ devotion to the welfare of the Sindhi people. This meant, to use terms similar to Mitchell’s, that the land itself would become an exhibition of British authority and ability to re-shape the colonial possession.

---

<sup>59</sup> Quoted in ‘World’s Greatest Irrigation Project’, *The Daily Gazette* (Karachi), 25.10.1923.

<sup>60</sup> *Ibid.*

<sup>61</sup> *Ibid.*

<sup>62</sup> *Ibid.*

By the time of the barrage's opening ceremony in 1932, after the administration had proved its ability to complete construction, these celebrations of the project's general impact had been transformed into a more particular celebration of engineering ability. The fascination that the artificiality and materiality of the barrage seemed to have for its builders was relayed in a souvenir booklet given out to attendees at the opening ceremony, twenty pages of which consisted solely of photographs of the barrage and canals, in various stages of completion. In none of these photographs did any human feature prominently: instead the construction process itself was prioritized, with shots of construction machinery, the barrage structure itself, and partially-dug canals. Taken *en masse*, these served to emphasize the magnitude of the project's impact on the countryside. At the same time, the imagery of the project in various stages of completion gutted the construction process and laid it out before the reader, insisting thereby on the artificiality of the barrage. The barrage had not, these photos demonstrated, sprung spontaneously out of the ground.

By contrast human workers, when they did appear, were dwarfed by the machines they were using and by the products of their labours. In fact, the only shot which specifically showed any living creature in close-up is of two donkeys, with the caption 'Dumb Workers'.<sup>63</sup> Even here, however, a hierarchy of representation placed British (and a few Indian) engineers, the possessors of the organizing intelligence and technical expertise that had allowed the barrage to be built, above the thousands of Indian contractors and labourers who did the manual work. While engineers were no more clearly shown in the photographs than labourers, their names were listed at the back of the booklet. In other words, their place in the

---

<sup>63</sup> N.a., *The Opening of The Lloyd Barrage and Canals by His Excellency The Earl of Willingdon, G.M.S.I., G.C.M.G., G.M.I.E., G.B.E., Viceroy and Governor General of India on Wednesday, the 13<sup>th</sup> January 1932* (Bombay: Government Central Press, [1932?]), p.23, in Dow Papers, MSS Eur 372/2, B.L.

scheme's success, not just as individuals but in their capacity as agents of the state, was memorialized. For the thousands of Sindhis, Baluchis and Punjabis who worked on the project there is barely a mention, except in connection with the operation of plant machinery.

The progress that the barrage and canals embodied was not purely technological. Just as the physical landscape could be manipulated by the barrage, the Sindhi cultivator was displayed as a malleable material onto which 'progress' could be stamped. The very first page of the souvenir booklet articulated this:

The uncertainty of supply, so uncertain that no cultivator has been in a position to forecast what is likely to happen a fortnight ahead, has led to haphazard cultivation and the cultivator has felt that *kismet* rather than his own systematic exertions, is the ruling factor in his agricultural operations. To put an end to this uncertainty [...] it was necessary to devise some means of assuring a level of the water in the river which would permit of more certain and orderly irrigation conditions.<sup>64</sup>

The cultivator's trust in *kismet*, or fate, was used to draw a binary opposition between 'spiritual' India and the 'modern' West. The cultivator's close relationship with the Indus also pointed to a distinction between the Sindhi as limited by the natural world, and the British engineers as its masters. The ability to bring certainty and order to the chaotic process of cultivation became a justification for imposing a new system on the cultivators: physical engineering intersected with socio-cultural engineering. However partial and hesitant the latter may have been, it was integral to the rhetoric that defined the sort of progress that the barrage was expected to instil. The anti-cultural implications of the claim that the government were successfully re-shaping Sind to the benefit of all, which dominated the ceremony and souvenir booklet, were suggested by the contrast between 'native spirituality' and rational European knowledge drawn by an article published in the Bombay-

---

<sup>64</sup> *Opening of the Lloyd Barrage*, p.1.

based, English-language, daily newspaper the *Times of India*. The article reported that:

On the morning after the official opening of the Barrage by His Excellency the Viceroy, there might have been witnessed a second opening ceremony, in its way no less impressive. A white-bearded and saffron-robed saint from the north stretched his arms in benediction over each of the canals and in a loud voice intoned a solemn song of praise and prophecy. He gave rather more thanks to God and less to the engineers than His Excellency had done, and was less concerned with history and more with poetry. He looked like a man from a thirsty land, and his picture of the blessings brought by irrigation was a vivid one.<sup>65</sup>

The article suggested a distinction between the material 'reality' of the barrage and the saint's 'illusory' approach to it, which invoked the irrational fields of prophecy and poetry rather than the supposedly solid and objective categories of engineering and history. The newspaper's audience – expatriate Europeans or English-literate Indians – naturally 'knew' that His Excellency's praise of the engineers and historical progress expressed the true facts of the matter. This again carried the implication that the barrage, and the engineers who oversaw its construction, were naturally enmeshed in the slow stamping of both 'modern' ideas and 'modern' structures onto the Sindhi physical and cultural landscapes. Admittedly, it asserted that the barrage could be symbolically interpreted by the saint in a different way to that presented in the official ceremony. But on the other hand, this suggested that the ability to actually construct it was reserved to the British-dominated ruling class, whose vision of a productive Sind would be made a reality through the proper application of scientific principles. The saint's irrational, spiritual response to the fact of the barrage represented precisely the culture which the project was credited with helping to reshape. The article's wry implied dismissal of the saint's way of engaging with the barrage as a harbinger of change encapsulated the equation of a spiritual/material binary with an Indian/European one.

---

<sup>65</sup> 'Sukkur Barrage at Work: I – Altering the Face of the Land', *Times of India*, 12.12.1932, in Dow Papers, MSS Eur 372/2, B.L.

## Land distribution policies

The barrage's expected happy effect on the province, and on government revenues, would not be brought about without further intervention. Apart from the P.W.D.'s continuing responsibility for operating the barrage and maintaining its canals, the state's main stake in the project was now the sale and management of the land that it brought under irrigation for the first time. Indeed the effective use of barrage land was absolutely essential if the project were to maintain its status as a productive work. However, the plans submitted to London for sanction contained few details of how barrage land would be used, and by whom. Indeed, land distribution policy was not formulated until the 1920s and was only finalized in 1929, almost six years after construction works began.

Hugh Dow, the Financial Adviser to the P.W.D. in Sind, was given responsibility for investigating the distribution of irrigated land in Punjab, and his consequent recommendations for Sind seem to have been largely followed. As on the Jamrao Canal, land colonization policies for the Sukkur Barrage took comparable experiences in the Punjab as a starting point. However, as had been the case thirty years earlier, conditions in Sind made it impossible to transfer wholesale the type of colonization practiced in the Punjab. Of the 7.5m acres irrigated by the Sukkur Barrage, most was already privately owned. After deductions for uncultivable land and land reserved for public purposes, the relatively small area of 1.5m acres was available for sale.<sup>66</sup>

A great deal of the project's impact was necessarily, therefore, felt by *zamindars* on established farms. Since rural estates in Sind tended to be spread out over a large area, privately-owned fields and Government wasteland formed a

---

<sup>66</sup> *Sind and the Lloyd Barrage*, pr.45.

haphazard and irregular pattern;<sup>67</sup> new colonies therefore had to be established within the framework set out by existing settlements. The opportunities for social engineering that had characterized Punjab projects such as the Sutlej Valley Scheme, which had required the colonization of large contiguous areas of wilderness, were closed in Sind by the limited, fragmented amount of land at Government disposal.

Rather than simply analyzing the distribution of new land, then, we must try to determine how the fact of the already-existing farms interacted with the social-engineering ambitions of the colony areas, for here the tension between financial necessity and social ideals came into play most forcefully. Like the Jamrao Canal, the building of the Sukkur Barrage can be seen as a reinforcement of the *Raj's* attempts to strengthen its power in Sind by manipulating the irrigation system. But any social change had to rest on the twin pillars of the colonial state in Sind: economic viability and political stability. As with Jamrao tract colonization, the social-management aspects of Sukkur Barrage colonization had to be balanced by recognition of the need to maintain pre-existing state-society structures in Sind, where irrigation and agriculture had been the state's centre of gravity long before the British had arrived. In a summary of the likely requirements of the as-yet unformulated land policy, the Governor of Bombay, Leslie Wilson, told Lord Birkenhead, the Secretary of State, in 1925 that:

The political effect of the Barrage is going to cause considerable trouble. The great majority of the land in Sind is at present owned by the old Sind Zemindar, who is a fine type of the old Mahomedan loyalist, but generally out of date, and nearly always extremely lazy. This vast area to be brought under inundation by the canals from the Barrage must mean, if we are to sell the land at all, a great influx of population from the Punjab and from the north and south of Sind, with the result that the Sind zemindar [*sic*] will be in a very different position to that which he now occupies, and the Hindu element

---

<sup>67</sup> *Sind and the Lloyd Barrage*, pr.46.

will be enormously increased. The Sindhi will not like this at all, but it is inevitable if the Barrage is to be paid for.<sup>68</sup>

This showed how far the barrage had already become entrenched in the priorities of the administration. Radical changes to Sind's social and economic character were accepted with little regret, even though these were expected to seriously undermine the position of the government's traditional rural collaborators, on the grounds that the project's financial position demanded it. This was a departure from the previous colonial position of treading very carefully to avoid alienating the very same *zamindari* element. The brazenness with which Wilson was prepared to distance the government from its existing allies spoke of the enormous potential for socio-economic re-ordering that the barrage project held. Wilson was perhaps mistaken in believing that Sindhi *zamindars* would find their position dramatically altered, but he was right that a significant influx of Punjabis would result; his confidence in the administration's ability to manage such a demographic change without undue political disruption was perhaps guided by the success of the canal colonies in creating a loyal, readily governable class of smaller landowners in western Punjab, where the local administration was not so much at the mercy of a few magnates.

A good deal of attention was, however, paid to the complexities of the existing land-ownership pattern in Sind. The order of priorities for distribution of newly-irrigated state-owned land was eventually set out as, firstly, the "legitimate" claims of *zamindars* already established in the barrage command; secondly, 'special classes' such as peasant cultivators and military servicemen; and finally recouping as much of the project's capital cost as possible, by selling government-owned land on

---

<sup>68</sup> Sir Leslie Wilson, Governor of Bombay, to Secretary of State for India Birkenhead, 11.02.1925, pr.1, Birkenhead Papers, MSS Eur D 703/14, B.L.

the open market.<sup>69</sup> Each of these three points represented an attempt to strengthen – or at least to conserve – the state’s position. This was, in the first instance, legitimated by the idea that Sindhi cultivators had first claim on the new lands; and that among Sindhis, pre-existing *zamindars* had the best claim. Such an approach to the matter would do much to preserve the structure of Sindhi agrarian society, which had thus far supported colonial rule. To this end, 350,000 acres (nearly a quarter of the land) were set aside to be granted to existing landholders in the Command. These would be sold at the ‘nominal’ rate of Rs. 15/acre. This was a major concession, because the Government’s capital expenditure on the same land was more than Rs.30/acre.<sup>70</sup> financial gain was subordinated to political imperatives, despite Wilson’s previously bullish attitude. Once the Khilafat Movement had died down after the abolition of the Caliphate by the new Turkish Republic in 1924, Sind again became relatively isolated from the Congress-dominated nationalist politics that plagued British administrators elsewhere in India, so we should be cautious about seeing these favours to Sindhi *zamindars* as response to political problems in the immediate term.<sup>71</sup> But the government was always aware of its need to maintain goodwill with its rural support base. This was perhaps heightened by the demands that some Sindhis were by now making for the province’s administrative separation from the Bombay Presidency.<sup>72</sup>

Another concern was that a lack of care in barrage-land arrangements might lead to what Hugh Dow termed: “The Sind Mahomedan zamindar [...] being rapidly

---

<sup>69</sup> *Sind and the Lloyd Barrage*, pr.45.

<sup>70</sup> *Sind and the Lloyd Barrage*, pr.47.

<sup>71</sup> On a tour of Sind in 1924, the Governor of Bombay reported that “non-cooperation, as far as Sind is concerned is a dead letter”. Governor Wilson to Secretary of State for India Birkenhead, 19.12.1924, pr.1, MSS Eur D 703/14, B.L.

<sup>72</sup> See the section entitled ‘Separation granted: agriculture and the legislature’ in Chapter 3, below.

expropriated from his ancestral lands.”<sup>73</sup> Dow recommended that a Land Alienation Act should be introduced to offer landholders greater legal ‘protection’ against potentially destabilizing outsiders. This would make it much more difficult for landholders to transfer their property to others, whether to pay off debts or to make a profit.<sup>74</sup> Officials’ concern about this phenomenon had a long history: nineteenth-century officials were continually preoccupied with the debt faced by many rural landholders, and the idea that Muslim *zamindars* were at risk of obliteration by Hindu *bania* moneylenders. This frightened the colonial administration because their system of control was dependent on the co-operation of Muslim *wadero* landlords, and not on the Hindu moneylenders who could often take over land as debt collateral.<sup>75</sup> Not only did Sind’s major *zamindars* own vast swathes of land, their local influence also extended far beyond their own property. They commanded the loyalty and respect of *haris* and smaller *zamindars*. Such was their power and relative wealth that the Government was hard pressed to either offer incentives for ‘good behaviour’ or to punish ‘bad’.<sup>76</sup> Without effective checks on their most powerful subjects’ actions, the colonial administration in Sind existed on unsteady local foundations. Thus barrage land distribution policies needed to

---

<sup>73</sup> Dow to G. Whiles, Secretary to Government of Bombay Finance Department, 06.03.1926, pr.5, Dow Papers, MSS Eur E 372/2.

<sup>74</sup> This would have been based on the Alienation of Land Act passed in 1900 in the Punjab. It was intended to prevent the transfer of land to moneylenders, as a result of debt. It promoted rural social and political stability in terms of the maintenance of land within groups referred to as hereditary ‘agricultural tribes’. David Gilmartin, ‘Biraderi and Bureaucracy: The politics of Muslim kinship solidarity in twentieth century Punjab’, *International Journal of Punjab Studies*, 1:2 (July-December 1994), pp.1-29, p.6. Its aims were, therefore, very similar to those of the Encumbered Estates Acts in Sind, which were passed in 1876, 1881, 1884 and 1896, and were intended to protect important largeholders from debt to *banias*; but the Punjab Act had more sweeping implications.

<sup>75</sup> Cheesman goes into considerable detail on this. See David Cheesman, *Landlord Power and Rural Indebtedness in Colonial Sind, 1865-1901* (Richmond: Curzon, 1997), p.52 for a summary.

<sup>76</sup> Government-dispensed honours, such as ‘*kursi*’ rights (to sit rather than stand before the Collector, or to a chair at *durbars*), were important to the social standing of largeholders and *pirs*; but in the face of determined opposition from rural magnates, the Government could do little. See Cheesman, *Landlord Power*, pp.100, 116; Ansari, *Sufi Saints*, pp.46-50.

preserve – and if possible strengthen – existing *zamindars'* acquiescence in colonial rule. For this reason the constant cry of financial stringency was somewhat muted, and Governor Wilson's optimistic assessment of the administration's ability to act against the *zamindars'* interests was undermined.

But the idea of financial stability was by no means expelled from official discussions, even when it came to established *zamindars*. The *Sind and the Lloyd Barrage* official pamphlet's warning against 'sentimental' over-promotion of *zamindars'* interests had precedent in another letter by Dow, which set out his proposals – based on his assessment of the Punjab's canal colonies and of likely barrage conditions – for colonization policy. Here the trope of 'endangered' Muslim landlords instead appeared as "landgrabbing big *zamindars*". Along with Sindhi smallholders, Dow wrote, they were constantly agitating for the bulk of new lands to go to *zamindars* already established on the tract.<sup>77</sup> Dow believed that this showed that 'the Sindhi *zamindar*' had not taken full cognizance of the difference in intensity between inundation and perennial irrigation. "I am convinced", he wrote, that

it is not his advantage, nor to that of the State, to encourage him by grants of easy terms to put his money into new lands. If this is done, the Sindhi development of the Barrage area will be delayed for many years.<sup>78</sup>

The concern that Sind's sparse population would not be able to cultivate the new land was common and, as we saw in the previous chapter, had also influenced the development of the Jamrao Canal tract.<sup>79</sup> As *Sind and the Lloyd Barrage* argued, the project's success could not be jeopardized by interests that might have been incompatible with the general and financial stability of the scheme.<sup>80</sup> *Zamindars'*

---

<sup>77</sup> Untitled note by Dow, 16.03.1926, pr. 43, Dow Papers, MSS Eur E 371/2, B.L.

<sup>78</sup> Untitled note by Dow, 16.03.1926, pr. 45, Dow Papers, MSS Eur E 371/2, B.L.

<sup>79</sup> Indeed, the policy of allotting new land to established *zamindars* was considered "rather controversial" in the Punjab, where a similar policy in the early years of the Sohag Para scheme (1886-88) had exacerbated underpopulation, and resulted in tenants being enticed away from existing estates. Untitled note by Dow, 16.03.1926, pr.19.

<sup>80</sup> *Sind and the Lloyd Barrage*, pr.45.

demands had to be assessed according to their place in what the Government wished to do, and what it felt able to do. Officials knew that they had to preserve the agrarian power structures on which their system of governance rested, but they also had to make the scheme a financial success.

Sindhi peasants were the next 'class' to be sold land on special concessionary terms. For the first five years, peasants were to pay Rs 3/acre per year, to "comply with certain conditions framed with a view to ensuring that they actually live on or near their land and bring it under cultivation."<sup>81</sup> Thereafter they could choose to repay the government in five-year gradations, ranging from 15 years at Rs. 5/acre per year to 40 years at Rs. 3/acre per year. The value of these payments was around Rs. 50/acre: substantially more, eventually, than the *zamindars'* one-off payments of Rs. 15, and greater than Government expenditure on the land by Rs. 20. The Government of Bombay would, however, be paying interest on the money which had been raised in London by the Government of India in order to finance the project, and which it would not recoup from the peasants concerned for several years. Therefore the financial concessions made to *zamindars* and peasants were perhaps comparable. The residency condition may have been influenced by the Punjab Government's unhappy experiences with absenteeism in the Chenab colonization scheme, which had begun in 1892; certainly the long minimum period of repayment, 15 years, was designed "to get the peasants settled on the land and not to encourage them in the speculative sellings of their holdings".<sup>82</sup> Only *Sindhi* peasants were to have land on these special terms: Punjabis were expected to be alive to the value of perennial irrigation, and able to

---

<sup>81</sup> *Sind and the Lloyd Barrage*, pr.49.

<sup>82</sup> *Ibid.*, pr.49.

buy land on the open market in the ordinary way, if given the opportunity to pay in sufficiently small instalments.<sup>83</sup>

The policy regarding Sindhi peasants was perhaps the most radical element of land distribution. It provided unprecedented opportunities for *haris* to become landowners, and brought the state, for the first time, into a direct relationship with a number of those who had previously relied almost entirely on intermediaries, namely their landlords, local magnates, and low-level officials. Given that no legislation was ever enacted in colonial Sind to protect or improve *haris'* rights,<sup>84</sup> it would be difficult to argue that the apportioning of land to them was part of any coherent strategy to promote agrarian justice. Moreover, the amount of land reserved for peasants was far smaller than that reserved for *zamindars*. This may have followed the logic that *zamindars* were more easily able to raise the capital to buy land, but in effect it was certainly socially conservative, largely preserving the structure of rural power. However, the colonial state had decided against relying on village organisations (such as the village councils favoured under the *ryotwari* system in the mid-nineteenth century)<sup>85</sup> as intermediaries. The favoured relationship between the state and the new peasant proprietors was to be one mediated directly by Colonization and Revenue officials: Dow recommended that the role of peasants' co-operative societies in colonization be limited, because similar organisations in the Punjab had failed in directly managing colonization or land-distribution.<sup>86</sup>

---

<sup>83</sup> *Sind and the Lloyd Barrage.*, pr.50.

<sup>84</sup> Cheesman, *Landlord Power*, p.80. Even smallholder proprietors gained no protection from the four Encumbered Estates Acts. Smallholders had to wait until the 1901 extension of the 1879 Deccan Agriculturalists' Relief Act into Sind for any special consideration. Cheesman, *Landlord Power*, pp.189-195.

<sup>85</sup> Cheesman, *Landlord Power*, p.109.

<sup>86</sup> Untitled note by Dow, dated 16.03.1926, pr. 63, Dow Papers, MSS Eur E 371/2, B.L.

Peasants were not the only 'special class' to be considered. Reward grants to military servicemen had a proud tradition, especially in the Punjab, where 75,000 acres of land were reserved under the Sutlej Valley Project for military personnel who were natives of the Punjab or Delhi. In Sind, which was not an army recruiting ground, there were not enough potential grantees to justify such consideration.<sup>87</sup> Consequently the government set aside only 10,000 acres for servicemen, and even then on condition of full payment. Financial concessions would only be made in fulfilment of commitments made before the barrage had been sanctioned: these were free leases granted to ex-soldiers, which would now be converted into permanent grants. These amounted to another 9,000 acres.<sup>88</sup> Finally, a host of other possibilities for special grants was dismissed. Most notably, despite barrage officials' enthusiasm for all things 'progress', applications by private individuals for price concessions on large tracts of land to be used for special purposes – such as cotton-growing, cattle-breeding or fruit-farming – were to be discouraged. The history of these grants in other provinces made severe scrutiny of such proposals necessary, and the Revenue Officer was ordered to gain higher authorities' permission before sanctioning any application involving more than 500 acres, or asking for special price concessions.<sup>89</sup> Press calls for educated urban unemployed to be given farmland were also dismissed.<sup>90</sup>

So apart from two particularly favoured groups, Sindhi *zamindars* and peasants, concessions were to be severely limited. The possibility of fostering

---

<sup>87</sup> Untitled note by Dow, 16.03.1926, pr.12, Dow Papers, MSS Eur E 371/2, B.L.

<sup>88</sup> *Sind and the Lloyd Barrage*, pr.51.

<sup>89</sup> *Sind and the Lloyd Barrage*, pr.55. 500 acres was, as a rough rule of thumb, the dividing line between smallholders and largeholders. Cheesman, *Landlord Power*, p.55. It is unclear whether the 500 acre rule here was intended to prevent the establishment of new largeholdings without Government approval; but if this were the case, it would suggest that the colonial government was keen to regulate potential wells of political or economic strength on the land it was selling off.

<sup>90</sup> Dow to G. Wiles, Secretary to Government of Bombay, Finance Department, 06.03.1926, Dow Papers, MSS Eur E 372/2, B.L.

goodwill towards Government among diverse groups, and of rewarding loyalty, was negated by the need to recoup capital expenditure from sales receipts and to limit the amount of land allotted to classes believed to be less productive (and therefore less able to contribute revenue). The majority of land would be sold on the open market, usually by auction. The chief target demographic for land sales were Punjabi *zamindars* and peasants. Dow advised his seniors that:

it seems clear that it is to the Punjab that we must look for purchasers of our Barrage lands. The resources of the Sind zamindar will be for many years most profitably employed both to himself and Government, in bringing existing lands into cultivation under the new conditions.<sup>91</sup>

The importation of Punjabis followed lines laid down during the colonization of the Jamrao Canal project. It stemmed initially from the continued belief that Sind alone could not provide enough cultivators to farm the land irrigated by the barrage.<sup>92</sup> Furthermore, the prospect of too much easily available land might lure Sindhi *zamindars* and *haris* away from land already under cultivation. British officials' warm feelings towards Punjabis, considering them loyal, self-reliant and hard-working,<sup>93</sup> continued unabated. Indeed, they were even stronger now that Punjabi peasants had proved themselves in Sind on the Jamrao Canal command, where Sindhi peasants had fared badly.<sup>94</sup> Attempts to create Punjabi yeoman and capitalist-farmer classes on the Jamrao tract were, however, considered to have been a failure.<sup>95</sup>

The social control that officials considered necessary for the maintenance of order in an increasingly diverse agrarian cultural landscape was also reiterated in the Sukkur Barrage command: immigrant peasants were again to be grouped according

---

<sup>91</sup> Untitled note by Dow, 16.03.1926, pr.41.

<sup>92</sup> This concern was even expressed in the House of Lords. Untitled note by Dow, 16/03/1926, pr.42.

<sup>93</sup> Sarah Ansari, 'Punjabis in Sind: Identity and power', *International Journal of Punjab Studies* 1.2 (1995): 1-21, pp.6-8.

<sup>94</sup> Untitled note by Hugh Dow, 16.03.1926, pr.8, Dow Papers, MSS Eur E 371/2, B.L.

<sup>95</sup> Untitled note by Dow, 16.03.1926, pr.8.

to religion and caste. However, it is debatable how far this represented a conscious attempt at control, and how far it merely took cognizance of existing conditions. In 1928, Dow warned that scattered Government-owned land situated in Punjabi areas of the Jamrao and Nasrat tracts would have to be given out only to other Punjabis and not Sindhis. New colonizers should even originate from the same district of the Punjab as the local population of 20 to 30 years' standing, as otherwise "serious disaffection or even bloodshed" could well ensue.<sup>96</sup> The administration's policy of favouring certain groups with land grants, and especially of locating them together to form artificial demographic pockets, had of necessity become self-perpetuating. Indeed, the idea of imported communities forming natural units with which the government could form a separate relationship was reinforced in Sind, as across India, by communal organization. The Jamrao Sikh Association, for example, wrote to the Minister of Irrigation in Bombay and to the Chief Engineer in Sind about deficiencies in the canal's water supply. While the Chief Engineer vigorously denied the value of the Sikh Association's proposals for improving the supply, the Commissioner-in-Sind admitted the root of the problem to be the disappointing performance of the Jamrao Canal in general, which would be improved once the barrage was constructed. The fact that the Association's petitions provoked a response from the Government of Bombay, where petitions by individual Sindhi *zamindars* often received little attention, perhaps suggests that its communal status – and the fact that it represented the interests of a deliberately-imported immigrant group – accorded it more importance in official eyes than the numerous petitions forwarded by individual Sindhi *zamindars*.<sup>97</sup>

---

<sup>96</sup> Revenue Officer, Lloyd Barrage & Canals Scheme, to Commissioner-in-Sind Hudson, 12.12.1928, R.D. file 7770-18/l(e) of 1923, G.S.A.

<sup>97</sup> See Secretary to the Jamrao Sikh Association to the Minister of Irrigation, Government of Bombay, 27.10.1925; Secretary to the Jamrao Sikh Association to Chief Engineer in Sind, 11.11.1925; Under Secretary to the Government of Bombay, P.W.D., Irrigation & Railway to

Punjabi settlers were not the only group to lay claim to the government's special attention or to react unfavourably to incoming 'outsiders'. Sindhis, too, proved part of Governor Wilson's earlier prognosis accurate, by condemning what was already perceived as an anti-Sindhi land allocation policy. The *Times of India* noted in 1930 that Sindhi newspapers expressed vehement concern that the Government would lease large barrage areas to 'foreign syndicates'. "One paper", the article claimed,

scents an attempt on the part of cotton magnates "to exploit Sind as they do the Sudan," and another under the caption "Horrible if True," fears that "the land which belongs to the landless peasant" is to be snatched from him.<sup>98</sup>

The author of the article dismissed these fears, arguing that they were unrealistic given that only small, scattered pockets of land would be available. Moreover, the author refused to:

accept the definition of the more moderate of the Sind journals we have referred to above that "by the word foreigner we mean all non-Sindhis"; and it is hardly to be expected that such an interpretation will appeal to the people of this [*i.e.* Bombay] Presidency whose credit stands pledged for the repayment of the vast sums which are being expended on the Lloyd Barrage Scheme.<sup>99</sup>

Although this was a press opinion, and not an official one, the dismissal of Sindhis' fears about outsiders was characteristic of the British administration.

A note of caution should be sounded, however. Given the enthusiasm with which the barrage's planners treated the idea of importing Punjabis to work the land, it is perhaps surprising that figures revealing the extent and nature of 'foreign' immigration linked with the barrage have not been found. The statistical tables of the 1941 census do show that Districts whose population grew under barrage

---

Chief Engineer in Sind, 21.01.1926; Chief Engineer in Sind's memorandum, 21.01.1926; Commissioner-in-Sind Cadell to Secretary to Government, P.W.D., Government of Bombay, 21.05.1926, all in R.D. file 10329-9 of 1926, G.S.A.

<sup>98</sup> 'Agriculture and the Sukkur Barrage', *Times of India*, 21.06.1930, in Dow Papers, MSS Eur 372/2, B.L.

<sup>99</sup> 'Land in the Lloyd Barrage Area', *Times of India*, 05.05.1930, in Dow Papers, MSS Eur 372/2, B.L.

irrigation contained more speakers of Punjabi as a mother tongue than others. Nawabshah and Thar Parkar, for example, contained 271 and 444 Punjabi speakers respectively, while Dadu District contained only 41. Punjabi speakers, however, made up considerably less of the population than speakers of other 'foreign' languages, such as Baluchi and Gujarati.<sup>100</sup> Indeed, although most immigrants onto barrage land *per se* were Muslims, more Hindus than Muslims came into Sind as a whole after the barrage was completed: more Menghwards, Kolis, Bhils and Cutchies were entering the province from the east and south than Balochis, Punjabi Muslims, and Pathans from the west and north.<sup>101</sup> The importance of Punjabi immigration was, as on the Jamrao Canal, due as much to what it revealed about officials' perceptions of Sind and its irrigation projects as to actual demographic changes. The perceived link between Punjabis, modernization, and 'good agriculture' highlighted the rationalizing ethos of the project, but did not eclipse the administration's need to maintain political stability by appeasing 'indigenous *zamindars*'.

The formulation of land distribution policies, then, was overall a conservative exercise. It was intended to preserve the existing social order: to allow the barrage to push up agricultural productivity and the revenue gained thereby, while minimising social and political disruption to the governance of the province. Its most radical element – the forging of a more direct relationship between the government and peasants (both Sindhi and Punjabi), cutting out the *zamindar* middleman – was limited by the comparatively small number of acres made available for this purpose. A more significant, but perhaps less planned-for, effect was likely to be the importation of a large number of Punjabis into the province. This was largely motivated by financial necessity and the fear that Sind's indigenous

---

<sup>100</sup> Hugh Trevor Lambrick, *Census of India, 1941, Volume XII: Sind Tables* (Delhi: Manager of Publications, 1942), pp.78-77.

<sup>101</sup> Lambrick, *Census of India, 1941*, p.26.

population could not work all the new barrage land. This influx had a marked impact on Sindhi nationalism, by establishing a large group of 'outsiders' on land that Sindhis believed to be rightfully theirs. This was to take on great political significance after the great additional inflow of refugees from East Punjab into the Sindhi countryside after Partition in 1947.

## Conclusion

It would be disingenuous to claim that the story of the Sukkur Barrage was unique. While Sind officials made much of its 'revolutionary' status, the barrage project was not unusual in the wider context of colonial India. Even its chief technical feature, the provision of perennial supplies to a previously inundation-dominated region, had lagged almost fifty years behind parallel developments in the Punjab. Despite the increased codification and systematizing of Indian irrigation works after the establishment of the national and provincial P.W.D.s, Sind had lain on the outer fringes of the Indian empire's irrigation programmes, as well as its geography. This could seem surprising given the province's near-absolute dependence on canal irrigation for agriculture. Sind's overlords in both Bombay and Calcutta/New Delhi gave short shrift to major administrative or irrigation reforms, wary of incurring extra costs. Indeed the type of colonial authority at work was mediated through money matters: the provenance and use of money in the barrage project created vertical links that tied together the local, regional, national and Imperial levels of government. As has been suggested above, the system of Imperial rule expressed itself as fully in financial matters as it did in policy and planning matters, and engineering and financial issues were inextricable from each other. Thus the barrage had a presence in the committee minutes and balance sheets hundreds and thousands of miles away from the Indus plains; and influences were exerted over

the barrage's planning and construction from far beyond its geographical location. Control over the project had travelled far from its physical location.

However, whether revolutionary or not in the wider Imperial context, the barrage was very important in the province itself. It epitomized the idea of changing Sind 'for the better', which had found a frequent home in official writings throughout the nineteenth century. Similarly, the experimental work done on cotton-growing hints at some impetus to integrate Sind more fully into a commercial farming structure. The provincial government remained, however, singularly unwilling to meddle in the affairs of powerful *zamindars*, and risk angering their rural collaborators. In this sense, officials in Sind were caught in what Washbrook has described as the characteristic contradiction

between the *Raj's* role as colonial power and as agent of capitalist development. The colonial imperative dictated conservative policies aimed at preserving a stable 'Tradition'; the capitalist imperative dictated commitment to a social transition which threatened to undermine both colonial authority and core economic influence.<sup>102</sup>

It was not until the 1910s, under pressure from the Punjab's use of upstream waters, that Sind's engineers convinced higher authorities in India that something major must be done for Sind irrigation. Even then, it took the charged post-First World War political climate, plus an even more ambitious scheme, to gain London's approval.

The barrage was meant to transform Sind's landscape, to revolutionize its agriculture: to make one of the poorest, most backward provinces of India into one of the richest and most productive. Following the Jamrao Canal, it was meant to lay to rest the ghosts of over half a century's irrigational and agricultural stagnation, to finally make good on Napier's determination to show the province's people what they had to gain from British rule. Officials wanted to increase revenue receipts,

---

<sup>102</sup> David Washbrook, 'South Asia, The World System and World Capitalism', p.75.

provide the means to intensive perennial cultivation, and to secure the goodwill of Sindhi *zamindars*. Above all, it was meant to stamp the evidence of British power onto Sind's landscape, administration and financial processes. Once the project was underway, a new mood seems to have come upon officials both inside and outside Sind: the government, which had long been unable to challenge the rural magnates, now felt confident enough to forge a newly direct relationship with low-level cultivators, and to encourage an influx of Punjabis into the country.

However, colonization priorities still had to be carefully balanced. The possibility of 'buying off' Sindhi *zamindars* with land was limited by their perceived inability to work it effectively, and by the need to import Punjabis into the region to make up sales receipts. Every addition to Sind's political stability came at the price of cash not realized, and every endeavour to fill the state's coffers was the loss of a chance to politically strengthen the government. Thus, for political and financial reasons, the government was forced to allocate a great part of the benefits accruing from the barrage – in the form of irrigated, productive land – to those who were already doing very well out of colonial rule: Sindhi *zamindars* and Punjabi owner-cultivators. This phenomenon was greatly enhanced by the fact that the great majority of barrage land was already privately-owned, and so would at best merely enrich those who took the lion's share of agricultural wealth: again, Sindhi *zamindars* (and perhaps their creditors). For the non-*zamindari* element, the government turned chiefly to non-Sindhis. Thus, Sindhi *haris* and smallholders were left with a relatively small portion of the increased wealth that the barrage was expected to bring. The combination of financial and political necessity effectively undercut the reforming intentions that found expression in the grand rhetoric surrounding the barrage. As the next chapter will demonstrate, the uneven nature

of the 'progress' that the barrage brought about was to exert a continuing influence on the province until the end of the colonial regime and beyond.

## Chapter 3: From Empire to Nation: irrigation and governance during provincial upheavals

*“Take away the Barrage, and what would be the condition of Sind?”*  
-Mir Banehali Khan Talpur (1937)<sup>1</sup>

The Sukkur Barrage and its canals had a dramatic effect on Sind. As its builders had hoped, it did indeed do much to transform the province’s landscape, people, and agricultural economy. At the same time, during the 1930s and 1940s, three very important constitutional changes occurred in the way that Sind was governed. Firstly, the 1935 Government of India Act devolved much greater powers to provincial governments, and constituted elected provincial assemblies that had real power over certain areas of governance. Secondly, Sind was administratively separated from the Bombay Presidency in 1936, and constituted as a fully autonomous province with a governor and a provincial assembly. Thirdly, and most importantly, the British withdrew from India in 1947, leaving two sovereign nation-states behind, India and Pakistan. Sind formed part of the latter. Sind’s experience of these three changes was enmeshed with its experience of the Sukkur Barrage, and this chapter will show how the barrage played a crucial role in the politics of the day. It will also demonstrate that the colonial ideas of material progress and governance were undergoing a subtle transformation that allowed them to be re-deployed after the 1947 Partition as a discourse of ‘nation building’.

The new irrigation system had a rapid effect on Sind. In 1931-1932, the total cultivated area in the province had been approximately 3m acres, of which 2m lay in what would become the barrage zone once the project was completed. By 1937-1938, the cultivated area outside the barrage zone remained 1m acres, while more

---

<sup>1</sup> *Proceedings of the Sind Legislative Assembly* [henceforth “SLA”] II:7 (10.08.1937), p.29.

than 3m acres were cultivated in the barrage area alone.<sup>2</sup> Urban growth in 'young towns' in the barrage area, especially Nawabshah and Mirpurkhas, eclipsed even that of Karachi. Their growth was partly driven by the movement of Hindus from villages and small towns into trade centres, from which they could manage the agricultural transit trade resulting from barrage cultivation: the areas growing cotton and wheat almost trebled and quintupled respectively after barrage waters began to flow. At the same time, urbanized Muslims tended to move out of towns and take up smallholdings on barrage land.<sup>3</sup>

Population growth in *talukas* served by the new irrigation system was astonishing. In Tando Allahyar *taluka* of Hyderabad District, which had previously been ill-served by inundation canals, the barrage -fed Nasir Branch had prompted a 50% growth in the population between 1931-41. Dero Mohbat *taluka*, in the same District, grew by 62%, for similar reasons. By contrast, Hyderabad District *talukas* outside the barrage zone fared much worse. Guni and Badin, for example, respectively remained stationary and declined by 12%. The most rapid growth under barrage irrigation was in Thar Parkar District, where the population increased overall by 24%, by far the highest in British Sind. Parts of Larkana, Nawabshah, and Upper Sind Frontier Districts also gained population under barrage irrigation, with only Dadu District failing to grow. Khairpur State, with a population increase of 35% between 1931-1941, was by far the biggest gainer in population terms. Here barrage irrigation, coupled with improved governance, had re-attracted many people who had previously left the State for British Sind.<sup>4</sup> These figures alone cannot give a satisfactory picture of the effect of the Sukkur Barrage on Sind, but they suggest changes in conditions that affected the way in which the state related

---

<sup>2</sup> Hugh Trevor Lambrick, *Census of India, 1941, Volume XII: Sind Tables* (Delhi: Manager of Publications, 1942), p.5.

<sup>3</sup> Lambrick, *Sind Tables*, pp.15-26.

<sup>4</sup> Lambrick, *Sind Tables*, pp.41-42.

to the people. Alongside such demographic evolution, the new irrigation system facilitated the taking up of colonial ideas about human dominance over nature and the state's role in agrarian society to by Indians. It therefore provided a means by which the colonial concept of material progress could be incorporated, as the *Raj* fell and an independent Pakistan emerged, into ideas about 'nation-building'.

### **The Sukkur Barrage and Sind's constitutional status**

In the discussions about Sind's status within British India that dominated the province's public life in the 1920s and 1930s, Sind and the barrage became inextricably entwined, due to the project's massive cost on the one hand, and the force with which Sindhis forecast its beneficial effects on the other. By seeking to link the barrage to Sind's status, the administration perhaps further enhanced its importance in discussions about Sind's present and future. An important component in these discussions was the idea of material progress, and its power to re-make Sind, which arose repeatedly in connection with the barrage, in the context of demands for Sind's separation from the Bombay Presidency. Demands for separation had previously been voiced by Karachi's predominantly Hindu merchants, but now, against the backdrop of increasing communal tensions across the subcontinent, Sindhi Hindus were wary of losing the protection of Hindu-dominated Bombay, while the Muslims who formed the province's demographic majority wished to assert greater control in their home territory.<sup>5</sup> The communal angle to the separation demand was emphasized by the All-India Muslim League's adoption of separation as a country-wide campaigning issue in 1925. These debates

---

<sup>5</sup> On the background to the separation debate, see Allen Keith Jones, *Politics in Sind, 1907-1940: Muslim identity and the demand for Pakistan* (Oxford: Oxford University Press, 2002), pp.16-27; Hamida Khuhro's 'Introduction' in her edited collection of contemporary documents on the separation campaign, *Documents on Separation of Sind from the Bombay Presidency*, 2 vol.s (Islamabad: Institute of Islamic History and Civilization, 1982-1987).

confirmed the key position that the Sukkur Barrage already held in Sindhi understandings of how their province functioned. They also demonstrated that Sind's socio-political elite shared, to an important degree, British officials' views that the barrage system was a force for moral and material good.

Articulating this attitude to press for separation, Mohammed Ayub Khuhro, a prominent Sindhi *zamindar*-politician and later provincial Chief Minister, asserted in a 1930 pamphlet that the Sukkur Barrage was "the greatest irrigation scheme in the world," and that Sind was "honour bound to accept responsibility for its success or failure."<sup>6</sup> In echoing the rhetoric of the foundation stone ceremony, which would re-appear when the barrage was opened in 1932, Khuhro accepted that the project was a positive development for Sind, and went further in claiming that the scheme had become inextricably entangled with Sind's existence as a self-conscious entity. This attitude had been foreshadowed two years earlier by Jamshed R. Mehta, the President of the Karachi Municipality and a prominent Parsi politician, banker and financier. In 1928 Mehta had asserted that "the separation means the progress of the Province in health, sanitation, education and prosperity of the whole country. One strong Province, educated and healthy, is a source of power to the whole nation." Having established that the barrage was beneficial, Mehta went on to argue that Sind alone could manage the project, without Bombay's help: "May I venture to ask if the land is going to fetch more price, or nature going to bless it with more luxuriant crop if the Barrage is managed by Bombay and not by Sind? What Bombay can do, Sind can. [...] All that has to be done is that in the Ledger of the Government of India, on the page of Sukkur Barrage account," the debtor should be entered as "Sind Provincial Government" rather than "Bombay Provincial Government". This was intended to repudiate claims made by Sindhi Hindus that

---

<sup>6</sup> Hamida Khuhro (ed.), *Documents on Separation of Sind from the Bombay Presidency*, vol.1 (Islamabad: Institute of Islamic History and Civilization, 1982), p.29.

the barrage was too big a project for Sind's financial and administrative capacity: that the barrage project tied Sind irrevocably to Bombay.<sup>7</sup> Progress, in Mehta's view, could be managed as easily by Sind as by Bombay.

Similarly Syed Mohammad Shah, a Muslim member of the 1928 Royal Statutory Commission on Land Reforms, argued that separation would help Sind to develop its infrastructure, which he claimed that Bombay had neglected. The Commission found against the separation, but Shah claimed in a dissenting minute that "No sincere effort has been made to develop the country except lately by the construction of the Barrage," simultaneously accepting the barrage as a step towards development, and expressing scepticism about Bombay's inclination to take further steps.<sup>8</sup> The Commissioner-in-Sind had, in 1920, hoped the barrage would produce a 'beneficial effect' on 'agitators' in Sind,<sup>9</sup> but clearly the Indians' appetite for material progress demanded more.

Those who argued against separating Sind from Bombay agreed that the barrage had already, while still under construction, become a defining feature of Sind. Instead of viewing this as an opportunity for Sindhis to prove their mettle, however, they argued that the scheme's size, expense and complexity required Bombay's active involvement. "The very success of a big scheme like this requires an experienced administration," claimed the deputation sent by the All-Sind Hindu Association to the 1928 Commission on Land Reforms. "Judging from the proceedings of the Bombay Council, the Sind zamindari element is likely to predominate in the Sind Council and will not allow sale of land on commercial principles which will be, really speaking, very necessary for the success of the project." The deputation's spokesman, Professor H.L. Chablani, a Delhi-based

---

<sup>7</sup> Khuhro (ed.), *Documents on Separation*, p.252.

<sup>8</sup> *Ibid.*, p.167.

<sup>9</sup> 'Memorandum by the Commissioner-in-Sind', dated 14.07.1920, pr.5, enclosed with Shourbridge to Secretary to Government of India P.W.D., 30.07.1920, IOR/P/10797, B.L.

economist and Hindu Mahasabhite, emphasized his point by questioning Sindhis' ability to utilize "scientific irrigation", which required "that the administration must be free of popular pressure." This statement implied concurrence with the almost universally-held view among officials that democratic governance would be positively detrimental to Sind's material and moral progress because Sindhis themselves were backward: in this case, particularly Sindhi (Muslim) *zamindars*. As such, Chablani deployed the imperatives of financial responsibility and the efficient development of agriculture as restraints on the evolution of administrative and political arrangements that were more responsive to popular pressure. Chablani also claimed – contrary to Shah's dissenting minute – that Sind would not be able to bankroll further railway and road construction, which would be needed to move increased crop yields from field to market.<sup>10</sup>

The intertwined issues of the Sukkur Barrage and the call for separation also impacted on all-India nationalist politics, showing that the building of the barrage had political repercussions entirely different from those imagined by the Sind administration. In this context, 'progress' meant devolved political control as much as increasing material wealth, but the implications of such devolution on the material progress of the province were not lost on British officers or Indian politicians. A committee appointed by the 1928 Congress-led All Parties Conference and chaired by Motilal Nehru, which was tasked with considering the separation of Sind, concluded that separation was not financially viable, especially since revenue income from the barrage was expected to be mortgaged against the debt incurred in building it until at least 1965, and so could not be used to support an autonomous Sind. Material progress, in this picture, had not advanced far enough to form the financial basis for political autonomy for Sind.

---

<sup>10</sup> Khuhro (ed.), *Documents on Separation*, p.136.

Soon afterwards, separation re-surfaced in the dialogue between Indian and British representatives at the Round Table Conferences, which were convened in London in 1930-1931 to discuss constitutional reforms in India. Debates there about separation revealed much about how Sindhis and British officials viewed the barrage scheme's relationship to Sind's governance. A subcommittee was formed to determine the desirability or otherwise of separating Sind from Bombay, which took the Government of Bombay by surprise. Sir Frederick Sykes, the Governor, wrote to Lord Birkenhead, the Secretary of State, of his dismay at this in January 1931. Sykes warned Birkenhead that, while losing Sind would be a financial relief to Bombay, the former was an unproductive province and the Government of India would be left to finance its deficits. Moreover, he wrote, echoing his predecessor Wilson, allowing Sindhis to dominate the hypothetical new province entirely would lead to a "risk that [a] policy of Sind for Sindhis will lead to [the] exclusion of immigrant cultivators from Punjab to take up lands, which would still further increase the burden and possibly render the scheme unproductive".<sup>11</sup> Sykes wrote of officials' well-established concern that Sindhis would not farm the land effectively, thereby not earning money that could be taxed, and leaving the government without increased revenues to compensate for the debt incurred in building the barrage and renovating the canals. Devolution of provincial power onto Sind, and more particularly onto Sindhis, thus appeared to threaten the financial basis of the barrage scheme, and fail to fulfil the promise of material progress, which had been expected to manifest as improved crop yields.

That the barrage project's financial implications formed the primary battlefield for the separation debates was key, because it demonstrated a remarkable consonance of perspective among officials and Sindhi politicians.

---

<sup>11</sup> Telegram, Governor Sykes to Secretary of State for India Benn, 14.01.1931, Sykes Papers, MSS Eur F 150/3, B.L.

Arguments made by adversaries such as Khuhro and Chablani accepted wholesale the idea of the barrage as a matter for Sindhis: there was no question of disowning a project that the foreign British colonial administration had imposed on the province, without prior consultation. The scheme's financial and political meaning for the province was contested, with anti-separationists asserting that the expense of the scheme effectively tied Sind to its Bombay overlord; and, as Chablani argued, the assumption was common that the dominant forces in rural Sind were insufficiently 'advanced' to make efficient use of the new irrigation system. This in turn redeployed the view, examined in Chapters 1 and 2, that Sindhi *zamindars* and cultivators were 'backward', and would have lasting implications for the way that the Sukkur barrage's successor projects after Independence were handled.

Tellingly, all parties agreed that the barrage represented progress in Sind. This can be partly explained by the fact that the Gandhian anti-colonial struggle, which emphasized the need to preserve or reclaim indigenous lifestyles and technologies,<sup>12</sup> had little influence in Sind, where post-Khilafat Muslim politics focussed on specifically Sindhi issues such as the separation, while Sindhi Hindu politics was more closely aligned with the All-India Hindu Mahasabha than the Congress.<sup>13</sup> That the Sukkur Barrage was fundamentally a good thing was taken for granted. A further question mark hung over the issue of whether or not the barrage represented *sufficient* progress, but this was a subsidiary issue. Sindhi politicians

---

<sup>12</sup> Gandhi's envisioning of an India in which 'the village' formed the centre of social, commercial, and industrial life provided a powerful set of symbols for mobilizing peasants and 'traditionalists', but contrasted sharply with the planned-industrialization model favoured by Jawaharlal Nehru and Subhas Chandra Bose. Nehru made this the basis of postcolonial development while he was the Prime Minister of India between 1947-1964. See Bidyut Chakrabarty, 'Jawaharlal Nehru and Planning, 1938-41: India at the crossroads', *Modern Asian Studies*, 26:2 (May 1992): 275-287. See also Partha Chatterjee, *The Nation and its Fragments: Colonial and postcolonial histories* (Princeton: Princeton University Press, 1993), ch.10, on the way in which economic planning, and a 'developmental ideology', formed one of the key bases of the postcolonial national state under Nehru.

<sup>13</sup> See Allen Keith Jones, *Politics in Sindh, 1907-1940: Muslim identity and the demand for Pakistan* (Karachi; Oxford: Oxford University Press, 2002), esp. ch.s 2-3.

shared the dominant official conception of material-moral progress that had driven the construction of the barrage, and official representations of the project's meaning.

### **Separation granted: agriculture and the legislature**

The work done by the Round Table Conferences culminated in the passing of the 1935 Government of India Act, which introduced a new constitution into India. It also laid the ground for the 1936 separation of Sind from Bombay Presidency, which the Conferences had approved. Sind's constitutional status remained a recurring concern for officials, however, and the financial status of the barrage project remained important. Moreover, Sind's burgeoning political class, given a legislative voice by the Act's provisions, entered into lively debates about the barrage, especially the way that it was managed and used as the basis for an increase in the land tax by the administration. In this context, the barrage's hitherto unchallenged 'beneficial effects' came to be questioned. With close Sindhi involvement in day-to-day governance and the operation of the irrigation system, however, arguments for the barrage as the basis for material progress continued to be taken up by Sindhis themselves, who took on much of the worldview of colonial administrators, along with the latter's responsibilities of government.

Government was not, however, delivered wholesale into Indian hands in 1935, and the retention of special powers for the barrage by the Governor meant that the British still controlled one of Sind's defining features. Tomlinson has argued that the 1935 Act, responding to the still-reverberating political consequences of India's sacrifices in World War One and the Imperial crisis caused by the world economic depression in the early 1930s, effected a British strategy of abandoning

the provinces and retreating to entrenched positions in the central government.<sup>14</sup> Yet the British retreat left a substantial rearguard in action, in the form of a special power devolving on the provincial governors under Section 52(2) of the 1935 Act, which allowed them to take executive action when the stability of a province was at stake. In Sind, matters connected with the barrage were considered to be so important that this provision applied, because the financial success of the barrage scheme was integral to the provincial government's ability to function. The question of Sind's ability to 'stand alone' may have been resolved in favour of separation, but this did not mean that Sindhis themselves were to be let far off the leash.

Indeed, the centre was perhaps wise to insist on maintaining control over matters related to barrage finances. Sindhis' enthusiasm for the project while it was under construction waned somewhat when the project's 'completion' left more complications than the pro- barrage rhetoric of the 1920s and early 1930s had suggested, and now the barrage was only occasionally touted as a panacea for the province's ills.<sup>15</sup> Members of the new Legislative Assembly raised matters relating to the barrage on the house floor, and attacks on the way in which the barrage was administered could serve as attacks on the incumbent ministry by its opponents. Members complained that malaria had worsened after the barrage had impeded the natural flow of the river and created pools of stagnant water;<sup>16</sup> that the *zamindars*

---

<sup>14</sup> B.R. Tomlinson, *The Indian National Congress and the Raj, 1929-42* (London; Basingstoke: Macmillan, 1976), p.137.

<sup>15</sup> In one imaginative example, M.A. Khuhro suggested to the Legislative Assembly that the unemployed among Sind's educated young men should make themselves useful by doing manual work on Barrage land. People from the Punjab and the Bombay Presidency came to farm as peasants in the Barrage zone, so why should educated Sindhis not do the same? *SLA* III:14 (17.03.1938), pp.61-62.

<sup>16</sup> *SLA* V:13, (02.06.1938), pp.2-6.

of Lower Sind had lost their share of water to the new lands upstream;<sup>17</sup> that the barrage canals suffered from a deficiency of water;<sup>18</sup> and that other improvements in Sind's infrastructure lagged behind irrigation development.<sup>19</sup> Concerns were raised about the barrage's impact on the province's agricultural patterns, and some resistance was displayed to the displacement of gardens and other 'non-productive' uses of water in favour of the production of cash-crops such as cotton.<sup>20</sup>

Outside the Assembly's formal proceedings, the Sinjhor Taluka Zamindari Association passed a resolution in 1935 condemning the Lloyd Barrage Revenue Officer for 'unlawful' conduct towards *zamindars* whose revenue payments had fallen into arrears, although the allegations were withdrawn when the Association failed to produce evidence to support their claims.<sup>21</sup> Back in the Assembly, the project's financial performance was also criticized, especially when open auctions of land appeared not to attract as many buyers as had been anticipated.<sup>22</sup> Moreover, the land that it had opened up for cultivation was considered over-priced and affordable only to established big *zamindars*.<sup>23</sup> The sincerity of the government's intention that the barrage should help Sindhis was also questioned, as one member accused the Secretary of State of keeping the interest on barrage debt high for the benefit of bondholders in London, at the expense of the ordinary Sindhis whose revenue payments went towards servicing the debt.<sup>24</sup> Such criticisms, however,

---

<sup>17</sup> *SLA* III:12 (11.03.1938), pp.27-31. This was a recurring theme, and in August the Minister for Irrigation, Mukhi Gobindram Pritamdas, denied the claim advanced by other members that the government had promised compensation to the *zamindars* of lower Sind. *SLA* II:6 (09.08.1938), pp.30-36.

<sup>18</sup> *SLA* III:13 (12.03.1938), pp.5-9.

<sup>19</sup> *SLA* II:7 (10.08.1937), p.50.

<sup>20</sup> *SLA* V:12 (01.06.1938), pp.20-32.

<sup>21</sup> Copy of Resolution no. 13 passed the General Body of the Sinjhor Taluka Zamindars' Association, 12.07.1935; M.H. Gazdar, Member of Bombay Legislative Council, to Revenue & Finance Member, Government of Bombay, 08.08.1935, R.D. File 93/25 of 1935, G.S.A.

<sup>22</sup> *SLA* III:9 (08.03.1938), p.3.

<sup>23</sup> *SLA* I:2 (28.04.1937), p.101.

<sup>24</sup> *SLA* II:5 (05.08.1937), p.48.

were levelled at the way in which the barrage altered life for Sindhis, and did not amount to a fundamental questioning of the principle of material progress.

Instead, material progress remained an important ideal, and the barrage also had its defenders in the Assembly. Chief Minister G.H. Hidayatullah answered criticisms by arguing that wheat cultivation had increased nearly fivefold, showing that plenty of water was available, and that people were still anxious to buy up barrage land.<sup>25</sup> Mir Bandehali Khan Talpur, a big *jagirdar* of Hyderabad and Dadu Districts, and the leader of the important 'Mir-Baloch' bloc in the Assembly (who supported Hidayatullah's Ministry at the time) asked the House: "Take away the Barrage, and what would be the condition of Sind?"<sup>26</sup> The unspoken implication was that Sind relied on the barrage for those advances that had been made in its material wealth. That Sindhi members of the government were defending the barrage, and the vision of a more prosperous Sind that it embodied, demonstrated that colonial ideas of progress remained in circulation among Indians.

Such support did little to encourage the executive, however. Sir Lancelot Graham, the first Governor of separated Sind, remarked gloomily on the trouble caused by Sindhi complaints about water-course charges, the collection of land revenue arrears, and the collection of instalments in payment for the purchase price of barrage land. The Sindhi *zamindars*, he wrote, were made confident in these complaints by their dominance of the Assembly.<sup>27</sup> Shortly afterwards, he was prepared to tell the Viceroy that the administration had been "conspicuously disappointed" in hoping that "the native of Sind [...] would eagerly avail himself of the new opportunities for amassing wealth" presented by the barrage. Land sales had already fallen off by 1939, especially after a drop in cotton prices, which left

---

<sup>25</sup> *SLA II:7* (10.08.1937), p.23

<sup>26</sup> *SLA II:7* (10.08.1937), p.29.

<sup>27</sup> Governor Graham to Viceroy Linlithgow, 06.03.1938, Linlithgow Papers, MSS Eur F 125/93, B.L.

many *zamindars* without the spare capital to put down a deposit. Even those Sindhi *zamindars* who had already bought land had done little to develop it.<sup>28</sup> The reality of the barrage was far less happy for both government and *zamindars* than had been predicted during the heady days of its construction and opening.

The political problems posed by the new barrage became focussed on one particular issue in 1938-1939, which would demonstrate how important it was to the central government to retain bureaucratic control over the barrage's financial aspects. Opposition benches in the house came into furious conflict with both the executive and the ministerial benches in the legislature, over a report produced by the Settlement Officers for the Indus Left and Right Bank Divisions. This report recommended that assessment rates on barrage land ought to be raised, much to the dismay of the *zamindars* in the Assembly. The ensuing conflict demonstrated not only that the Government of India Act was proving a success for the colonial administration, in that it drew Indians themselves into defending the government's actions, but also that Sindhis were fully aware of the barrage's pivotal role in their agrarian economy. They realized that the government's policies regarding the barrage and the land that it irrigated were crucial to the way in which the province was governed. This lent the debates an importance beyond its absorption into the communal and factional conflicts that then dominated the Assembly.<sup>29</sup> Indeed, the following discussion will show how debates about land revenue rates challenged the details of government policy, but not the teleology of material progress.

Historical accounts of Sindhi politics during this period have tended to focus on its factionalism, and ask how far Sind fitted, or did not fit, into the wider Indian

---

<sup>28</sup> Governor Graham to Viceroy Linlithgow, 15.03.1939, Linlithgow Papers, MSS Eur F 125/95, B.L.

<sup>29</sup> The communal angle is emphasised by Hamida Khuhro in her biography of her father, *Mohammed Ayub Khuhro: A life of courage in politics* (Lahore: Ferozsons (Pvt) Ltd, 1998, pp.155-168.

politics of the time.<sup>30</sup> The riots at the Masjid Manzilgah in Sukkur have been taken up by Khuhro, for instance, as an example of the increasingly communal tinge to politics – both legislative and popular – in Sind, in concurrence with trends across India.<sup>31</sup> These perspectives, however, have excluded the considerable controversy that could arise over everyday local matters such as the revision of assessment rates, even though this demonstrated the way in which Sindhi politicians actively engaged with the most significant issues in the countryside as well as pursuing personal power. Since the matter was protracted and complicated, a few paragraphs will set out the main events, and the debates between ministers and officials, before the remainder of this section examines how these reflected and influenced the relationship between the barrage, agriculturalists, and the legislative and executive arms of the state, showing their implications for how the concept of material progress was deployed to political effect.

This conflict, which remained prominent in the politics of the legislature between 1937-1939, focussed on the question of whether land assessment rates (which included water charges in Sind) should be raised when the first temporary settlement ran out in 1937. Constitutionally this was a matter to be dealt with by officials under the Land Revenue Code, but the government nevertheless agreed to listen to the Assembly's views on the topic. This had become one of the Congress's chief demands in Sind,<sup>32</sup> in keeping with its argument throughout British India that land revenue was already too high.<sup>33</sup> The price for material progress, as Congress would have it, should not have been paid by *zamindars* and peasants. Feelings became so inflamed over the course of the following two years that senior figures in

---

<sup>30</sup> See, for example, Jones, *Politics in Sindh*.

<sup>31</sup> Hamida Khuhro, 'Masjid Manzilgah, 1939-40. Test case for Hindu-Muslim relations in Sind', *Modern Asian Studies* 32:1 (1998): 49-89.

<sup>32</sup> *SLA* II:5 (07.08.1937), p.30.

<sup>33</sup> Governor Graham to Viceroy Linlithgow, 07.03.1938, Linlithgow Papers, MSS Eur F 125/93, B.L.

both the All-India Muslim League and the All-India Congress Party eventually became involved. Governor Graham asserted that settlement revision in barrage areas, for securing the proper administration of the Sukkur Barrage and Canals Project, fell under his special responsibility for the stability of the province under Section 52(2) of the Government of India Act. Yet he was aware of the difficult political balance maintained between Indian groupings in the new ministries, in Sind and elsewhere. If he could not get his ministers' agreement to a rise, he wrote to Viceroy Linlithgow, and had to force through an increase against their wishes, "I may provoke a political crisis which will not be limited to Sind".<sup>34</sup> The new conditions imposed by the barrage therefore had the potential to destabilize the colonial administration's authority on a wider scale, at least in Graham's estimation.

The Viceroy agreed that Graham could legally invoke his special responsibility in this case, as did the Government of India's legal and constitutional advisers. In keeping with his conservative and unbending nature, Linlithgow emphasized to Graham that political considerations could not be allowed to endanger financial stability.<sup>35</sup> Increasing the rates was crucial, as the Viceroy reminded the Governor: a moderate rise would allow the barrage to serve its own debt, cover a fall in subsidies received from the centre, and leave a big surplus for Sind's own use and development, "leading eventually to Sind being comparatively one of the wealthiest and most fortunate of the provinces".<sup>36</sup> Graham concurred in

---

<sup>34</sup> Governor Graham to Viceroy Linlithgow, 05.06.1937, IOR/L/PJ/5/251, B.L.

<sup>35</sup> On Linlithgow's rigidity, see Hugh Tinker, *Viceroy: Curzon to Mountbatten* (Karachi: Oxford University Press, 1997), ch. 9.

<sup>36</sup> Viceroy Linlithgow to Governor Graham, 02.02.1938, IOR/L/PO/1/57, B.L. Only five days later, Linlithgow wrote to Lord Zetland, the Secretary of State, professing to be mystified that the idea, raised both at the Sind Conference of 1932 and the Sind Administrative Committee of 1934, to avoid political difficulties in this regard by applying an automatic graduated scheme whereby assessment would vary in relation to prevailing crop prices, had not been pursued earlier. It would now, he opined, be difficult to revert to it, and it looked as though Graham was heading for political embarrassment over the rates rise Viceroy Linlithgow to Secretary of State for India Zetland, 10.06.1937, IOR/L/PJ/5/251, B.L..

this sentiment, writing that “the real purpose of the Barrage will not be fulfilled unless we get a pronounced improvement in the general level of cultivation”, which would increase the wealth of both *zamindars* and Government.<sup>37</sup> Building the barrage had fulfilled the promise of material progress only in part, then; more work was required to make it a reality.

However, many junior officials did not feel that raising the assessment rates was the best method of achieving this. In early 1938, Graham reported that the majority of I.C.S. officers in Sind felt that rates of assessment should remain static while cotton prices were low. Even this concession would not be enough for the Sind Congress, however, which wanted a reduction in rates.<sup>38</sup> The large number of Punjabis now resident in the barrage area was expected to cause additional complications, judging as they would the revenue rates and other agricultural conditions by those prevailing in the Punjab as well as in Sind.<sup>39</sup> Accusations of incompetence and malpractice continued to be levelled against the government by Sindhis, including in one case that the P.W.D.’s estimates for barrage rates were maintained at an artificially high level in order to allow government subordinates to extract bribes from *zamindars*.<sup>40</sup>

As the matter dragged on, the Sind Revenue Department argued that assessments on barrage land had been, and would still be, deliberately fixed well below the 30% to which Government considered itself entitled (according to their interpretation of the pre-colonial state’s ‘customary’ share of agricultural yields) “because the methods of post-Barrage cultivation [had] not yet been fully learnt and developed”.<sup>41</sup> Moreover, the revised settlement would apply for only a five-year

---

<sup>37</sup> Governor Graham to Viceroy Linlithgow, 23.07.1937, IOR/L/PJ/3350/37, B.L.

<sup>38</sup> Governor Graham to Viceroy Linlithgow, 08.03.1938, IOR/L/PO/1/57, B.L.

<sup>39</sup> Viceroy Linlithgow to Governor Graham, 16.06.1937, IOR/L/PJ/5/251, B.L.

<sup>40</sup> SLA III:11 (10.03.1938), pp.58-60.

<sup>41</sup> Government of Sind R.D. Resolution No. Rev-5180, 15.07.1938, pr.10, IOR/L/PO/1/57, B.L.

term. In July the Ministry in Sind, a cross-party coalition led by Allah Baksh Soomro that included Hindu and Muslim members but excluded the Muslim League and the Congress, accepted the principle of a sliding scale of assessment based on prevailing prices. The Ministers had been brave in the face of hard facts, wrote Sind's Chief Secretary in his fortnightly report to the Viceroy's office (which was also usually seen by the Sind Cabinet), but now faced the wrath of the Congress.<sup>42</sup> The Government of Sind remained in close touch with the Viceroy, even as agitation against the Government's orders continued, with Assembly members particularly indignant about not having been consulted before the order to raise the rates was issued.<sup>43</sup>

Graham tried hard to avoid using his special powers, on the basis that it would be politically preferable for the ministry itself to overcome opposition to the rise, rather than for the Governor to lay himself open to charges of behaving autocratically. The ideal thing from the administration's point of view would be for the ministers to take responsibility for a raise in revenue rates, and therefore to defend the provincial government's operation of the barrage scheme on the lines laid down by the Government of India. While Graham was on leave during August, the Acting Governor, J.H. Garrett, reported that Acharya Kripalani, a Sindhi Hindu who operated in the All-India Congress, had tried to persuade Allah Baksh to use the rates issue to force the Governor to use his special powers. Allah Baksh stood his ground, and insisted that the Ministry took full responsibility for the rise, and that there was no need to involve the Governor.<sup>44</sup> Shortly afterwards Vallabhbhai Patel, the Chairman of the Congress Parliamentary Board, whose additional responsibilities

---

<sup>42</sup> Chief Secretary to Government of Sind's fortnightly report for the first half of July 1938, 19.07.1938, IOR/L/PJ/5/253, B.L.

<sup>43</sup> Chief Secretary to Government of Sind's fortnightly report for the second half of July 1938, 04.08.1938, IOR/L/PJ/5/253, B.L.

<sup>44</sup> Acting Governor Garrett to Viceroy Linlithgow, 25.08.1938, IOR/L/PJ/5/253, B.L.

included direct charge of Congress's parliamentary affairs in Sind, declined to find fault with the new rates.<sup>45</sup>

Within a week, however, the Sind Congress Parliamentary Committee threatened the Chief Minister that, unless the revision in rates was postponed for one year, the Congress would not oppose any no-confidence motion against the Ministry that might be brought in the Assembly.<sup>46</sup> In October Lord Brabourne, acting as Viceroy, predicted to the new Secretary of State for India, Lord Zetland, that Allah Baksh's Ministry was unlikely to survive long, despite Jinnah's failure while attending the Sind Provincial Muslim League conference in Karachi in October to persuade the incumbent ministry to resign in favour of a purely Muslim League ministry. A successor ministry, Brabourne went on to comment, would probably be found only if the revision were postponed for a year.<sup>47</sup> However, the ministry survived and Graham, on returning from leave, took a bullish attitude towards the Congress, and inspired the same in his Chief Minister.<sup>48</sup>

A no confidence motion against Allah Baksh's ministry was indeed moved in the Legislative Assembly in early January 1939.<sup>49</sup> The motion was debated on 10 January, and failed; the attack on the Ministry had, as Graham put it, "fizzled out".<sup>50</sup> But the question of the barrage revenue assessment had not been resolved, and Allah Baksh threw it open to debate in the Assembly on 25 January. During the following week, Allah Baksh made a generous offer to the Assembly regarding remissions on cotton assessments if cotton prices fell below a certain point, which

---

<sup>45</sup> Acting Governor Garret to Viceroy Linlithgow, 31.08.1938, IOR/L/PJ/5/253, B.L.

<sup>46</sup> Acting Governor Garret to Viceroy Linlithgow, 07.09.1938, IOR/L/PJ/5/253, B.L.

<sup>47</sup> Acting Viceroy Brabourne to Secretary of State for India Zetland, 22.10.1938, IOR/L/PJ/5/253, B.L.

<sup>48</sup> Governor Graham to Viceroy Linlithgow, 09.12.1938, IOR/L/PJ/5/253, B.L.

<sup>49</sup> Governor Graham to Viceroy Linlithgow, 04.01.1939, Linlithgow Papers, MSS Eur F 125/95, B.L.

<sup>50</sup> Governor Graham to Viceroy Linlithgow, 13.01.1939, Linlithgow Papers, MSS Eur F 125/95, B.L.

Graham refused to countenance; Allah Baksh backtracked and proposed a more realistic programme for rebates.<sup>51</sup> Finally Graham's orders, imposing the recommended revision of assessment rates, were published on 1 March.<sup>52</sup> During subsequent political manoeuvrings, the Barrage Revision Settlement rates were understood by all to be non-negotiable,<sup>53</sup> but the question of barrage finance recurred often, especially in the form of demands that Sind's barrage debt to the Government of India be cancelled, reduced, or the terms of repayment eased.

The extended deadlock over rates revision confirmed the concerns commonly held by British officials about Sindhis' ability to guide their own 'progress' towards increased productivity and prosperity. Raising the revenue assessment was pressed by engineers in Sind as an incentive to *zamindars* to get more out of their land, on the assumption that they would be stimulated to produce more, in order to leave a wider margin of profit after the assessment had been paid.<sup>54</sup> This spoke to the assumptions that had dominated planning of the Sukkur Barrage and its canals, especially the plans laid by Hugh Dow as Colonization Officer: that Sindhis would need to be induced to change the way they practised agriculture, in order to fully utilize the opportunity for development presented by the new perennial canal system.

Dow's confidence that removing the uncertainty of inundation cultivation would lead to 'improved' attitudes among *zamindars* and *haris* had been balanced by recognition that old habits were unlikely to die easily. The idea of stimulating increased production through financial mechanisms, and indeed the very

---

<sup>51</sup> Governor Graham to Viceroy Linlithgow, 01-02.02.1939, Linlithgow Papers, MSS Eur F 125/95, B.L.

<sup>52</sup> Governor Graham to Viceroy Linlithgow, 06.04.1939, Linlithgow Papers, MSS Eur F 125/95, B.L.

<sup>53</sup> Governor Graham to Viceroy Linlithgow, 01.04.1939, Linlithgow Papers, MSS Eur F 125/95, B.L.

<sup>54</sup> Governor Graham to Viceroy Linlithgow, 23.07.1937, IOR/L/PJ/5/251, B.L.

reservation to the Governor of special authoritarian powers, was based on the belief that administrative intervention into cultivation must accompany mechanical intervention into environmental conditions. Similarly, the Agricultural Department had made pedagogical interventions during the 1920s and 1930s by issuing a series of leaflets to *zamindars*, which explained about improved varieties of cotton recommended for growing in Sind, instructions for growing *rabi* oil seeds in barrage areas which had not previously been guaranteed a *rabi* crop, and the proper irrigation of field crops in barrage and non-barrage areas of Sind. *Zamindars* were also encouraged to visit the Government seed farm at Mirpurkhas to see research into and demonstrations of agriculture under the new barrage conditions.<sup>55</sup>

These interventions were all underpinned by the belief that *zamindars* in Sind remained backward and required further tutelage before their methods of cultivation could be as 'up-to-date' as the new irrigation infrastructure that had been provided to them. In the case of rates revisions in 1937-1938, the Governor and the Viceroy were both clear that those who held land on the barrage tract must, one way or another, be persuaded to exercise responsibility for its finances. This meant, in other words, that they would have to be made to pay for the material progress that the barrage was intended to produce. Indeed, Graham voiced sympathy with the attitude of some other officials that Sindhi *zamindars* had failed to "make proper use of the great gift which they have received in the Barrage." The barrage, in Graham's view, absolutely demanded higher standards of cultivation.<sup>56</sup> Not coincidentally, Sindhi *zamindars'* supposed inability to meet this challenge had been vigorously deployed in arguments against separation from Bombay made,

---

<sup>55</sup> Department of Agriculture, Government of Bombay, 'Leaflets for distribution in Sind', respectively #31 of 1923, #30 of 1933, #50 of 1936, and #41 of 1934, Institute of Sindhology Library, University of Sind, Jamshoro.

<sup>56</sup> Governor Graham to Viceroy Linlithgow, 09.03.1938, Linlithgow Papers, MSS Eur F 125/93, B.L.

during the 1920s and early 1930s, both by the anti-separation lobby in Sind and by elements within the Government of Bombay. The struggle of Sindhi *zamindars* to do as well as they could out of the new arrangements, constitutional and irrigational, clashed with the government's reciprocal struggle to make the project a financial success. Talk of prosperity as a boon to the whole province (and, indeed, the whole of India) fell flat in the face of contradictory ideas about whom that prosperity should benefit, and to what degree.

However, tutelage did not necessarily mean a total lack of autonomy, and it must be stressed that the administration as a whole did not follow the kind of rigid bureaucratic efficiency that, for example, Viceroy Curzon had advocated as more important for India than the benefits of self-government.<sup>57</sup> The financial imperative behind the Governor's special powers – that the Empire, Sind included, must be financially self-supporting – had to be balanced against political conditions in India, and neither the health of the government's coffers, nor the idea of material progress, was allowed to override the government's need to ensure that Sindhis remained co-operative. Graham's reluctance to use special powers stemmed from his recognition that the position and authority of the Governor's office must, in light of the constitutional changes and partial devolvement of government to the Provincial Assemblies, be maintained by working with the legislature wherever possible. Only in this way could political trouble be avoided. Moreover, once Allah Baksh and his Ministers had accepted the principle of raising assessments and taken on the task of pushing them through the Assembly, the Governor was able to deflect criticisms of what was fundamentally a demand of British administrators onto Sindhi politicians, while simultaneously maintaining the dignity of his office by not overtly 'choosing sides' from among Assembly members and descending into the political

---

<sup>57</sup> R.J. Moore, *Liberalism and Indian Politics, 1872-1922* (London: Edward Arnold, 1966), pp.74-80.

fray. This strategy was condoned by Linlithgow,<sup>58</sup> and allowed Graham to privately push the legislature into approving a scheme to make Sind pay for the barrage while avoiding a public debate about the irrigation system's merits, which would detract from the administration's role as the driving force behind material progress.

This suggests that the 1935 Government of India Act's operation in Sind admirably fulfilled its intended objective of giving certain sections of Indians a stake in the stability of government in their provinces. That is, it strengthened British rule over India by allowing Indians in the legislatures to sit in judgement over certain, carefully chosen, aspects of official action. The Governor's special powers for barrage revenue assessments in Sind ensured that the administration always had claws in its political paw, should the Assembly become too 'unruly'. In this case, the administration's mix of bullying and cajoling paid off: by the later stages of the Second World War, Sir Hugh Dow, the new Governor, pronounced public interest in the whole question of his special responsibility for the barrage to be "quite dead".<sup>59</sup> In the longer term, the executive had succeeded in maintaining control over the development of the project.

The assessments controversy also revealed much about the nature of politics in Sind during the 1930s. This has been viewed as hopelessly factional, disengaged from the world outside Sind, and based on personal power struggles rather than policies and principles, both by contemporaries and by historians.<sup>60</sup>

---

<sup>58</sup> Telegram, Viceroy Linlithgow to Governor Graham, 26.06.1937, IOR/L/PJ/5/251, B.L.

<sup>59</sup> Governor Dow to Viceroy Wavell, 03.06.1944, p.2, IOR/L/PJ/5/260, B.L.

<sup>60</sup> Governor Graham held that the essential weakness in Sind's parliamentary situation since the introduction of the new Constitution had been the inability of Sindhi Muslims to combine, due not to policy differences but to personality politics. Governor Graham to Viceroy Linlithgow, 22.03.1938, IOR/L/PJ/5/252, B.L. On this note, Talbot relates that when Jinnah told Graham that he disliked Sindhi politicians, and could buy them all for Rs. 5 lakhs, Graham replied that he could do it much more cheaply. Ian Talbot, *Provincial Politics and the Pakistan movement: The growth of the Muslim League in North-West and North-East India 1937-47* (Karachi; Oxford: Oxford University Press, 1988), p.50. For examples of historians' views, see Jones, *Politics in Sindh*, pp.xvi-xvii; Noel Boreham, 'Decolonisation and provincial Muslim politics: Sind, 1937-47', *South Asia* 16:1 (June 1993): 53-72.

While this view is not an unfair assessment of party-political manoeuvring in the province, it misses the fact that Legislative Assembly politics did often come to revolve around agrarian issues that undoubtedly affected conditions in the countryside, where both the overwhelming majority of the population and the bases of support for the major politicians were to be found. This is not to say that the Assembly was a forum for the politics of the cultivators themselves: apart from G.M. Syed, few Muslim politicians in the legislature supported agrarian reform. Yet while the politics of the Legislative Assembly did not address the concerns of Sind's lower social orders, the politicians who sat in it were often landowners, with their own strong opinions on agricultural matters, and especially on the delivery of and charges for the irrigation water that made agriculture possible. Proceedings in the Assembly reflected this, as when a member demanded that the possibility of bringing barrage water to lands on the Rohri and Dadu canals, which had suffered shortages since the barrage's construction, should be investigated;<sup>61</sup> when the Agriculturalists' Debt Relief Bill was tabled in 1940; or when calls for the Land Revenue system to be reformed were heard.<sup>62</sup> Despite the practical inefficacy of policy-formulation by Assembly parties, irrigation and agriculture were consistent themes for many of the province's post-separation political groupings, reflecting the central place of water and crops in Sind's economic life. This perhaps also reflected the fact that the Sindhis expected to see improvements in their material conditions, in light of the grand claims previously made on the barrage's behalf.

---

<sup>61</sup> *SLA II:22* (30.08.1937), p.39.

<sup>62</sup> *SLA X:22* (06.03.1940), pp.32-92.

## Wartime development schemes

The discourse of material progress met a serious challenge when the Second World War broke out. The war years were marked by the cessation of development activity, not only on the scale of the Sukkur Barrage, but also much smaller schemes such as agricultural education. Instead the government imposed what Khan has termed “a simplistic and basic imperialism”, focussed on “keeping the peace and extracting the necessary resources to fight the war.”<sup>63</sup> Yet despite the suspension of ‘schemes for the betterment of the people’, the ideal of material progress remained strong. The administration made a show of its intentions to undertake such activities in the future, and laid a large body of plans for post-war development, many of which were taken up by the new Pakistani administration after Independence. These plans continued to represent material progress, an idea that was also taken up, to a great degree, by the post-colonial government. During the war, therefore, trends of the early twentieth century crystallized in Sind, and provided a point of departure for the subsequent decades.

At the time, however, it seemed that the war only served to interrupt Sind’s development by diverting the administration’s attention away from irrigational and agricultural schemes. The political, moral and social benefits associated with visible development activity were eschewed, along with the possibility of increases in collectable revenue, in favour of the rigid maintenance of the government’s authority. The chief resource extracted from Sind was food, which the province provided from its now highly productive barrage zone. Indeed, the province was able to utilize its increased agricultural output to sell food to other parts of India where food was short, most notably to Bengal during the famine of 1943. This did

---

<sup>63</sup> Yasmin Khan, *The Great Partition: The making of India and Pakistan* (New Haven; London: Yale University Press, 2007), p.14.

not necessarily directly aid the war effort, but certainly contributed to the political stability of India, one of the Allies' key strategic bases. Sind's food exports to other parts of India were so essential, and fetched such a high price, that the province was accused by the central Food Department of profiteering.<sup>64</sup> Whatever their moral status, these profits negated the debt incurred during the Sukkur Barrage's construction, and meant that Sind finished the war with a financial surplus. Large quantities of timber and fuel-wood were also harvested in Sind.<sup>65</sup>

In terms of 'keeping the peace', the province remained largely free from the turbulence caused by the Congress's all-India Civil Disobedience and Quit India campaigns, beginning respectively in 1940 and 1942.<sup>66</sup> Sind's wartime politics were idiosyncratic, and the main challenge to the administration's political control came in the shape of uprising among the Hurs, the Pir Pagaro's restless followers, which began in 1941. While the main rising was put down by 1943, the Hurs were not finally pacified until after Independence.

---

<sup>64</sup> Governor Dow to Viceroy Wavell, 06.01.1945, IOR/L/PJ/5/260, B.L.

<sup>65</sup> Government of Sind, *Annual Administration Report of the Sind Forest Department for the year 1942-43, with Appendix* (Karachi: Government Press, 1944), p.ii. Wartime demand for Sind's wood far outstripped the forests' sustainable production capacity, and by the year 1944-45 the Government of Sind was forced to ban the export of timber and fuel out of the province. Even after the war's end, when the general demand dropped, Karachi still required a large quantity of fuel, to the detriment of forest regeneration. Government of Sind, *Annual Administration Report of the Sind Forest Department for the Year 1945-46, with Appendix* (Karachi: Government Press, 1947), p.i.

<sup>66</sup> These agitations were sparked when Gandhi launched a limited *satyagraha* under the Civil Disobedience movement in protest against the Government of India declaring war on India's behalf, without consulting Indian opinion. This put an end to the sharing of power by Indian-staffed Ministries under the 1935 Constitution, and the British Parliament in London sent a mission under Sir Stafford Cripps, a member of Churchill's coalition government, to India to negotiate a new constitutional settlement. After the talks he initiated with Indian leaders had broken down in April 1942, the Congress rebelled openly through the Quit India mass-movement, which the regime met with open repression. Most of the Congress leadership was imprisoned for the war's duration, and at the movement's high point in the summer of 1942 more than 20,000 Congressmen were convicted of civil disobedience offences. See Tomlinson, *Indian National Congress*, pp.152-157. These movements, however, largely passed Sind by. The Muslim Mass Contacts campaign of 1937-39, masterminded by Nehru as a way to draw Muslim peasants directly into the Congress fold rather than attempting to negotiate with Muslims from the professional and landlord classes, fared poorly across India, and especially in Sind. See Mushirul Hasan, 'The Muslim Mass Contacts Campaign: Analysis of a strategy of political mobilization', in Richard Sisson and Stanley Wolpert (ed.s), *Congress and Indian Nationalism* (Berkeley: University of California Press, 1988).

Against this backdrop of revenue extraction and political authoritarianism, development activities – never consistently promoted by the government in Sind – received even less attention. The suspension of such activities was mourned by at least one junior officer who took a keen interest in agricultural improvement, and had an immediate perspective on conditions in the province.<sup>67</sup> This was a matter of short-term expediency, however, and was not expected to herald a lasting reversal of the twentieth century *Raj*'s trend towards using 'development' to legitimize itself. To this end, schemes for the post-war development of Sind were set out in a Government of Sind publication in 1945, promising that "The object of any Government Plan should be to increase the happiness of the people".<sup>68</sup> Cooper has argued that colonial regimes in Africa in the 1940s and 1950s self-consciously cultivated the idea of 'development' as a force that could reinvigorate colonialism, while at the same time modernizing discourses gave colonial bureaucrats a sense of direction and purpose, even as events were shattering their sense of control.<sup>69</sup> The idea of (and the particular types of power-relationship embedded within) ideas of moral and material 'progress' in Sind and India had a longer lineage, but the instability of the war years, especially the uncertainty felt throughout the administration about the future constitution of India's government, and the role of British officials within it, perhaps accentuated the need that officials felt to lay plans for post-war development.

---

<sup>67</sup> Roger Pearce has written in his memoirs that while posted as Assistant Collector in Thatta Sub-division in 1940 he submitted proposals regarding the improvement of cultivation implements, but under wartime conditions even the enthusiasm of Hassan Ali Agha, the Director of Agriculture in Sind, for Pearce's schemes left his Indian Civil Service superiors unmoved. Roger Pearce, *Once a Happy Valley: Memoirs of an I.C.S. officer in Sindh, 1938-1948* (Oxford: Oxford University Press, 2001), pp.138-144.

<sup>68</sup> Government of Sind, *Post War Development Schemes* (Karachi: Government Press, 1945), p.1.

<sup>69</sup> Frederick Cooper, 'Modernizing Bureaucrats, Backward Africans, and the Development Concept', in Frederick Cooper and Randall Packard (ed.s), *International Development and the Social Sciences: Essays on the history and politics of knowledge* (Berkeley; Los Angeles; London: University of California Press, 1997).

In Sind, the feeling among officials that material progress and other 'advances' could only be driven by British initiative had been confirmed as late as 1944, when Governor Dow complained to the Viceroy that:

The comparative apathy with which all Sind ministers have regarded the so-called "nation-building" departments is a noticeable feature of our administration [...] Since the introduction of provincial autonomy in 1936 (in Sind), the leading ministers have always taken charge of the old reserved departments [such as Home and Revenue], and the nation-building departments have been regarded as minor charges, with which the less competent and influential ministers have had to content themselves. This attitude still persists, although there is now money enough for development. Sind is likely to suffer greatly during the next few years for lack of ministers competent and interested enough to direct (or even not to hamper) the great drive forward in education, agriculture and medical relief which is now a matter of practical politics.<sup>70</sup>

The planned post-war projects certainly revealed an intention to continue the development of Sind along the lines that had been pursued since the late nineteenth century, thus demonstrating an abiding official faith in the power of material progress. Irrigation was to be accorded high priority. "In fact," said the introductory pages to the collected post-war plans, "Sind is obliged to push ahead with its schemes of irrigation. It is almost a case of doing so or perishing".<sup>71</sup> This refrain would be heard again and again over the following decades, as increasing agricultural productivity remained a constant and pressing requirement for the stability of Sind's, and Pakistan's, economy and political system. 32 of the schemes had an agricultural focus, based on the All-India Plan drawn up by the Imperial Council of Agricultural Research,<sup>72</sup> while other schemes including training for government staff, road and irrigation infrastructure projects, education, and public health. By prioritizing irrigation, the plans maintained the primacy of a type of material progress arrived at by increasing human control over nature.

---

<sup>70</sup> Governor Dow to Viceroy Wavell, 05.02.1944, pp.1-2, IOR/L/PJ/5/260, B.L.

<sup>71</sup> Government of Sind, *Post War Development Schemes*, pp.1-2.

<sup>72</sup> Government of Sind, *Post War Development Schemes*, pp.14, 152.

Indeed the proposals that followed most closely the pattern of Sind's pre-war development were those for two new barrages on the Indus, one to irrigate Upper Sind, and one for Lower Sind. These also set the strongest precedent for post-war development. Plans and estimates for the latter, to be constructed at Hajipur, 18 miles downriver from Kotri, had already been prepared, and work was expected to begin in November 1945. It would require 2,000 skilled and 12,000 unskilled workers, plus 1,500 technical and clerical staff, and would therefore present a partial solution to the problem of finding employment for the Indian servicemen who would be demobilized after the war's end, something that greatly troubled the Government of India.<sup>73</sup> Work had to begin on this barrage immediately, the plan stressed, because the lower Sind inundation canals were suffering heavily from withdrawals upstream in the Indus Basin.<sup>74</sup> The need was especially pressing because the Punjab also wanted to increase its usage of water from Indus tributaries, a desire that brought it into conflict with Sind, and sparked a round of negotiations under Justice B.N. Rau, a judicial heavyweight who went on to be India's representative at the United Nations, and later Judge-Designate of the International Court at the Hague. While the Rau Commission resulted in a draft agreement in which engineers representing Sind and the Punjab agreed on all technical points,<sup>75</sup> negotiations broke down before this was ratified by either

---

<sup>73</sup> This plan for a barrage in Lower Sind was not, in fact, the one finally enacted. The existing barrage is located at Kotri itself, just outside Hyderabad, and irrigates different areas. Two *talukas* of Karachi Collectorate included in the 1945 plan, Thatta and Keti Bunder, suffered particularly hard under the revised plan, which not only did not provide them with perennial irrigation, but actually significantly reduced the water available to them during the inundation by diverting the water into upstream irrigation canals. This, coupled with the devastation of the Indus Delta ecosystem by the destruction of coastal mangrove swamps and the encroachment of sea water into the Delta's subsoil water table, has meant that Thatta and Keti Bunder are among the poorest and most troubled areas of Sindh Province today.

<sup>74</sup> Government of Sind, *Post War Development Schemes*, pp.12-13, 66-68.

<sup>75</sup> Governor Dow to Viceroy Wavell, 05.10.1945, p.2, IOR/L/P&J/5/261.

province.<sup>76</sup> Under the circumstances, the new barrage seemed essential to the administration, as did a second barrage to be constructed in Upper Sind after the completion of the first.

The new barrages were intended to extend the material progress for which the Sukkur Barrage already formed the basis, but also to preserve the productivity of areas of Sind that were suffering the negative effects of the Sukkur scheme. Dow, the Governor during most of the war, had toured the Indus Delta region in December 1944, and reported on the devastation that the diversion of water from the Indus into canals by the Sukkur Barrage had visited on the area, having deprived the previously extensively-cultivated rice crop of timely water delivery. He noted that the *zamindars* of this area, who were unable to pay land revenue and were therefore not awarded a vote in provincial elections, had correspondingly little political influence. The proposed new barrage in Lower Sind, Dow wrote, would make these *zamindars'* situation even worse. Nonetheless, the principle of large-scale development was not questioned: instead, Dow recommended that these *zamindars* be found lands on the proposed new canals.<sup>77</sup> Setting a pattern that would hold true in the 1950s-1960s, Dow's recommendation answered a problem caused by an intervention into Sind's river-system by intensifying irrigation development. The answer to damage done by previous infrastructure works, it seemed, was to initiate another round of similar works.

In fact the lynchpins of the post-war plans, the two new barrages, were not constructed until Sind had become part of Pakistan. That such huge schemes as the new barrages were not executed before the departure of the British was hardly surprising given their great cost, and the *Raj's* post-war poverty. Yet the emphasis that these plans put on irrigation was nothing new for Sind. Rather, these plans

---

<sup>76</sup> Governor Mudie to Viceroy Mountbatten, 25.04.1947, p.3, IOR/L/P&J/5/263.

<sup>77</sup> Governor Dow to Viceroy Wavell, 23.12.1944, p.2, IOR/L/PJ/5/260, B.L.

represented a continuation of the trends in Sind's interwar development, exemplified by the Sukkur Barrage and the agricultural projects connected with it, maintaining Sind's position as a producer of agricultural goods in the Imperial and world economy. While they may have embodied a degree of wishful thinking about what the colonial administration could actually achieve in the time remaining to it, these plans set much of the context for the post-war development that was eventually undertaken by the Government of Sind as a part of Pakistan.

### 'Progress' after Partition

The fall of the *Raj* followed closely upon the end of the Second World War, and the independent nation-states of India and Pakistan were created on 15 August 1947. Sind became one of the constituent parts of Pakistan, along with Baluchistan, the North-West Frontier Province, the western part of partitioned Punjab and the eastern part of partitioned Bengal. Sind was now severed from the central authority of the Government of India, which had played such a great part in directing its affairs, and from His Majesty's Government in London. Instead, its overlord became the Government of Pakistan, based in Karachi. The logic behind, and process of, the creation of Pakistan has received enormous critical attention, and need not be extensively rehearsed here;<sup>78</sup> rather, this section will argue that Pakistan's newfound status as a nation-state, however troubled and flimsy, provided a framework in which ideas about development and material progress familiar from colonial days took on new tinges, under the pressure of the challenges that stemmed from the transfer of power itself, and as nationalist fervour allowed

---

<sup>78</sup> Key works in this field include Ayesha Jalal, *The Sole Spokesman: Jinnah, the Muslim League and the demand for Pakistan* (Cambridge: Cambridge University Press, 1985); Ian Talbot, *Provincial Politics*; Khan, *The Great Partition*. An excellent, if dated, summary of several schools of historiographical thought on Partition is given by H.V. Brasted and C. Bridge, 'The Transfer of Power in South Asia: An historiographical review', *South Asia*, 17:1 (1994): 93-114.

bureaucrats and politicians to set out their claims to authority in developmentalist contexts. In the first years of Independence, the Imperial discourses of progress associated with the barrages were transformed into nationalist discourses about 'building the nation'. Thus it is demonstrated that the Sukkur Barrage, and other development projects that shared its ethos, had become firmly implanted into Pakistan's mental framework.

Amid the chaos and excitement of the transfer of power, the developmentalist tendencies of the state in Sind, and the teleology of progress that justified and underpinned them, remained virtually unaffected. The new national government in Karachi proved to be at least as enthusiastic about the consolidation of state power in Sind through the construction of infrastructure projects as had the British-controlled government in New Delhi. This was at least partly facilitated by the retention of the office of Development Minister by Mohammed Ayub Khuhro into the Pakistan era, a post he had held before Independence and which, his colleagues in the Sind Ministry thought, gave him "too much" power.<sup>79</sup>

Material progress was not considered to be the only type of 'development' necessary in Sind after colonialism, but was one of a web of related concepts, clustered around ideas of nation, economy, material welfare, moral development, and above all self-reliance. The activities that these sentiments endorsed were never codified, but can be conveniently labelled 'nation-building', following the occasional use of that term by officials and the media both before and after Independence. Underlying them all, however, was the sense that Pakistan and its citizens were – or should be – embarked upon a journey towards a better life: the quintessential utopia of material progress. The colonial regime had invoked material progress as an end in its own sake and as a gift of the colonial authorities to the

---

<sup>79</sup> Governor Mudie to Viceroy Wavell, 22.01.1947, p.2, IOR/L/PJ/5/263, B.L.

Indian people. After Independence, the proponents of development cast material progress as, paradoxically, both the nation's gift to its citizens, and the foundational requirement for producing citizens who could, in turn, produce the nation.

Defining this nation, and the relationship of different communities within Sind to it, was nevertheless a challenge. Important changes occurred in the province's demographic makeup following inward and outward migrations, which took place because of the division of India, which was based principally on religious affiliation, left substantial minority populations in both new countries. Pakistan was intended to be a homeland for Indian Muslims, while India was to be avowedly 'secular', but with a majority of Hindus, 'backward castes', and Sikhs. Sind was, then, to be part of a nation created principally by and for 'Indian Muslims' – a category whose value had been much-contested, but which had, as a result of the Muslim League leader Mohammed Ali Jinnah's successful scheme of wartime co-operation the British authorities, been accepted by the departing regime as a legitimate basis for nationhood. Yet the communal logic of Pakistan's existence was by no means settled during the early years of Independence, and even after decades of Muslim League organization on the principle of a political community defined by Islam, the place of the religion in Pakistan was uncertain. This did not, however, prevent waves of communal violence from sweeping across the Punjab and, to a lesser extent, Sind. These stemmed from the fact that substantial minorities were left in both new states, especially in the Punjab, where the now-Pakistani western districts were home to a huge number of Hindus and Sikhs, and the now-Indian eastern districts to many Muslims.

Refugee movements had a great demographic impact, even in Sind, where Pakistan's creation did not see the mass-bloodletting that traumatized the Punjab.<sup>80</sup> As early as September 1947, Karachi held nearly 10,000 refugees, principally Urdu-speakers from the United Provinces, who had made their way to the only city in Pakistan capable of sustaining the new central government.<sup>81</sup> The Pakistani state took on the responsibility for finding these refugees food and shelter in the short term, and settling them into local life in the longer term. The impact of the refugee influx into Sind can barely be overstated, and became a long-standing point of contention between the central and provincial governments. The relationship between refugees and national identity-formation in early Pakistan and India was extremely important and has been taken as one of the most powerful sources of tension afflicting early attempts to define citizenship in the new countries.<sup>82</sup> This influx meant that the 'nation' being built would consist of an altered, and extremely unsettled, population, and yet the discourses of material progress remained unchanged. The mere movements of people did little to alter the kind of power over nature that sustained the state's authority, and nor did the transfer of political control from British India to Pakistan.

---

<sup>80</sup> Estimates of the number of Partition dead by contemporaries and historians range from 200,000 to one million. Khan, *The Great Partition*, p.6, n.12.

<sup>81</sup> See Sarah Ansari, *Life After Partition: Migration, community and strife in Sindh, 1947-1962* (Oxford: Oxford University Press, 2005); Vazira Fazila-Yacoobali Zamindar, *The Long Partition and the Making of Modern South Asia: Refugees, boundaries, histories* (Oxford: Oxford University Press, 2007). While Sind initially experienced little immigration and emigration compared with the Punjab and Bengal, which were home to the majority of the people designated for 'population transfer', Karachi's economic infrastructure, and status as home to the Government of Pakistan, exerted a powerful draw on refugees from north India, many of whom belonged to families with histories of bureaucratic service, and for urban artisan groups from the United Provinces. Similarly, Muslims from western India were often involved in trade and commerce, and many already had established links with Karachi which encouraged their migration there.

<sup>82</sup> As well as Ansari and Zamindar, cited in the previous note, see Urvashi Butalia, *The Other Side of Silence: Voices from the partition of India* (New Delhi: Viking, 1998); Ritu Menon and Kamla Bhasin, *Borders and Boundaries: Women in India's Partition* (New Delhi: Kali for Women, 1998); and Veena Das, *Life and Words: Violence and the descent into the ordinary* (Berkeley; Los Angeles; London: University of California Press, 2007).

Refugees also moved in the opposite direction, with more important implications for the structure of agrarian society in Sind and, consequently, for the role that the state played in the agricultural economy. By mid-1948 an exodus of Sindhi Hindus from Karachi had extended to other parts of the province, which meant that Sind's urban centres lost a huge proportion of their merchants and traders, while rural areas lost the much-maligned but essential moneylenders, without whom credit for agricultural activities was much less easily obtainable.<sup>83</sup> In March 1948 the Indian High Commissioner in Karachi found on a tour of Sind that all the Hindus in northern Sind had made up their minds to go.<sup>84</sup> As many of them left behind valuable agricultural land, which the Government of Sind could use to resettle refugees deemed to be 'agriculturalists', the implications for Sind's rural economy, the chief target of schemes such as the Sukkur Barrage, began to become clear. Firstly, the land was either lying uncultivated, or had been occupied and put to work by locals who would not necessarily use the land in an approved manner or yield up the appropriate revenue payments. In Sukkur District, some Sindhi Hindus returned from India later in 1948 to re-take possession of their lands, but found that Muslim refugees, as well as local *zamindars* and *haris* who had taken over some of

---

<sup>83</sup> The departure of non-Muslims from Sind was not an inevitable consequence of Partition, but was prompted by events *after* the transfer of power. In September 1947 communal disturbances in Karachi, which were not serious but nevertheless had a strong impact on the city's collective psyche, prompted a curfew. This, and the problems of coping with the 'overflow' of excess people in the city area which could, officials worried, lead to violence, resulted in a public control ordinance on 21 September. Although designed to protect minorities, its allotment of powers to officials frightened many non-Muslims. A much more serious outbreak of communal violence took place in Karachi in January 1948, when around two hundred people were killed, and the exodus of non-Muslims from Karachi intensified. See Ansari, *Life After Partition*, pp.52-57. Sindhi Hindus' experiences of Partition – why and how they left, and how they settled into new lives – is at present very poorly understood, either by historians or by Sindhi Muslims. An extensive study of the subject is forthcoming in the form of a PhD thesis by Lata Parwani at Tufts University.

<sup>84</sup> Opdom from U.K. High Commissioner, Karachi, 24.03.1948, IOR/L/PJ/8/796, B.L. Opdoms were saving telegrams submitted to the Dominions Office at weekly intervals by United Kingdom High Commissioner in each Dominions, and gave general surveys of developments within the Dominion concerned. L.R. Curson to Secretary, Political Department [of the Dominions Office?], 11.03.1947, IOR/L/SG/7/1291, B.L.

the lands, were in no mood to relinquish them.<sup>85</sup> According to a statement in the Sind Assembly, 510,232 acres of land had been allotted to refugees by January 1950.<sup>86</sup> This seems to count together state land and land abandoned by Hindus, but indicated that Partition had had a significant demographic effect in rural Sind, as well as in the cities. The rural communities upon which the 'nation' in Sind was being built, then, were somewhat different in character from those that had existed before Independence.

This did not mean, however, that the ever-evolving relationship between those communities and the state was fundamentally altered. Instead, upheavals associated with Partition and the transfer of power forced the Pakistani state into taking on an even greater role in agrarian affairs than under the *Raj*. Like the British insistence on managing the land revenue raised on the Sukkur Barrage, the colonial government's willingness to intervene in the rural economy after Independence showed that it would take action to ensure that the capital investment made in giant schemes for material progress was protected by continued productivity in the fields. In this way, the trend towards increasing state intervention into rural life, which had been exercised through the Jamrao and Sukkur irrigation projects, received a fillip from socio-economic circumstances, complementing that given earlier by river-diversion schemes.

The new administration's response to the collapse of the rural credit system after the Hindu exodus is a case in point. Officials took the only course of action that seemed sensible and possible, and stepped in to plug the gaps in the agrarian

---

<sup>85</sup> Personal diary of Gordon Meredith Ray, Collector of Sukkur, 03.05.1948, Ray Papers, MSS Eur F 256/11, B.L. Ray also wrote of his frustration that so much of the evacuee land intended by Government for refugees had been seized by locals. "It would take not less than an earthquake to dislodge them now," he wrote. "All this was done, before my time, with the connivance of corrupt revenue officials who have reaped handsome returns". Ray's diary, 31.05.1948.

<sup>86</sup> *SLA* VI:2 (13.01.1950), p.12.

economy, building upon the institutions of the colonial state. The loss of the private and semi-formal mechanisms by which cultivators had obtained rural credit, which Sindhi Hindus had often provided, ultimately led to the state itself taking on the role of moneylender. Like their colonial predecessors, Pakistani officials recognized that providing *zamindars* and cultivators with credit for the purchase of seeds, fertilizer, and equipment was necessary if individual cultivators were to raise production and increase their contributions to the national economy. Providing credit to cultivators became essential state function, if Sind's agricultural sector were to continue to develop and enhance the province's 'wealth and happiness'. Accordingly the Agricultural Development Finance Corporation was established in 1952 to fill this gap, and had become operational by March 1953. It functioned alongside similar organisations in other fields, such as the Pakistan Industrial Finance Corporation. However, agricultural credit remained a problem in Sind, as across Pakistan. Only a small percentage of agriculturalists had access to institutional credit, loan limits were low, and loans had to be repaid too quickly to make them effective.<sup>87</sup> This remained the case throughout the 1950s, and the Agricultural Bank of Pakistan, created in 1959 to supplement the Agricultural Development Finance Corporation's work, was itself later replaced by an Agricultural Development Bank.

The state's entanglements with agricultural credit, apart from being practical economic actions, were rooted in discourses that located the post-colonial state in the same space of authority as its colonial predecessor, and an examination

---

<sup>87</sup> U.S. Embassy's Farm Credit Advisor's report to U.S. Operations Management, Pakistan, 30.11.1955, 'AGRICULTURE – Credit (1955)', pp.1-3, Record Group [henceforth 'R.G.'] 469, United States National Archives, College Park, Maryland [henceforth 'U.S.N.A.']. For the duration of its lifetime, the Corporation was hampered in its work by a chronic shortage of staff, and by the variety of land-ownership arrangements found across Pakistan, particularly where newly-irrigated land was not yet fully owned by its occupants. This was already a significant problem in the Thal Project area, and could soon become so in the Sind Barrage commands. Agricultural Development Finance Corporation, *Sixth Annual Report*, 30.06.1958, Papers of the India, Pakistan, and Burma Association, MSS Eur F 158/467, B.L.

of the logic of the former will demonstrate where it concurred with and deviated from the latter. Like other aspects of 'development', rural credit was perceived to be more than a problem of mere economics: instead, it was a field that the Pakistani state proclaimed a moral responsibility to regulate and support, in the same manner that the colonial administration had proclaimed the construction of the Sukkur Barrage to be a moral responsibility. Indeed, the trope of the cultivator made vulnerable by his own 'backwardness' later reappeared in the First Five Year Plan, which warned that rural credit organizations served men who were largely illiterate and easy victims of fraud or exploitation.<sup>88</sup> The state's role was, by implication, to facilitate the integration of the farmer into the national body by providing a service which would otherwise not be provided. Like the Sukkur Barrage and its two successor projects, therefore, agricultural credit was perceived by the government as crucial to material progress, and essential to 'nation-building'.

While engendering national feeling was a priority of the state in Sind immediately after Independence, the fluid concept of nation-building, which would coexist with and eventually be superseded by the terminology of 'development', embraced the same enthusiasm for large-scale infrastructure projects that had underpinned the construction of the Sukkur Barrage. This meant a continuity of goals and methods prevailed in the way that the new administration approached agricultural conditions. The authors of the First Plan concurred with colonial governors in considering the average cultivator to be in need of paternalistic care in order to defend him against those who would exploit him. This helps to confirm Adas's suggestion that British colonial attitudes remained strong into the 1950s and

---

<sup>88</sup> National Planning Board, *The First Five Year Plan 1955-60* ([Karachi?]: Government of Pakistan National Planning Board, December 1957), p.281.

1960s,<sup>89</sup> undergoing changes more in the ultimate professed goal than in content or even terminology. In this vein the very first issue, in 1948, of a Government of Sind public-information periodical had carried a feature on 'Building up the Nation', which celebrated Pakistani industrial and trading companies, cottage industry developments, cotton research and spinning, the electrification of railways, the development of Chittagong port in East Bengal, and the establishment of the State Bank of Pakistan, among other things. To emphasize that such projects were essential to creating a strong nation-state, Jinnah, the "architect of Pakistan", was quoted as saying: "The opening of the state Bank symbolizes the sovereignty of our State in the financial sphere".<sup>90</sup> Other issues of the same periodical demonstrated the range of activities deemed 'nation-building', including a degree college for women and a national library in Karachi, a plant for small arms manufacture, development of Pakistan's oil resources,<sup>91</sup> and aircraft workshop, and labour exchanges.<sup>92</sup> These activities all shared the common effect, at least in theory, of creating the human, industrial, and commercial infrastructure considered necessary to a nation.

## Conclusion

That a nationalist concept of 'nation-building' could replace colonial ideas about material progress and good governance in the late 1940s and 1950s seemed to indicate a change in the state's frame of reference in Sind. Was this true? From the 1920s onwards, the increased cohesiveness and assertiveness of nationalist challenges to British rule prompted new interactions between European officials and

---

<sup>89</sup> Michael Adas, *Machines as the Measure of Men: Science, technology, and ideologies of Western dominance* (Ithaca; London: Cornell University Press, 1989), pp.402-413.

<sup>90</sup> *Sind Information*, 1:1 (14.08.1948), p.46.

<sup>91</sup> *Sind Information*, 1:3 (02.09.1948), pp78-84.

<sup>92</sup> *Sind Information*, 1:4 (09.09.1948), pp.91-94.

Indians. This period was also – not coincidentally – marked by shifts in the discourses that had ideologically underwritten the agricultural modernization projects connected with the Jamrao Canal and the Sukkur Barrage. The extent to which Indians – in this case Sindhis – could take charge of their own affairs was extensively debated among Sindhi political groups, and the same groups had several opportunities to set out their cases before influential committees. These debates formed part of a wider discourse of ‘progress’, which questioned Sind’s ability to ‘live up’ to the expectations of forward-thinking and financial responsibility set both by the Sukkur Barrage and by new constitutional arrangements. At the same time, the terms of these debates, the technical and material basis on which morally-loaded concepts of ‘progress’ rested, were set by the administration and accepted almost without question by the emergent Sindhi political class. In this way, the ideas embodied in Sind’s earlier perennial irrigation projects passed onto the people who would become the ruling politicians and bureaucrats after Independence. The shift in emphasis from literally building the markers of the Empire to building up the nation masked, therefore, a strong continuity in the attitudes and objectives of those who governed Sind. The implications of this, and the complexities of post-Independence river-development politics, will be discussed in the next chapter.

## Chapter 4: The nation-state versus the natural environment

*In the development of any country the Engineers have to play a great part. [...] The task of constructing this new Nation will mainly fall on their shoulders. [...] Our Irrigation Engineers have already made their mark and I am happy to say this Barrage is entirely the work of our Pakistani Engineers.*

-West Pakistan Minister of Communications and Works (1957)<sup>1</sup>

Two of the projects that the Government of Sind had proposed for post-war development came to dominate the province during the years shortly after Independence. These were two new barrages, one located near Hyderabad in lower Sind, and the other in upper Sind; they came to be known respectively as the Ghulam Mohammad Barrage and the Gudu Barrage.<sup>2</sup> After Independence, such works offered room for symbolic interpretation, as well as being among the more tangible aspects of nation-building activities – metaphors for national progress that were physically inscribed on the landscape. Their political importance combined practical and symbolic elements: on one hand, they helped Pakistan meet severe food shortages and stimulate a stagnant economy; on the other, the barrages became a focal point for the narrative of the state's exercise of agency over the physical environment. This became one way in which the post-colonial state, like its British predecessor, asserted legitimacy.

---

<sup>1</sup> Quoted in Enclosure 2, U.K. Trade Commissioner's Office Karachi to Commercial Relations and Exports Department, Board of Trade, London, 14.02.1957, BT 11/5110, United Kingdom National Archives, Kew [henceforth 'U.K.N.A.'].

<sup>2</sup> The names given to these barrages underwent various permutations. The Ghulam Muhammad Barrage was initially known as the Lower Sind Barrage, but changed to the former in honour of the Governor-General who opened it; it was also sometimes referred to as the Kotri Barrage, after the town in which it is situated. That is its formal designation today. The Gudu Barrage was initially called the Upper Sind Barrage, before being re-named the Gudu Barrage. Ghulam Muhammad Barrage and Gudu Barrage were the names most commonly used over the course of the period under discussion, and have been used here except where direct quotations deploy different names, or variations in spelling.

These barrages were especially significant in the drive for 'nation-building' identified in Chapter 3. The 'national' aspect of the projects was particularly stressed because, unlike other irrigation projects in both West and East Pakistan, they were constructed almost entirely out of Pakistan's own resources, and the glory did not have to be shared with foreign donors. The concerns of Pakistani bureaucrats and politicians, relatively free from foreign influence, can be determined more easily in this context. It will be argued that the representation of the barrages as a technical achievement pivoted on the claim that Pakistan had successfully appropriated the kind of Western knowledge necessary for making a 'modern' nation. This heroic narrative, however, was undermined by severe waterlogging and salination of barrage lands, which was finally officially recognized as a problem during the 1960s. This chapter also examines, therefore, how the interruption of real problems into a theoretical victory (over both the natural environment and economic challenges), which the barrages represented, revealed state-led development in Pakistan to have been more successful on paper than in fact.

### **The new barrages**

The Ghulam Muhammad Barrage was sanctioned by the pre-Partition Government of Sind in May 1947. Work began in earnest in 1950, making it the first major irrigation work undertaken in independent Pakistan, and it remained one of the biggest. Like the Sukkur Barrage, the Ghulam Muhammad Barrage had been conceived partly to ensure that Sind would be able to effectively use its water apportionment, in the face of projects planned for the Punjab that would reduce the volume of water available downstream, in this case the Bhakhra Dam and Thal

Project.<sup>3</sup> It marked an important step in the new nation-state's struggle to initiate large-scale development projects, and also continued the rivalry between Sind, the Punjab, and others for the use of Indus waters, which remained intense.

This barrage was expected to irrigate nearly 2.9m acres of land in lower Sind, of which 1.5m acres would be virgin land. The project's urgency was partly due to the fact that Lower Sind had suffered from water shortages after the increased upstream take-offs of the Sukkur Barrage and canals<sup>4</sup> – bearing out the fears that Lower Sind *zamindars* had expressed at the time of that barrage's construction. The construction of the Gudu Barrage, which had also been included in the Government of Sind post-war development plans, followed after the completion of the Ghulam Muhammad project, and began in December 1958. The barrage system began to pass water in early 1962, providing irrigation water for 3.25m acres of land, of which 1.7m had not previously been cultivated. The new barrages replicated the Sukkur Barrage's format of improving the water supply to existing estates as well as opening up new areas for agriculture; as such, irrigation development in 1950s Sind followed the pattern of barrage-controlled river diversion schemes, which would also later become manifest in the Mangla and Taunsa schemes after the Indus Waters Treaty. In a mirror image, the most important irrigation project in the Punjab in the early 1950s, the Thal Project, followed the earlier Punjab pattern of canal colonies on virgin ground. The decision to build the new barrages can be understood partly as a continuation of colonial policies, and of the late-colonial approach to public works in Sind and the Punjab that favoured large-scale infrastructure projects.

These were major projects, which would greatly increase Sind's cultivable area while providing protection from rival river-diversion schemes in the Punjab.

---

<sup>3</sup> Karachi despatch 69, 04.08.1954, 890D.211/8-454, Central Decimal Files, 1950-1954, R.G. 54, U.S.N.A.

<sup>4</sup> Maneck B. Pithawalla, *A Physical and Economic Geography of Sind (The Lower Indus Basin)* (Karachi: Sindhi Abadi Board, 1959), p.206.

There were, however, additional factors that ensured that the projects, once planned, were executed. After all, the Gudu Barrage was not completed until 1963, sixteen years after Independence: its viability required continued support from bureaucrats and politicians. This support was forthcoming because water remained the lifeblood of the region. Almost immediately after Partition the precariousness of Pakistan's economic position, and the severity of its dependence on its rivers, was demonstrated by a dispute with India over the apportionment of waters in the Indus tributaries.

This dispute arose out of the confusion caused by the division of the Punjab, and therefore of Punjab's canal system, between India and Pakistan. Disputes between India and Pakistan over water had not been anticipated, and indeed an agreement made between the Chief Engineers of East and West Punjab in December 1947 meant that West Punjab would continue to receive its pre-Partition share of water, which could then flow downstream into Sind. In return, Pakistan would make payments to India for capital costs incurred in delivering the water. This agreement expired on 31 March 1948, the same day that the Arbitral Tribunal that the departing British had set up to mediate disputes arising from the Partition awards ceased to function. On 1 April, India claimed that Pakistan had failed to renew the agreement, and shut off the water supplies from the Ferozepore headworks to the Divalpur Canal, and to the Pakistani portions of the Upper Bari Doab Canal. This deprived almost 8% of West Pakistan's cultivable command area of water at the beginning of the critical summer seed-sowing period.<sup>5</sup>

---

<sup>5</sup> The best account of this is given in Aloys Arthur Michel, *The Indus Rivers: A study of the effects of Partition* (New Haven; London: Yale University Press, 1967). The course and interpretation of events is still hotly disputed by Indians and Pakistanis. For example, one Pakistani author has denied the existence of any standstill agreement, and therefore of Pakistan's willingness to pay for water prior to 1 April 1948, arguing that the story of the agreement "was perhaps an afterthought to cover up subsequent stoppage of water by India". Bashir A. Malik, *Indus Waters Treaty in Retrospect* (Lahore: Brite Books, 2005), p.87.

Negotiations between the Chief Engineers of the partitioned Punjab in early April failed to resolve the problem. In May, Indian and Pakistani representatives met in Delhi to make an interim agreement, which again provided for the release of water to West Punjabi canals by India on condition of payments by Pakistan. Pakistan also recognized India's right to develop irrigation projects that might harm the levels of water in Pakistani canals.<sup>6</sup> West Punjab's canals were, for the moment, filled. Pakistan later repudiated this agreement, however, and the dispute was not resolved until India and Pakistan signed the Indus Waters Treaty in September 1960, after almost a decade of negotiations sponsored by the World Bank and with the close involvement of the U.S. Government.<sup>7</sup>

Did this dispute, then, have an important bearing on river-development projects in Sind? The dispute ensured that the public profile of river-development remained high during the 1950s, but it, and the development schemes born of the Treaty, made little reference to Sind. Although the dispute's pre-Partition genesis in the Sind-Punjab haggling over Indus water had preceded the formation of plans to build new Sind barrages, the latter were not included in the eventual settlement. These projects, therefore, were internal matters, without explicit reference to the international problem posed by the division of Punjab's canal system between two nation-states. Indeed, the first new barrage in Sind, the Ghulam Muhammad Barrage, was opened before the Treaty was signed in 1960; and the second, the Gudu Barrage, was well under construction. Long before the Treaty provided for the construction of projects on the Indian side of the border that might harm water

---

The National Documentation Centre, Islamabad, holds many files on the Indus Waters Dispute, but these have not yet been made available for public use.

<sup>6</sup> Department of State, Office of Intelligence Research, 'Intelligence Report no. 5649: The Indo-Pakistan Canal Water Rights Dispute', 30.06.1953, p.7, 'PAKISTAN N-2 Canal Water Problems', Subject Files (Pakistan) 1952-1955, R.G. 469, U.S.N.A.

<sup>7</sup> This Treaty, too, has been criticized by Pakistanis for unfairly favouring India: see, Malik, *Indus Waters Treaty in Retrospect*, ch. 9.

supplies in Sind, it was recognized that the development of the Indus Basin in Pakistani Punjab alone would make the Gudu Barrage necessary just to maintain water levels in the existing inundation canals of upper Sind.<sup>8</sup> Yet it would be fair to assume that the dispute, by casting doubt on the amount of water available to West Pakistan as a whole, sharpened the concerns about Sind's water security that had prompted the preparation of schemes for the Ghulam Muhammad and Gudu Barrages. It highlighted the importance of river-development for Pakistan's survival.

A more direct reason for the construction of the new Sind barrages was Pakistan's chronic shortage of food. The projects would bring more land under cultivation and were expected to increase the outputs of existing estates. Food scarcity was partly caused by shortages of water in the canal systems of West Pakistan's wheat-producing areas: the unreliability of water levels in the Indus and its tributaries, which British officials had bemoaned, had not been nullified by colonial river-control works. Nor had the Sukkur Barrage ensured that food production in Sind was always stable, as demonstrated by the Government of Sind's concerns about food shortages in Karachi District in February 1947, following the general failure of the previous year's rice crop.<sup>9</sup> Other limitations on production fell within the capacity of human agency to control: 'primitive' cultivation techniques; the lack of availability of chemical fertilizers, and the poor rate of uptake of these by farmers where they were available; the diversion of land that could produce foodgrains to cash-crops such as cotton in Sind and the Punjab, and jute in East Bengal.<sup>10</sup> These limitations too had been recognized by colonial officials, although the encouragement of cotton-cultivation in Sind had been a deliberate colonial

---

<sup>8</sup> Karachi despatch 821, 04.06.1954, 'PAKISTAN – Projects', Near East Central Files, Pakistan, 1952-1955, R.G. 469, U.S.N.A.

<sup>9</sup> Chief Secretary to Government of Sind's report for the first half of February 1947, 18.02.1947, IOR/L/PJ/5/263, B.L.

<sup>10</sup> 'Report of the United States Wheat Mission to Pakistan, May 19, 1953', p.13, 890D.2311/5-1953, Central Decimal Files, 1950-1954, R.G. 59, U.S.N.A.

policy. Despite the large proportion of Pakistan's area that was devoted to agriculture, insufficient food was produced for the population.<sup>11</sup>

Food availability was crucial to Pakistan's stability. The economic and political ramifications that had always accompanied the threat of famine during colonial days still applied with full force, but now a rebellion among hungry workers or peasants could topple the fragile state. This was a potential threat both to Pakistan and the region as a whole, with severe consequences for the balance of power in Asia. From the U.S. government's perspective Pakistan was, like India,

on the periphery of the Soviet sphere and yet still free from effective Soviet penetration and therefore a possible focus of stabilization in Asia. However, not only is abject poverty and hunger the common lot, particularly in India and Pakistan, but there has been economic deterioration in these countries which, with reportedly growing populations, can be expected to continue in the absence of aid on a substantial scale. It is probable that the friendly and relatively progressive governments now in power in India and Pakistan will not be able to survive if the present economic trend continues.<sup>12</sup>

For this reason, foreign bodies, especially the U.S. government, funnelled a huge amount of food aid to Pakistan (and India) during the early 1950s. In Pakistan the first significant instance of this occurred after West Pakistan suffered from drought in 1951-1952, and its wheat crop was below average. In the same year, Pakistan cried foul again over Indian diversions of Indus tributary waters. The summer of

---

<sup>11</sup> The average calorie availability per person during the 1950s was 2,000, as against a recommended availability of 2,200 calories. Appendix 'A', 'National Food Policy of Pakistan', p.4, Karachi despatch 543, 01.03.1957, 'AGRICULTURE - Grow More Food Campaign (1957)', Mission to Pakistan, Executive Office Subject Files 1955-1957, R.G. 469, U.S.N.A. In 1953, the Government of the Punjab told a mission sent by the U.S. to assess the severity of Pakistan's food problems that foodstuffs were then being rationed in every city in the Punjab. The Government of Pakistan was, according to this mission, prepared to accept food aid on any basis that the U.S. Government wished to suggest; indeed, the mission's report took the country's problems seriously enough, in conjunction with Pakistan's strategic importance, to recommend an outright grant of \$70 million worth of food aid rather a loan. 'Report of the United States Wheat Mission to Pakistan, May 19, 1953', pp.6-10.

<sup>12</sup> 'U.S. Programs for Economic Strength in Under-developed Areas Proposed for FY 1952', n.d., pp.4-5, 'PB-3-5 Program Negotiations thru April 30th, Part I', Subject Files (Pakistan) 1952-1955, R.G. 469, U.S.N.A. On food aid, see also U.S. Secretary of State to Secretary of Agriculture, 31.03.1953, 890D.2311/3-3155, Central Decimal Files, 1950-1954, R.G. 59, U.S.N.A.

1952 saw rising prices, despite imports from India and Turkey; procurement drives in Sind and the Punjab were unsuccessful.<sup>13</sup> In March 1953 the finance minister, Chaudhry Muhammad Ali, estimated in his budget speech a wheat shortfall of one million tonnes, or nearly a quarter of the average total crop. With price-rises, hoarding of wheat, and the looming possibility of famine, Prime Minister Khwaja Nazimuddin and his government appealed to the international community for help. Canada and Australia sent 160,000 tonnes of wheat aid, which made up barely 6% of the deficit. The U.S., which was no friend of Nazimuddin's,<sup>14</sup> remained silent until his government, unable to meet the crisis, was dismissed by Governor-General Ghulam Muhammad. Thereafter the U.S. offered wheat aid on the condition that Mohammad Ali Bogra, a pro-American East Pakistani, be appointed as prime minister, under the tutelage of the Governor-General Ghulam Mohammad.

The veracity and severity of the food crisis has not gone uncontested. Alavi has argued that, since the U.S. promised only 700,000 tonnes of wheat, which was delayed and only partially arrived,<sup>15</sup> and that Pakistan immediately reaped a bumper harvest, there had been no food crisis. It had only, he argued, been manufactured by collusion between the U.S. and the pro-American triumvirate that controlled the central government (Ghulam Mohammad; Iskander Mirza, the defence secretary; and Mohammed Ayub Khan, the commander-in-chief).<sup>16</sup> On the other hand, a

---

<sup>13</sup> Extract from Confidential Report for Pakistan of the India, Pakistan and Burma Association [henceforth 'ConRep Pakistan'] for August 1952, India, Pakistan and Burma Association Papers, MSS Eur F 158/541, B.L.

<sup>14</sup> Ian Talbot, *Pakistan: A modern history* (London: Hurst and Company, 2005), pp.131, 141.

<sup>15</sup> In June 1953 the Pakistan Wheat Aid agreement provided for the immediate grant of up to 700,000 tons of wheat to meet immediate Pakistani consumption needs, with up to 300,000 tons for a supplementary reserve. Office of Assistant Secretary to Department of State, 24.06.1953, Central Decimal Files, 1950-1954, 890D.2311/6-2453, R.G. 59, U.S.N.A. Even then, relations were not entirely smooth: the U.S. Congress became concerned that the agreement's stipulation that a large proportion of the wheat be distributed free of charge to the people. Telegram, Secretary of State to U.S. Embassy, Karachi, 25.8.1953, 890D.2311/8-2553, Central Decimal Files, 1950-1954, R.G. 59, U.S.N.A.

<sup>16</sup> Hamza Alavi, 'Pakistan-US Military Alliance', *Economic and Political Weekly* 33:25 (June 20-26, 1998): 1551-1557.

contemporary U.K. trade organisation blamed the panic in Sind on the local administration having mistakenly reported “famine conditions” in Thar Parkar District, when they should have reported only a “state of scarcity”. This still suggested, however, that the shortage was not in fact the crisis that contemporaries supposed.<sup>17</sup>

Whether or not the food crisis was manufactured must remain an open question, but it is widely accepted that the fear of it played a part in creating the political disorder that allowed Ghulam Mohammad to dismiss Nazimuddin.<sup>18</sup> Another important effect of the need to import huge amounts of foodstuffs from other countries was the stretching of Pakistan’s meagre and much-coveted foreign exchange reserves to simply provide wheat and rice to the population. The other important uses to which foreign exchange could be put – commodities imports, the financing of development projects and, most troublingly for a country with a large and potentially aggressive neighbour such as India, defence expenditure – had to vie with food imports.<sup>19</sup> The financial implications of a shortfall in food production remained severe, even though the initiation of U.S. military aid to Pakistan in 1954 helped to meet the military’s budgetary demands. Finance Minister Syed Amjad Ali announced in February 1956 that the attainment of self-sufficiency in food production would take precedence over every other field of national endeavour.<sup>20</sup>

---

<sup>17</sup> ConRep Pakistan for January 1952, India, Pakistan and Burma Association Papers, MSS Eur F 158/541, B.L.

<sup>18</sup> Talbot notes that the crucial factors were Nazimuddin’s failure to constructively handle the anti-Ahmedi disturbances, and the consequent need to impose martial law in parts of the Punjab in March 1953. Talbot, *Pakistan: A modern history*, p.141.

<sup>19</sup> Jalal has argued that the huge share of Pakistan’s revenues apportioned to the military played a significant part in allowing the military-bureaucratic combine to continue its colonial-era dominance of the country, beginning with the first national budget in February 1948, which allocated 70% of central government expenditure to the armed forces. See Ayesha Jalal, *The State of Martial Rule: The origins of Pakistan's political economy of defence* (Cambridge: Cambridge University Press, 1990), esp. p.70.

<sup>20</sup> ConRep Pakistan for February 1956, India, Pakistan and Burma Association Papers, MSS Eur F 158/467, B.L.

The U.S. continued to make gifts of wheat and other food, alongside military and economic assistance, when it felt this to be important to American interests.<sup>21</sup>

In this context, one of the key factors in favour of the barrages was that they promised an increase in the cultivable area and therefore in food production. The Ghulam Muhammad Barrage was expected to provide 530,635 more tons of foodgrains, as well as 140,357 tons of raw sugar and 48,928 tons of cotton; the equivalent figures for the Gudu Barrage were 303,071, 52,500, and 79,285.<sup>22</sup> The increases in sugar and cotton production would indirectly improve national finances by providing exportable goods which could earn foreign exchange, or be used in the domestic markets as import-substitutes; the foreign exchange thereby earned or saved could in turn be used to finance imports of necessary food, as well as commodities and capital goods. The chief factor limiting agricultural production in the west wing of Pakistan remained the availability of water rather than of land or manpower,<sup>23</sup> and the new barrages were Sind's most spectacular and most familiar means of increasing the area that could be irrigated. They remained uniquely essential to agricultural development in Sind, whereas every other province had more significant alternatives to river irrigation, be it the annual monsoon in East Bengal, hill-torrents in Baluchistan, or to a lesser extent the rain-fed *barani* areas of the Punjab.

However, the construction of the new barrages and their canal systems were not completed until 1955 and 1962 respectively, and the colonization of their lands took even longer: the increases in food production that they promised were

---

<sup>21</sup> *E.g.* during 1956-7, the U.S.A. agreed to supply Pakistan with 415,000 tons of wheat at 175,000 tons of rice, to be paid for in rupees. ConRep Pakistan for December 1956, India, Pakistan and Burma Association Papers, MSS EUF F 158/467, B.L.

<sup>22</sup> 'Report of the United States Wheat Mission to Pakistan, May 19, 1953', Appendix A, Attachment B, 890D.2311/5-1953, Central Decimal Files, 1950-1954, R.G. 59, U.S.N.A.

<sup>23</sup> Karachi despatch 69, 04.08.1954, 890D.211/8-454, Central Decimal Files, 1950-1954, R.G. 59, U.S.N.A.

not viable solutions in the short term. Indeed, in February 1956, the Government of Pakistan's wheat reserves had become so depleted that once again only the timely arrival of US wheat shipments averted acute food shortages in Karachi and West Pakistan. That summer, the U.S. Agricultural Advisor to Pakistan calculated that if food production was not stepped up, growth in population would mean that the cost of importing foodgrains would reach Rs. 225 *crores* by 1960. He blamed low yields on the style of land tenure, inadequate credit facilities and outdated and faulty agricultural practices<sup>24</sup> – the same limitations that had constricted output since independence. Moreover, policies addressing the food shortage could be counterproductive: the food procurement drives of the 1950s, for example, were blamed for causing a disincentive towards greater production, as wheat was compulsorily purchased by the authorities at less than prevailing world prices. American advisors to the Government of Pakistan complained among themselves that American food aid reduced the incentive for the Pakistan to attain real self-sufficiency in food production and consumption.<sup>25</sup>

The stagnation of the rural economy, and the low yields of the agricultural sector, remained a pressing problem throughout the 'democratic' era of the 1950s. In virtually the final act of the pre-Martial Law government, President Mirza issued a directive on 7 October 1958 that the barrage lands in Sind, as well as other project areas in the Punjab and N.W.F.P., should be brought under cultivation forthwith. Even before Mirza's order, the Central Cabinet had issued a request to the West Pakistan government that the allocation and colonization of the six 'project areas' be

---

<sup>24</sup> ConRep Pakistan for July 56, India, Pakistan and Burma Association Papers, MSS Eur F 158/467, B.L.

<sup>25</sup> "Of course," wrote the Chief Agriculturalist at the Embassy in Karachi, "as long as Uncle Sam has taxpayer support for large scale handouts of foodgrain and as long as we do not ask a quid pro quo from GOP [*sic*], may be they can go blithely on their way. [...] Have we really helped them?" Chief Agriculturalist to Assistant Director, U.S. Operations Mission to Pakistan, 13.06.1957, 'AGRICULTURE – West Pakistan (1957)', Mission to Pakistan, Executive Office Subject Files 1955-57, R.G. 469, U.S.N.A.

expedited within three months. Apart from the fact that the Cabinet's document did not take into account the need for an increased establishment and was therefore highly unrealistic, it was only a request, and not an order, which the U.S. consulate condemned as an ineffectual "paper missile".<sup>26</sup> The need for the increased agricultural productivity and cultivable land area promised by the Sind barrages remained acute well into the 1960s.

## Feats of engineering

The symbolic importance of the new barrages went, however, far beyond a practical response to the food crisis. Instead they were, like the Sukkur Barrage before them, pegs on which successive administrations could hang their claim to legitimacy. It may be productive, therefore, to ask what view they yield about how far the ideological underpinnings that had sustained the Imperial administration had really changed when power was handed over to Pakistani elites. This section will examine the rhetoric surrounding the barrages to show that the celebration of engineering and man's mastery over nature was re-deployed by the agents of the new nation-state, with adjustments in emphasis, but a substantial continuity in content and logic.

It is important to note that the national project, like the barrage projects, was 'top-down': conceived and enacted principally by agents of the state and mediated through public occasions, and government-issued literature such as press releases and pamphlets. Yet, limited as the popular element of the pro-Pakistan movement had been, 'development' made even less reference to popular forces except in order to mobilize the 'common man' to work for the nation's benefit. The techniques used by different ruling groups to promote their particular brand of the

---

<sup>26</sup> Karachi despatch 280, 18.09.1958, '500 C.E.R.P. July-September 1958', General Records 1949-1961, Karachi Embassy 1956-1958, R.G. 84, U.S.N.A.

national project could vary, but the basic tenets remained the same. In relation to the types of engineering projects discussed in this chapter, the key tenets were economic development, and the integration of the diverse groups constituting Pakistan into a national whole.

These concepts existed alongside important questions, such as the place of Islam in the new republic, that were hotly debated across the country. The state's fundamental ability to advance material conditions, on the other hand, was virtually unchallenged; and mediated through its engineers, and promoted by its politicians. As during the colonial period, the importance of identifying technical capability with state authority cannot be overstated. Shortly after Independence, and before the national political process ground to a halt in the mid-1950s, the Government of Sind Minister for the Public Works Department, Sayed Miran Mohamed Shah, made this identification at the foundation stone-laying ceremony for the new barrage at Kotri on 12 February 1950. In a formal address to the then Governor-General Khwaja Nazimuddin,<sup>27</sup> he set out the project's salient technical points, making a case for why the barrage would be impressive.<sup>28</sup> It would provide the canals of Lower Sind with a newly reliable source of perennial irrigation, just as the Sukkur Barrage had provided for canals upstream. It would bring water to 11 *lakhs* acres that were currently "lying waste and barren [...] thus greatly increasing the wealth and prosperity of the country".<sup>29</sup> By assuring the water supply, the project was intended to improve the yields of staple crops, and increase the variety of crops which could be grown. It would also provide water for 43,000 acres of irrigated forest

---

<sup>27</sup> Nazimuddin later shifted from the post of Governor-General to that of Prime Minister following the assassination of the former Prime Minister, Liaqat Ali Khan, in 1951.

<sup>28</sup> To this day, the plaques at Kotri and Sukkur which commemorate the opening of the Barrages are mostly devoted to their 'Salient Features', comprising lists of technical information such as the length of the weirs, number of spans, and the volume of water that can be passed at full flood.

<sup>29</sup> Enclosure 1, Karachi despatch 204, 23.02.1950, Central Decimal Files, 1950-1954, 890D.261/2-2350, R.G. 59, U.S.N.A.

plantation, which would go some way towards making up Pakistan's huge fuel wood deficit. In keeping with Sukkur Barrage publicity, the Minister dwelt on the new barrage's quantifiable features: its length of 3,000 feet with 44 individual gated bays, its ability to pass 875,000 cubic feet of water per second at full flood, and the fish-ladders that would accommodate the passage of Sind's much-celebrated and commercially significant Palla fish.

Shah's recounting of facts and figures was straightforward, with little commentary. These numbers again followed the Sukkur precedent by speaking for the project's size, its importance, its impact: emphasizing its technical precision by confirming that its properties were rational, quantifiable, and ultimately controllable. Such technical details were chiefly the realm of experts, not of generalists – of the engineers and the other civil servants or politicians tasked with understanding them, not of the majority of attendant politicians, civil officers, journalists, and diplomats. These people could gain a sense of scale from the figures deployed, and from their simultaneous view of the barrage structure itself, but Shah's implication was that this grand design was, by its very nature, beyond the easy comprehension of non-specialists.<sup>30</sup>

The audience would have been expected, however, to understand the basic importance and supposed desirability of such a grand scheme, and to put it into a wider developmentalist context. Indeed the new barrage was not the only example of state-sponsored material progress, and other flagship infrastructure projects in Sind, such as the Sind Industrial Trading Estate in Karachi,<sup>31</sup> asserted of the state's

---

<sup>30</sup> The importance of the division between specialists and non-specialists has been asserted by Vandana Shiva, 'Reductionist Science as Epistemological Violence', in Ashis Nandy, *Science, hegemony and violence: A requiem for modernity* (Tokyo; Oxford: United Nations; Delhi University; Oxford University Press, 1988).

<sup>31</sup> This had been registered in 1947 and by 1954 contained the largest concentration of industry in Pakistan. Sarah Ansari, *Life After Partition: Migration, community and strife in Sindh, 1947-1962* (Karachi; Oxford: Oxford University Press, 2005), pp.76-77.

capacity to provide for the nation. Roy has argued that in neighbouring India, the common definition of nation and state after Independence in terms of lack – what they still needed to achieve in order to make a harmonious whole – drove Nehru’s promotion of the ‘need for science’.<sup>32</sup> In Pakistan, while there was no influential figurehead for scientific and technological progress comparable to Nehru, the materialist view of progress taken by colonial administrators had also passed on to their successors in government and public life. Shah, although a politician, held the brief for a technical department, and to an extent his speech reflects the professional concerns of engineering as a discipline.

The very measurability of the qualities that Shah invoked separated them from the messier, poorly defined concepts of social justice, national unity, and happiness. These, however, were what Governor-General Nazimuddin spoke of during his reply. As an individual who represented the country as a whole rather than one particular discipline of expertise, the Governor-General dwelt on the barrage's national importance and its promise of "immense good to the country and the people".<sup>33</sup> In fact he expanded upon the Minister's use of facts and figures to associate them with an imaginative content, declaring that such numbers would

stir the imagination. Lakhs of acres of barren land will be turned into smiling fields. Behind these figures I see in my mind's eye, hundreds of thousands of contented peasants reaping rich and varied harvest and thereby making a material contribution to the wealth of Pakistan.

This vision complemented Shah’s statements by referring the Minister’s technical definition of the project back to one that non-specialists could easily understand and visualize. Shah’s attention to technical detail prioritized the material basis of

---

<sup>32</sup> Srirupa Roy, *Beyond Belief: India and the politics of postcolonial nationalism* (Durham; London: Duke University Press, 2007), pp.105-132.

<sup>33</sup> Enclosure 2, Karachi despatch 204, 23.02.1950, 890D.261/2-2350, Central Decimal Files, 1950-1954, R.G. 59, U.S.N.A.

national development; Nazimuddin's utopian vision represented the end result of the process, shared by the people in common.

Such a kindly image contrasted starkly with the realities faced by the new country. Nazimuddin himself pointed to the "tremendous problem in the resettlement of the millions of refugees who poured into the country after Partition"; and the want of fodder and grazing grounds which led to cattle being slaughtered "at an alarming rate" in Karachi, leading to a shortage of milk and butter in Sind's urban centres. Unmentioned, but also looming large in public-sphere and official discussions across the country, were food shortages and the continuing difficulty of defining a practical balance of power between politicians, bureaucrats, and the military.<sup>34</sup> As Roy has argued of India, the fulfilment of the nation's development destiny appeared, in official discourses, to be on a horizon that retreated as much as India journeyed towards it.<sup>35</sup> By contrast Nazimuddin was asserting that, while the horizon of development might have been receding, Pakistan was catching up with it despite difficult national circumstances. The barrage at Kotri was to be the "second step forward in the advancement of the agricultural prosperity of the province - the first [having been] the Sukkur Barrage".<sup>36</sup> His optimism was not groundless: the Sukkur Barrage had helped Sind to buck undivided India's negative trend in food production during the Second World War, and by 1951 Sind remained the only province of Pakistan that produced more food than it consumed.<sup>37</sup> Pakistan's *de facto* rulers continued in the traditions of the

---

<sup>34</sup> These matters were all discussed, for example, at 1951 Governors' Conference. 'Revised Agenda for the meeting of the Governors' Conference to be held on the 7<sup>th</sup> April 1952', issued by Secretary to the Governor-General, 05.04.1952, 172/CF/51, Cabinet Records, National Documentation Centre, Islamabad [henceforth 'N.D.C.'].  
<sup>35</sup> Roy, *Beyond Belief*, p.131.

<sup>36</sup> Enclosure 2, Karachi despatch 204, 23.02.1950, 890D.261/2-2350, Central Decimal Files, 1950-1954, R.G. 59, U.S.N.A.

<sup>37</sup> Ministry of Food and Agriculture memo: 'Food Situation in 1952-53', n.d., 172/CF/51, Cabinet Files, N.D.C.; ConRep Pakistan for August 1951, India, Pakistan and Burma

colonial administration that had educated them, and looked to state-led initiatives to produce economic, social and political results, often through large-scale engineering projects.

Five years later, on 15 March 1955, the Ghulam Muhammad Barrage was formally opened, again amid much ceremony. Pakistan's nationally-minded press took up the idea of the ceremony as a chapter in the national story, with *Dawn*, for example, stating that: "A proud day was recorded in Pakistan's history when the Pakistan Governor-General yesterday flew into Hyderabad" for the event.<sup>38</sup> At the scene Mohammed Ayub Khuhro, Sind's Chief Minister, also focussed on what the barrage meant for the nation by claiming scientific expertise for Pakistan, which had previously been the preserve of the British rulers. "The project," he said, was

constructed by Pakistani Engineers and staff with the exception of the Chief Engineer and a few British Engineers, never more than five and for most of the time considerably less, who were chiefly required on the mechanical side. [...] With one partial exception, all the canal works are being executed either directly or by Pakistani Contractors.<sup>39</sup>

Hence, Khuhro was claiming that Pakistanis had successfully taken on and reproduced the scientific knowledge that British administrators had deemed such an important marker of British superiority only three decades previously. By judging the independent state's actions by the same criteria used by the colonial state, Khuhro drew attention to the similar ideological space that both administrations sought to occupy, and which relied on a cadre of experts who could manipulate the physical environment.

---

Association Papers, MSS Eur F 158/467, B.L. In 1951, Sind's exportable rice surplus was over 200,000 tons, of which 75,000 were exported to foreign countries; the then target of wheat procurement was 100,000 tons.

<sup>38</sup> 'Impressive Ceremony', *Dawn* 16.03.1955.

<sup>39</sup> 'Speech of the Hon'ble Mr. M.A. Khuhro, Chief Minister of Sind, on the occasion of the Opening Ceremony of the Kotri Barrage by His Excellency the Governor-General of Pakistan on 15th March 1955', p.2, enclosed with U.K. Senior Trade Commissioner Karachi to Commercial Relations and Exports Department, Board of Trade, London, 06.06.1955, DO 35/8581, U.K.N.A.

However, the promotion of technical feats to the credit of the Pakistani nation posed a challenge, for engineering expertise in Pakistan was not of straightforward origin. The British in India had made much of the superiority of their scientific and technological achievements over those of their colonial subjects, in common with prevailing attitudes exhibited by Europeans and North Americans towards the non-Western world.<sup>40</sup> The Sukkur Barrage, as we have seen, had been claimed as a great triumph of the colonial administration's ability to control nature and re-fashion local society using the power of their expertise in both technical and administrative fields. Moreover, the engineers of Pakistan's Public Works Departments had mostly been trained under the colonial dispensation, and used techniques developed by Europeans in India, the Near East, and Africa.

This troubled the discourses of the postcolonial state, which had a political need to make a show of distinguishing itself from its predecessor in order to maintain the support of influential sections of the population. In the case of the new barrage, this was an especial problem because the project's Chief Engineer, Tom Foy, was a Briton who had previously been employed in colonial Punjab's Irrigation Department, and who was aided by a nucleus of British engineers. In fact, the British consular officer who reported on the opening ceremony opined that the construction of a major work in five years had been made possible only by Foy's involvement, as had the redesigning of the project that had reduced the cost from Rs 7 *crores* to Rs 5.5 *crores*.<sup>41</sup> Moreover, the sluice gates and hoists had been manufactured by the British firm Ransomes & Rapier, which had also provided them for the Sukkur Barrage. This fact was not widely publicized within Pakistan, much to

---

<sup>40</sup> Michael Adas, *Machines as the Measure of Men: Science, technology, and ideologies of Western dominance* (Ithaca; London: Cornell University Press, 1989).

<sup>41</sup> Senior Trade Commissioner, Karachi, to Commercial Relations and Exports Department, Board of Trade, London, 06.06.1955, pr.3, DO 35/8581, U.K.N.A.

the firm's dismay; their representative's forceful protestations about this caused Khuhro to omit a scripted reference to the firm during his speech.

Khuhro departed from the script again to pay an especially warm tribute to Foy, who had by then retired,<sup>42</sup> but apart from this the opening ceremony was an occasion at which the particularly Pakistani nature of the barrage was set out. Thanks given to Foy did not offset the fact that both Khuhro and the new Governor-General, Ghulam Muhammad, remained silent about the project's roots in a British plan for the post-war development of Sind. These men could not miss the opportunity that the barrage project provided to demonstrate that Pakistan had mastered technological progress. This was perhaps all the more important in view of the Sind government's inability to provide a really solid institutional presence in rural development. Indeed, it is telling that at neither the Sukkur nor the Kotri ceremony was much attention paid to the re-organisation of agricultural institutions. Similarly, tensions between Sind and the centre were glossed over. Khuhro promoted the barrage as a Pakistani project rather than a Sindhi one, even though his political origins were vehemently Sindhi, and his chequered career had seen him lock horns with the central government over Sind's right to autonomy more than once.<sup>43</sup> At the time of the opening ceremony, Khuhro's failing political fortunes had recently been revived by the centre on the understanding that he would cajole the Sind Assembly into assenting to the One Unit scheme,<sup>44</sup> and this goes some way to explaining his apparently nationally-oriented position.

The barrage's impressiveness rested, as at the foundation stone ceremony, on its massiveness, its tangibility, and the fact that it was an artificial product of human endeavour. Khuhro announced that:

---

<sup>42</sup> Senior Trade Commissioner, Karachi, to Commercial Relations and Exports Department, Board of Trade, London, 06.06.1955, pr.3.

<sup>43</sup> See Ansari, *Life After Partition*, pp.55-59, 61-63.

<sup>44</sup> Jalal, *State of Martial Rule*, p.200.

While no money has been wasted on purely ornamental or decorative features, every thought has been given to the appearance of the Barrage so that it may have the natural good looks of a structure - soundly built, and with all its parts severely designed to carry out their functions without waste or grandioseness [*sic*].<sup>45</sup>

By making simple and practical construction work into an aesthetic statement, Khuhro<sup>46</sup> allowed the sheer material solidity of the barrage to stand for the work that it represented, and the faith in scientific agriculture that it manifested. In doing so, he followed the logic of the photographs included in the Sukkur Barrage souvenir booklet, but emphasized technical aspects to elide the very important, and distinctively Sindhi, social and political implications of such large irrigation projects. The visually manifest functionality of the barrage further allied it, and its builders, to the exercise of human agency over the natural environment: matching the river's strength with the visible strength of concrete.

The importance of engineers and their place in driving the national story forward was even more strongly propounded at the foundation-stone-laying ceremony for the Gudu Barrage on 2 February 1957. In an address presented to the new President, Iskander Mirza, by the Minister of Communications and Works of the new Province of West Pakistan, which included Sind, engineering expertise was again presented as fundamental to national development:

In the development of any country the Engineers have to play a great part. [...] The task of constructing this new Nation will mainly fall on their shoulders. [...] Our Irrigation Engineers have already made their mark and I am happy to say this Barrage is entirely the work of our Pakistani Engineers.<sup>47</sup>

---

<sup>45</sup> 'Speech by the Hon'ble Mr. M.A. Khuhro', p.4.

<sup>46</sup> In fact, Khuhro's phrasing from "every thought..." onwards was taken directly from Shah's speech at the foundation stone ceremony. It is entirely probable that both speeches were written by aides or by civil officers connected with the scheme, and so it is problematic to attribute personal views directly to Shah or Khuhro on the basis of their speeches. However, what is at stake here is how their statements reinforced and reiterated a conception of technical ability as a measure of those who possessed it, *i.e.* the state's agents.

<sup>47</sup> Enclosure 2, U.K. Trade Commissioner's Office Karachi to Commercial Relations and Exports Department, Board of Trade, London, 14.02.1957, BT 11/5110, U.K.N.A.

Mirza, in his reply, enunciated the same theme:

the engineering profession holds a place of honour among the other leading professions in a nation-building programme. [...] The country expects that they will live up to their reputation in the execution of this Project and thus contribute to the building of a better, happier and prosperous Pakistan.<sup>48</sup>

In the event, Pakistani engineers again operated with outside help, this time from U.N. technical personnel.<sup>49</sup> The close identification of engineers with the national project demonstrated that, although the term 'nation-building activities' could and did refer to the moral and social development of the nation's people, the impression made by large-scale technology-intensive infrastructure projects was presented as indicative of the nation-state's capabilities. The barrages made visible the state's capacity to act on behalf of Sind's agriculturalists, manifesting the same need for 'state visibility' that underpinned development projects in contemporary India, such as new towns planned to house workers at steel mills.<sup>50</sup>

Contemporary conditions perhaps heightened the importance of this rhetorical safe haven. In 1957 the food shortages continued to loom large, alongside the general economic malaise that afflicted the country. Moreover, the bitter divisions among politicians that would soon lead to the declaration of Martial Law made the solidity of both the civil service (of which the engineers were a part) and the work done by engineers a safe rhetorical haven by comparison. Like the Commissioner-in-Sind's assertion in his 1920 memorandum that a barrage at Sukkur would demonstrate the Government's willingness and capacity to do good works to

---

<sup>48</sup> Enclosure 3, U.K. Trade Commissioner's Office Karachi to Commercial Relations and Exports Department, Board of Trade, London, 14.02.1957, BT 11/5110, U.K.N.A.

<sup>49</sup> Lahore despatch 704, 07.05.1952, 890D.211/5-762, Central Decimal Files, 1950-1954, R.G. 59, U.S.N.A.

<sup>50</sup> Roy, *Beyond Belief*, p.139.

benefit the people,<sup>51</sup> engineering expertise (in this context, allied to nation-building) could be invoked as the bedrock of state power.

Even under the stronger authoritarian grip of the Martial Law administration, this technical-modernizing discourse lost none of its importance. On 7 October 1958, President Iskander Mirza dismissed the civilian government, and instituted Martial Law throughout Pakistan; shortly afterwards, he himself was deposed and exiled by the army chief, Mohammed Ayub Khan. When the Gudu Barrage was ceremonially opened in March 1963, Ayub Khan (who had since declared himself President) called the project “monumental”.<sup>52</sup> Ghulam Ishaque, Chairman of the West Pakistan Water and Power Development Authority (W.A.P.D.A.), emphasized its extra-provincial symbolic capital by calling it a “monument to national determination.”<sup>53</sup> The changing political contexts in which projects such as the Gudu Barrage appeared over time seemed to have little effect on how they were symbolically presented. Ayub’s administration continued the enthusiasm for technical development as a national endeavour, repeatedly and publicly exhorting engineers to work for national progress.<sup>54</sup> While Ayub himself was not unreserved in his praise for the profession,<sup>55</sup> he continued to seek technical solutions to social and economic problems from a cadre of specialists. By the mid-

---

<sup>51</sup> ‘Memorandum by the Commissioner-in-Sind’, 14.07.1920, pr.5, enclosed with Shourbridge to Secretary to Government of India P.W.D., 30.07.1920, IOR/P/10797, B.L.

<sup>52</sup> ‘Gudu Barrage’, *Dawn* 03.03.1963.

<sup>53</sup> ‘President opens Gudu Barrage’, *Pakistan Times* 02.03.1963.

<sup>54</sup> The Nawab of Kalabagh, West Pakistan’s Governor, asked engineers to realize his dream of a rich, progressive Pakistan at the ‘heart of Asia’. ‘Engineers should meet challenge of time’, *Dawn* 05.04.1962. Ayub told a meeting of the Pakistan Institute of Engineers that they were to “[D]o an enormous job in the country which has a tremend[o]us reconstruction programme”. ‘Engineers asked to use local resources’, *Dawn* 14.04.1962.

<sup>55</sup> Ayub blamed unimaginative planning on the part of certain engineers for waterlogging and salinity problems, asserting that “The days for mistakes have gone [...] We cannot afford to let you make mistakes at our expense.” ‘Call to develop nation’s resources’, *Dawn* 25.03.1961. The occasional tension should warn us, in spite of this thesis’s analysis, against assigning too much homogeneity to ‘the state’.

1960s he felt confident enough to claim to an international audience that Pakistan had defied the world's scepticism about

what it thought was an impudent adventure to establish a new state, without much prospect of a viable economy, by a people inexperienced in administration, unacquainted with modern technology, and lacking both the capital and natural resources for development.<sup>56</sup>

Evidently, Ayub considered command of technology to be one of the key qualities that enabled a 'nation' to construct a state. Throughout the 1950s and well into the 1960s, then, Pakistan's administrators considered engineering expertise to be central to national development. The importance ascribed to the Ghulam Muhammad and Gudu Barrages were manifestations of this belief.

### **Rationalization of resources: One Unit**

The scientific logic of engineering, which prized a rational approach to problem-solving, found expressions outside the immediate arena of public works construction, with significant implications for how administrators saw the Indus Basin, the development of water resources, and the state's part in the ongoing struggle between humans and the natural environment. This became apparent, long before Martial Law, in relation to the One Unit scheme, which was established on 14 October 1955. This abolished the pre-existing provincial governments, princely states, and other administrative areas making up the western wing of the country (with the exception of Karachi, which initially remained a federally-administered capital territory), and amalgamated them into the new province of West Pakistan. East Bengal became, correspondingly, East Pakistan. While the scheme was primarily intended to prevent East Bengal's demographic majority from

---

<sup>56</sup> Ayub Khan, address delivered at the Overseas Development Institute, London, July 1964. Mohammed Ayub Khan, *Pakistan Perspective* (Karachi: Department of Advertising, Films and Publications, [196-?]), p.93.

translating into political power,<sup>57</sup> it also became a forum in which the assertion of rationalized administrative structures was linked to the notion of 'efficient' natural resource exploitation, a phenomenon that seems to have been overlooked by the scholarly literature.

Sind's physical landscape might have remained resolutely unchanged by the mere fact that provincial boundaries had been re-ordered, but One Unit removed the political-administrative borders by which development projects were bound. This had a particular bearing on the new barrages in Sind because the Indus and its tributaries formed one continuous system of waterways, and of contiguous environments. The idea of, say, the Sukkur Barrage as a Sindhi project relied on the human designation of Sind as a separate administrative territory from the Punjab – or even from Tibet, where the river's source lies. Noises on this theme had been made prior to 1955, and the important Sindhi geographer Maneck Pithawalla, who served as an adviser to the government before and after Independence, had written as early as 1948 that:

the concept of 'region' has to be developed in the solution of Pakistan's problems and the haphazard political boundaries have to be discarded at any rate. That all artificial political boundaries are a nuisance in our work of national planning is beginning to be realized at long last. [...] No longer shall we think in terms of the N.W.F.P., West Punjab, Sind, and Baluchistan, but the main PHYSIOGRAPHIC [*sic*] regions[.]<sup>58</sup>

There is scant evidence that this view was widely-held in Sind, or that this was a major motive for One Unit's creation. The scheme's potential for re-ordering the way in which river development projects were carried out was, however, taken up and promoted by the administration during the 1950s. Previously, the distinction between development planning for Sind and the Punjab had prevented either British

---

<sup>57</sup> Ayesha Jalal, *Democracy and Authoritarianism in South Asia: A comparative and historical perspective* (Cambridge: Cambridge University Press, 1995), p.53.

<sup>58</sup> Maneck B. Pithawalla, 'Water Resources of the Dry Zones in Pakistan', *Sind Observer Illustrated Sunday Supplement* 26.09.1948.

or Pakistani administrations from taking a 'river basin' perspective, which would have perceived the Indus Basin as one hydrological unit. As Tvedt has argued, the British conquest of, and planning for, the Nile Basin in the late 1800s and early 1900s was driven by a downstream, Egypt-centric perspective that pushed for the control of the whole Nile system, to construct works upstream that would guarantee Egypt's irrigation water.<sup>59</sup> By contrast the British in India, having control of the whole Indus Basin (though admittedly not of the sources in Tibet and Afghanistan) argued amongst themselves about riparian rights. After Independence, Pakistan could not unilaterally take such a perspective, because the upstream part of the Indus Basin was in Indian East Punjab.

One Unit, however, allowed some movement in the direction of a basin-wide development perspective. In 1956, in the first *West Pakistan Yearbook*, this new constitutional arrangement was linked with the kind of physiographic perspective that Pithawalla had urged. "Abolition of political boundaries in West Pakistan", it claimed,

was so obvious in the interest of sound administration and uniform economic development that the proposal to constitute it into a single administrative unit evoked spontaneous support. [...] West Pakistan is a compact geographical unit and an economic entity. Nature has created no boundaries within the area."<sup>60</sup>

Specifically regarding irrigation, the *Year Book* maintained that:

One of the strongest arguments in favour of the formation of One-Unit was the fact that the integrated province was geographically one and that its component parts were dependent for a major portion of their revenues on the rivers and the irrigation system based on them. Since integration, therefore, the approach to irrigation development has acquired a wider and

---

<sup>59</sup> See Terje Tvedt, *The River Nile in the Age of the British: Political ecology and the quest for economic power* (London; New York: I.B. Tauris, 2004), esp. ch. 2.

<sup>60</sup> West Pakistan Public Relations Department, *West Pakistan Year Book 1956* (Lahore: Public Relations Department, West Pakistan, 1956), pp.8-9.

less parochial outlook and the former inter-provincial water disputes have given way to a healthier and more rational attitude.<sup>61</sup>

Similarly, when the Gudu Barrage's foundation stone was laid in February 1957, the address presented to President Mirza noted that Sind's integration into West Pakistan meant that land outside Sind could now be irrigated without causing inter-provincial disputes.<sup>62</sup> The scheme was therefore credited with allowing the more rational implementation of development projects, free of the former provinces' administrative and political borders: the Gudu Barrage's potential for bringing progress to the countryside was enhanced by the new administrative arrangements. The idea that a unitary geographic region<sup>63</sup> should underpin a unit of political-administrative representation sought to connect the Indus's 'naturalness' with a politically-motivated construct, one that nullified regional identities that the centre regarded as anti-national.

Taking a regional perspective pretended to objectivity, but did not necessarily benefit all the people of that region. The supposed 'rationalization' of resource-use and development-planning could serve as a veil for the distribution of patronage, in this case through land and water allocations. This had, indeed, been the case on the earlier Sind irrigation projects, where land was allocated to groups who were already politically important in the province. One Unit, however, was widely regarded within Sind as a cover for the promotion of Punjabi interests, as control over what had once been Sind's provincial and local affairs was lost to a legislature and bureaucracy which had only a partial basis in Sind. After Ayub Khan's 1958 coup, this opposition remained unchanged; as a detailed American report on a

---

<sup>61</sup> West Pakistan Public Relations Department, *West Pakistan Year Book 1956*, p.36.

<sup>62</sup> Enclosure 2, U.K. Trade Commissioner's Office Karachi to Commercial Relations and Exports Department, Board of Trade, London, 14.02.1957, BT 11/5110, U.K.N.A.

<sup>63</sup> Which was not, in fact, as 'natural' as One Unit's proponents claimed: the conditions of irrigated agriculture alone were vastly different in the rain-fed areas of the Punjab and Upper Sind, in the canal-irrigated Indus Basin, and in mountainous regions such as most of Baluchistan which relied on hill torrents.

tour of rural Sind undertaken by embassy staff noted, "Almost without exception, Sindhis were opposed to this scheme. One civil servant went so far as to say "You [Americans] must convince the regime that this will not work, and force them to decentralize."<sup>64</sup> A widely-heard complaint was that 'the Punjab' had been using the new administrative framework to take water from the Indus and tributaries which rightly belonged to Sind. Adding insult to injury, One Unit meant that the former provinces were no longer viewed as legitimate entities. Any action brought through official channels had to be conducted with reference to West Pakistan's new-found singularity. Opposition to the new arrangement was perforce reduced to appealing to an official non-fact, and calls for the demolition of One Unit in Sind increasingly spoke to a distinctive Sindhi identity.<sup>65</sup> One Unit's pretensions to rational regional development, then, failed to mask the effect that it had on local politics. It did, however, help to perpetuate the official view of Sind, as well as the wider Indus Basin, as a space in which state authority could be inscribed through development projects that were clothed in the language of rational resource-use.

## Development of the barrage areas

Whether or not One Unit improved Sind's development prospects, the barrages alone were not sufficient to bring about the improved agricultural production that would boost the economy, and demonstrate that Sind was an environment in which

---

<sup>64</sup> Karachi despatch 1125, 02.06.1960, p.3, '500 PAKISTAN 1959-61', General Records, 1949-1961, Karachi Embassy 1959-1961, R.G. 84, U.S.N.A.

<sup>65</sup> According to Rahman, most Sindhi partisans opposed One Unit on cultural, linguistic, economic, and political grounds. Reductions in the status of the Sindhi language began in 1952, when following the separation of Karachi from Sind and the former's establishment as a Federal Capital Territory the University of Sind was moved to less-developed Hyderabad. A new university was established in Karachi, which promoted the use of Urdu and caused controversy by banning students from answering examination questions in Sindhi in 1957-1958. Under One Unit, the Government of West Pakistan tended to favour Urdu. By the early 1960s, even laws pertaining to Sindhi were published in other languages, and only some were translated into Sindhi. See Tariq Rahman, *Language and Politics in Pakistan* (Karachi: Oxford University Press, 1998), pp.114-115.

‘modern’ technical knowledge could improve the human condition. To fulfil this promise, the type of agriculture practised on the lands would also have to adapt to the new conditions created by the barrage systems. Like its colonial predecessor, the state took it upon itself to bring about these changes by promoting new agricultural techniques. Jalal has argued that the need to intervene in the food markets and the commercial sector of the agricultural economy led to an expansion of the state’s administrative capacities and administrative structures at both provincial and national levels.<sup>66</sup> While this was true on paper, it will be argued here that the state’s ability to intervene in rural life did not live up to this ideal.

In Sind, agricultural institutions – like many government bodies in the wake of Partition – continued to operate according to their pre-1947 patterns. In 1953 an attempt had been made to institutionalize agricultural extension by re-organizing the Agricultural Department in Sind to strengthen the Extension Service. A new Agricultural Publicity section was also established.<sup>67</sup> These actions both amounted to a tweaking of the system to put a little more emphasis on the subjects beloved of the central planning committees, rather than a searching re-think about what the Department’s role should be. In addition, the areas of Sind that required the most attention in order to succeed, namely the barrage zones, were home to poorly co-ordinated development departments. This contrasted with the Thal project in the Punjab, where the Thal Development Authority worked alongside the Village Agricultural and Industrial Development Programme (V-AID) to provide training for ‘village workers’ who would show cultivators better agricultural techniques, health and sanitation measures, and even better methods of weaving.<sup>68</sup> The Sind barrages,

---

<sup>66</sup> Jalal, *State of Martial Rule*, p.67.

<sup>67</sup> Karachi despatch 817, 02.06.1954, p.13, 980D.20/6-254, Central Decimal Files, 1950-1954, R.G. 59, U.S.N.A.

<sup>68</sup> Karachi despatch 453, 26.01.1954, 980D.20/1-2645, Central Decimal Files, 1950-1954, R.G. 59, U.S.N.A. V-AID had been launched in 1953, with the goal of stimulating self-help in rural

however, lacked any such co-ordinated programmes during the 1950s, despite the prestige attached to them.

One way in which the authorities attempted to 'improve' agriculture in the barrage zones was by promoting methods of agricultural production that had proven their ability to help increase yields in other parts of the world, especially the U.S., which was taken as a model for large-scale intensive crop production.<sup>69</sup> This was not confined to the barrage areas, but these were certainly the most highly prioritized parts of Sind for the introduction of agricultural development schemes. Accordingly a 'Master Plan' for the Ghulam Muhammad Barrage Area, a summary of various schemes for colonization and development, came to be produced during the early 1960s: the first draft was submitted by the Central Development Working Party to the National Economic Council in early 1963, which approved the principle in February, and in July requested details of each scheme, which would be approved individually. The most expensive of these included a scheme for planned towns and villages in the barrage area; the provision of drinking water, in association with the World Health Organisation; and, by far the most expensive scheme, Rs. 394.96 *lakhs* for the development of Ghulam Muhammad Barrage land by tractors.<sup>70</sup>

---

communities. On the technical side, one of its most important functions was to raise the productive output and income of cultivators by encouraging modern farming techniques; it was also given some responsibility for providing community services such as school, hospitals, and dispensaries, and for coordinating the activities of different government agencies working in the villages. On the social side, the programme aimed at promoting co-operation among villagers and community consciousness. It relied chiefly on a cadre of Development Officers, each responsible for approximately 150 contiguous villages, or 100,000 people. Each was assisted by up to 30 Village Workers, and by the technical staff of the 'nation-building' government departments within the given area. N.a., *Pakistan 1954-1955* (Karachi: Pakistan Publications, 1955), pp.56-57.

<sup>69</sup> See James C. Scott, *Seeing Like a State: How certain schemes to improve the human condition have failed* (New Haven; London: Yale University Press, 1998), pp.270-271.

<sup>70</sup> Annexure 1, President's Secretariat Planning Division to Additional Chief Secretary to the G.o.W.P., Planning and Development Department, Lahore, 15.07.1963, Cabinet Files, 153/CF/63, N.D.C.

The employment of machines was, as Scott has argued, integral to the project of agricultural modernization.<sup>71</sup> The value of mechanizing agriculture in Pakistan, however, had never been universally accepted: in the late 1950s, the authors of the First Five Year Plan had argued against the extensive utilization of tractors in cultivation, on the grounds that Pakistan's large labour force was already under-employed, that individual holdings were too fragmented to make tractors helpful, and that tractors were expensive to buy and maintain and their importation required foreign exchange.<sup>72</sup> Other Pakistani officials had been more enthusiastic about mechanization, but this was tempered by the reservations of their allies.<sup>73</sup> Pakistan had imported modern agricultural machinery worth Rs. 10 million to help step up food production in the first half of 1958,<sup>74</sup> but there is no evidence that this made a great impact on rural areas. Indeed the Agricultural Census Commissioner believed that mechanization was no panacea for low production since it required careful maintenance, which would not be forthcoming in a state-managed system.<sup>75</sup> The development of Ghulam Muhammad Barrage lands with tractors did not even begin until 1961, even though the revenue authorities had begun releasing Ghulam Muhammad Barrage land in 1956, and the land was covered with forest growth and

---

<sup>71</sup> Scott, *Seeing Like a State*, pp.196-197.

<sup>72</sup> National Planning Board, *The First Five Year Plan 1955-60* ([Karachi?]: Government of Pakistan National Planning Board, 1957), p.232.

<sup>73</sup> In 1954, the Government of Pakistan asked the United States for \$1.5m for the rapid settlement of the Lower Sind Barrage area (as it was then known), including for the mechanical cultivation of large tracts. The U.S. Foreign Operations Administration, on the other hand, felt that £250,000 would be sufficient, because mechanical cultivation ought to supplement, and not replace, hand labour. Director of Foreign Operations Pakistan to Director Foreign Operations Administration, Washington DC, 27.08.1953, 'File PB-4-5 Program Negotiations I - to Sept 30<sup>th</sup>', Subject Files (Pakistan) 1952-1955, R.G. 469, U.S.N.A. Instead, the U.S. Technical Co-operation Administration preferred to set up a project on Lower Sind Barrage land, or elsewhere in Pakistan, for adapting agricultural equipment and machinery to prevailing conditions. Director of Foreign Operations Pakistan to Secretary to the Ministry of Economic Affairs, Government of Pakistan, 26.08.1953, 'File PB-4-5 Program Negotiations I - to Sept 30<sup>th</sup>', Subject Files (Pakistan) 1952-1955, R.G. 469, U.S.N.A.

<sup>74</sup> 'Pakistan News Digest', 15.08.1958, Papers of the India, Pakistan, and Burma Association, MSS Eur F 158/467, B.L.

<sup>75</sup> Lahore despatch 52, 01.09.1961, 890D.20/9-161, Central Decimal Files, 1960-1963, R.G. 59, U.S.N.A.

earth dunes which could not be cleared by hand labour.<sup>76</sup> However much American tractor-based cultivation may have been respected as a model for intensive agricultural production, the conditions prevailing on Sind land and in the country's budget militated against it during the 1950s and early 1960s.

An agricultural input that had received stronger government support in the first decade of independence was chemical fertilizer. From 1952, the Government of Pakistan subsidized fertilizer distribution to popularize its use, and during the following three years some 174,000 tons of fertilizers were imported, mainly through the U.S. Foreign Operations Administration. The rhetoric surrounding food and agricultural programmes must be treated sceptically, however, since they appeared to make little difference during the 1950s. By 1955, a factory for the production of ammonium sulphate was being set up at Daud Khel in the Punjab.<sup>77</sup> Like the One Unit scheme and the construction of the barrages, this was very much a 'top-down' initiative. Indeed in 1953, the Chief Minister of Bahawalpur State had remarked that cultivators there believed that fertilizers poisoned the soil, and so needed to be educated before fertilizer-use could become widespread.<sup>78</sup> The Government of Sind had distributed fertilizers in the early 1950s, but with little apparent effect;<sup>79</sup> and despite an increase in the area of West Pakistan under wheat by half a million acres between 1950-1955, the output of wheat in financial year 1955-56 was low enough that the Government of West Pakistan predicted a need

---

<sup>76</sup> President's Secretariat (Planning Division), Summary for the Executive Committee of the National Economic Council: 'Development of Kabuli (private owned) and Nakabuli (state owned) land by Tractors in G.M. Barrage', October 1965, Cabinet Files, 23/CF/67, N.D.C.

<sup>77</sup> N.a, *Pakistan 1954-1955*, p.55.

<sup>78</sup> Karachi despatch 1032, 27.05.1953, 890D.2311/5-2753, Central Decimal Files, 1950-1954, R.G. 59, U.S.N.A.

<sup>79</sup> Karachi despatch 817, 02.06.1954, Central Decimal Files, 1950-1954, 980D.20/6-254, R.G. 59, U.S.N.A.

for 325,000 more tons of wheat for the coming year than had been harvested.<sup>80</sup> The first years of the Sind barrage projects had coincided with an uneasy half-decade, 1950-1955, in which the agriculture-driven national economy stagnated while the relatively small industrial sector received a great deal of help from the government.<sup>81</sup> The state was not, then, following through on the modernizing promise that the barrages held out.

Not until Ayub Khan's era, from the late 1950s-1960s, did Pakistan's agricultural development strategy become truly technicist.<sup>82</sup> Both fertilizers and mechanized agriculture increased in importance and effectiveness under Ayub's government, which claimed in publicity material issued during the fourth year of its rule to have been the first post-Independence administration to recognize the centrality of agriculture to Pakistan's economy and to genuinely aim at self-sufficiency in food.<sup>83</sup> After the declaration of Martial Law in 1958, a new central Minister of Food and Agriculture, Muhammad Hafizur Rahman, had directed that a new 'production drive' would focus on small schemes which could produce immediate results and which could later be co-ordinated into a long-term programme of self-sufficiency in food. Accordingly, 135,000 tons of fertilizers were

---

<sup>80</sup> The wheat harvest in West Pakistan in FY 1950-51 yielded 3,930,000 tons; it fell to a trough of 3,108,000 tons in FY 1954-55, before rising again to only 3,293,000 tons in FY 1955-56. ConRep Pakistan for January 1957, Papers of the India, Pakistan, and Burma Association, MSS Eur F 158/467, B.L.

<sup>81</sup> Malik has estimated an annual average growth rate in the agricultural sector of only 1.0% up to 1955; thereafter, with the implementation of the First Five Year Plan this rose to 2.1% per year, which was itself much below that experienced during the 'green revolution' in the 1960s, 5.0% per year. Abdul Malik, *Agricultural Development in Pakistan: Past, present, and future* (Toronto: Social Sciences & Humanities Press of Canada, Inc., 1988), p.25. Large-scale manufacturing, by contrast, received more encouragement from the government, and grew at 18.6% between 1950-1957, and at 12.8% from 1958-1968. Christopher Candland, *Labor, Democratization and Development in India and Pakistan* (London; New York: Routledge, 2007), p.78. This discrepancy in growth existed despite the contribution to agriculture made by the barrages.

<sup>82</sup> Pervaiz Nazir, *Local Development in the Global Economy: The case of Pakistan* (Aldershot: Avebury, 1991), pp.3-4.

<sup>83</sup> Department of Films and Publications, *Three Years of Progress Under the Revolutionary Government in Pakistan, 1958-1961* (Karachi: Department of Films and Publications, [1961?]), p.4.

allocated for West Pakistan in 1959, along with 110,000 tons for East Pakistan.<sup>84</sup>

State-sponsored fertilizer factories in Multan (West Pakistan) and Fenchuganj (East Pakistan) came into operation in 1962, but could not nearly meet the requirements for fertilizer to aid the Second Five Year Plan's expected increase of 21% in food grain crop yields by 1965.<sup>85</sup> To further boost the agrarian economy, state subsidies for intensified agriculture remained in place throughout the 1960s, as fertilizers, improved seed varieties, and the use of machinery remained too expensive for individual farmers.<sup>86</sup>

Some mechanization had been included in the 'production drive' announced by Hafizur Rahman in 1958, and in addition the Government of West Pakistan intended to import fifty tractors with bulldozing equipment to help prepare waste lands outside the Sind barrage areas for cultivation.<sup>87</sup> The Second Five Year Plan confirmed, however, the First Plan's cautious approach towards agricultural mechanization in general.<sup>88</sup> Not until the Third Plan of 1965-1970 did tractor cultivation seem to gain popularity with the Planning Commission, with a planned increase from 40,000 acres ploughed by tractor in the last year of the Second Plan period to 75,000 acres in the last year of the Third Plan.

A more streamlined approach to agricultural modernization had been promised when the Governor of West Pakistan in October 1961 created, by ordinance, the West Pakistan Agricultural Development Corporation, and put a range of operations related to agriculture, including the distribution of fertilizers and

---

<sup>84</sup> ConRep Pakistan for December 1958, India, Pakistan and Burma Association Papers, MSS Eur F 158/467, B.L.

<sup>85</sup> ConRep Pakistan for November 1961, India, Pakistan and Burma Association Papers, MSS Eur F 158/467, B.L.

<sup>86</sup> Memorandum by Turner C. Cameron, Jr., 18.02.1964, 'E 11-3 PAK', Subject-Numeric Files, 1964-1966, R.G. 59, U.S.N.A.

<sup>87</sup> ConRep Pakistan for December 1958, India, Pakistan and Burma Association Papers, MSS Eur F 158/467, B.L.

<sup>88</sup> Planning Commission, *The Second Five Year Plan 1960-65* (Karachi: National Planning Board, 1960), pp.144-145.

the management of mechanization, into its hands. This appeared successful. In January 1966 a press conference was told that demand for fertilizers now outstripped domestic supply, and that the National Economic Committee would be able to reduce the subsidy on fertilizers from 50% to 15%.<sup>89</sup> By the late 1960s, the 'Green Revolution' appeared to be yielding results, and West Pakistan's agricultural sector was performing better than that of East Pakistan: it was growing by 3.1% per year and, according to American observers, was set to take-off in the next few years following successful fertilizer distribution, tube-well sinking, and other agricultural schemes.<sup>90</sup>

The creation of the provincial Agricultural Development Corporation did not mean, however, that the central government relinquished its special interest in the Ghulam Muhammad Barrage zone. Like other important agricultural projects, its development was enmeshed into the national planning framework, and works and projects connected with the barrage were included in the Second Five-Year Plan. It was also the subject of schemes such as those sanctioned in 1960 and 1965 to use tractors and other earth-moving machinery to improve Ghulam Muhammad Barrage land.<sup>91</sup> These and other schemes did not, however, drive Pakistan to achieve the ever-receding goal of food self-sufficiency, and a major World Bank scheme to help finance a new \$78 million urea fertilizer plant in West Pakistan was announced in

---

<sup>89</sup> ConRep Pakistan for January 1966, India, Pakistan and Burma Association Papers, MSS Eur F 158/467, B.L.

<sup>90</sup> U.S. Consul, Dacca, to Department of State, 23.01.1968, 'E 7 PAK', Subject-Numeric Files, 1964-66, R.G. 59, U.S.N.A.

<sup>91</sup> The 1960 scheme had concentrated solely on state-owned land, even when private landowners had been willing to pay to use government-owned tractors. This restriction had, the West Pakistan Agricultural Development Corporation complained, been detrimental to its mission "to increase food production by bringing more area under cultivation and by increasing the yield, irrespective of its ownership". Appendix A, President's Secretariat (Planning Division), Summary for the Executive Committee of the National Economic Council: 'Development of Kabuli (private owned) and Nakabuli (state owned) land by Tractors in G.M. Barrage', October 1965, Cabinet Files, 23/CF/67, N.D.C. The 1965 scheme provided for the development of 250,000 acres, of which 100,000 were privately-owned.

July 1968. The stated aim was to contribute to the administration's intention to finally achieve food self-sufficiency in the 1970s.

The attempts of successive governments, most significantly Ayub's, to provide the incentive and means to cultivators for intensive crop production on barrage lands had not raised production sufficiently to meet Pakistan's needs, nor had it kept pace with the significant advance in providing water that the barrages and canal systems had brought about. If the barrages provided an infrastructural framework for the renovation of agriculture in Sind, the limited impact of agricultural input schemes meant that this framework contained little actual content. Similarly, government agencies such as V-AID and the Agricultural Development Corporation seemed unable to take command of development activities, while official attitudes towards the importation of modern aids to agricultural production, such as tractors and fertilizers, remained ambivalent. The ideal of national progress, fuelled by the intensive development of flagship areas such as the barrage zones, remained unfulfilled because the initial developmental thrust was not followed through with successful after-care.

### **Drainage: setbacks in 'progress'**

The authorities' failure to fully utilize the opportunities for intensive development that the barrages provided was accompanied by the emergence of a serious problem, one that affected every barrage command. This was the deterioration of agricultural land through waterlogging and salinity, due to the insufficient drainage of irrigation water off the land, which was actively detrimental to the barrages' promise of improved cultivation and higher crop yields. The matter reared into the public consciousness in the early 1960s, when the areas of formerly productive land

being lost to the process became significant, and undermined the heroic narrative of barrage-construction.

Drainage problems affected Sind especially heavily, because Sind lay at the tail of the river, downhill and downstream. Irrigation water that had been used upstream in the Punjab, as well as the hill run-offs from Baluchistan and the N.W.F.P., naturally drained to the sea through Sind. The first large-scale integrated drainage project, the Left Bank Outfall Drain, was not implemented until the 1970s and therefore lies outside the temporal scope of this study; instead, the focus here will be on smaller projects. This section will also discuss a large-scale study of the water situation in Sind, including but not limited to the question of drainage, which was undertaken during the early-mid 1960s. The report that it produced will be examined in order to open a discussion about the role of plan-making in Pakistan as an exercise in presenting the facade of rational state action. To complement this, the next chapter will discuss the challenges that were posed in parallel by the political and social responses of the people to the projects.

Ironically, although much had been made of the barrages as technical achievements, the drainage problem was largely a consequence of the lack of consideration which the designers of the barrage systems had given to the drainage of excess waters and the regulation of soil quality. Engineers had known that irrigation projects could lead to waterlogging and salinity even before the Sukkur Barrage had been constructed in the 1930s, and the 'reh' problem (as saline deposits on the soil, resulting from waterlogging, were known) had been discussed.<sup>92</sup>

However, because so much of Sind consisted of virgin or under-used land, the losses

---

<sup>92</sup> See, for example, Public Works Department, Sind, *Irrigation Administration Report Part II, For the Year 1933-34* (Karachi: Government Press, 1937), p.36. Visvesvarya and Bahadur's report on the Sukkur Barrage argued that the scheme aimed at too-intensive irrigation, and would result in waterlogging and salinity. M. Visvesvarya and Nawab Ali Nawaz Jung Bahadur, *Report on the Lloyd Barrage and Canals Project in Sind* (Bombay: Government of Bombay, 1929), pr.21.

caused by salinity were thought to be more than offset by the amount of new land opened up. Indeed, the new and remodelled canals sometimes even cut across existing natural lines of drainage, hampering the land's ability to regulate itself. When the new Sind barrages were planned and executed, it appears that neither the engineers nor the departments responsible for land, *i.e.* the Revenue and Agricultural Departments, took serious account of the damage that would be caused by raising the intensity of irrigation. Similarly, when the Ghulam Muhammad Barrage was sanctioned in May 1947, the Public Works Department considered no surface drainage to be necessary since, as the project's designers argued, canals would be aligned along natural ridges. Sub-surface drainage channels would have to be sunk 8-10ft down to serve a useful purpose, but such deep drains would be difficult to maintain. Moreover, the project's designers believed that ground water levels would ultimately become stabilized at a certain depth below the ground as a result of natural evaporation.<sup>93</sup>

This opinion turned out to be incorrect, but very little action was taken in the face of damage caused to land by rising water tables and saline deposits. In the late 1950s, even though approximately 400,000 acres in the Sukkur Barrage command alone had already been damaged by waterlogging, the drainage and land reclamation schemes of the 1960s were mere shadows on the horizon. Indeed, the Drainage Circle was considered by most engineers to be the 'Siberia' of irrigation. Most officers working in it had been transferred there as a form of punishment by their superiors, and spent most of their time trying to get reposted. The Circle received very little support from provincial headquarters in Lahore, and their work was hampered by the incomprehension of *haris* and *zamindars* about the need for

---

<sup>93</sup> President's Secretariat (Planning Division), Summary for the Executive Committee of the National Economic Council: 'Ghulam Mohammad (Kotri) Barrage Drainage Scheme – Phase I (Revised)', 07.02.1967, Cabinet Files, 164/CF/67, N.D.C.

drainage, who often objected to having drainage ditches dug in their fields. Moreover, the Circle found it difficult to find sufficient manual labour from among cultivators and lacked manpower except when Baluchis came down from the hills for winter employment.<sup>94</sup> Thus, although the great changes to the river system which the barrage projects brought about were much-publicized, the darker aspects of these changes received little official attention.

Waterlogging and salinity were finally recognized as a national priority due to a combination of foreign influence and the increased pace of work after the imposition of Martial Law. Paul van Zeeland, former Prime Minister of Belgium, submitted a report concerning Pakistan's industrial and economic to the central government in November 1958, which pointed out the need for, among many other measures, the recovery of 'sick' agricultural land by drainage and the adjustment of agricultural practices.<sup>95</sup> After Ayub's coup, waterlogging received greater attention, partially at the behest of the central government. Thus began a phase of reclamation projects, which represented attempts to undo the damage that the great river projects – the Sind Barrages and other projects such as the Thal Scheme in the Punjab – had wrought on the Indus Basin system. Human control over the natural environment, which agents of the colonial and independent states had so celebrated in connection with the barrages, was fast slipping away. Rather than battling nature, the engineers were battling the consequences their own previous actions.

This was made explicit when, in October 1959, President Ayub Khan asked the Government of West Pakistan to carry out an urgent scientific survey of the

---

<sup>94</sup> Karachi despatch 1124, 06.06.1958, 890D.16/6-658, Central Decimal Files, 1955-1959, R.G. 59, U.S.N.A.

<sup>95</sup> Paul van Zeeland, 'Preliminary Note on the Economic and Financial Position of Pakistan', 20.10.1958, enclosed with Karachi despatch 254, 09.12.1958, '500 Pakistan', Supplemental Classified General Records, Karachi Embassy 1950-1955, R.G. 84, U.S.N.A.

barrage areas in former Sind province (as the areas previously comprising Sind and Khairpur State were known under One Unit). That December, a special Cabinet meeting was convened to discuss new measures, where the emphasis was laid on the prevention of waterlogging in new areas, rather than the drainage of already-damaged land. Just days earlier, the Government of West Pakistan had already made a move in this direction by promulgating an ordinance restricting rice cultivation on various lands throughout the province.<sup>96</sup> The large volume of water required by the crop, which had led the colonial Government of Sind to impose restrictions on rice cultivation on land irrigated from the Jamrao Canal, meant that water would be left lying on the fields if it were not drained properly away, with dire effects on subsoil water levels and salinity in neighbouring areas. Ayub kept up the pressure on the provincial government by requesting that the Governor of West Pakistan take measures to educate villagers about the dangers of insufficient drainage before their own lands had been affected.<sup>97</sup> Similarly, the V-AID administration laid plans for motivating the population, through Basic Democrats and Village Councils, to render all possible help in fighting the growing menace, with technical advice from the Irrigation Department.<sup>98</sup>

However, the emphasis on self-help and mobilising the people did not last, and drainage remained chiefly the realm of engineers and other experts. Even as Ayub ordered the Governors of East and West Pakistan to mobilize the villagers, the Government of West Pakistan and W.A.P.D.A. decided that the best way to carry out the Cabinet's orders was to prepare a drainage scheme for the Ghulam Muhammad

---

<sup>96</sup> *Gazette of West Pakistan, Extraordinary Issue*, 17.12.1959, 456/CF/59, N.D.C.

<sup>97</sup> Cabinet Secretary to Governor of West Pakistan, 16.01.1960, Cabinet Files, 456/CF/59, N.D.C.

<sup>98</sup> Chief Secretary to Government of West Pakistan to Secretary to West Pakistan Irrigation Commissions and Works Department, 16.01.1961, Cabinet Files, 456/CF/59, N.D.C.

Barrage.<sup>99</sup> In this command, the Superintending Engineer in charge of drainage had previously complained that no serious work had been done and that other engineers continued not to recognize the need for pre-emptive drainage, or even the dangers of the rising water table in the Sukkur Barrage command.<sup>100</sup>

Before action was taken in Sind, however, Pakistan's first major drainage operation was conducted in the Punjab, where the greater intensity of cultivation over a longer historical period had led to even more serious waterlogging problems. The first of what came to be known as the Salinity Control and Reclamation Projects was introduced in 1961 in the Central Rechna Doab of the Punjab, and principally utilized tubewells to drain brackish water away from waterlogged lands and into drainage channels. Six similar projects were carried out in the Punjab between 1964-1974, along with one each in Sind and the N.W.F.P. While the scale and importance of the proposed drainage works allowed for some hyperbole, the narrative which emerged was one of crisis management rather than national progress. "So rapid has been the rate of ravage", a *Dawn* article proclaimed in 1961,

that, if left to itself, West Pakistan may, according to knowledgeable authorities, be turned into a desert within half a century. No wonder that President Ayub has declared the present struggle against the menace to be the Battle for Survival [...] [T]he farmer is losing faith in the efficacy of further toil and investment unless his land is rid of this scourge.<sup>101</sup>

Inverting the trope of the desert turning into flourishing fields, which had dominated the barrages' opening ceremonies, this statement depicted a nation preparing to fight a rearguard action rather than to forge ahead into the future. It also suggested that the loss of control over the environment would hamper the spirit of progress, which urban dailies such as *Dawn* as well as the administration both hoped

---

<sup>99</sup> 'Agriculture decision', Government of Pakistan Ministry of Food and Agriculture memorandum, [19?].02.1960, Cabinet Files, 456/CF/59, N.D.C.

<sup>100</sup> Karachi despatch 705, 05.02.1959, p7, 890D.16/2-559, Central Decimal Files, 1955-1959, R.G. 59, U.S.N.A.

<sup>101</sup> 'Waterlogging and Salinity', *Dawn* 20.09.1961.

farmers would develop under better-regulated agricultural conditions. The fear of the loss of land became more pervasive as time progressed, and in 1963 W.A.P.D.A.'s British consultants, Hunting Technical Services, had to refute press claims that one of their representatives had predicted the loss of cultivation to waterlogging across the whole Ghulam Muhammad Barrage command.<sup>102</sup> This fear was difficult to turn into an heroic development narrative, and when the West Pakistan Governor, the Nawab of Kalabagh, announced on the same day that the Governors' Conference had considered drainage to be one of the most important issues facing West Pakistan, he appears to have portrayed the struggle as one of crisis-management rather than of national progress.<sup>103</sup>

The drainage crisis also drew Sind into an international development framework, which had seemed more distant in terms of the Ghulam Muhammad and Gudu Barrages: it was accompanied by an increase in foreign involvement in Pakistan's understanding, and use, of the Indus river system. Outside Sind, foreign involvement in river-development was already the norm. The Mangla, Taunsa and Tarbela dam projects in the Punjab and N.W.F.P. were constructed with varying degrees of foreign involvement, often drawing on assistance arranged by the World Bank as part of the Indus Basin Agreement. Like the Sind barrages, these projects aimed at increasing human control over the river, diverting its waters for irrigation and power-generation. In Sind, foreign involvement was focussed on undoing the damage wrought by the previous barrage projects, but still had an important impact on the way that the state related to the river. The involvement of foreign agencies, including academic researchers and consultancy firms, encouraged the prioritization of a view of the Indus Basin as an integrated system, according to the ordering logic of a 'rational' scientific approach. This reinforced the 'regional development'

---

<sup>102</sup> 'Waterlogging & salinity in GM [*sic*] Barrage area', *Indus Times*, 17.02.1963.

<sup>103</sup> 'ADC entrusted with GMB [*sic*] area drainage work', *Indus Times*, 17.02.1963.

arguments that had been deployed in support of One Unit. The 1960s thus saw a proliferation of studies of the river system and of irrigation in West Pakistan, all of which promoted a schematized, geophysical view that usually took account of the economic significance of the object of study but gave lesser priority to social and political aspects.

In Sind, the first such foreign study arrived in the shape of the *Lower Indus Report*, compiled on behalf of the West Pakistan W.A.P.D.A. by the British consultancy firms Hunting Technical Services and Sir M. MacDonald & Partners, which exemplified a schematized view of irrigation development. It had been commissioned in 1962, and was submitted to the W.A.P.D.A. in 1966. Despite being produced at a time when the problems inherent in previous irrigation extension projects were becoming manifest, the *Report* recommended more construction programmes as the key to improving agricultural production in the region, plus the intensification of some agricultural inputs.<sup>104</sup> The centrepiece of its proposed solutions was a new barrage at Sehwan, which the government rejected. Drainage, on the other hand, became one of the most important elements of the government's irrigation development plans. A new plan for the Ghulam Muhammad Barrage area was approved by the central Cabinet in 1967, within the framework of a Ghulam Muhammad Barrage 'Master Plan' that dated from 1963, as revised by the West Pakistan Agricultural Development Corporation in light of the *Lower Indus Report*.<sup>105</sup> The *Report* also formed the basis for a scheme to install 200 tubewells to service 144,000 acres of endangered land in the Gudu Barrage command, which the

---

<sup>104</sup> Hunting Technical Services and Sir M. McDonald & Partners, *Lower Indus Report: Part One: Present Situation* (n.p.: West Pakistan W.A.P.D.A., 1966), Introduction pr.9.

<sup>105</sup> Government of Pakistan President's Secretariat (Planning Division), Summary for the Executive Committee of the National Economic Council: 'Ghulam Mohammad (Kotri) Barrage Drainage Scheme - Phase I (Revised)', 164/CF/67 N.D.C.

Governor of West Pakistan felt was important enough to secure Presidential assent for in 1966, before the scheme was sanctioned in, again, 1967.<sup>106</sup>

As well as forming the basis for subsequent project formulation, the *Report* reinforced a schematic view of the Lower Indus as a space in which river hydraulics, drainage, government institutions and the social, political and economic activities of the rural population combined into a system regulating the production of agricultural goods. This marked the culmination of the trend that had developed through the application of a range of scientific and social-management disciplines to the problem of low agricultural productivity in Sind from the late nineteenth century onwards. The sheer bulk of the *Report's* 56 volumes, covering everything from technical to social aspects of irrigation and drainage, spoke of the comprehensiveness that it aimed at. As a study of the modern state's attempts to assert control over the physical environment in West Pakistan, it was unrivalled.

It also supported the existing corpus of development schemes in their purported rationalization of national resources by relying heavily upon the economic and development objectives stipulated in the near-contemporary Third Five Year Plan.<sup>107</sup> Indeed, the *Report* declared that 'optimum development' of water, land and labour resources implied directing them "towards the production of those commodities most likely to be needed to meet objectives planned [in development schemes] for other sectors", rather than merely making "the most efficient use of

---

<sup>106</sup> Agricultural Development Corporation to Minister of Finance, Government of Pakistan, 23.12.1967; President's Secretariat (Planning Division), Summary for the Executive Committee of the National Economic Council: 'Guddu Groundwater Development Project, Phase I (Left Bank Fresh Groundwater Zone), 02.08.1968; Deputy Secretary President's Secretariat (Public) (Autonomous Bodies Cell) to Chairman West Pakistan Agricultural Development Corporation, 13.05.1971, Cabinet Files, 457/CF/67, N.D.C.

<sup>107</sup> These broadly followed those laid out in the by the National Planning Commission. In particular, they were to accelerate the transformation in agriculture that was already taking place by giving priority to measures intended to increase yields per acre, and by maintaining subsidies on agricultural inputs. Planning Commission, *The Third Five Year Plan, 1965-70* (Karachi: Government of Pakistan Press, 1965), p.39.

available resources in a technical sense”.<sup>108</sup> In doing so, it promoted the idea that development activities should be undertaken with reference to an organizing intelligence that united technical with economic expertise. The *Report* also recognized, however, that human imperatives limited the extent to which such resources could be seen purely in terms of inputs and outputs: although water was the limiting factor to development rather than land, the withdrawal of water from any already-supplied area was prevented by social and political factors, “however desirable technically and economically such action might be.”<sup>109</sup> This warning revealed the tensions that would inevitably arise when a plan or scheme was tested against reality ‘on the ground’ – whether that reality was the degree of control that the state had over political or social forces pushing against the “efficient use of available resources”, or, as the example of waterlogging and salinity suggests, the way that a project’s technical faults could undermine its goals.

The schematization represented by the *Lower Indus Report* had had a recent precedent in another foreign study, produced in 1965 by a group of American specialists who had been assembled on President Kennedy’s orders at the request of Ayub Khan to study the problem of waterlogging and salinity in West Pakistan. The group consisted of technical specialists from universities and industrial firms in the United States, headed by Dr. Roger Revelle, the Dean of Research at University of California, Berkeley. In keeping with the strong links between academia and federal policy-making in Kennedy’s U.S.,<sup>110</sup> Revelle was also the Science Advisor to the U.S.

---

<sup>108</sup> Hunting Technical Services and Sir M. McDonald & Partners, *Lower Indus Report: Part Two: Future Development* (n.p.: West Pakistan W.A.P.D.A., 1966), p.287.

<sup>109</sup> Hunting Technical Services and Sir M. McDonald & Partners, *Lower Indus Report: Part Two*, p.305.

<sup>110</sup> Michael E. Latham has convincingly demonstrated, in his *Modernization as ideology: American social science and "nation building" in the Kennedy era* (Chapel Hill; London: University of North Carolina Press, 2000) that academic social science in the U.S. played a key role in driving Kennedy’s foreign policy when it came to ‘development’ and anti-Communist

Secretary of the Interior. The preface to a summary of the *Revelle Report* made explicit the superlative importance of technical forms of knowledge, leading to the creation of a “blueprint” for action:

[The task] has required the pooling of knowledge from many diverse fields and disciplines [...] The result is a blueprint, boldly designed not only to avert the creeping dangers of waterlogging and salinity in the Indus Plain, but to move forward to a substantial increase in agricultural productivity serving the interest of all Pakistan.<sup>111</sup>

Like the *Lower Indus Report*, which followed soon afterwards, this report helped to promote a schematized view of the Indus Basin system, divorced from the social and political nuances of agrarian life in the territories under discussion. Yet despite their authors’ privileged status as foreign experts in possession of essential technical knowledge, foreign studies did not have as much impact on the government’s activities as their authors might have hoped. The *Revelle Report* was almost entirely ignored, while only certain aspects of the *Lower Indus Report* were taken up. In particular its most important recommendation, the proposed barrage at Sehwan, did not find favour.

The importance of these studies and plans lay as much in their representation of a rationalized, modern planning process, as in their actual efficacy. A wider example of this phenomenon was the lineage of overarching, centralized plans that supposedly co-ordinated development across the country, including schemes connected with Sind’s barrages, which were ineffectual but still integral to the state’s presentation of its claim to legitimacy through development activities. This phenomenon had begun immediately after Partition, when a Development Board was immediately set up at the centre and entrusted with the scrutiny and

---

activities in what was then known as the Third World. This trend was no less prominent in the technical sciences.

<sup>111</sup> Karachi FY 65, *The Indus Plain - The Revelle Report on Land and Water Development in West Pakistan*, p.4, Bureau of Programs: Press and Public Service Division, R.G. 306, U.S.N.A.

approval of all development projects. In 1950, it was replaced by a Planning Commission and Economic Council. These institutions followed in the wake of a meeting of representatives from Commonwealth countries in Colombo in January 1950, at which arrangements were made for the provision of aid and sharing of technical assistance among member countries. In July, the countries agreed that each should also produce a national development plan to cover the next six years, and accordingly Pakistan's Six Year Development Programme was drawn up.<sup>112</sup> The pattern was set for the production of ambitious development schemes by the Government of Pakistan which promised integrated national progress, but delivered little. Both the future Ghulam Mohammad and Gudu Barrages, for example, were technically included under the Six-Year Plan,<sup>113</sup> but this seems to have had no discernable effect on the projects.

In 1953 it was recognized that the six-year plan was inadequate, and the Government of Pakistan began to consider forming an up-to-date long-range development plan to guide its economic activities.<sup>114</sup> A new Planning Board was set up to review the development activities that had already taken place, to assess the human and material resources which could be made available for development in the short term, to prepare a National Plan of Development, and to suggest improvements in the administrative machinery necessary to ensure the successful implementation of this plan.<sup>115</sup> Although individual schemes could bear fruit, these supposedly comprehensive plans often amounted to little more than theoretical

---

<sup>112</sup> By December 1961, Pakistan would have received about \$1,729m in aid under the Colombo Plan. Ministry of Finance, *Foreign Economic Aid: A review of foreign economic aid to Pakistan* (Rawalpindi: Government of Pakistan Ministry of Finance, 1962), p.5. The original Colombo Plan member countries were the U.K., Pakistan, India, Ceylon, Canada, Australia, and New Zealand.

<sup>113</sup> N.a., *Pakistan 1954-1955*, p.52.

<sup>114</sup> Office of the Technical Co-operation Administration, U.S. Embassy Karachi, to Pakistan Branch, Technical Co-operation Administration, State Department, 21.07.1953, 'PA-5 6-Year Plan', Subject Files (Pakistan) 1952-1955, R.G. 469, U.S.N.A.

<sup>115</sup> N.a., *Pakistan 1954-1955*, pp.41, 46-47.

exercises. The first Five Year Plan was particularly ineffective, with many of its provisions for agriculture unimplemented, and the programme for water development and drainage falling considerable behind schedule.<sup>116</sup>

This disconnection between plan-formulation and actual action in Pakistan gives credence to Mitchell's influential argument that a feature of the political dominance of Western forms of knowledge, and of those who propounded them, over non-Western territories during and after the European colonisation of Asia and Africa was the existence of 'the plan' or schema that claimed to be more representative of truth than the 'reality' experienced on the ground.<sup>117</sup> The logic and rationale of schematic views such as those contained in the *Revelle Report* was internal, proceeding from the need to make a coherent plan rather than the immediate challenges facing those individuals cultivating the land and drawing water from the irrigation system under discussion. The actual action taken by responsible authorities was, on the other hand, haphazard. Constrained by limited finances, bureaucratic inefficiencies, and the frequent precedence of political considerations over the systemic considerations on which the report relied, the development bureaucracy was forced to inhabit the messy and uncertain realm that characterized that of the cultivators themselves.

## Conclusion

The new barrages, then, sat at the heart of the development ethos in Sind after Independence. The story of their construction and their effect on the physical environment in Sind reveals the prime importance of the state's ability to manage natural resources in maintaining its position. They provided an important

---

<sup>116</sup> Planning Commission, *The Second Five Year Plan 1960-65* (Karachi: National Planning Board, 1960), p.2.

<sup>117</sup> Timothy Mitchell, *Colonising Egypt* (Berkeley; Oxford: University of California Press, 1991), pp.178-179.

opportunity for successive administrations to claim legitimacy through the deployment of engineering expertise, and had a pivotal role in wider plans for agriculture. The demands of large-scale infrastructure development added another motive to the centralization and ‘top-downism’ of co-ordinated activity that, in a parallel process, drew political power away from the provinces and towards the central government.

The idea that man could gain mastery over nature by the proper deployment of technical knowledge, which was reserved to the state’s engineers, was all the more important in the face of the fractured, ambiguous nature of the ‘nation’ of Pakistan. Despite the often-bewildering bickering and political infighting that dogged the provincial and national governments located in Karachi, the language of man’s mastery over nature was a common resource for which all those in power competed. The expression of the state’s authority, which was found in the structures it built, provided a tangible counterpoise to the extremely fluid politicking of the state’s legislative arms. This language, moreover, was directly descended from that previously used by the British. It followed directly in the modernist footsteps of colonial projects such as the Sukkur Barrage: technician, secular, and celebratory of hugeness. The presentation of the projects was also very similar to that in colonial times, mediated through public events such as foundation stone-laying and opening ceremonies, as well as public information pamphlets and newspaper articles. Like the Imperial regime in India, the builders of the Pakistani barrages played to a mixture of audiences, *i.e.* influential locals, the media, and the public abroad, to demonstrate the power of the state. As during the colonial era, the scale and romance of the project was invoked as a demonstration of the state’s capacity to remake the very earth, but this time in the interests of the nation rather than of the Empire.

The primacy of technical expertise could not always be taken for granted. In opposing drainage plans, for example, *zamindars* rejected experts' recommendations. Development projects such as drainage initiatives, however, along with the barrages, were much more widely and readily accepted than political projects such as One Unit or the administrative separation of Karachi from Sind province. This suggested the more universal acceptance of – or at least acquiescence in – the concept of material progress based on technological and infrastructural modernization. The state's role in managing the development of the barrage areas, although ineffective, also pointed to the relative ease with which its claim to superior technical and logistical knowledge could allow it to intervene in life in rural areas.

Again, this continued a colonial phenomenon into the Independence era. The barrages formed part of a wider trend of the continuation of colonial attitudes towards the meaning of 'development', the approach taken by bureaucrats towards the management of the country, and responses to problems. The barrages themselves were based on colonial plans and represented an approach to expanding agricultural production in Sind that was identical to that seen earlier in the Sukkur Barrage project. Similarly, apparently novel schemes, such as the subsidization and promotion of fertilizer use on an unprecedented scale, reproduced the colonial desire to intensify cultivation on existing land by altering agricultural practices. Indeed, it is hardly surprising that, with a similar bureaucratic structure, the post-colonial state fulfilled an almost identical role to its predecessor. Pakistan as a nation-state certainly faced new conditions in the sense that it had to forge a path through the myriad difficulties of managing its international position, but within the province of Sind very little had changed

## Chapter 5: The politics of land after Independence

*The long night of darkness has passed. Pakistan has awakened from its eleven years' slumber, is now putting the rascals away, and can now confidently set out for the task of nation building.*  
-Mukhtiarkar for Hairo Khairo, speaking to a U.S. official (1959)<sup>1</sup>

The discourse of 'progress' attached to river-control projects could only go so far in defining the barrage projects' political meaning. The land that the system irrigated also had to be allocated and settled, and this chapter will examine the distribution of barrage land in order to ask what happened when the heroic hyperbole associated with the barrages had to be translated into practical politics. Land allocation was one of the arenas in which the state's nation-building programme was most contested, both within the administrations and by Sindhis who advanced their own claims on the land. Other groups, such as refugees, also claimed a stake in the land. Meanwhile, the press kept a close eye on proceedings. When applied to the colonization of newly irrigated land, the promise of well-ordered, centrally-directed projects, which the actual construction process had held out, failed from its inception. The story of barrage land allocation, and of wider questions of land reform (from which the former was inextricable), was in part a story of the victory of Sind's *zamindars*. On the other hand, the central government insisted that some land also be allocated to groups such as refugees and military personnel. This chapter will therefore demonstrate that land debates in 1950s-1960s Sind crystallized some of the same trends that had governed the colonization policies of the Jamrao Canal and Sukkur Barrage projects. The tensions between Sindhi

---

<sup>1</sup> Karachi despatch 678, 29.01.1959, '500 PAKISTAN 1959-61', General Records, 1949-1961, Karachi Embassy 1959-1961, R.G. 84.

*zamindars* and groups of 'outsiders' favoured by the higher authorities continued long after the British officials, who had set them up, had departed.

Land allocation proved a bottleneck to the development of barrage areas for almost a decade after 1947. Because the projects were so large, this had serious implications for Sind's agriculture and on the national economy. It also demonstrated forcefully the lines along which rural power ran in Sind. The provincial administration's ability to formulate a land policy for the barrages had many limitations, not least the fact that the powerful landlords who dominated the Sind Legislative Assembly would not approve a plan which excluded their interests. This gave Sindhi *zamindars* an even stronger position regarding barrage land allocations than they had had when Jamrao Canal and Sukkur Barrage land had been distributed under the British. Earlier perennial virgin-land projects in Sind, the Jamrao Canal and the Sukkur Barrage, had taken care to preserve the power of big *zamindars*, and the latter were in no mood to bow to a radically new social order simply because they were now Pakistani citizens rather than British subjects. The central government tended to make grander claims about closing the gap in living conditions between *zamindars* and *haris* in the countryside than had colonial officers, but had no automatic right to determine who would get barrage land, and so their power to enable this to happen was not a given. Initially, indeed, the provincial government retained full control of the Ghulam Muhammad Barrage project by financing it purely from provincial funds, and therefore the hypothetical land allocation policy was left to them. So land allocation, like related questions of the ownership of already-irrigated land and tenancy reform, was perpetually caught between the demands of the groups dominant at the centre, with their vision of a 'national project', and local power-holders whose support was always necessary for the functioning of the government in rural areas.

## Barrage land, refugees, and centre-province tensions

Disputes about how barrage land should be distributed had surfaced long before either of the post-independence barrages was completed. By January 1951, the Government of Sind's failure to announce a comprehensive land-allocation policy for the zone commanded by the Ghulam Muhammad Barrage was attracting severe criticism in the press.<sup>2</sup> The lack of provision for *haris* aroused particular ire: only 100,000 of the project's 1.7m acres were marked for settlement by *haris*; the rest was to be auctioned publicly in an effort to recoup some of the expenditure on construction. The slow progress of construction work on the barrage, coupled with the provincial government's failure to formulate a land allocation policy, proved increasingly frustrating to figures at the centre. This was compounded by the apparent difference in vision that the administrations in Sind and at the centre had for the project, reflecting their differing priorities. Provincial officials and politicians saw the barrage as primarily an internal matter, and held the view that its construction, operation, and the distribution of its land should benefit sections of provincial society. The centre, on the other hand, saw in the project an answer to Pakistan's pressing problems of refugee resettlement, food shortages, and the production of foreign-exchange-earning cash crops.

Since divisions of power between the provinces and the centre had not been amicably settled, it was all too easy for disputes about the Ghulam Muhammad Barrage project to be cast by the centre's sympathizers as a struggle between parochialism and the 'national interest', and conversely by provincial interests as the invasion of Sind by outside forces. In a confidential letter to Prime Minister Liaqat Ali Khan, the Minister for Refugees and Rehabilitation, I.H. Qureshi, articulated this

---

<sup>2</sup> Karachi despatch 1172, 14.02.1951, 890D.16/2-1451, Central Decimal Files, 1950-1954, R.G. 59, U.S.N.A.

divide and set out the case for increasing the Government of Pakistan's direct involvement in the project. "The economic and social consequences of this vast Project will not remain exclusively confined to the narrow boundaries of Sind," wrote Qureshi in June 1951:

The Government of Pakistan cannot but be vitally interested in an undertaking of this magnitude, particularly in those of its many aspects which have a close bearing on the production of crops for the international market and the nature and type of land tenure established in the new region. [...] Since this Project has obvious implications which transcend provincial boundaries, the Government of Pakistan should take [a] lively interest in the completion of the Project and in the policies and methods employed for its economic development.

In Qureshi's view, the centre's right to intervene was established by the 'national' scope of the project. This depended upon a hierarchy in which 'national' trumped 'provincial' interests. By the time of the letter's writing, it had become clear that the provincial government would require significant financial help from the Government of Pakistan, which would soon be arranging and guaranteeing loans for the barrage. Since the centre would be left to pay for the actions of those in charge of the project, Qureshi claimed, provincial officials and politicians could not be trusted to act responsibly. The centre must, therefore, "ensure the development of the Project on sound economic lines and in conformity with the social and economic objectives of our State." In particular, he argued,

We cannot afford to be complacent about the pattern of social order which will emerge out of the method of distribution employed in this area. Land constitutes perhaps the biggest source of official patronage in Sind; I understand there are already indications of pressure being constantly brought over the Administration by powerful local interests to relax the restriction on the sale of land in this area [...] If big zamindars succeed in securing large areas, it will have obviously unwholesome results.<sup>3</sup>

Although canal-irrigated lands in Sind had previously been granted liberally to non-Sindhis because of the vastness of the available area, the sparseness of indigenous

---

<sup>3</sup> I.H. Qureshi, central Minister for Refugees and Rehabilitation to Prime Minister Liaqat Ali Khan, 20.06.1951, Folder 21, Prime Minister's Declassified Files, N.D.C.

population, and the lack of local capital for investment in the land, Qureshi wrote that Sindhis' recent adverse "mental reaction" to outsiders meant that the provincial administration might go so far as to discourage or prevent refugees from acquiring considerable tracts of land. This, he argued, was unacceptable because the centre had a direct responsibility for the wellbeing of groups such as refugees and ex-soldiers (mostly Punjabis and Pathans), who could usefully be settled on barrage lands in Sind. The provincial administration could not, he maintained, be trusted to look after the long-term national interest, and had already proved its immaturity by deciding to make rice the dominant crop in the barrage command, "against emphatic expert advice and explicit warning that uncontrolled cultivation of this crop might result in the rapid deterioration of soil into unproductive swamps," in the interest of "a short-sighted desire for immediate profits".

Yet, beyond the appeal to 'nation' and 'national interest' in Qureshi's letter, a more specific interest might be identified: his ministry's responsibility for refugees. Since the provincial governments, especially Sind, had a difficult relationship with refugees, the latter were often identified with the central government.<sup>4</sup> When, in 1950, the Government of Pakistan withdrew refugee facilities on the Sind-Jodhpur border, the new Sind Premier Kazi Fazalullah told the *Civil and Military Gazette* that the refugee problem was "entirely the responsibility of the Central Government". This was in response to recent insinuations by Government of Pakistan officials that the Sind government was not exerting itself hard enough to help solve the refugee

---

<sup>4</sup> The rise of the Muhajir Quami Movement in Karachi, Hyderabad, and other Sind urban centres in the 1980s was at times closely associated with central government support, especially during the Zia era. See Arif Azad, 'MQM and Growth of Ethnic Movements in Pakistan', *Economic and Political Weekly* 31:18 (May 4, 1996): 1061-1062; Farhat Haq, 'Rise of the MQM in Pakistan: Politics of ethnic mobilization', *Asian Survey* 35:11 (November 1995): 990-1004.

problem.<sup>5</sup> Refugees were thus a complicating factor in the question of land distribution, and squabbles about them illustrate the fracture between the provinces and the centre. An agreement between the Governments of Pakistan and India meant that agricultural refugees on each side were supposed to be settled on land in their new countries. Unsurprisingly, in Pakistan's western wing this led to clashes with indigenous groups who felt that they had the strongest right to land which departing non-Muslims had abandoned, or to land which had been newly converted from waste to productive land.<sup>6</sup>

Due to their huge numbers, the Government of Pakistan's responsibility for their welfare, and the special status that they claimed for having sacrificed their old homes in the name of Pakistan, the refugees remained a constant thorn in the new state's side. Terrible conditions in refugee camps in urban centres, especially Karachi, heightened the importance of dispersing refugees throughout the country – both to smaller cities and towns, *e.g.* Hyderabad and Sukkur in interior Sind, and onto agricultural land. From Sind's perspective, refugees from India did not represent an unprecedented influx in terms of numbers: migrants into post-Sukkur Barrage but pre-Partition Sind outnumbered Partition refugees.<sup>7</sup> But those earlier economic migrants had not had anything like the social and political impact of the new refugee groups, nor had they represented a huge humanitarian plight. The strength of I.H. Qureshi's argument that barrage land should be used to settle as many refugees as possible can be readily understood, especially if the Ghulam

---

<sup>5</sup> Karachi despatch 530, 24.05.1950, 890D.411/5-2450, Central Decimal Files 1950-1954, R.G. 59, pp.2-3, U.S.N.A. An early indication of centre-province tensions arising from the refugee problem was given in 1947 when Sind's Chief Minister, Mohammed Ayub Khuhro, reneged on a promise to take 500,000 refugees, angering the centre. Ian Talbot, *Pakistan: A modern history*, Revised and updated edition (London: Hurst and Company, 2005), p.108.

<sup>6</sup> Karachi despatch 581, 24.12.1958, '500 C.E.R.P. October-December 1958', General Records 1949-61, Karachi Embassy 1956-1958, R.G. 84, U.S.N.A.

<sup>7</sup> Sarah Ansari, *Life After Partition: Migration, community and strife in Sindh, 1947-1962* (Karachi; Oxford, Oxford University Press: 2005), p.32.

Muhammad Barrage were compared with the Thal project in the Punjab, which had already provided 60,000 acres of land to civilian refugees and the families of refugee personnel in the Pakistani defence forces by early 1950.<sup>8</sup>

In Sind, the majority of the estimated 250,000 refugees living in temporary accommodation – mostly tents – in Karachi and its environs were mostly urban dwellers, and so were not necessarily considered suitable for settlement on barrage land.<sup>9</sup> A similar number of urban refugees were spread through Lahore, Hyderabad and other urban centres in West Pakistan. However, a large enough body of potential agriculturalists remained in refugee groupings such that the possibility of settling them on barrage land in Sind was frequently aired. An April 1953 article in *Dawn* announced that allotment of land under the 'Permanent Settlement Scheme' had started in Lower Sind. A *lakh* of refugees from 'Agreed Areas' such as East Punjab, Delhi, parts of Uttar Pradesh, and some former Princely States was to be settled with permanent land rights and security of tenure.<sup>10</sup> It was unclear what relation this scheme had to lands irrigated by the Ghulam Muhammad Barrage, but just over a year later the Government of Pakistan issued a statement announcing that considerable refugee rehabilitation could be achieved on Ghulam Muhammad Barrage land.<sup>11</sup> Together, these schemes confirmed the importance which the administration accorded to agricultural land in Sind as a resource to be used in negotiating refugees' status in Pakistan.

---

<sup>8</sup> Director Public Relations Punjab's Press note no. 145, 27.02.1950; enclosed with U.S. Consul General to State Department, 03.03.1950, 980D.211/3-350, Central Decimal Files, 1950-1954, R.G. 59, U.S.N.A.

<sup>9</sup> Charge d'Affaires Karachi Embassy to State Department, 27.03.1951, 890D.411/4-651, Central Decimal Files, 1950-1954, R.G. 59, U.S.N.A.

<sup>10</sup> Karachi despatch 951, 18.04.1953, 890D.16/4-1853, Central Decimal Files, 1950-1954, R.G. 59, U.S.N.A.

<sup>11</sup> U.S. observers were sceptical, however, noting that very little planning appeared to have been done with respect to settling farmers on the new land, whether refugees or otherwise; and that it would probably be 1957 before much new land came under irrigation anyway. Karachi despatch 67, 03.08.1954, '500 - C.E.R.P. REPORTING 1953-55', General Records 1949-1961, Karachi Embassy 1953-1955, R.G. 84, U.S.N.A.

## Land in early 1950s Sind

While the centre considered refugees and the nebulous 'common man' as those with the best claim on the state's support, the provincial government had quite different ideas. In the early 1950s, tenancy reform was an area in which deep-seated tensions between interests at the centre and within Sind were expressed; it also helped to produce the context in which later barrage land debates were held. Indeed, discussion of barrage land always referred to wider debates about land ownership, tenancy, and agricultural production. To understand barrage land policies, then, other kinds of land policy must also be understood. Before Ayub Khan's reforms of 1958-1959, land reform in Sind barely existed even on paper, let alone in practice: during this early period, the success of politically powerful landlords in blocking reform attempts in the province demonstrated their dominance of state institutions, and contrasts with Ayub's later, somewhat more successful attempt. Sind's Legislative Assembly had demonstrated its refusal to contemplate a significant shift in the socio-economic structure of the province's countryside early on, when it passed the 1950 Sind Tenancy Bill. This was widely regarded as ineffectual, coming under criticism from the *hari* movement in Sind and sections of the press.<sup>12</sup> The *Civil and Military Gazette* suggested that the passage of the Bill had been a response to the government's fear of the far-left politics of the *hari* movement, rather than a freely-made choice by the Assembly members to reform the land-tenure system, and pointed out that tenancy rights for agriculturalist refugees had been left uncertain.<sup>13</sup>

---

<sup>12</sup> Karachi despatch 368, 05.04.1950, 890D.16/4-550, Central Decimal Files, 1950-1954, R.G. 59, U.S.N.A. Karachi despatch 1172, 14.02.1951, 890D.16/2-1451, Central Decimal Files, 1950-1954, R.G. 59, U.S.N.A.

<sup>13</sup> 'Hari Rights', *Civil and Military Gazette* 05.04.1950.

The slow and uncertain nature of land reform was not confined to Sind. In the Punjab, the Protection and Restoration of Tenancy Rights Act of 1950, enacted by the provincial Governor, allowed the restoration of tenants ejected since June 1949, subject to review by revenue officers, and offered future protection to tenants of private landowners. Like the Sind Bill, it was criticized by peasant organisations: the West Pakistan Kisan Committee argued that the Act would, because of its shortcomings, actually take away rights which peasants had previously enjoyed.<sup>14</sup> Indeed, by June 1950, a disturbed situation had developed among the peasants of Multan District, who protested that the Tenancy Act actually increased landlords' net power over tenants. They also protested against the allocation of land to refugee landlords rather than to indigenous labourers. Deprived of effective redress, as in Sind, by the landlords' dominance over the Muslim League and provincial government, the trouble had attained a "semi-revolutionary" status according to a detailed U.S. report.<sup>15</sup> The disturbance, however, did not lead to serious upheaval. Sind's experience of land reforms – or the lack thereof – should not be seen in isolation, but represented tensions between tenants, peasants, and landlords across the west wing, even though these tensions were traditionally greatest in Sind.

The dominance of landlords did not go entirely unchallenged within Sind. One member of the Sind Legislative Assembly, Begum Tahera Agha, argued for the partial nationalization of farm management, the introduction of more advanced farming methods including mechanization, and a greater emphasis on rural welfare. She compared the lack of land reform in Pakistan unfavourably with India's reforms. At the other end of the social scale was the Sind *Hari* Committee, which had begun

---

<sup>14</sup> Lahore despatch 107, 03.05.1950, 890D.16/5-350, Central Decimal Files, 1950-1954, R.G. 59, U.S.N.A.

<sup>15</sup> Lahore despatch 137, 01.06.1950, 890D.16/6-150, Central Decimal Files, 1950-1954, R.G. 59, U.S.N.A.

as a moderate body during the 1930s, and became more radical in response to the perceived increase in landlords' power which followed the latter's dominant position in the structures of the decolonized state.<sup>16</sup> The Committee became an effective intermediary body between tenants and landowners, but was unsuccessful in attempting to pressure the Legislative Assembly to pass legislation favourable to tenants and have it enforced. After the resignation of Sind Chief Minister Yusuf Haroon in May 1950 and Liaqat Ali Khan's assassination in October 1951, land reform in Sind had little support from those in authority.<sup>17</sup>

One important exception was Din Mohammad, the Governor of Sind, who was sympathetic towards agricultural and social reform. When in early 1952 the Sind *Hari* Committee petitioned him to have the 1950 Tenancy Act amended to be more beneficial to *haris*, following reports in the press that some Sindhi *zamindars* had been organising violent attacks on local organizers in the *hari* movement, his consideration of their proposal caused a political furore in the province.

Mohammed Ayub Khuhro, the leader of the Sind Muslim League, asserted the right of *Zamindari* Associations to have a say in the formulation of new laws regarding land and tenancy,<sup>18</sup> but Din Mohammad approached the then Prime Minister, Khwaja Nazimuddin, for approval to a proposed amendment, which would provide that all tenants who were presently in possession of any cultivable land, or were in future engaged by a landlord for the purpose of cultivation, be immediately granted a permanent right of occupancy. This proposal had, the Governor claimed, the support of "Revenue experts", who agreed that otherwise no benefits would accrue

---

<sup>16</sup> Mahmood Hasan Khan, 'Sind Hari Committee, 1930-1970: A peasant movement?', in Amit Bhaduri and Muhammad Anisur Rahman, *Studies in Rural Participation* (New Delhi: Oxford & IBH Publishing Co., 1982), pp.182-183.

<sup>17</sup> Haroon had pressed for reform in the Assembly; Liaqat had backed tenancy reforms because they were vital to the Muslim League's electoral chances in Sind.

<sup>18</sup> M.A. Khuhro to Din Muhammad, 21/23.06.1952, Folder 19, Prime Minister's Declassified Files, pp.149-150. N.D.C.

to tenants from the Bill.<sup>19</sup> In doing this, Din Mohammad invited the ire of Sind's landlords and of the Muslim League, which considered his relationship with *hari* leaders, in opposition to the provincial League branch, to have unacceptably lowered the League's prestige. Following this and other actions, Din Mohammad was ousted from power, and the advocates of tenancy reform in Sind lost their most powerful supporter.<sup>20</sup> While Din Mohammad was a legal heavyweight, former Chief Justice of colonial Bahawalpur and Member of the Punjab Boundary Commission in 1947, his illustrious career did not enable him to override the interests of Sind's powerful *zamindars*.

In February 1954, the interim findings of a Government of Sind Agricultural Commission were leaked to the press, and it became public knowledge that out of Sind's total population of 4.6 million people, 2.6 million were classed as landless labourers, often leading a semi-nomadic existence; and that of 11 million cultivated acres in the province, 9 million were owned by only 200,000 landlords.<sup>21</sup> However, the political scene in Sind appeared undisturbed by this revelation, and the only apparently significant step towards land reform was taken in March 1955, when the Sind Cabinet issued an executive order abolishing all *jagirs* in the province, finally taking action on a matter that had intermittently arisen since 1947. The order was to affect approximately one million acres of land, of which half was expected

---

<sup>19</sup> Din Mohammad to Khwaja Nazimuddin, 02.10.1952, Folder 19, Prime Minister's Declassified Files, p.122, N.D.C.

<sup>20</sup> Din Mohammad had been given executive control of the province when, following the splitting of the Sind Muslim League into factions loyal respectively to Khuhro and his rival Ghulam Ali Talpur, ministerial government was dissolved and the province was placed under Governor's Rule until fresh elections could be held. During the crisis, Din Mohammad suppressed another Hur outbreak by capturing the bandits and striking a deal with Ali Mohammed Rashidi, an uncle of the seventh Pir Pagaro. Unfortunately Rashidi's group was out of favour with the centre, and the deal did not find favour there. To add to his unpopularity, Din Mohammad had publicly accused Sind Muslim League leaders of grain-hoarding at a time when procurement was in force. Ayesha Jalal, *The State of Martial Rule: The origins of Pakistan's political economy of defence* (Cambridge, Cambridge University Press: 1990), pp.160-162.

<sup>21</sup> Karachi despatch 516, 15.02.1954, 'PAKISTAN A-23 Land Use Problems in Baluchistan - G.D. Pickford', Subject Files (Pakistan) 1952-1955, R.G. 469, U.S.N.A.

eventually to be parcelled out among landless Sindhi cultivators. The *jagirdars*, however, put the province's legal system to work, and obtained a stay from the Sind courts on the basis that the Government of Sind's action had been illegal. The matter remained pending until after the dissolution of the old provincial boundaries, but the Karachi Bench of the West Pakistan High Court found that the executive order was invalid and that all *jagirs* in Sind stood.<sup>22</sup>

Under a provincial legislature and administration dominated by landed interests, and one that had remained reasonably politically stable in spite of a grave economic situation, it is perhaps hardly surprising that land reform initiatives stalled. "From all evidence available", concluded a gloomy American report, "it would be safe to assume that little new is being done in Sind to better the lot of the tenants and landless labor [*sic*] or to carry out the provisions of the provincial tenancy act."<sup>23</sup> Ineffective as they were, however, these challenges to landlord dominance within Sind kept the issues of land and tenancy in the public eye.

Challenges to landlord dominance from the centre failed equally miserably. As suggested by Qureshi's letter to Liaquat Ali Khan, politicians at the centre had ambitions to alter the structure of agrarian society in Sind. Regardless of the inherent problems in actually re-ordering Sindhi society, however, they were prevented from taking effective steps in this direction by the division of powers between centre and province under the 1935 Government of India Act, upon which Pakistan's governance was based, and which apportioned control over agricultural

---

<sup>22</sup> Land Reforms Commission, *Report of the Land Reforms Commission for West Pakistan, Part One* (Lahore: Superintendent, Government Printing, West Pakistan, 1959), p.54. The Government of the North-West Frontier Province had similarly abolished most *jagirs* without compensation by executive order in 1949, passing legislation to regularise this in 1952; in the same year, the Punjab passed equivalent legislation, abolishing without compensation all *jagirs* except for military grants, and *jagirs* held by religious or charitable institutions which were used to advance public welfare.

<sup>23</sup> Karachi despatch 516, 15.02.1954, 'PAKISTAN A-23 Land Use Problems in Baluchistan - G.D. Pickford', Subject Files (Pakistan) 1952-1955, R.G. 469, U.S.N.A.

matters to provincial governments. Retrospective measures were introduced at the centre to make the existing legislation more effective: for example, on 14 April 1951 the national Constituent Assembly had passed a bill amending the 1935 Act so that provincial land reform legislation could be more effective.<sup>24</sup> But this had little discernable effect on the equitability of land-holding patterns or the status of labourers. In 1953, the Government of Pakistan invited a German specialist, Dr. Otto Schiller, to study agricultural co-operatives in the Punjab. Schiller's report emphasized the rights of the cultivator at the landowner's expense (contrary to the 'traditional' approach to co-operative farming in the Punjab). He admitted privately to the American Vice-Consul that his proposals were revolutionary, but claimed that if they were not implemented, Pakistani politics would swing violently to the far left within ten years, in the absence of improvements to the agricultural economy.<sup>25</sup> Schiller's warnings, however, did not produce a greater impetus towards reform.

This failure to alter rural socio-economic conditions in favour of labourers was common across Pakistan.<sup>26</sup> Politicians and officials often overlapped with powerful and well-entrenched landlords, meaning that their will to change was equivocal at best. Another reason why effective land reform was not undertaken

---

<sup>24</sup> Under Section 299 of the 1935 Act, compensation for land compulsorily acquired by the state had to normally be paid in money; the new bill permitted other methods of compensating owners, in order to allow cash-short provincial administrations more flexibility in implementing reform program. Karachi despatch 1539, 19.04.1951, 890D.16/4-1951, Central Decimal Files, 1950-1954, R.G. 59, U.S.N.A.

<sup>25</sup> A copy of Schiller's report was enclosed with Vice Consul (Lahore) in Pakistan to State Department, 17.09.1953, 890D.20/9-1753, Central Decimal Files, 1950-1954, R.G. 59, U.S.N.A..

<sup>26</sup> In the North-West Frontier Province, a law passed by the Frontier Assembly in 1951 allowed tenants various rights in village houses. When this temporary provision was not extended in 1954, Frontier officials expected agitation. Lahore despatch 128, 15.04.1954, 890D.16/4-1554, Central Decimal Files, 1950-1954, R.G. 59, U.S.N.A. The East Bengal State Acquisition and Tenancy Act of 1950 provided for the compulsory acquisition of some land from landlords, but from the cultivators' point of view there was little difference between working privately-held or Government-held land. Dacca despatch 37, 27.10.1954, 890D.16/10-2754, Central Decimal Files, 1950-1954, R.G. 59, U.S.N.A.

might have been a lack of external pressure on the Pakistani administrations.<sup>27</sup> The United States, then one of Pakistan's major benefactors in dollar aid, with consequent influence in Pakistani affairs, never pushed for significant land reform. Indeed, the Deputy Director of the United States Foreign Operations Administration Mission to Pakistan wrote to the Chief Agriculturalist at the International Co-operation Administration, one of the U.S. Government bodies responsible for development work, that:

Land tenure is one of the most serious problems of the country, but it is so complicated a problem in both wings [...] that to introduce land reform at this time would only insure the complete breakdown of any "impact program" we might attempt.<sup>28</sup>

While the U.S. broadly supported reforms in Pakistan, it was more concerned to maintain overall political stability and the goodwill of the Government of Pakistan, so that the latter would remain useful as an ally against America's regional enemies, the U.S.S.R. and the People's Republic of China.

In this complicated picture, the land irrigated by the Ghulam Muhammad Barrage was potentially important in any attempts to alter the balance of power in the countryside, as advocates of reform, such as I.H. Qureshi, had implied. Sindhi *zamindars*, however, retained a definite influence on land policy through their membership of the Legislative Assembly, as well as their social power in their own localities. When the Ghulam Muhammad Barrage was opened in 1955, the

---

<sup>27</sup> Alavi has argued that the importance of the Pakistan-U.S. military alliance from the mid-1950s onwards has obscured the fact that Pakistan was largely ignored by both sides in the Cold War until 1952. Hamza Alavi, 'Pakistan-US Military Alliance', *Economic and Political Weekly*, 33:25 (June 20-26, 1998): 1551-1557. Thereafter, however, the significance of the U.S. in providing financial assistance and 'advice' to Pakistan on matters pertaining to the military and to development is indisputable. Majumdar dates the era of significant U.S. involvement in Pakistani internal affairs from 1953. R. Majumdar, *Pakistan: Jinnah to the present day*, vol. 1 (New Delhi: Anmol Publications, 1998), p.147. Singh more convincingly suggests that America viewed South Asia as a British sphere of influence until February 1954. Amita Inder Singh, 'Divergent World-Views, Divergent Strategies: How America took Britain's place in Pakistan, 1947-54', *Contemporary Record* 6:3, (Winter 1992): 474-496.

<sup>28</sup> Deputy Director of International Co-operation Administration Mission to Pakistan to Chief Agriculturalist, International Co-operation Administration, 07.07.1955, 'AGRICULTURE (1963)', Mission to Pakistan, Executive Office Subject Files 1955-1957, R.G. 469, U.S.N.A.

relationship between government, landlords and tenants still remained a source of tension and dispute. The recent truce between the centre and the Sind legislature, which Khuhro again headed by now, could not overcome the importance of the tropes of the 'common man' and 'the refugee' as the ultimate subjects of national progress. At the barrage's ceremonial opening in March the new Governor-General, Ghulam Mohammad, began his speech by declaring that "nothing gives me greater pleasure than to watch the completion of a project which directly benefits the common man, and is destined to produce more food for Pakistan's millions whose welfare is very dear to my heart."<sup>29</sup> The Governor-General went on to emphasize the improvements in food supply that the barrage would deliver, and to place the barrage in the context of his government's wider economic and development policies. All of these statements emphasized the role of the central government in promoting economic and industrial progress in general, and agricultural development in particular. He weighed into the debate on land allocation by declaring that

in distributing land care should be taken that we do not give such land to big landlords and thus add to our difficulties. [...] In the past, I am afraid, there has been some lack of fair play in this regard, and I do hope and believe that the government of Sind shall strain every nerve to mend the conditions and improve the distribution in the best interest of the common man[.] [...] The common man, whether a refugee or a local, is the core of our nation and all our schemes and projects must aim at ameliorating the hardships of his day to day life.<sup>30</sup>

This implied criticism of the Sind government suggested a deep breach between the centre's vision for the project, and the province's. Appeals to the 'common man' were perhaps particularly important at that moment because

---

<sup>29</sup> *Speech of His Excellency the Governor-General at the Opening Ceremony of the Kotri Barrage, March 15, 1955*, p.2, enclosed with Senior Trade Commissioner, Karachi, to Commercial Relations and Exports Department, Board of Trade, London, 06.06.1955, DO 35/8581, U.K.N.A.

<sup>30</sup> *Speech of His Excellency the Governor-General at the Opening Ceremony of the Kotri Barrage*, p.2.

Ghulam Mohammad, having made plain his attitude towards democracy by dismissing Nazimuddin from the premiership in 1953, had also dismissed the first Constituent Assembly in October 1954, in response to its attempts to curb some of his powers.<sup>31</sup> By emphasising the state's relationship with everyday citizens, Ghulam Mohammad sought to demonstrate a direct identification with the people outside the political classes, and so claim a populist legitimacy for his administration. In effect, Ghulam Mohammad implied that the modernist and progressive military and civil bureaucracy ought to rule a people who were incapable of managing barrage lands 'fairly'. This certainly echoed the common British official opinion that Sindhi *zamindars* were not capable of managing their own affairs under barrage conditions, and similar accusations made by the anti-separation lobby during the separation of Sind debates in the 1930s, as well as I.H. Qureshi's views. In fact, it re-articulated contemporary arguments in support of land reform that had not been supported by significant action on the part of either provincial or central governments.

Sections of the press seemed to take such rhetoric at face value, and supported it enthusiastically. The Karachi-based weekly *Commerce*, for instance, sought (rather imaginatively) to frame Ghulam Muhammad's speech in a wider context of socio-economic change in the countryside:

The Governor General did not say this in so many words but we have no doubt that he felt it as keenly as many people do that in resisting agrarian reforms in the country the feudal lords were precipitating conditions which would in the end spell a disaster for them.<sup>32</sup>

---

<sup>31</sup> The Assembly had amended sections of the 1935 Government of India Act to deprive the Governor-General of his power to dismiss ministers. The latter would instead be individually and collectively responsible to the federal legislature. This was done to prevent the Governor-General's office from repeating actions such as the dismissal of Nazimuddin's cabinet. Ghulam Muhammad struck back by dissolving the Assembly on 24 October 1954, announcing an end to "parliamentary bickering". Ghulam Muhammad then had M.A. Boga form a new cabinet without a parliament, which included Major-General Iskander Mirza and General Mohammed Ayub Khan, the Commander-in-Chief of the Army, thus laying the foundations for Ayub's military coup in 1958. See Hamid Khan, *Constitutional and Political History of Pakistan* (Oxford: Oxford University Press, 2001), pp.81-82.

<sup>32</sup> 'Kotri Barrage', *Commerce* 19.03.1955.

Here, the use of the word 'feudal' suggested an open conflict between the old and the new: the image was not of a class struggle between big landlords and their worker-*haris*, but of an endangered reactionary group fighting a rearguard action against the natural – and national – march of progress. Conversely, the state's representative, the Governor-General, was associated with that progress. But in reality very little provision had been made for protecting agricultural labour or tenants in the barrage area, and in fact the Sind government had not even formulated plans for settling *haris* onto the 100,000 acres which had been allotted to them in 1951. *Commerce's* declaration against 'feudals' was a reaction to the vast strength of landlords in rural Sind, rather than indicative of a serious challenge to that power.

### **Land under the One Unit administration**

In October 1955, the establishment of One Unit brought Sind barrage projects under the purview of the new Government of West Pakistan, which had the potential to ease the deadlock between different rural interests, and between the central and provincial governments. Now, representatives from outside Sind could ask questions in the new Provincial Assembly about barrage land, and the budget for development, agriculture, and related provincial matters was to be voted on by an elective body in which individuals representing Sind constituencies were a minority. Sindhi *zamindars* would no longer dominate the main political forum for the drafting of provincial policy, and lost their legislative veto over proposals that they felt would harm their interests, such as the allocation of barrage land to *haris* or non-Sindhis. A group of Sindhi politicians, comprising three central ministers including Khuhro (who, ironically, had been crucial in pushing One Unit through the Sind Assembly in 1955), as well as several provincial ministers, attempted to dismantle the scheme by

nominating candidates for election to the Central and Provincial Assemblies on the ticket of breaking up One Unit. In practical terms It had no effect since Martial Law was imposed, and the Assemblies dissolved, shortly afterwards, but did express the dissatisfaction of Sindhi politicians with the new arrangements.<sup>33</sup> On the other hand, Sindhi *haris* did not necessarily fare any better under the new dispensation. One Unit was opposed by G.M. Syed's hardline Sind Awami Mahaz, as well as the Sind *Hari* Committee and the Awami League.<sup>34</sup> After several years of One Unit administration, the Sindhi Hari Movement leader and leftist politician Hyder Bux Jatoi asserted that "One Unit operation is the most outstanding expression of anti-democracy in Pakistan. [...] It is not a mere administrative measure but it conceals and reveals forms of local imperialism", and that the best and largest blocs of new land in Sind were being granted to non-Sindhi officers, merchants, capitalists, and landlords.<sup>35</sup>

However, despite opposition from politically-aware Sindhis, the change in how Sind was governed had little effect on the former province's agricultural areas during the mid-late 1950s. It would not be until Ayub Khan came to power in 1958 that the true administrative potential of One Unit – its ability to flatten the opposition of minority groups such as Sindhis – was fulfilled in combination with dictatorial powers at the centre. Yet lands commanded by the Ghulam Muhammad Barrage and even the Sukkur Barrage remained unallocated despite One Unit's promise of integrated development. Instead, continued exhortations from Pakistan's political leaders to speed up allocation and colonization only masked their deference to fellow landlords and failure to formulate a clear allocation policy. Even

---

<sup>33</sup> 'Extract from Pakistan Summary' for 15.09.1958, DO 35/8937, U.K.N.A.

<sup>34</sup> On G.M. Syed and the rise of Sindhi separatist politics, including the role played by One Unit, see Surendra Nath Kaushik, 'Conflicted National and Regional Identities: Case of Jiye Sind Movement in Pakistan', in Ramakant and B.C. Upreti (ed.s), *Nation-Building in South Asia*, vol. 1 (New Delhi: South Asian Publishers, 1991).

<sup>35</sup> Hyder Bux Jatoi, *One Unit and Democracy* (Karachi: n.p., 1962), p.5.

had a clear policy been available to the officers responsible for settlement, they lacked the necessary manpower and resources to do the work of distributing roughly 600,000 acres of idle Sind lands. Rather than relieving officers of local *zamindars'* influence, the bottleneck caused by red tape and poor inter-departmental co-ordination was worsened by the need to consult with provincial headquarters in Lahore to resolve relatively minor matters, where decision-making was slowed by the Government of West Pakistan's responsibility for such a large area.<sup>36</sup>

The centre had long viewed this with little sympathy. At the foundation-stone-laying ceremony for the Gudu Barrage in 1957, President Mirza had complained that colonization work on the Ghulam Muhammad Barrage was lagging and causing a "colossal waste of available land and water which we can ill-afford in our present state of acute want", and exhorted the provincial government to do better on the Gudu Barrage, with special consideration for poor and middle-class people.<sup>37</sup> Such pressure from the centre had no discernable effect and by June 1958, despite almost three years of One Unit administration, colonization work on Sind barrage lands remained cripplingly slow and piecemeal: only 216,000 of 2,500,000 acres of government-owned land was ready for cultivation. "Disposal of these lands," reported the U.S. Embassy,

touches directly upon the sensitive issue of the land tenure system and involves conflicting interest group seeking to gain the major share of the new lands. The result of this clash between Sindhi landlords, Punjabi landlords, refugee claimants, the military, and the landless peasants has been no policy. Despite all the statements made by political leaders about speeding up the

---

<sup>36</sup> Karachi despatch 1124, 06.06.1958, 890D.16/6-658, Central Decimal Files, 1955-1959, R.G. 59, U.S.N.A.

<sup>37</sup> President Mirza's speech at Gudu Barrage foundation-stone-laying ceremony, reproduced in Trade Commissioner Karachi to Board of Trade, London, 14.02.1957, BT 11/5110, U.K.N.A.

distribution and rapid cultivation of new lands, the government's action has been just the opposite - to slow down the exploitation of the new areas.<sup>38</sup>

At that time, only 100,000 acres had been designated for colonization by Sind *haris*, and 67,500 for Sind landlords. Moreover, a Board of Revenue member admitted that no firm policy for the disposal of Sukkur Barrage land existed. Nobody seemed to know how much land was available. Barrage officials complained that effectiveness of the administration and barrage operations were badly impaired by political dithering and by the special privileges that *zamindars* were able to obtain.<sup>39</sup>

Similarly, the wider question of land reform in general fared no better in a unified West Pakistan than it had under the previous provincial arrangements. This had been demonstrated during the first two years of One Unit's existence. Despite the oft-expressed concern of Dr. Khan Sahib, Frontier hero and the West Pakistan Chief Minister from 1955 to 1957, for the 'common man', the Secretary for Refugees and Rehabilitation, M. Masood, had complained in 1956 that there was little hope for the working and labouring classes from any political quarter.<sup>40</sup> In July of the same year, huge protests were staged, with the support of opposition political parties, by tenants who had been ejected from land that they had been cultivating in the Punjab, by refugee landlords who had been allotted the same land. The West Pakistan Government's handling of these protests demonstrated the Ministry's

---

<sup>38</sup> Karachi despatch 1124, 06.06.1958, Central Decimal Files, 1955-1959, 890D.16/6-658, R.G. 59, U.S.N.A. The previous year, the U.S. Consul General had reported an impasse between politicians and officials regarding the distribution of Ghulam Muhammad Barrage lands, "which the politicians from Sind wish to keep in their control but which Lahore Secretariat officials, led by Mr. [Sheikh Ikram-ul-] Haque [a Civil Service of Pakistan official who had recently been elevated to the rank of Additional Chief Secretary with direct responsibility over the Food and Agriculture Departments, and had the right to demand co-operation from the Finance and Irrigation Departments], desire to parcel out immediately to presently-landless tenants". Lahore despatch 186, 29.05.1957, 890D.20/5-2957, Central Decimal Files, 1955-1959, R.G. 59, U.S.N.A. However, neither Haque's appointment, nor the handing over of colonization duties to the newly-formed West Pakistan Agricultural Development Corporation, made a significant short-term impact on colonization work.

<sup>39</sup> Karachi despatch 1124, 06.06.1958.

<sup>40</sup> Lahore despatch 238, 25.04.1956, 890D.16/4-2556, Central Decimal Files, 1955-1959, R.G. 59, U.S.N.A.

refusal to countenance radical reforms in land tenure, which matched that of the earlier provincial governments. Dr. Khan Sahib offered to have the ejected tenants resettled on state land, but rejected most of their demands to give ejected tenants greater rights in future, including that all state lands should be reserved for ejected tenants rather than publicly auctioned. The majority of the ejected tenants who had come to Lahore to agitate accepted this and returned to their villages, but the remainder attempted a march on the Secretariat, and were promptly arrested and jailed.<sup>41</sup> By offering the agitators individual resettlement but not putting in place measures for the future, Khan Sahib demonstrated that his Ministry was concerned chiefly with maintaining law and order in the short-term, and not with long-term reform. The deal that he struck with the agitators, together with the arrest of some of their number, removed the problem from the surface, but had no effect on the structural factors that kept rural labourers insecure and at the mercy of landlords. Pakistan's leaders remained, in the words of a U.K. trade organisation report, inept stewards of "the most valuable portion of the country's inheritance: its agricultural resources."<sup>42</sup>

The central importance of land was certainly not disputed by Pakistanis, but Sindhi *zamindars* remained bullish about the prospect of reform. At a Government of West Pakistan conference in August 1956, recurring shortages of rice and wheat – and pressures brought on the Government of Pakistan by the U.S. International Co-operation Administration – had reached such an acute point that forced the Prime Minister to change the agenda of a provincial conference on the Five-Year Plan to a planning session for increasing food output. Demonstrating the volatility of the subject, Abdus Sattar Pirzada, the West Pakistan Minister of Agriculture and a

---

<sup>41</sup> Lahore despatch 16, 20.07.1956, 890D.16/7-2056, Central Decimal Files, 1955-1959, R.G. 59, U.S.N.A.

<sup>42</sup> Extract from ConRep Pakistan for July 1956, MSS Eur F 158/467, B.L.

prominent Sindhi *zamindar*, threatened to withdraw if the subject of land tenure reform were broached. The issue threatened to split West Pakistan politically from top to bottom, following the Planning Board's recommendations that the ceiling for landholdings should be only 150 irrigated acres – proposals resented by the powerful landowning classes, headed by Firoz Khan Noon in the Punjab and by Pirzada in Sind.<sup>43</sup>

The appointment of Ahsan ud-Din as Secretary of Agriculture at the beginning of 1957 held out some hope for more effective agricultural development,<sup>44</sup> but there was still no senior officer appointed to oversee exclusively the colonization of irrigated but underdeveloped areas, such as those in Hyderabad and Khairpur Divisions, irrigated from the Ghulam Muhammad and Sukkur Barrages.<sup>45</sup> U.S. diplomats continued to encourage the West Pakistan administration to impose scientific agriculture on a large scale,<sup>46</sup> but skirted around the issue of land reform. In May, the Lahore Secretariat announced that a West Pakistan Agricultural Development corporation would be created mainly to see to the colonizing of Ghulam Muhammad Barrage lands, despite the opposition of politicians based in Sind, who wished to keep control of the project.<sup>47</sup> This more bellicose tendency on the part of the bureaucracy was confirmed in December when, at a conference on agrarian questions in Karachi, the Assistant Chief (Land Reforms) of the Planning Board argued for “a bold and realistic approach” which eschewed half-hearted measures, noting that the only significant land reform in

---

<sup>43</sup> Extract from ConRep Pakistan for August 1956, India, Pakistan and Burma Association Papers, MSS Eur F 158/467, B.L.

<sup>44</sup> Karachi despatch 543, 01.03.1957, 'AGRICULTURE - Grow More Food Campaign (1957)', Mission to Pakistan, Executive Office Subject Files 1955-1957, R.G. 469, U.S.N.A.

<sup>45</sup> Karachi despatch 543, 01.03.1957, AGRICULTURE - Grow More Food Campaign (1957).

<sup>46</sup> Assistant Director U.S. Operations Mission to Pakistan, to Dr. Khan Sahib, Chief Minister West Pakistan, 04.01.1957, 'AGRICULTURE - Grow More Food Campaign (1957)'.

<sup>47</sup> Lahore despatch 186, 29.05.1957, 890D.20/5-2957, Mission to Pakistan, Executive Office Subject Files 1955-1957, R.G. 59, U.S.N.A.

West Pakistan since independence had been the abolition of *jagirs*, and some legislation to ameliorate the lot of the peasant.<sup>48</sup> Even these measures had predated One Unit, however, showing that West Pakistan Province had been no more successful in resolving land questions than had its predecessor provinces. Rather than allowing voices to be heard that were more representative of the West Pakistani population as a whole, One Unit seemed merely to have forced landlords across the new province to join forces to maintain the status quo.

Despite landlords' evident power, however, the state continued to be identified with control over valuable agricultural land. At a Lahore meeting in March 1958 the Kisan Conference, a peasant organization, demanded land reforms and that state lands should be allocated to tenants and landless labourers, rather than auctioned off to the highest bidder, echoing the demands of the ejected tenants who had marched on Lahore in 1956. The Conference argued that Ghulam Muhammad Barrage lands in particular should be distributed to local *haris*, and on no account to big landlords. The meeting also passed a resolution in favour of the One Unit scheme, on the basis that it would help unite the labouring and working classes throughout West Pakistan, and give them the strength to demand change.<sup>49</sup> The unification of West Pakistan presented the Kisan Conference with a structure which, although created by the state and not by popular forces, could be used as a platform for political mobilization. The Ghulam Muhammad Barrage, by dint of the large area of new land that it irrigated, became a focal point of this mobilization.

Ghulam Muhammad Barrage land continued to be a topic of peasant and tenant protest. Shortly after the Kisan Conference had concluded its meeting, a body of at least 1,000 peasants marched on Karachi to protest against eviction from

---

<sup>48</sup> Karachi despatch 539, 23.12.1957, 890D.16/12-2357, Mission to Pakistan, Executive Office Subject Files 1955-1957, R.G. 59, U.S.N.A.

<sup>49</sup> 'State land should not be auctioned', *Pakistan Times* 18.03.1958.

evacuee lands that they had previously been allotted. These lands had now been re-assigned to refugee claimants, and the *haris* turned off the land. The protest's leaders, headed by National Awami Party General Secretary M.H. Usmani and supported by Sindhi nationalist G.M. Syed, met President Mirza to request that the peasants be given the opportunity to buy the lands which they had been cultivating. Refugee claimants, they said, should be compensated with cash from the resulting proceeds of sale, or settled on barrage land which had been reserved for *haris* but that were currently empty.<sup>50</sup> That another movement of the lower rural social orders asked the state to dispose of barrage lands in a particular way (even if they suggested allocating them to refugees rather than indigenous *haris*) showed that the lands were viewed as a resource, which the state could allocate freely. This interpretation of barrage lands' status was radically different to that of Sindhi *zamindars*, who continued to dig their heels in and demand the lands for themselves.

Such protests were rare, and had little effect on everyday life even within Sind, let alone on a national scale. Although 'the common man' was a convenient figure for politicians and others to call on, real-life *haris* had virtually no influence on the formulation of either land allocation or land reform policy. Concessions to them were framed as boons granted by the government as a benevolent power, just as had been the case under the British colonial administration. However, Syed's proposal was important in identifying the state as the arbiter between different interest groups such as refugees and *haris*; and it emphasized the fact that the demands made by these groups on the state could continue to be articulated in terms of land. This apportioned a level of influence to the government which was not, perhaps, borne out by the realities of local politics in rural areas. On the other

---

<sup>50</sup> 'More Hari marchers arrive in Karachi', *Pakistan Times* 04.05.1958; 'Ejectment from evacuee land', *Pakistan Times* 06.05.1958.

hand, the very fact of resistance to the uneasy alliance between bureaucrats and *zamindar*-politicians by which they maintained power over subaltern groups served as a reminder that people could not be manipulated quite as easily as the earth and concrete that had made the barrages possible.

### **Colonization and land reforms under Martial Law**

The 'democratic' dispensation of the 1950s, then, had failed either to resolve tensions between agrarian groups, or to make a success of the barrage projects in Sind. Towards the end of the decade, the political arena changed markedly with President Mirza's declaration of Martial Law. Soon afterwards, on 27 October, Mirza himself was removed from power and exiled by General Mohammed Ayub Khan, the commander in chief of the armed forces. Ayub promised a new beginning for Pakistan: to sweep away the corruption of the old order, and to re-start the stalled nation-building process. The remainder of this chapter will concentrate on the administration's attempts to locate its legitimacy in effectively promoting programmes related to land distribution and reform. Its ineffectuality in getting barrage land distributed and colonized very starkly demonstrated, however, the difficulties involved in translating this rhetoric into reality, even with the authoritarian impetus of a military government. Ironically, the irrigation system, which the government so celebrated, proved a powerful rallying point around which the 'old forces' of corrupt, unco-operative bureaucrats and landlord-dominated rural politics continued to assert themselves against reforming drives from the centre. At the same time, the personal identification of Ayub with 'development' helped to over-inflate the administration's sense of its own ability to make concrete achievements.<sup>51</sup>

---

<sup>51</sup> E.g. 'Ayub and development inseparable', *Pakistan Times* 03.03.1965.

In the immediate aftermath of the 1958 coup, however, it seemed that progress would be made in both colonizing barrage land and re-distributing that which was already colonized. The concentration of executive authority in Ayub's hands and the dissolution of the landlord-dominated provincial assemblies, it was assumed, would potentially make it easier for the executive to push through the distribution of land to cultivators.<sup>52</sup> One of Ayub's first acts was to re-issue an order given by President Mirza that all barrage lands to which water could be brought should be colonized within three months. On 19 November 1958, after Mirza had been exiled, a directive was issued to the Governor of West Pakistan on behalf of the Chief Martial Law Administrator and new President, Ayub Khan. It reiterated that all irrigable land on the Thal, Ghulam Muhammad Barrage, Sukkur Barrage, Nara Canal, and Abbasia Canal projects, and those lying in riverine areas, should be distributed within three months. Six special colonization officers were to be appointed to speed up the process. The Governor was also ordered "to increase agricultural production, particularly of food crops", and to ensure that the provincial government carried out any orders of the Central Ministry of Food and Agriculture relating to agricultural production.<sup>53</sup>

Martial Law, then, initially seemed to promise a beneficial effect on agriculture. This was particularly the case in Sind, where *zamindars* had previously retained especially great influence over the working of the local bureaucracy.<sup>54</sup> Within a month of the coup, a U.S. consular officer reflected the image of energy and efficiency that the administration wished to project by reporting that, although action was still limited by a lack of proper co-ordination at the local level, Martial

---

<sup>52</sup> U.S. Embassy Karachi to Secretary of State, airgram G-145, 09.10.1958, 890D.16/10-958, Mission to Pakistan, Executive Office Subject Files 1955-1957, R.G. 59, U.S.N.A.

<sup>53</sup> Ministry of Food & Agriculture (Agriculture Division), Government of Pakistan memo, 19.11.1958, Cabinet Files, 468/CF/58, N.D.C.

<sup>54</sup> Karachi despatch 1083, 27.05.1959, 890D.16/5-2759, Mission to Pakistan, Executive Office Subject Files 1955-1957, R.G. 59, U.S.N.A.

Law had instilled a more determined approach to developing the Ghulam Muhammad Barrage.<sup>55</sup> This impetus was maintained well into the following year, when the establishment of the Ghulam Muhammad Barrage Land Utilization Board, a government body with responsibility for barrage development and operative at both national and local levels, marked progress for the project.<sup>56</sup> A smoother administrative process, which removed the need to refer allocation work back to Lahore for approval, was expected to speed up work.<sup>57</sup> The engineers in charge of the Sukkur Barrage also reported that their system's operational efficiency had been greatly increased following the removal of the "interference of *zamindar*-politicians" under Martial Law, although at Sukkur the administration itself did not seem to be rejuvenated as much as that in charge of the Ghulam Muhammad Barrage.<sup>58</sup>

On 15 October 1958, the same day on which Ayub publicly promised speedy barrage-land cultivation to the press in Rawalpindi, a plan was made public in Hyderabad for the disposal of 41,000 acres of new land in the Ghulam Muhammad Barrage command. This included 25,000 acres for auction, and 16,000 acres for long-term leasing, comprising about a quarter of the new lands expected to be released for cultivation that revenue year. The land would be split into parcels of various sizes – 32, 64, 128, 192 and 240 acres – which were auctioned. The successful bidder would have to deposit 25% of the price in advance, with the remainder paid in instalments; new owners would be given two years' grace before the first instalment was due.<sup>59</sup> The relatively large blocs available and the high price

---

<sup>55</sup> Karachi despatch 420, 05.11.1958, '500 C.E.R.P. October-December 1958', General Records 1949-61, Karachi Embassy 1956-1958, R.G. 84, U.S.N.A.

<sup>56</sup> Karachi despatch 902, 07.04.1959, 890D.16/4-759, Mission to Pakistan, Executive Office Subject Files 1955-1957, R.G. 59, U.S.N.A.

<sup>57</sup> Karachi despatch 1083, 27.05.1959, 890D.16/5-2759, Mission to Pakistan, Executive Office Subject Files 1955-1957, R.G. 59, U.S.N.A.

<sup>58</sup> Karachi despatch 902, 07.04.1959, 890D.16/4-759.

<sup>59</sup> Karachi despatch 373, 20.10.1958, 500 CERP October-December 1958, General Records 1949-61, Karachi Embassy 1956-1958, R.G. 84, U.S.N.A.

of the land, roughly twice that charged for lands allocated directly by the Government, suggested that the buyers were expected to be 'serious' farmers, able to call on capital to buy the land and begin working it, and the manpower to farm large areas. However, the government's oft-professed concern for the 'common man'<sup>60</sup> also found expression in the Ghulam Muhammad Barrage Land Utilization Committee's meeting at Hyderabad in late October, which decided that 35,000 acres should be reserved for 2,000 landless cultivator refugee families currently residing in the Karachi Administration area.<sup>61</sup> In December, the Committee announced the reservation of 65,000 acres for *haris*, 5,000 for tribesmen, 4,000 for ex-servicemen and existing military personnel, and 20,000 for local landowners. Other reservations included 24,000 acres to be disposed of by auction.<sup>62</sup>

The huge proportion of land reserved for *haris* suggested a potential break with the tradition of shoring up local landlords' power. In early 1959, the reservation announced for *haris* was even more generous at over 300,000 acres.<sup>63</sup> Remarkably, much of this land seems actually to have been distributed to its intended recipients: the U.S. embassy reported in February 1959 that most Ghulam Muhammad Barrage land was being distributed to *haris* who lived near to the newly-irrigated lands.<sup>64</sup> Similarly, by May the same year, 1,100 refugee families were shifted from Karachi to the Ghulam Muhammad Barrage area, all of whom

---

<sup>60</sup> For example, Ayub told a gathering of high-ranking West Pakistan Government officials in Lahore that, under the new government, "The officials have a great opportunity now. Let them go out to meet the people in the areas where they work. Their foremost duty is to serve the common man." Cited in 'Land reforms body set up', *Dawn* 16.10.1958.

<sup>61</sup> 'Utilization of G.M. Barrage lands', *Dawn* 31.10.1958.

<sup>62</sup> '1,32,000 acres will be released for allotment', *Dawn* 12.12.1958.

<sup>63</sup> 'Work slows down on Gudu Barrage project', *Pakistan Times* 03.28.1959.

<sup>64</sup> Karachi despatch 705, 05.02.1959, 890D.16/2-559, Mission to Pakistan, Executive Office Subject Files 1955-1957, R.G. 59, U.S.N.A.

were previously farmers or unskilled labourers. This was reportedly the first time that Karachi refugees had been settled in interior Sind.<sup>65</sup>

However, the government's pro-*hari* policy for Ghulam Muhammad Barrage land soon proved to be a chimera, and by the autumn of 1959 the tenor of proposed land allocations had undergone a startling *volte-face*. The reservation for ex-servicemen had been raised to 100,000 acres, and a new category of grants for ex-civil servants had been created, standing at 180,000 acres. With special allocations for other outside groups – refugees, Bengalis and Pathan tribesmen – the share for local *haris* and *zamindars* was much reduced.<sup>66</sup> The allocations for ex-civil servants drew criticism from the *Star*, a Karachi-based newspaper that tended to reflect views of affluent refugee commercial groups, on the basis that civil servants should not be given agricultural land when the country was in the throes of a food crisis.<sup>67</sup> More generally, *Dawn* criticized the lack of support given to Ghulam Muhammad Barrage colonists, arguing that the poor condition of allocated land and the prohibitive rate of hiring government-owned tractors to do the work was causing great hardship to less-wealthy allottees.<sup>68</sup>

---

<sup>65</sup> Karachi despatch 129, 05.08.1959, '570.1 People, Race Problems, Refugees 1959-61', General Records, 1949-1961, Karachi Embassy 1959-1961, R.G. 84, U.S.N.A.

<sup>66</sup> Karachi despatch 191, 26.08.1959, 890D.16/8-2659, Mission to Pakistan, Executive Office Subject Files 1955-1957, R.G. 59, U.S.N.A. According to the reporting officer, the revenue officer in charge of Ghulam Muhammad Barrage land allocation, when asked about the new reservations, "only smiled and said, "Well, ex-army and civil service people will make very good farmers.""

<sup>67</sup> Karachi despatch 245, 14.09.1959, 890D.16/9-1459, Mission to Pakistan, Executive Office Subject Files 1955-1957, R.G. 59, U.S.N.A. The reporting officer suggested that the *Star* probably believed the scheme to have been engineered by the Punjabis who dominated the West Pakistan Civil Service. While this was only speculation, it does indicate the hostility that some groups felt towards the increasing dominance of state structures by Punjabis and Pathans. Such feelings would play an important part in the demonstrations in Sind which helped bring down Ayub Khan's government, and certainly inform much of the tension between the Punjab and the smaller provinces today.

<sup>68</sup> However, the new approach to land colonization found support from U.S. officials: one US report noted that the Ghulam Muhammad Barrage Utilization Committee had considered the problem of population scarcity in Sind, and praised the Committee for looking beyond the previous regime's "parochial and economically unsound" concession to Sindhi objections to bringing in outsiders, especially Punjabis, to work the barrage lands. Another noted that

The lack of support given to settlers on barrage land was exemplified by a sequence of events that began in 1960. In January of that year, 81 Bengali peasant families, the first of approximately 350, arrived in Karachi by ship from East Pakistan. Most were refugees who had either been landless before Partition or who had not been given land in East Pakistan after migrating there. They had volunteered to be resettled in West Pakistan, and were collectively to be given 10,000 acres in the Ghulam Muhammad Barrage command. While the scheme dealt with a relatively small number of families and quantity of land, its importance to the Government of Pakistan as a social experiment, and a way to publicize harmonious east-west wing relations, was indicated by the presence of the central Ministers for Refugees and Rehabilitation, Food and Agriculture, and Industries at a grand reception for the settlers at Karachi's Keamari docks. General Azam Khan, the Rehabilitation Minister, told the settlers that their arrival in West Pakistan proved beyond doubt that Pakistan was "one nation". A message from the Governor of West Pakistan, the Nawab of Kalabagh, was read out, stating that the allocation of West Pakistan lands to East Pakistan people was an "index of the unity of Pakistan". Positive responses to the arrival in the West Pakistani press, apparently engineered by the press department, confirmed the public relations value of the exercise.<sup>69</sup>

By March, this rosy glow had already faded as the scheme foundered. A *Dawn* article criticized a perceived lack of sympathy for the settlers on the part of local officials, a lack of planning for the settlements, which forced the settlers to live in rude huts with poor facilities, and the allocation of non-perennial land, which was often saline and of poor quality. The article carried the *taluka* revenue officer's

---

the sale of barrage land to relatively wealthy ex-military and civil service officers would increase the land's value and therefore boost government revenues. Karachi despatch 191, 26.08.1959, 890D.16/8-2659, Mission to Pakistan, Executive Office Subject Files 1955-1957, R.G. 59, U.S.N.A.

<sup>69</sup> Karachi despatch 577, 07.01.1960, '570.1 People, Race Problems, Refugees 1959-61', General Records, 1949-1961, Karachi Embassy 1959-1961, R.G. 84, U.S.N.A.

retort that the settlers' representatives had taken soil samples and approved the site beforehand, and that hard work would render the lands productive.<sup>70</sup> The correspondent privately told American officials, however, that the West Pakistani officers had shown open contempt for the settlers.<sup>71</sup> The settlers' complaints proved a thorn in the side for local officials, and the families were moved to different lands, which *Dawn* subsequently reported were the best in the Ghulam Muhammad Barrage zone.<sup>72</sup> By 1963, frustration with the ongoing problems presented by the scheme led the Governor of West Pakistan to complain privately that the settlers themselves were to blame for the failure.<sup>73</sup>

Blaming the settlers for their own predicament became standard in government circles over the following years, and in a 1967 cabinet meeting it was stated that while the scheme "was started with lofty ideas [...] Unfortunately the cultivators from East Pakistan were a poor lot. Most of them were urban adventurers without any agricultural background." 116 families at that point remained on their allocated lands, and had established themselves; of the remainder, some had returned to East Pakistan, and the rest had migrated to Karachi, where they were "creating difficulties". In doing so, the settlers had joined forces with approximately 1,400 East Pakistani families who had settled in Karachi, but had lost their homes during a severe flooding of the Lyari River; together, the East Pakistanis occupied parts of Nazimabad and agitated against the District

---

<sup>70</sup> 'Snags in execution of a great idea', *Dawn* 23.03.1960, Pakistan Day Supplement.

<sup>71</sup> Karachi despatch 890, 04.04.1960, 890D.16/4-460, Central Decimal Files, 1960-1963, R.G. 59, U.S.N.A. The Embassy's Counselor for Economic Affairs visited the lands in May and confirmed that they were of very poor quality. While his competency to judge the quality of agricultural land is not a given, his opinion that the project showed a "lack of consideration for the people involved" is equally damning. Karachi despatch 1047, 13.05.1960, '570.1 People, Race Problems, Refugees 1959-61', General Records, 1949-1961, Karachi Embassy 1959-1961, R.G. 84, U.S.N.A.

<sup>72</sup> 'E. Wing settlers given best land in G.M. Barrage', *Dawn* 12.05.1962.

<sup>73</sup> American Consul General to State Department, 11.09.1963, 'POL 15 GOVERNMENT PAK', R.G. 59, U.S.N.A.

Commissioner's attempts to resettle them in Korangi township.<sup>74</sup> In combination with extremely negative reports of the settlers' difficulties in the East Pakistani press, the whole settlement scheme had become a political disaster. A.H.M. Sham-ud Doha, a Bengali politician, went so far as to state in the National Assembly in June 1967 that the families who had deserted the lands were not agriculturalists but "exploiters". Those who had wanted to settle down, he said, had done so successfully.<sup>75</sup>

These events highlighted the important role that the Sind barrages had in creating a space in which dramas of nationhood could be played out, demonstrating the importance of irrigated land in underpinning the state's capacity to impose its will on social and political groups. Successful or not, this scheme was rendered possible only by the changes wrought on the Sindhi physical environment by the technologies of barrage-fed perennial irrigation. Thus the facilities provided by the barrage could be invested with very specific political meaning: an ideal of nationalist unity, which fell apart in the execution. The settlement of Bengalis can be seen as primarily a political project and, as a scheme involving a relatively small amount of land, its importance resided in its symbolic value. It would be false to treat the scheme's failure as analogous to the inter-wing tensions which led to the breakup of Pakistan in 1971: the settlements foundered on a specific combination of official hostility towards the settlers, the latter's dissatisfaction with their lot, and the condition of Ghulam Muhammad Barrage land, which was not by any means a site conducive to making an easy living. The contemptuous attitude towards the

---

<sup>74</sup> Minutes of Government of Pakistan Cabinet meeting, 31.05.1967, Cabinet Files, 271/CF/67, N.D.C.

<sup>75</sup> Transcript of debate in National Assembly, enclosed with Ministry of Agriculture and Works, Government of Pakistan, D.O.No.F.11-3/67-AI, n.d., Cabinet Files, 271/CF/67, N.D.C.

Bengalis shown by lower officials in Sind was, however, reflected in inter-wing relations at higher levels.<sup>76</sup>

The importation of East Pakistani settlers into Sind demonstrated the difficulties of treating land as a resource in a nation-making project, but on a relatively small scale. A much larger endeavour had, soon after the coup in 1958, been encapsulated in one of the Ayub administration's key programmes: West Pakistan's first supposedly comprehensive land reform package. A Commission was set up in late October to investigate the question of land ownership and tenancy,<sup>77</sup> and reported as early as January 1959. While playing on the idea of the common man, the resulting policy was, as Jalal has argued, really intended to create a rural middle-class that would owe its position and its allegiance to the centralized state.<sup>78</sup> Talbot, too, has highlighted the conservative nature of the reforms, and their failure to break the power of the landlord class.<sup>79</sup> However, the symbolic value of land reforms should not be underestimated: this was an important way in which Ayub's administration sought legitimacy in the face of his abrogation of the constitution, and it won the support of important social groups. The picture gleaned from foreign consular sources was of a public and press hungry for land reforms, pitted against big landowners who would fight reforms tooth and nail. The Land Reforms Commission's tricky balancing act was to satisfy the former without unduly upsetting the latter.

To this end, the administration made use of its power over the press to inflate the reforms' expected importance. As a U.S. report noted, the

---

<sup>76</sup> This was expressed especially as a refusal to countenance Bengali claims for the equal national importance of their language with Urdu, and that 'development' schemes and economic decisions unfairly favoured West Pakistan. For a summary, see G.W. Choudhury, 'Bangladesh: Why It Happened', *International Affairs* 48:2 (April 1972): 242-249.

<sup>77</sup> U.S. Embassy Karachi to State Department, 23.10.1958, 890D.16/10-2358, Central Decimal Files, 1955-1959, R.G. 59, U.S.N.A.

<sup>78</sup> Jalal, *Democracy and Authoritarianism*, pp.145-146.

<sup>79</sup> Talbot, *Pakistan: A modern history*, p.165.

regime controls media of communications and propaganda and will be able to present its program as fulfilment [of its] land reform pledge and as proof it [is] serious about its intentions [to] break up [the] estates [of] those large landowners who associated with past governments and who wielded [a] disproportionate amount of political power.

Consequently, a Planning Board source expected a “whitewash job”.<sup>80</sup> Successive delays in reporting suggested that the Commission was finding the large number of technical problems difficult to resolve, especially compensation for lands that the government was to acquire, and methods for preventing illegal transfers of land from a large landowner to family members, which were still taking place in West Pakistan despite the government’s threats of retribution.<sup>81</sup>

The Commission was also hampered by well-placed landlords, who made cases for conservative attitudes towards reform. Zulfiqar Ali Bhutto, Ayub’s Commerce Minister and the only landlord in the Cabinet, argued that too-stringent land reforms would destroy *zamindari* as an institution capable of maintaining order in the countryside and encourage supposedly Communist elements. As a Sindhi himself, with large holdings near Larkana, Bhutto had a significant personal stake in limiting the effects of land reforms. His estimation of the problems likely to arise from a weakening of landlord power, if sincerely meant, was perhaps influenced by the relatively greater role that big *zamindars* had traditionally played in Sind. G.S. Kehar, a member of the Commission, agreed that too-radical reforms would disrupt the agrarian social structure, and advanced the economic argument that fragmentation and a consequent fall in production might ensue. Less-well-educated landlords throughout the province failed to appreciate that the idea of land reform had taken root in the popular imagination, and that the public expected to see a significant trimming of their holdings, but most Sindhi *zamindars* accepted that

---

<sup>80</sup> Telegram, U.S. Embassy Karachi to State Department, 27.11.1958, 890D.16/11-2758, Central Decimal Files, 1955-1959, R.G. 59, U.S.N.A.

<sup>81</sup> Karachi despatch 593, 31.12.1958, 890D.16/12-3158, Central Decimal Files, 1955-1959, R.G. 59, U.S.N.A.

some reduction of their holdings was inevitable. Sardar Sherbaz Khan Mazari, one of three brothers who led the Mazari tribe in Jacobabad District and parts of Punjab and Bahawalpur, had moderated his previous staunch insistence on the status quo and admitted the need for some redistribution, but argued that reform had to be systematic and that landowners should be properly compensated.<sup>82</sup> Indeed, newspapers such as *Dawn* had consistently opposed landlord power throughout the 1950s, and sentiments such as the following cannot be attributed solely to the administration's controls:

owners of big land holdings are 'flooding' the Land Reforms Commission with representations aimed at perpetuation of the unnatural rights and privileges which, by unscrupulous use of their enormous wealth and influence, they have been enjoying during the previous regimes, to the detriment of the economic health, social stability and political progress of the country.<sup>83</sup>

When it came, the Commission's report encapsulated the tensions and contradictions inherent in a programme that aimed at a partial rationalization of the country's economic resources, here represented by productive agricultural land, within the limits of politically desirable action. In the name of "ensuring better production and social justice",<sup>84</sup> as the Commission's rubric phrased it, the Commissioners announced their intention to lay the foundation for a strong rural middle class whose members would operate their own farms.<sup>85</sup> Few contemporaries could have missed the fact that this would have an especially great effect on the areas with the largest estates, namely Sind and southern parts of the Punjab, and re-model these 'backward' areas in the social image of the canal colonies, which remained the west wing's agricultural heartland. These regional variations in cause and effect were masked by the language of efficiency and the

---

<sup>82</sup> Karachi despatch 644, 20.01.1959, 890D.16/1-2059, Central Decimal Files, 1955-1959, R.G. 59, U.S.N.A.

<sup>83</sup> 'Land reforms', *Dawn* 22.11.1958.

<sup>84</sup> Land Reforms Commission, *Report of the Land Reforms Commission for West Pakistan, Introduction* (Lahore: Superintendent, Government Printing, West Pakistan, 1959).

<sup>85</sup> *Ibid.*, pp.22, 56.

idea of rational resource usage, which allowed one 'scientific' standard to be applied to significantly different cases. To justify the resumption of land in excess of the ceilings that would be laid down by the government, the Commission deployed a moral argument, stating that, since land lying in large estates often went under-utilized, "No responsible society can allow this basic source of wealth to be used inefficiently or indifferently."<sup>86</sup>

The Commission's report, like the international agency reports discussed in the previous chapter, was an example of rationalism *par excellence*. In basing their recommendations on a calculation of how much land would form an 'economic holding', and the desired minimum income for an individual farm family,<sup>87</sup> the Commissioners took an economized view of the phenomenon of land ownership and cultivation. This was deliberately opposed to the cultural value of landownership that often lay behind the vast size of estates in Sind and southern Punjab.<sup>88</sup> Consequently, the Commission made a number of recommendations. These included the imposition of limits on the amount of land that individuals could own; the resumption of the excess land by the state for redistribution to landless tenants and owner-cultivators who could not make a living from their plots; increased security of tenure for tenant-farmers; and the abolition of *jagirs* and other interests that came between the state and the cultivator. These measures were intended to encourage both owners and tenants to feel that they had an increased stake in the land, and to consequently put more work and capital (if they possessed the latter) into making the land more productive. Further recommendations that the fragmentation of holdings should be banned and that fragmented holdings should be consolidated into 'economic units' spoke to the same ideal of efficient farming

---

<sup>86</sup> *Ibid.*, pp.24, 26.

<sup>87</sup> *Ibid.*, p.65.

<sup>88</sup> Land Reforms Commission, *Report of the Land Reforms Commission for West Pakistan, Introduction.*, p.14.

that had underpinned the theory, although perhaps not the practice, of development work in the barrage commands.

These recommendations were predicated on an idealized model of scientific owner-cultivated farming, which was accorded a greater economic and moral value than the system of land ownership and tenure that prevailed in Sind. The idea of the 'lazy Sindhi *zamindar*', formulated in colonial times, remained just below the surface of this debate. Yet, like the colonial government's approach to the management of land and landowners, the Commission's recommendations necessarily entailed compromise between conflicting viewpoints and imperatives. "Unfortunately", the Commissioners wrote, "the requirements of social justice and the interests of economic development are not always identical and to achieve both ends will need a delicate balancing of measures with social and economic implications".<sup>89</sup> The proposed solution to the maintenance of this balance - a bolstered rural middle class - was conveniently also a key element in Ayub's bid to win long-term political control over West Pakistan.

On 24 January 1959, Ayub announced the Cabinet's decisions on land reform, based on the Commission's report. As expected, the reforms cut down the sizes of estates, but only hit the largest landlords particularly hard. The ceiling for individual holdings was fixed at a generous 500 acres of irrigated or 1,000 acres of non-irrigated land, plus up to 150 acres for orchards. Moreover, provisions relating to grants to heirs and female dependents allowed grants to exceed specified ceilings, providing an easy way for heads of close-knit family groups to parcel off land to relatives. Excess land was to be taken over by the government; existing tenants would have first refusal, or the lands would be sold to other 'deserving people'. Owners would be fully compensated, though over the course of 25 years.

---

<sup>89</sup> Land Reforms Commission, *Report of the Land Reforms Commission for West Pakistan, Introduction.*, p.21.

All *jagirs*, on the other hand, were to be abolished without compensation. Regarding conditions on the estates, cultivators who remained tenants would have full security of tenure, and a court finding would be necessary for eject a tenant. The consolidation of holdings would be made compulsory, and the fragmentation of holdings below a prescribed minimum would be forbidden, with the joint management of uneconomically small holdings facilitated by law. In addition, the new programme would provide for adequate credit facilities, seed, fertilizers, and implements for new owners.<sup>90</sup>

As a public relations exercise, the land reforms appeared to perform admirably. The appetite for land reform in Sind, especially among members of the middle classes such as lower-level civil servants, teachers and students, was strong. The land reform programme was considered a major test of the administration's *bona fides* by many politically-conscious Pakistanis,<sup>91</sup> and support for Ayub's administration among these groups was often framed in terms of opposition to the old powerbrokers, although some agricultural officers were rightly sceptical of the ability of land reforms to alter much in terms of agricultural production.<sup>92</sup> The administration had enhanced its position by acting on a measure long given symbolic importance, and was able to claim in publicity material that Ayub's government had taken "the longest and firmest stride [...] in its drive for the uplift of the 'small man'".<sup>93</sup> It had, however, done so without demolishing middling-landlords, who were potential allies of the administration.

---

<sup>90</sup> U.S. Embassy Karachi to Secretary of State, telegram 1764, 25.01.1959, 890D.16/1-2599, Central Decimal Files, 1955-1959, R.G. 59, U.S.N.A.

<sup>91</sup> Karachi despatch 761, 26.02.1959, 890D.16/2-2659, Central Decimal Files, 1955-1959, R.G. 59, U.S.N.A.

<sup>92</sup> Telegram, U.S. Embassy Karachi to Secretary of State, 25.01.1959, 25.1.59, 890D.16/1-2599, Central Decimal Files, 1955-1959, R.G. 59, U.S.N.A.

<sup>93</sup> Department of Films and Publications, *Three Years of Progress under the Revolutionary Government in Pakistan, 1958-1961* (Karachi: Department of Films and Publications, [1961?]), p.9.

As well as using the reforms to support its claims to legitimacy, Ayub's government also used them to manage the balance of power in the countryside. The reforms sought to reduce the wealth and status, and therefore political power, of the big landlords while increasing that of the middling landlords; and at the same time to concede enough to peasants and tenants to forestall later demands for more radical redistribution, but without allowing rural power to shift significantly in their favour. The reforms did represent a dramatic break from the inaction of previous Pakistani governments, but were moderate compared with reforms in other decolonized Asian countries.<sup>94</sup> Neither magnates after the *wadero* style, nor a multitude of peasant-owners, but a middle-class of well-to-do gentlemen farmers were the main intended beneficiaries, as the Foreign Minister stated at a press conference on 9 February 1959.<sup>95</sup> This was the kind of conservative constituency that Ayub's administration needed to cultivate in order to garner support and make a bid for legitimacy without going to the polls. Ayub made sure to curb the influence of the notorious 'zamindar-politician' before re-introducing a limited democracy under the Basic Democracies system.<sup>96</sup> But the new maximum holdings were by no means trivial tracts of land, and the combination of high ceilings and 'escape clauses' meant that the position of the administration's natural constituency in the

---

<sup>94</sup> Karachi despatch 761, 26.02.1959, 890D.16/2-2659, Central Decimal Files, 1955-1959, R.G. 59, U.S.N.A. For a brief comparison of land reforms in India and Pakistan, see Jalal, *Democracy and Authoritarianism*, pp.144-145.

<sup>95</sup> Karachi despatch 761, 26.02.1959, 890D.16/2-2659.

<sup>96</sup> Initiated in 1959, the Basic Democracies were Ayub's flagship project, a new constitutional system in which common citizens voted into office only those who would represent them at the most local level; these elected representatives would sit alongside others nominated by officials. This tier of government would itself elect the next highest, and the process would be repeated up to the level of the President. At the time, the administration loudly proclaimed that the system had been designed to suit the natural inclinations of the Pakistani people; however, by 1968-1969, when Ayub's diminishing popularity led to a popular movement against him, resentment against Basic Democracies and other mechanisms of political control fuelled the protests. On Basic Democracies, see Jalal, *Democracy and Authoritarianism*, pp.56-61; Talbot, *Pakistan: A modern history*, pp.153-156.

countryside – military officers, ex-civil servants, and urban middle classes who had invested in land – would not be threatened.<sup>97</sup>

Preserving elements of the social order in rural areas was, indeed, an important part of the administration's strategy for maintaining political stability. The decision to give existing tenants the first opportunity to buy the land that they had been cultivating benefited the administration by maintaining the existing social structure in rural areas. The reforms aimed to minimize the disruption caused to already-cultivated land. The majority of the total 2,155,000 acres resumed between 1958-1959 had been worked under lease, so relatively few owner-cultivators were displaced. Only 46,000 acres had been cultivated personally by their owners prior to resumption.<sup>98</sup> More than a third of tenants, *i.e.* 55,000, who received land were allotted that which they had already been cultivating; this fixed the tenants to particular plots. But while it made them owners of property with an increased stake in social and political orderliness, the effect on rural society was curtailed by the relatively tiny amount of land which former tenants received: only 7.5% of West Pakistan's tenant farmers, 146,000, became landowners under the programme. On a social level, the reforms maintained the private ownership and working of land as the norm. They did not promote co-operative societies or the collectivization of agriculture, which were important contemporary ideas.

The land reforms programme affected some areas more than others, and so its implications for the dynamics of rural power were regionally differentiated. The clause abolishing *jagirs* had little impact in Punjab, where *jagirdari* was rare, while in Sind it threatened to break the economic power of powerful families such as Sind's pre-British rulers, the Talpurs. Baluchistan, too, was to be heavily affected by land

---

<sup>97</sup> U.S. Embassy Karachi to Secretary of State, 26.01.1959, 890D.16/1-2659, Central Decimal Files, 1955-1959, R.G. 59, U.S.N.A.

<sup>98</sup> Karachi despatch 340, 15.10.1959, 890D.16/10-1559, Central Decimal Files, 1955-1959, R.G. 59, U.S.N.A.

reforms, where the inextricability of land holdings from the tribal structure meant that resumptions would severely undermine the existing social order. Leaders from these two provinces consequently attacked the programme in provincial terms, claiming that a Punjabi-dominated government was discriminating against them.<sup>99</sup> Moreover, Sindhis accused the Punjab of using the One Unit scheme as a cover for taking water from the upstream rivers, which they claimed rightfully belonged to Sind, and of manipulating their control of the Government of West Pakistan and the Agricultural Development Corporation to ensure that development schemes within Sind benefited Punjabis instead of Sindhis.<sup>100</sup>

Big landlords strongly criticized the Chief Land Commissioner, I.U. Khan, a refugee who had a reputation for hostility towards the old landed interests,<sup>101</sup> but landlords did not organise collectively to agitate against the reforms, even in Sind, which had by far the highest levels of resumptions.<sup>102</sup> As late as February 1967, M.A. Khuhro told a British diplomat that there had never been any effective opposition to Ayub's government in Sind because the big landlords, who held the political power, had a vested interest in co-operating with the government.<sup>103</sup> Khuhro himself, despite professing sympathies with the opposition, announced later that month that he was joining Ayub's Pakistan Muslim League, effectively throwing his lot in with the government. Throughout the 1960s, educated and politically-aware Sindhis

---

<sup>99</sup> Karachi despatch 761, 26.02.1959, 890D.16/2-2659, Central Decimal Files, 1955-1959, R.G. 59, U.S.N.A.

<sup>100</sup> Karachi despatch 1125, 02.06.1960, '500 PAKISTAN 1959-61', R.G. 84, U.S.N.A.

<sup>101</sup> Lahore despatch 134, 05.11.1959, 890D.16/11-559, Central Decimal Files, 1955-1959, R.G. 59, U.S.N.A.

<sup>102</sup> Karachi despatch 266, 22.09.1959, 890D.16/9-2259; Lahore despatch 81, 11.08.1960, 890D.16/8-1160, Central Decimal Files, 1960-1963, R.G. 59, U.S.N.A. This excludes the former Princely States of Khairpur and Bahawalpur whose rulers, on agreeing that their states be absorbed into the One Unit administration in 1955, had secured the right to retain their private lands; these lands, however, were deemed not to have special protection from the reforms programme, and the Mir of Khairpur and the Nawab of Bahawalpur lost approximately 50,000 acres and 12,000 respectively. Karachi despatch 1138, 09.06.1959, 890D.16/6-959, Central Decimal Files, 1955-1959, R.G. 59, U.S.N.A.

<sup>103</sup> N.J. Barrington, 'Confidential report on Mr. M.A. Khuhro', February 1967, DO 134/32, U.K.N.A.

increasingly felt marginalized by Ayub's government;<sup>104</sup> but, without a cohesive political platform from which to launch an effective protest, these leaders had little choice but to accept the land reforms.

*Zamindars'* failure to organize collectively was not, however, the only factor that allowed the land reforms some success. The Martial Law administration did, for a time, wield real power, and the programme benefited from a determined administrative effort.<sup>105</sup> The administration's many concessions to big landlords also meant that the latter were more willing to accept the reforms, especially as the programme's implementation was lenient. In Hyderabad District, by mid-1960 only 60% of land marked for resumption and re-allocation had actually been resumed; the remainder consisted mostly of waste land. The Deputy Commissioner of Nawabshah District reported that the clause allowing *zamindars* to choose which lands should be resumed had resulted in the resumption of small, scattered patches throughout their holdings, rather than of large contiguous blocks that could form an 'economic holding'. In Sukkur District, moreover, the land of only 11 *zamindars* had actually been resumed, amounting to 23,031 acres; a further 190,331 acres of *jagir* land had been resumed. While officials in Sukkur itself were convinced that *zamindars* were finished as political powers in the area, lower-ranking officials outside the city disagreed sharply, arguing that in most cases *zamindars* had been

---

<sup>104</sup> The Sindhi separatist leader G.M. Syed founded the Jiye Sind movement in 1967, which brought together a broad spectrum of organisation including the Sind Students' Cultural Organization and the Sind Hari Party; however, Sindhi ethno-politics remained moderate and constitutionally-oriented during this period. Suranjan Das, *Kashmir and Sindh: Nation-building, ethnicity and regional politics in South Asia* (London, Anthem Press: 2001), pp.119-120.

<sup>105</sup> Karachi despatch 266, 22.09.1959, 890D.16/9-2259, Central Decimal Files, 1955-1959, R.G. 59, U.S.N.A.

able to retain control over much of their lands, especially by transferring them to family members.<sup>106</sup>

The administration's success in handling the balance of power in the countryside across West Pakistan appeared to have been significant in the short to medium terms. By the mid-1960s, Sindhi landlords were typically more interested in maintaining their links with the establishment than with advancing the cause of Sindhi autonomy.<sup>107</sup> The division between urban and rural areas remained strong, and militated against effective organisation on the basis of a separate Sindhi identity. Indeed, a United States Information Service tour of northern Sind in January 1959 found that, under the Martial Law government, opposition to outsiders coming into Sind had begun to dissipate among middle-class groups such as students, local government officials, schoolteachers, and townsmen. The same was true of peasants. Accompanying this ostensible change of heart was an increased recognition that Pakistan's development should be national and not regional. Locals who were interviewed blamed (perhaps not surprisingly) former provincial politicians for agitations against Punjabis and for asserting a Sindhi over a Pakistani identity. On the other hand, however, actual development in the local area remained slow: efforts by government departments to bring more land in the region of Sukkur and Jacobabad under cultivation appeared unsuccessful, and indeed they would remain so until the new Gudu Barrage could increase the water supply.<sup>108</sup>

---

<sup>106</sup> Karachi despatch 1125, 02.06.1960, '500 PAKISTAN 1959-61', General Records, 1949-1961, Karachi Embassy 1959-1961, R.G. 84, U.S.N.A.

<sup>107</sup> U.S. Embassy Karachi to State Department, 30.11.1966, 'POL 2 PAK', Subject-Numeric Files, 1964-1966, R.G. 59, U.S.N.A.

<sup>108</sup> Karachi despatch 678, 29.01.1959, '500 PAKISTAN 1959-61', General Records, 1949-1961, Karachi Embassy 1959-1961, R.G. 84, U.S.N.A.

## Colonizing the Gudu Barrage

While the land reforms programme was underway in late 1950s-early 1960s, the administration's supposed commitment to the 'common man' was again tested when the Gudu Barrage was completed in 1962, and the land that it irrigated had to be allotted. Construction did not begin on the Gudu Barrage in earnest until 1957, because the Ghulam Muhammad Barrage, which brought water to the beleaguered new metropolis of Karachi as well as to agriculture, had emerged as the firm priority for successive governments in Sind. Consequently, decisions concerning the disposal of the land that the Gudu Barrage was to irrigate were not taken until the early 1960s. It was, therefore, the first major irrigation-extension project for which Ayub's administration had the chance to determine the intended political effects.

The One Unit administration and Martial Law's silencing of effective political opposition had gone some way towards making the land opened by the Gudu scheme a 'blank canvas' on which a centrally-defined 'national interest' could be projected. This was visible in the relatively high proportion of land that was reserved for groups with no prior interest in Sindhi agricultural land. When the Gudu Barrage opened, the grant policy for the project's 111,000 acres of state lands stood at 70% for locals, current government servants, and other people from outside the barrage command zone; and 20% for the settlement of persons displaced by the Mangla and Tarbela dam projects, and the Islamabad city-construction project, along with retired government servants. *Dawn* made a plea for the remaining 10% to be apportioned to residents of Lower Sind who, historically dependent on the Indus downstream of Kotri, had been left with severely reduced water supplies after the Ghulam Muhammad Barrage diverted the river water away

to fill its canals; and for the East Pakistanis in the Ghulam Muhammad Barrage command who faced ongoing problems with their land.<sup>109</sup>

The allocation of land to people affected by other development schemes suggested that Sind barrage land was perceived as a resource that could be used to absorb the ill-effects of state activity elsewhere within its territory. The Islamabad scheme was designed to provide the country with a federal capital outside the crowded environs of Karachi, and so the link between the project and the nation was clear. The city was to be a capital for the whole nation, even though it since has been suggested that its location in Punjab was partly motivated by the desire of the Ayub cabinet and its Punjabi allies to shift the seat of federal power away from refugee-dominated Karachi and into home territory.<sup>110</sup> The Mangla and Tarbela projects were both dam-irrigation schemes – similar to the Sind barrages in that large artificial structures impeded and regulated the river's flow in order to control the level of water in the river and in canals drawing water from it. Unlike the Sind barrages, however, these schemes required the number of people formerly resident in the basin areas to abandon their homes and disperse throughout the country, losing their livelihoods and often their sense of community.<sup>111</sup> Both schemes, moreover, had the backing of international donors, especially after the formation of

---

<sup>109</sup> 'Gudu Barrage', *Dawn* 03.03.1963.

<sup>110</sup> Talbot, *Pakistan: A modern history*, p.164.

<sup>111</sup> Cernea has estimated that the Mangla and Tarbela projects displaced 90,000 and 86,000 people respectively. Michael M. Cernea, 'Public Policy Responses to Development-Induced Population Displacements', *Economic and Political Weekly* 31:24 (June 1996): 1515-1523, p.1516. Recent work by non-governmental organizations in Pakistan has revealed something of the human cost of these schemes. An oral testimony project by the Sungi Development Foundation has highlighted the disorientation experienced by some of the Tarbela affectees after their forced migration to urban areas; deprived of their familiar agrarian environment, they have struggled with unemployment, social marginalisation, poverty, poor health, and drug addiction, often without receiving their due compensation from the government for lands from which they were evicted. Farah Zia, *The Submerged Speak: Oral testimonies of Tarbela affectees* (Islamabad: Sungi Development Foundation, 2007). These and similar problems are common across the developing world to people forced to migrate in favour of large infrastructure projects. Roli Asthana, 'Involuntary Resettlement: Survey of international experience', *Economic and Political Weekly* 31:24 (June 1996): 1468-1475.

the Aid To Pakistan Consortium by the World Bank in October 1960, which was tasked with funding works planned during the Indus waters dispute with India. Indeed, during the early 1960s Pakistan's political and financial attention turned very much towards these two projects, away from Sind: the Gudu Barrage represented the last major scheme to open up new lands for cultivation in the lower Indus region.

Gudu Barrage land was, therefore, perceived as a resource that the state could use to facilitate other 'development' projects. This staked out the Gudu project as a West Pakistani, rather than Sindhi, scheme. Further information on the land allocation policies for this barrage has not been found during research for this thesis, but it seems that the concerns underpinning Gudu colonization remained similar to those for the Ghulam Muhammad Barrage. Yet this is not to say that the colonization of every irrigation project in Sind was the same phenomenon. The groups to whom land was allocated on the Ghulam Muhammad and Gudu Barrages were more diverse than those who colonized the Sukkur Barrage or the Jamrao Canal, reflecting the wide range of claimants on the state's patronage in the 1950s and 1960s. If a trend can be deduced, it seems that colonization policies for the Independence-era projects were less coherent than those of the colonial period. The very diversity of groups to whom small proportions of barrage land were allocated, from East Pakistani settlers to refugees from India, suggested that land was allocated in order to make a show of how the state was 'looking after' various sections of society. This was similar to Ayub's land reform programme, which made grand claims to have changed conditions for millions of cultivators, but in fact did relatively little to alter life on the ground.

## Conclusion

Successive administrations' failure to distribute Sind barrage land after Independence was caused by an array of problems: the dominance of landlords over rural politics, distaste in ruling circles for radical change, and bureaucratic inertia. Despite changes in government at the higher levels, these problems remained substantially the same throughout the 1950s and 1960s. Similarly, no variation on the form of government was able or willing to make radical changes to the existing systems of land ownership and tenure in the decades following Independence.

There were, however, important differences in the ways that successive administrations during this period approached land. The 'democratic' governments of the 1950s proved almost wholly ineffectual in either changing the situation on the ground, or co-ordinating their activities to ensure the longevity of that system of government. Ayub Khan, on the other hand, identified his administration with intervention into agrarian society in a way that other administrations had not, by making land reform a key programme. His centralized and autocratic style of government allowed for a more coherent set of policies that translated into more effective action. The Martial Law administration government was able to have the barrage lands colonized more effectively than its predecessors in Pakistan, even if the actual process still fell short of the ideal. It also pushed through land reforms which, though limited in scope and imperfectly executed, had a palpable effect in rural areas and furthered the consolidation of Ayub's government's rule. In this it was aided by the pre-existing One Unit structure of provincial government in West Pakistan, which allowed the implementation of a programme that claimed to affect the whole province indiscriminately, but in practice had a much greater effect on certain areas. In the case of land reforms, these areas were Sind and Baluchistan.

Consequently, Ayub's administration reinforced the trend that privileged the model of middling landlords and peasant proprietorship common in the Punjab's canal colonies, as had been the case for the Jamrao Canal and Sukkur Barrage under the colonial dispensation. The land reforms programme was primarily designed, however, as a vehicle for the administration's claim to legitimacy, and to reinforce its control over rural areas. It should be remembered that these land reforms made more reference to the demands of the administration than the welfare of peasants: declarations of fidelity to the interests of the 'common man', which emanated from politicians and bureaucrats with increasing vigour throughout the 1950s and into the Ayub period, were usually cosmetic.

Land politics in Pakistani Sind demonstrated, therefore, the limits of state power. The rhetoric accompanying the construction of the barrage projects, which loudly proclaimed the mastery of the nation's engineers over the natural environment, could not be translated directly into the colonization of barrage lands. On the other hand, the engineers' capacity to move earth and water was not matched by an equivalent administrative or political capacity to re-work the social environment. By the time Ayub Khan fell from power in March 1969, Sind's irrigation system and agricultural landscape had changed more than the interests of the people who inhabited it.

## Conclusion

*[H]istorical scholarship is primarily about locating, drawing upon and integrating different types and sources of material – much of it fragmentary (in quality and scope), textual and scattered across different domains – in order to discern coherently the specific processes and mechanisms by which one historical moment influences another.*  
-Woolcock, Szreter, and Rao (2009)<sup>1</sup>

This thesis has examined the relationship between successive administrations in Sind and the development of the irrigation system, particularly the Jamrao Canal, Sukkur Barrage, Ghulam Muhammad Barrage, and Gudu Barrage projects. These schemes were important not only because they were complex to execute and carried out on a large scale, but also because they expressed the capacity of governments to assert their legitimacy by seeking to control the environmental base that underpinned politics, society and the economy. Professing all the while their concern for the advancement of a poor and 'backward' region, successive administrations used the prestige attached to large-scale, technology-intensive infrastructure works to demonstrate that they, as the vessels of scientific 'progress', had a right to govern Sind. This was most crucially expressed in terms of human dominance over the environment, where the humans in question were agents of the state. At the same time, administrations attempted, with varying degrees of coherence and success, to use land allocation policy in order to manage the social and political impacts that these projects would have in Sind.

In the 1890s and early 1900s, the Jamrao Canal marked the beginning of increasing intervention into Sindhi agrarian life on the part of the colonial administration in Sind, which aimed at closer bureaucratic control over both the

---

<sup>1</sup> Michael Woolcock, Simon Szreter and Vijayendra Rao, 'How and Why Does History Matter for Development Policy?', Working Paper 68, Brooks World Poverty Institute, University of Manchester: (January 2009), p.13.

physical environment and human cultivators. This control was asserted by, respectively, government engineers' ability to direct the flow of water from the River Indus to fields, and the rules and regulations – stricter than those ordinarily enforced in the Bombay Presidency – that governed the practice of agriculture on the Jamrao tract. Officials furthered their aim with the mass importation of cultivators from the Punjab, where the canal colonies were considered to have refined the 'naturally' productive and efficient instincts of Jat agriculturalists. Punjabis were expected to bring their more 'advanced' cultivation methods to 'backward' Sind, and help improve agricultural productivity across the province. This attempt to modernize simultaneously Sind's irrigational infrastructure and agrarian society was garbed in a language that asserted the duty of the British in India to lie in advancing the material progress of native Indians. While these aspects of the Jamrao project were emphasized by official discussions of the project's meaning, the colonial administration chose to bolster its political authority by conceding large grants of land to interest groups, such as the Talpur Mirs, within Sind.

The trends that the construction and colonization of the Jamrao Canal had set were extended and intensified by the planning, construction, and colonization of the Sukkur Barrage. Like the Jamrao Canal, the Sukkur Barrage was expected to increase agricultural productivity, help consolidate British political control over the province, and fulfil the colonizer's obligation to advance India's moral and material condition. Increases in official control over cultivation and cultivators, tested on the Jamrao Canal tract, came to be enacted across much of Sind, as land was compulsorily squared in anticipation of new cultivation conditions to be set by the renovated irrigation system. Even more significantly for the dynamics of imperial power, the Sukkur Barrage demonstrated British technical and logistical expertise, and so became a symbol of British might. Ceremonies connected with the barrage

reflected British officers' perception of themselves as a force for 'progress' in Sind and India. The place of grand public works in asserting the superiority of a rationalist view of nature, in which nature could be subjected to human dominance, also emphasized a hierarchy in which 'lazy' and 'irrational' Sindhis were subjected by the British-led state. The state proclaimed its power to re-make Sind's people as well as its environment, and to this end Punjabis were again imported to work much of the newly-opened land, with the vague assumption that Sindhis would learn modern agricultural techniques from them. Yet, in a repetition of officials' experience of colonizing the Jamrao Canal, social and political stability in Sind demanded that Sindhi *zamindars* and *haris* also be allocated land, meaning that officials had to temper their enthusiasm for 'scientifically'-minded Punjabi cultivators, who would also pay a high price for barrage land and produce high-value crops. Despite officials' scepticism about Sindhis and their ability to cultivate the new lands effectively, therefore, the Sukkur Barrage project had to take their position in the province into account.

The barrage might have augured well for the extension of state authority in Sind, but in practice it complicated the relationship between officials and Sindhi rural magnates, becoming as it did the focus of fierce political debates. At the same time, the barrage was effective in helping to instil the logic of material progress in the Sindhi public sphere, as arguments in favour of Sind's separation from the Bombay Presidency in the 1920s-early 1930s referred to the expectation of a wealthier, more productive province to come. Thus were laid the seeds of political support for 'development' activities after Independence. Arguments made by Sindhis who opposed separation, meanwhile, had raised doubts about Sind's ability to meet the debts incurred in constructing the barrage and new canals. The senior bureaucracy came to share those reservations after separation was granted, when

controversy erupted between 1937-1939 over the administration's desire to increase the rates of land revenue to be gathered on barrage lands. This did not prove a disaster for the British in Sind, however, and successive Ministries were persuaded by Sir Lancelot Graham, the Governor, to defend the increase. Attention was deflected from the Governor's retention of the final say in matters connected with the barrage, and onto those Sindhi politicians who found themselves advocating the Government's actions, proving the worth to the state of co-opting local elites rather than coming into outright conflict with them.

Soon after the connection between state authority in Sind and the barrage had been tested and confirmed, the colonial discourse of material progress was challenged by the outbreak of the Second World War. As the war created considerable uncertainty about the future of the British administration in India, the Government of Sind produced plans for post-war development, which represented part of the colonizers' last-ditch attempt to retain control over the province by promising further development in the future. Despite their relatively short-term political intentions, these plans did form the basis for post-Independence development schemes. After Pakistani Independence, which followed closely upon the war's end, the idea of 'material progress' that the Sukkur Barrage and the post-war schemes had embodied was taken up enthusiastically by the new government, and re-cast in a nationalist framework as 'nation-building'. The need that officials, politicians, and the public felt for material progress was made even more pressing by the upheavals that the province, and Pakistan generally, experienced as a result of the transfer of power – demographic, social, and political. During these first years of volatility, the post-colonial state consolidated the interventionist tendencies that the colonial state had maintained, and latterly justified with the language of

‘progress’, and took upon itself more functions of guiding and regulating social and economic behaviour in Sind.

During Sind’s early days as a part of Pakistan, the two barrages that had been mooted in the post-war development plans were perceived by officials as the solution to the problem of raising agricultural productivity in Sind in the face of recurring food crises during the 1950s and early 1960s. Indian claims on the waters of the Indus also brought home the vulnerability of Pakistan’s water position and highlighted the need for irrigation development in Sind and elsewhere. Yet the location of the barrages at the heart of the new administration’s search for legitimacy revealed that they also had symbolic value. The construction and opening ceremonies for the new Ghulam Muhammad and Gudu Barrages revealed a similarity with discourses connected with the Sukkur Barrage: the same obsession with engineering prevailed, albeit reconfigured as a marker of Pakistan’s national progress rather than of imperial superiority. The celebration of technical rationalism that this embodied also found an avenue in the administrative-political innovation of the One Unit scheme. While the scheme’s primary aims were political, the removal of the provincial frameworks in which development activities had previously been undertaken was seized upon as a fillip to a more ‘rational’ approach to the usage of Pakistan’s natural resources, such as the waters of the Indus, which prioritized technical notions of efficiency over political considerations.

However, these grand notions were subverted when it came to the development of the barrage areas themselves, by preparing the land for cultivation and ensuring high crop yields. The government’s policies for doing so were half-hearted during the 1950s, and only had a large impact during the 1960s. Moreover, the severe problems caused by the waterlogging of lands in Sind, especially in the barrage zones in the 1960s, undermined the technicist discourses that privileged

engineering expertise. While the government instituted another round of infrastructure projects to combat the drainage problem, reinforcing its reliance on engineers, the close of the 1960s marked the end of what Briscoe and Usman have called the “heroic age” of water engineering in Pakistan.<sup>2</sup> Irrigation-extension projects on the scale of the barrages have not since been undertaken in Sind.

The allocation and colonization of land on the Ghulam Muhammad and Gudu Barrages showed a different, and much more contested, side to irrigation development after Independence. The slow pace of colonization on Ghulam Muhammad Barrage-watered tracts during the ‘democratic’ 1950s demonstrated the continuing power of landlords in Sind. Big *zamindars*, who dominated the provincial legislature, were able to block moves towards a colonization policy that would not grant them the majority of new lands. This was frustrating to the central government, members of which saw barrage lands as a resource that could be used to tackle Pakistan’s economic and demographic problems. Meanwhile, the centre was powerful enough to prevent Sindhi *zamindars* from unilaterally dominating the development of the barrage projects. Caught between two opposing forces, colonization virtually froze, with some settlement being achieved only in small blocks, serving special interests such as refugee resettlement. In parallel developments, big *zamindars’* power was also visible in the lack of effective reform carried through in Sind during the ‘democratic’ 1950s; while the frequent recurrence and repression of *haris’* demands for greater protection from the government suggested that, despite Sind’s continued reputation for feudalistic ‘backwardness’, *hari* politics also remained an important force during this period. Even after the amalgamation of Sind into West Pakistan in 1955, however, the relationship between Sind’s big landlords and other agrarian interest groups changed little.

---

<sup>2</sup> John Briscoe and Qamar Usman, *Pakistan's Water Economy: Running dry* (Karachi: Oxford University Press for the World Bank, 2006), p.xiii.

The declaration of Martial Law in 1958 breathed new life into questions of land colonization and ownership, in Sind as across West Pakistan. Ayub Khan's land reforms in 1958-1959 shored up the general's power by strengthening the position of the middle classes who supported him. By attempting to impose the model of middling-sized landholdings and owner-cultivation, derived from the Punjab's canal colonies, on the 'backward' areas of Pakistan that Sind epitomized, he also re-used the strategies of colonial administrations. The limited success of these reforms highlighted the continuing strength of landlords in the countryside. Similarly, while Ayub's administration initially proclaimed an allegiance to the 'common man' and promised to allocate barrage lands to tenants and smallholders, it quickly changed tack. Both Ghulam Muhammad and Gudu Barrage land was reserved for 'outsiders' such as refugees, civil servants, and military personnel. Gudu Barrage land was later used, when it became available from 1962, to resettle people displaced by development projects in the Punjab and the North-West Frontier Province, suggesting the needs of the nation's other development programmes took priority over the distribution of land to groups who already lived in Sind. Throughout Pakistan's first two decades, the failure of successive administrations to have barrage land effectively colonized, and the parallel failure to reform land usage and ownership in Sind, undermined claims that irrigation development would lead, through material progress, to a better future for the 'common man'.

In this story of barrages and canals in Sind, then, can be read that of officials' attempts to strengthen state authority through the simultaneous manipulation of natural and social forces. Taking a long view, it is evident that understanding the colonial state is essential to a meaningful analysis of Pakistani history after Independence, while conversely events after 1947 highlighted those aspects of the relationship between the state and people that were deeply enough

ingrained to survive Independence. Between 1898 and 1969 the relationship between the state, the people, and the environment in Sind remained remarkably constant in nature. After Independence, the institutions put in place by the colonial administration in Sind continued to build barrages and canals, and the irrigation system continued to be a focal point for interactions between the state and the people. By pursuing irrigational and agricultural development, administrations before and after Independence acted in an arena that often seemed divorced from elite national politics and the great political questions of the day – whether the communal balance in India’s constitutional future in the 1930s-1940s, or the increasingly strained relationship between the eastern and western wings of Pakistan in the 1950s-1960s. The condition of the irrigation system, and the ways in which the state used irrigation development to manage agrarian society, continued throughout the early- to mid-twentieth century to shape provincial life. River politics, and the politics of land irrigated by river-water, played a major part in Sind’s experience of the twentieth century, helping to determine the dynamics of power and authority within the province, and between the province and the wider region. This reflected the structural continuities in the state and agrarian society, as well as the fact that Pakistani administrators inherited those colonial attitudes towards irrigational and agricultural development that were loosely collected in the discourse of material progress.

The overall trend of irrigation development was to strengthen the state in relation to society. In the 1890s, the construction of new projects such as the Jamrao Canal heralded increasingly intensive agriculture. State-owned, newly-irrigated land was a resource that successive administrations could allocate to reward their collaborators and encourage the creation of new agrarian groupings, whose members in turn were expected to support the state politically and

economically, through their loyalty and land revenue payments. At the same time, by imposing stricter conditions on cultivation methods, the state asserted and enhanced its ability to intervene in rural life. This marked an important point in the process through which Sind became a more regular and regulated province, moving away from the province's roots as a frontier, which remained visible in matters such as the application of tribal law in the Upper Sind Frontier.

Such developments reflected a similar pattern to that found in the Punjab, where the expansion of canal colonies from the mid-1880s extended close bureaucratic control in the formerly 'wild' districts in the west of the province. Analyzing these developments, Gilmartin, Ali and Islam have shown how far our understanding of the state in the Indus Basin benefits from considering its links with irrigated agriculture. Since irrigation and colonization policy in Sind had many similarities to that in the Punjab, many of their conclusions are valid outside the Punjabi context. Attempts by officials to transplant to Sind many characteristics associated with Punjabi canal colonies showed that the administration there followed the Punjab's example of deploying 'scientific' knowledge of the natural environment and of the people whom it governed, in order to dominate both. Sind, like its northern neighbour, was drawn into a regional framework of governance and public works policy, reflecting the imperial desire to fulfil the 'civilizing mission' by increasing material wealth.

On the other hand, Sind presented a rather messier prospect for irrigation development than did the western Punjab. Sind's numerous and powerful *zamindars* already claimed rights to much of Sind's barren land, meaning that a large proportion of the thousands of acres serviced by any new canal would be privately-owned, rather than state property. Because of their pre-existing rights to land, and their political significance as mediators between the colonial state and the rural

population, *zamindars* were able to demand a significant proportion of the land opened up by irrigation projects. This allowed them to consolidate their position in agrarian society and dominate the legislatures of British and, later, Pakistani Sind. Moreover, whereas canal development in the Punjab favoured peasant owner-cultivators, officials were sceptical of the possibility that Sind could foster an equivalent native class, and consequently arranged for the importation of large numbers of 'superior' Punjabi cultivators to buy and work the land irrigated by the Jamrao Canal and Sukkur Barrage. That these Punjabis seem to have had relatively little effect on provincial politics suggests that Sind's elite, drawing on local *zamindari* families, was not seriously threatened by the administration's attempts to establish links with their northern neighbours. This in turn suggests that British colonization policy was only partially successful, at best, in altering the balance of power in the province, and using new land to promote agrarian change. Even within the Indus Basin, local differences in the social and political context of irrigation development meant that, whatever officials might have desired, the way that political and social power developed idiosyncratically.

When the Jamrao Canal was constructed and colonized, an interventionist state seemed a natural corollary of paternalistic imperialism, which had ebbed and flowed in colonial politics since the early nineteenth century. By the time construction began on the Sukkur Barrage in the 1920s, however, paternalistic imperialism had begun to contradict broader political developments in India, where the rise of nationalist politics, and the concession to this that the British made in the form of more direct Indian involvement in governance, might have suggested that the state would become more responsive to pressures from social forces. Instead, the state's activities in the important arena of irrigation and agriculture remained distinctly authoritarian. If, as Tomlinson argued, the 1935 Government of India Act

involved the relinquishing of day-to-day imperial control to the provinces,<sup>3</sup> the Governor of Sind's retention of special responsibility for the Sukkur Barrage showed that the British were far from ready to concede the whole of provincial governance in India. Indeed it would have been odd if, having recently attempted meticulously to balance financial and political considerations in constructing and colonizing new canals, the administration had handed over such an integral part of state authority to Indian political control. During the Second World War, while the Cripps Mission marked an important attempt to settle the future balance of power among Indian political parties and the imperial state, the Rau Commission on the sharing of Indus waters and the draft agreement drawn up by the engineers of Sind and the Punjab confirmed the place of the state's technocrats in determining the agricultural conditions under which the people of the Indus Basin would live.

The strength of the colonial state provided solid bureaucratic roots for what succeeded it after Pakistani Independence. This was a matter of ideas as well as institutions, and the colonial discourse of 'progress' that had been attached to the Jamrao Canal and Sukkur Barrage translated easily, during the transition period of the 1940s and early 1950s, into a nationalist framework as one of 'nation-building'. This process was not unique to Sind or India, but paralleled the evolution of the concept of 'development' in late-colonial Africa into a prime field of endeavour for the new nations there after decolonization.<sup>4</sup> This, perhaps, was a common feature of the relationship between colonial states and their successors. In the case of irrigation development in Sind, what was really being built was the infrastructure on which state authority depended. This marked a continuity between the colonial and

---

<sup>3</sup> B.R. Tomlinson, *The Indian National Congress and the Raj, 1929-42* (London; Basingstoke: Macmillan, 1976), p.137.

<sup>4</sup> 'Modernizing Bureaucrats, Backward Africans, and the Development Concept', in Frederick Cooper and Randall M. Packard (ed.s), *International Development and the Social Sciences: Essays on the history and politics of knowledge* (Berkeley; London: University of California Press, 1997), pp.64-81.

post-colonial periods, allowing the developmentalist logic of large-scale infrastructure works to retain its grip on state activity. The 'democratic' 1950s might have been a period of crisis for Pakistan, riven by the political chaos that led to Ayub Khan's military coup in 1958, but in terms of irrigation development Sind forged ahead, notwithstanding accusations from the central government that the provincial administration was dragging its heels in constructing and colonizing the Ghulam Muhammad and Gudu Barrages. While politics at the national level was dominated by the struggle for supremacy between combinations of Punjabi, Pashtun, refugee and Bengali factions during the 1950s and 1960s, as authors such Talbot have made clear,<sup>5</sup> the state in Sind continued to prioritize material development over political autonomy and the making of engaged citizens. Thus, authoritarianism in Pakistan was not only rooted in the military-bureaucratic heritage of the four provinces of West Pakistan, as Jalal and Alavi have influentially suggested,<sup>6</sup> but also in the state's claim to the right to 'develop' the country's natural – and human – resources as it saw fit. The lack of effective opposition to administrators' assertion of this right suggests that the principle of progress through development activities was accepted in politically-influential circles. In lieu of effective public movements to challenge the state over development works, such as the much later campaign against big dams in India in the 1990s,<sup>7</sup> ownership of the meaning of material progress was reserved to the bureaucratic and political elites who determined how the state's resources should be deployed.

---

<sup>5</sup> Ian Talbot, *Pakistan: A modern history* (London: Hurst and Company, 2005), pp.138-143, 161-164.

<sup>6</sup> Ayesha Jalal, *The State of Martial Rule: The origins of Pakistan's political economy of defence* (Cambridge: Cambridge University Press, 1990), p.32; Hamza Alavi, 'The State in Postcolonial Societies: Pakistan and Bangladesh', in Kathleen Gough and Hari P. Sharma (ed.s), *Imperialism and Revolution in South Asia* (London; New York: Monthly Review Press, 1973), pp.145-146.

<sup>7</sup> See Arundhati Roy, *The Cost of Living* (London: Flamingo, 1999), pp.9-12.

It would be a mistake, however, to conclude that the contours of state power and authority remained entirely unaltered after Independence. Differences in how the state was able to organize its relationship with the people were demonstrated by the fact that, during the 1950s and 1960s, Pakistani administrations did not produce coherent land allocation policies for the new barrages in Sind, as the British had done. Lacking an organizing intentionality that was long-term, central, and programmatic, the political implications of barrage land allocation after Independence were more haphazard than they had been before it. Various iterations of colonization schemes might well have been as self-conscious about promoting the interests of certain groups as British schemes had been, but it is less likely that these were carried through effectively. While comprehensive records, detailing how colonization actually progressed, are not available, the political manoeuvrings that determined who received barrage land seem to have been conducted in a more diffuse way than before Independence, involving numerous officers with relevant responsibilities rather than a Colonization Officer in collaboration with the Commissioner-in-Sind.

Water and land remained crucial considerations in politics. Politics in Sind, and other parts of the country (such as Baluchistan and the southern Punjab) that featured powerful big landlords remained wedded to an agrarian socio-economic structure that had survived the potentially destabilizing effects of supposedly 'revolutionary' barrage irrigation. Like the colonial administration before it, the state in Pakistan's western wing found itself with little choice but to accommodate existing land-ownership patterns, and the contours of political power rooted in them, however much the rhetoric of 'nation-building' claimed that the state's developmental responsibility lay in promoting the interests of refugees and the

‘common man’. The greater success of land reforms in India,<sup>8</sup> an area that shared the same broad colonial heritage as that of West Pakistan, emphasized the fact that landlord power in the latter was deeply entrenched in local society. It could not be undone at a stroke. At the same time, however, the tenacity of demands by *haris* and other low-status agricultural groups for greater state protection suggests that the dominance of landlords in politics was subject to challenge, and not as complete as a less detailed reading of the failure of successive administrations to instigate effective land reforms might suggest.

One of the pillars of the colonial state in Sind – its management of the irrigation system, and its consequent interdependency with powerful rural interests – remained in place throughout the period under study, regardless of political upheavals such as Pakistani Independence. The role that the state played in Pakistani Sind *vis à vis* agrarian society continued to be determined, to a great extent, by its control of the supply of water and irrigated land. Work done by successive administrations to improve water provision, and to bring more land under cultivation, did little to alter the basis of this relationship, despite the rhetoric of ‘progress’ during the British period, and that of ‘nation-building’ after Independence. While successive administrations were able to strengthen bureaucratic influence over irrigation and cultivation practices, their political dependence on magnates in the countryside meant that changes in Sind’s irrigation system could not be used to foster socio-economic revolution, whereas the government in the Punjab had succeeded to a greater degree in adjusting the balance of power between different elements within agrarian society. The paradoxical nature of irrigation development in Sind, especially during the intensive phase between the 1920s-1960s, was that the furious pace of technological and

---

<sup>8</sup> Ayesha Jalal, *Democracy and Authoritarianism in South Asia: A comparative and historical perspective* (Cambridge: Cambridge University Press, 1995), pp.144-145.

infrastructural advancement was offset by the relative stasis in Sind's political development. The responsiveness of Sind's political classes to changing conditions remained limited, but they were able to weather the passing storms of the Second World War, Pakistani Independence, One Unit, the declaration of Martial Law, and finally Ayub Khan's land reforms, with remarkable success. When Ayub's government fell in 1969, and Pakistan collapsed into civil war in 1971, Sind's *zamindars* remained prominent in their province, and were ready to emerge, relatively unfazed and unscathed, into the new 'democratic' era of Zulfiqar Ali Bhutto's ascendancy.

The Jamrao Canal and the Sind barrages, however, cannot be understood only in terms of their political ramifications and their effect on the dynamics of power in the province and the region. The ideas that prompted successive administrations to seek solutions to everyday problems in river projects, and the type of 'development' that this represented, connected Sind, India and then Pakistan to wider discourses of progress and processes of modernity. At their most fundamental level, these projects were intended to adjust the relationship between those who built irrigation systems and those who used them, and between humans and the environment. Because this relationship characterized authoritarian government activity around the world, as Scott has shown,<sup>9</sup> it has important implications for how we understand colonial and post-colonial states more generally. A powerful narrative of human versus nature promoted a techno-centric state as the driving force behind of economic and demographic growth in the province, allowing those humans who were responsible for the projects (engineers, higher-ranking bureaucrats, and politicians) to represent progress and modernity. By implication these people were forward-thinking, scientifically-minded, and able

---

<sup>9</sup> James C. Scott, *Seeing Like a State: How certain schemes to improve the human condition have failed* (New Haven; London: Yale University Press, 1998), p.5.

to deploy a vast amount of technical and logistical knowledge and ability. Furthermore, they took upon themselves the responsibility for the well-being and development of the general population. In short, the modern, civilized human who conquered nature was analogous to the government; thus, according to the logic of this narrative, the state's special status as the representative of civilization gave it a right to rule.

Whether the narrative was bent to the purposes of aggrandizing the British Empire or, later, the Pakistani nation-state, one of its chief implications was the division between those who possessed technical expertise, and those who did not. All three barrage projects and the Jamrao Canal relied on a kind of knowledge that was the preserve of the state and very small sections of the public. Sindhi *zamindars* and *haris*, by contrast, appeared to be the antithesis of this kind of knowledge. By declaring their aim to 'transform' Sind through the application of technical knowledge and skill, officials made a virtue of technology-led modernization, in which social change was expected to follow infrastructural development. This attitude was reflected by politicians, initially in their subservient role as members of the provincial Assembly in British Sind, and later as wielders of greater power in the provincial and central governments after Independence. Taking its cue from colonial developments, the Pakistani state maintained its interest in large-scale projects such as the Ghulam Muhammad and Gudu Barrages, and in doing so continued to view infrastructural development as a precursor to social change.

The teleology of 'material progress', and the distinction between the rational expert and the irrational farmer, played a crucial part in determining the political value of 'expertise'. Moreover, this knowledge was associated with an ideal of post-Enlightenment (Euro-American) rationalism, and its deployment in the service of the Empire and the nation emphasized that same distinction. From the

late nineteenth century to the present day, experts in fields of the natural and social sciences have helped determine government policy in places and contexts as diverse as the early Soviet Union, Egypt in the 1940s, United States in the 1970s, and Latin America in the 1990s.<sup>10</sup> South Asia was no exception, and the development of Sind's irrigation system was a notable attempt to bring aspects of the province's people and natural environment simultaneously under closer management by those 'experts' who staffed the civil service. After Independence, the Pakistani government's seeking of experts from Europe, North America, and the white Dominions highlighted the links between such expertise and these regions' application of technology and 'modern' social organization. Indeed, exporting expertise was one of mid-twentieth century America's ways of promoting its political agenda across the developing world.<sup>11</sup>

We should be cautious, however, about viewing the importation of 'foreign' ideas and practices into developing countries as the defining elements of modernization processes in the developing world. As this study has shown, Pakistani elites did not allow new ideas, particularly those promoted by Pakistan's American benefactors, about how their country should be modernized to displace fully the lessons that they had drawn from the later decades of colonial rule. Indeed the 'modernization theory' propounded by American scholars such as Talcott Parsons and W.W. Rostow in the 1950s-1960s, which dominated much of American thinking when it came to international development, laid more emphasis on the

---

<sup>10</sup> See, respectively, Scott, *Seeing Like a State*, ch. 5; Timothy Mitchell, *Rule of experts: Egypt, techno-politics, modernity* (Berkeley; London: University of California Press, 2002), ch. 1; Dorothy Nelkin, 'The political impact of technical expertise', in Godfrey Boyle, David Elliott and Robin Roy (ed.s), *The Politics of Technology* (London: Longman, 1977); Miguel A. Centeno and Patricio Silva's Introduction to their edited volume *The Politics of Expertise in Latin America* (London: Macmillan, 1998).

<sup>11</sup> Michael E. Latham, *Modernization as Ideology: American social science and "nation building" in the Kennedy era* (Chapel Hill; London: University of North Carolina Press, 2000), p.149.

attitudes of people in 'traditional' societies in the developing world than on technology transfer *per se*.<sup>12</sup> Pakistan's attempts to develop itself through large-scale, technology-intensive construction projects – not only in Sind but also with the Thal Project in the Punjab and the Mangla, Taunsa, and Tarbela river schemes – demonstrated that it would continue to emphasize infrastructure rather than people. Developing countries such as Pakistan did not, therefore, seek wholly to emulate the U.S.A. and other Western patrons when they set out on the path of post-independence modernization.

Finally, Sind's experience of barrage and canal projects underlined that irrigational and agricultural development did not necessarily follow a pattern set by a coherent or complete vision of technicist modernity. Beyond the rhetoric of barrage-connected ceremonies, neither the colonial nor the postcolonial administrations used irrigation projects as the starting-point for the systematic development of the land. The British in India sought to promote commercialized farming, and in Sind they made some effort to encourage what they regarded as scientific cultivation of land on the Jamrao Canal and Sukkur Barrage tracts, but Sind's transport infrastructure remained unmodernized. Nor were social aspects of modernization, such as extending education, meaningfully pursued. After Independence, the administrations of the 1950s and 1960s were hesitant to promote and facilitate the introduction of synthetic fertilizers and mechanical cultivation into the barrage commands, even though these two resources could be associated with precisely the kind of scientific agriculture that the barrages were supposed to encourage, particularly against the backdrop of the Green Revolution that was sweeping through particular parts of the developing world. Officials

---

<sup>12</sup> Andrew Webster, 'Modernization Theory', in Ron Ayres (ed.), *Development Studies: An introduction through selected readings* (Dartford: Greenwich University Press, 1995), pp.109-112.

questioned the wisdom of introducing mechanical cultivation where local conditions were not optimal for its use. Foreign (particularly American) models of commercial agriculture were not in fact being imported wholesale, despite the precedent of shifts towards producing for a commercial market that had occurred during the British period. Even Pakistan's Five Year Plans, which were proclaimed to be comprehensive schedules for the rational development of the whole nation, proved ineffectual. While, in Escobar's words, "As the application of scientific and technical knowledge to the public domain, planning lent legitimacy to, and fuelled hopes about, the development enterprise," across the 'Third World',<sup>13</sup> in reality the supposed modernization of Pakistan underpinned the state's claim to legitimacy without appearing to have a great effect on the country itself. Neither the concrete evidence of development presented in the barrages, nor the bureaucratic, rationalizing drive of agricultural planning, were sufficient to make Sind 'modern'. For the purpose of asserting the state in Sind's power over nature and thus its right to rule, the fact of having built and begun to operate the barrages and canals – the same fact that was celebrated by the pomp and grand rhetoric of the foundation stone and opening ceremonies – seemed to suffice.

## Epilogue

Today, the irrigation system in Sindh (as it is now spelled) remains the backbone of the agrarian economy. Since the 1970s international donors, such as the International Bank for Reconstruction and Development and the Asian Development Bank, have played a greater role in financing and planning water development projects in the province. These have tended to focus on drainage and water management, such as the Salinity Control and Reclamation Projects of the 1970s-

---

<sup>13</sup> Arturo Escobar, 'Development Planning', in Stuart Corbridge (ed.), *Development Studies: A reader* (London: Arnold, 1995, repr. 2005), p.64.

1980s; there have been no new major river-diversion schemes since the Gudu Barrage. The question of how much water each riparian partner on the Indus could take, which originated in a disagreement between the colonial Governments of Bombay and the Punjab, was supposedly settled within Pakistan by an interprovincial water accord in 1991, but downstream voices still argue that Sindh needs more water.<sup>14</sup> Riparian tension exists within Sindh too, where much of the Indus Delta region lies devastated: by concentrating on diverting water into the barrage-fed canal system, the authorities leave only a tiny amount to trickle down to the sea. This has led to environmental and economic deterioration in the delta, from the death of the coastal mangrove swamps (which relied on fresh water flowing out from the river, and formed an important breeding ground for fish) to the spoiling of agricultural land as sea-water leaches inland.<sup>15</sup>

In the wake the floods that devastated many parts of Pakistan, especially the North-West Frontier Province and Sindh, in August 2010, the irrigation system has gained a new prominence in the public consciousness. The government's response to these floods, and by extension the relationship between the state and the environment, has been keenly watched.<sup>16</sup> Amid the human suffering that the 2010 floods caused, the crucial importance of the river in Sindh and Pakistan was clear. The claims of the builders of canals and barrages to have tamed the Indus and conquered the environment were starkly revealed to have been prematurely made.

---

<sup>14</sup> See, for example, Rasul Bux Palijo, *Sindh-Punjab Water Dispute, 1859-2003* (Hyderabad, Sindh: Center for Peace and Human Development, 2003).

<sup>15</sup> On the environmental impacts of barrage irrigation in lower Sindh, see Sikander Brohi, 'Livelihood Resources Downstream Kotri Barrage & their Degradation' in Sikander Brohi (ed.), *Indus Flow Downstream Kotri Barrage: Need or wastage?* (Karachi: Shaheed Zulfikar Ali Bhutto Institute of Science & Technology, 2003); Zulfiqar Shah, *Indus Delta: An environmental assessment* (Karachi: Pakistan Fisherfolk Forum, 2005).

<sup>16</sup> See, for example, 'Pakistan Flood Diary IV :: Bund Politics & Army Intervention', 11.09.2010, <http://www.inewsit.com/articles/entry/Pakistan-Flood-Diary-IV-Bund-Politics-Army-Intervention> (retrieved 01.01.2011).

## Bibliography

### Primary sources

#### (i) Private papers

##### *Oriental and India Office Collections (IOR), British Library, London*

Birkenhead Papers, MSS Eur D 703.

Dow Papers, MSS Eur E 372.

India, Pakistan, and Burma Association Papers, MSS Eur F 158.

Linlithgow Papers, MSS Eur F 125.

Ray Papers, MSS Eur F 256.

Strachey Papers, MSS Eur F127.

Sykes Papers, MSS Eur F 150.

#### (ii) Official records

##### *Institute of Sindhology, University of Sindh, Jamshoro*

Department of Agriculture, Government of Bombay, 'Leaflets for distribution in Sind', respectively #31 of 1923, #30 of 1933, #50 of 1936, and #41 of 1934.

##### *Government of Sindh Archives, Karachi (G.S.A.)*

*Proceedings of the Sind Legislative Assembly, 1937-1950.*

Political Department Files, Government of Bombay, 1902.

Public Works Department Files, Government of Bombay, 1902.

Revenue Department Files, Government of Bombay, 1896-1935.

##### *Maharashtra State Archives, Mumbai (M.S.A.)*

Public Works Department (General) Files, Government of Bombay, 1856.

Revenue Department Files, Government of Bombay, 1890-1902.

##### *National Documentation Centre, Islamabad (N.D.C.)*

Cabinet Records, 1951-1967.

Prime Minister's Declassified Files, 1951-1952.

***Oriental and India Office Collections (IOR), British Library, London***

Proceedings and Consultations of the Government of India and of its Presidencies and Provinces, IOR/P, 1897-1920.

India Office Records: Public & Judicial Department, IOR/L/PJ, 1937-1948.

Private Office Papers, IOR/L/PO, 1938.

***United Kingdom National Archives, Kew (U.K.N.A.)***

Board of Trade and successors: Commercial Relations and Exports Department and predecessors: Registered Files and other records, BT 11.

Dominions Office and Commonwealth Relations Office: Original Correspondence, DO 35.

***United States National Archives, College Park, Maryland (U.S.N.A.)***

Bureau of Programs: Press and Public Service Division, Record Group 306.

Central Decimal Files, 1950-1963, Record Group 59.

General Records, 1949-1961, Karachi Embassy 1953-1961, Record Group 84.

Mission to Pakistan, Executive Office Subject Files 1955-1957, Record Group 469.

Near East Central Files, Pakistan, 1952-1955.

Supplemental Classified General Records, Karachi Embassy, Record Group 84.

Subject Files (Pakistan) 1952-1955, Record Group 469.

Subject-Numeric Files, 1964-1966, Record Group 59.

**(iii) Official publications**

Because some of the publications cited below are difficult to obtain, they have been sorted by archive.

***Institute of Sindhology, University of Sindh, Jamshoro***

*Gazette of West Pakistan* (1959).

Hunting Technical Services and Sir M. McDonald & Partners, *Lower Indus Report*, 56 vol.s (n.p.: West Pakistan Water and Power Development Authority, 1966).

Land Reforms Commission, *Report of the Land Reforms Commission for West Pakistan, Part One* (Lahore: Superintendent, Government Printing, West Pakistan, 1959).

Land Reforms Commission, *Report of the Land Reforms Commission for West Pakistan, Introduction* (Lahore: Superintendent, Government Printing, West Pakistan, 1959).

*Sind Information 1:1-1:4* (1948) [n.p.: Director of Publicity and Public Relations Officer, Sind]

### ***Maharashtra State Archives, Mumbai (M.S.A.)***

*Bombay Government Gazette* (1900).

Indian Central Cotton Committee, *General Report on Eight Investigations into the Finance and Marketing of Cultivators' Cotton* (Bombay: C.V. Thomas, 1929).

### ***Oriental and India Office Collections (IOR), British Library, London***

East India (Irrigation), *Report of the Indian Irrigation Commission 1901-1903. Part II – Provincial* (London: His Majesty's Stationery Office, 1903).

East India (Irrigation), *Report of the Indian Irrigation Commission, 1901-1903. Part IV – Appendix* (London: His Majesty's Stationery Office, 1903).

Government of Bombay, Public Works Department, *Report on the Jamrao Canal Project, Sind* (Bombay: Government Central Press, 1907).

Indian Famine Commission, *Report of the Indian Famine Commission. Part I: Famine Relief* (London: Her Majesty's Stationery Office, 1880).

Lambrick, Hugh Trevor, *Census of India, 1941, Volume XII: Sind Tables* (Delhi: Manager of Publications, 1942).

Mean, P. J. and G. Laird MacGregor, *Census of India, 1911. Volume VII: Bombay, Part I, Report* (Bombay: Government Central Press, 1912).

Planning Commission, *The Third Five Year Plan 1965-70* (Karachi: Government of Pakistan Press, 1965).

Planning Commission, *The Second Five Year Plan 1960-65* (Karachi: National Planning Board, 1960).

National Planning Board, *The First Five Year Plan 1955-60* ([Karachi?]: Government of Pakistan National Planning Board, 1957).

Public Works Department of the Bombay Presidency, *Irrigation Administration Report Part II, For the Year 1933-34* (Karachi: Government Press, 1937).

Public Works Department of the Bombay Presidency, *Irrigation Administration Report Part 2 – Sind, For the Year 1932-33* (Bombay: Government Central Press, 1935).

Sind Forest Department, *Annual Administration Report of the Sind Forest Department for the year 1942-43, with Appendix* (Karachi: Government Press, 1944).

Sind Forest Department, *Annual Administration Report of the Sind Forest Department for the year 1945-46, with Appendices* (Karachi: Sind Forest Department, 1947).

Visvesvarya, Sir M. and Nawab Ali Nawaz Jung Bahadur, *Report on the Lloyd Barrage and Canals Project in Sind* (Bombay: Government of Bombay, 1929).

### ***Pakistan Institute for International Affairs, Karachi***

Aitken, Edward Hamilton, *Gazetteer of the province of Sind* (Karachi: Government of Bombay, 1907).

Government of Pakistan, Department of Films and Publications, *Three Years of progress under the Revolutionary Government in Pakistan, 1958-1961* (Karachi: Department of Films and Publications, [1961?]).

Khan, Mohammad Ayub, *Pakistan Perspective* (Karachi: Department of Advertising, Films and Publications, [196-?]).

### ***School of Oriental and African Studies, London***

Ministry of Finance, *Foreign Economic Aid: A review of foreign economic aid to Pakistan* (Rawalpindi: Government of Pakistan, Ministry of Finance, 1962).

West Pakistan Public Relations Department, *West Pakistan Year Book 1956* (Lahore: Public Relations Department, West Pakistan, 1956).

#### **(iv) Newspapers and periodicals**

*Civil and Military Gazette* (Lahore), 1950.

*Commerce* (Karachi), 1955.

*The Daily Gazette* (Karachi), 1923.

*Dawn* (Karachi), 1955-1963.

*Pakistan Times* (Lahore), 1958-1965.

*Times of India* (Bombay), 1930-1932.

*Sind Observer* (Hyderabad), 1948.

## Secondary sources

### (i) Publications

Adas, Michael, *Machines as the Measure of Men: Science, technology, and ideologies of Western dominance* (Ithaca; London: Cornell University Press, 1989).

Ahmed, Khalid, "'We were swept away in a flood of foreign expertise'", in Kaiser Bengali (ed.), *The Politics of Managing Water* (Karachi; Oxford: Oxford University Press, 2003).

Alam, U., P. Sahota and P. Jeffry, 'Irrigation in the Indus basin: A history of unsustainability?', *Water Science & Technology: Water Supply*, 7:1 (2007): 211-218.

Alavi, Hamza, 'Pakistan-US Military Alliance', *Economic and Political Weekly*, 33:25 (June 26, 1998): 1551-1557.

---, 'The State in Postcolonial Societies: Pakistan and Bangladesh', in Kathleen Gough and Hari P. Sharma (ed.s), *Imperialism and Revolution in South Asia* (London; New York: Monthly Review Press, 1973).

Ali, Imran, *The Punjab Under Imperialism, 1885-1947* (Princeton: Princeton University Press, 1988).

Ansari, Sarah, *Life after Partition: Migration, community and strife in Sindh, 1947-1962* (Karachi; Oxford: Oxford University Press, 2005).

---, 'Punjabis in Sind: Identity and power', *International Journal of Punjab Studies*, 1:2 (July-December 1994): 1-21.

Ansari, Sarah F. D., *Sufi Saints and State Power: The pirs of Sind, 1843-1947* (Cambridge: Cambridge University Press, 1992).

Asthana, Roli, 'Involuntary Resettlement: Survey of international experience', *Economic and Political Weekly*, 31:24 (June 15, 1996): 1468-1475.

Azad, Arif, 'MQM and Growth of Ethnic Movements in Pakistan', *Economic and Political Weekly*, 31:18 (May 4, 1996): 1061-1062.

Baber, Zaheer, *The Science of Empire: Scientific knowledge, civilization, and colonial rule in India* (Delhi; Oxford: Oxford University Press, 1998).

Bagchi, Amiya Kumar, 'Foreign Capital and Economic Development in India: A schematic view', in Kathleen Gough and Hari P. Sharma (ed.s), *Imperialism*

- and Revolution in South Asia* (London; New York: Monthly Review Press, 1973).
- Banerji, A. K., *Finances in the Early Raj: Investments and the external sector* (New Delhi; London: Sage Publications, 1995).
- Bengali, Kaiser and Nafisa Shah, 'Introduction', in Kaiser Bengali (ed.), *The Politics of Managing Water* (Karachi; Oxford: Oxford University Press, 2003).
- Boreham, Noel, 'Decolonisation and Provincial Muslim Politics: Sind, 1937-47', *South Asia* 16:1 (June 1993): 53-72.
- Brasted, H. V. and C. Bridge, 'The Transfer of Power in South Asia: An historiographical review', *South Asia*, 17:1 (June 1994): 93-114.
- Briscoe, John and Qamar Usman, *Pakistan's Water Economy: Running dry* (Karachi: Oxford University Press for the World Bank, 2006).
- Brohi, Sikander, 'Livelihood Resources Downstream Kotri Barrage & Their Degradation', in Sikander Brohi (ed.), *Indus Flow Downstream Kotri Barrage: Need or wastage?* (Karachi: Shaheed Zulfikar Ali Bhutto Institute of Science & Technology, 2003).
- Buckley, Robert Burton, *Irrigation Works in India and Egypt* (London: E. & F. N. Spon, 1893).
- Butalia, Urvashi, *The Other Side of Silence: Voices from the Partition of India* (New Delhi; London: Penguin, 1998).
- Candland, Christopher, *Labor, Democratization and Development in India and Pakistan* (London: Routledge, 2007).
- Centeno, Miguel A. and Patricio Silva, 'Introduction', in Miguel A. Centeno and Patricio Silva (ed.s), *The Politics of Expertise in Latin America* (London: Macmillan, 1998).
- Cernea, Michael M., 'Public Policy Responses to Development-Induced Population Displacements', *Economic and Political Weekly*, 31:24 (June 15, 1996): 1515-1523.
- Chakrabarty, Bidyut, 'Jawaharlal Nehru and Planning, 1938-41: India at the Crossroads', *Modern Asian Studies*, 26:2 (May 1992): 275-287.
- Chapman, Graham, *The geopolitics of South Asia: From early empires to the nuclear age* (Aldershot: Ashgate, 2003).
- Chatterjee, Partha, *The Nation and its Fragments: Colonial and postcolonial histories* (Princeton: Princeton University Press, 1993).

- , *Nationalist Thought and the Colonial World: A derivative discourse* (Tokyo: Zed Books, 1986).
- Cheesman, David, *Landlord Power and Rural Indebtedness in Colonial Sind, 1865-1901* (Richmond: Curzon, 1997).
- Choudhury, G. W., 'Bangladesh: Why It Happened', *International Affairs*, 48:2 (April 1972): 242-249.
- Cooper, Frederick, 'Modernizing Bureaucrats, Backward Africans, and the Development Concept', in Frederick Cooper and Randall M. Packard (ed.s), *International Development and the Social Sciences: Essays on the history and politics of knowledge* (Berkeley; London: University of California Press, 1997).
- Cooper, Frederick and Randall Packard, 'Introduction', in Frederick Cooper and Randall M. Packard (ed.s), *International Development and the Social Sciences: Essays on the history and politics of knowledge* (Berkeley; London: University of California Press, 1997).
- Daechsel, Markus, 'De-urbanizing the City: Colonial cognition and the people of Lahore', in Ian Talbot and Shinder Thandi (ed.s), *People on the Move: Punjabi colonial and post-colonial migration* (Oxford: Oxford University Press, 2004).
- Das, Suranjan, *Kashmir and Sindh: Nation-building, ethnicity and regional politics in South Asia* (London: Anthem Press, 2001).
- Das, Veena, *Life and Words: Violence and the descent into the ordinary* (Berkeley; London: University of California Press, 2007).
- Davis, Mike, *Late Victorian Holocausts: El Nino famines and the making of the third world* (London; New York: Verso, 2001).
- Dolatyar, Mostafa and Tim S. Gray, *Water politics in the Middle East: A context for conflict or co-operation?* (Basingstoke: Macmillan, 2000).
- Eliot, T. S., *The Dry Salvages* (London: Faber and Faber, 1931).
- Escobar, Arturo, 'Development Planning', in Stuart Corbridge (ed.), *Development Studies: A reader* (London: Arnold, 1995, repr. 2005).
- Farnie, Douglas A., 'The Role of Cotton Textiles in the Economic Development of India, 1600-1900', in Douglas A. Farnie and David J. Jeremy (ed.s), *The Fibre that Changed the World: The cotton industry in international perspective, 1600-1990s* (Oxford: Oxford University Press, 2004).
- Fuller, C. J. and Veronique Benei, *The Everyday State and Society in Modern India* (London: Hurst, 2001).

- Gaarde, K., 'British Colonial Water Legislation in Mandatory Palestine', in R. Coopey and T. Tvedt (ed.s), *A History of Water, Volume 2: The political economy of water* (London: I.B. Tauris, 2006).
- Gadgil, Madhav and Ramachandra Guha, *This Fissured Land: An ecological history of India* (Delhi: Oxford University Press, 1992).
- Gellner, Ernest, *Nations and Nationalism* (Oxford: Blackwell, 1983).
- Gilmartin, David, 'Migration and Modernity: The state, the Punjabi village, and the settling of the Canal Colonies', in Ian Talbot and Shinder Thandi (ed.s), *People on the Move: Punjabi colonial and post-colonial migration* (Oxford: Oxford University Press, 2004).
- , 'Biraderi and Bureaucracy: The politics of Muslim kinship solidarity in twentieth century Punjab', *International Journal of Punjab Studies*, 1:2 (July-December 1994): 1-29.
- , 'Scientific Empire and Imperial Science: Colonialism and irrigation technology in the Indus Basin', *The Journal of Asian Studies*, 53:4 (November 1994): 1127-1149.
- Hall-Matthews, David, *Peasants, Famine and the State in Colonial Western India* (Basingstoke; New York: Palgrave Macmillan, 2005).
- Hansen, Thomas Blom, and Finn Steputat, 'Introduction', in Thomas Blom Hansen and Finn Steputat (ed.s), *Sovereign Bodies: Citizens, migrants and states in the postcolonial world* (Princeton: Princeton University Press, 2005).
- Haq, Farhat, 'Rise of the MQM in Pakistan: Politics of ethnic mobilization', *Asian Survey*, 35:11 (November 1995): 990-1004.
- Hasan, Mushirul, 'The Muslim Mass Contacts Campaign: Analysis of a strategy of political mobilization', in Richard Sisson and Stanley Wolpert (ed.s), *Congress and Indian Nationalism* (Berkeley: University of California Press, 1988).
- Haynes, Douglas, 'Imperial Ritual in a Local Setting: The ceremonial order in Surat, 1890-1939', *Modern Asian Studies*, 24:3 (July 1990): 493-527.
- Headrick, Daniel R., *The Tentacles of Progress: Technology transfer in the age of imperialism, 1850-1940* (New York; Oxford: Oxford University Press, 1988).
- , *The Tools of Empire: Technology and European imperialism in the nineteenth century* (New York; Oxford: Oxford University Press, 1981).
- Hill, Christopher V., *South Asia: An environmental history* (Santa Barbara; Oxford: ABC-CLIO, 2008).
- Huttenback, Robert Arthur, *British Relations with Sind, 1799-1843: An anatomy of imperialism* (Berkeley & Los Angeles: University of California Press, 1962).

- Islam, M. Mufakharul, *Irrigation, Agriculture, and the Raj: Punjab, 1887-1947* (New Delhi: Manohar, 1997).
- Jalal, Ayesha, *Democracy and Authoritarianism in South Asia: A comparative and historical perspective* (Cambridge: Cambridge University Press, 1995).
- , *The Sole Spokesman: Jinnah, the Muslim League and the demand for Pakistan* (Cambridge: Cambridge University Press, 1985).
- , *The State of Martial Rule: The origins of Pakistan's political economy of defence* (Cambridge: Cambridge University Press, 1990).
- Jones, Allen Keith, *Politics in Sindh, 1907-1940: Muslim identity and the demand for Pakistan* (Karachi; Oxford: Oxford University Press, 2002).
- Kaushik, Surendra Nath, 'Conflicted National and Regional Identities: Case of Jiye Sind Movement in Pakistan', in Ramakant and B. C. Upreti (ed.s), *Nation-Building in South Asia*, vol. 1, (New Delhi: South Asian Publishers, 1991).
- Khan, Hamid, *Constitutional and Political History of Pakistan* (Oxford: Oxford University Press, 2001).
- Khan, Mahmood Hasan, 'Sind Hari Committee, 1930-1970: A peasant movement?', in Amit Bhaduri and Muhammad Anisur Rahman (ed.s), *Studies in Rural Participation* (New Delhi: Oxford & IBH Publishing Co., 1982).
- Khan, Yasmin, *The Great Partition: The making of India and Pakistan* (New Haven; London: Yale University Press, 2007).
- Khuhro, Hamida, *The Making of Modern Sindh: British policy and social change in the nineteenth century* (Oxford: Oxford University Press, 1999).
- , 'Masjid Manzilgah, 1939-40. Test case for Hindu-Muslim relations in Sind', *Modern Asian Studies*, 32:1 (February 1998): 49-89.
- (ed.), *Documents on Separation of Sind from the Bombay Presidency*, 2 vol.s, (Islamabad: Institute of Islamic History and Civilization, 1982-1997).
- , *Mohammed Ayub Khuhro: A life of courage in politics* (Lahore: Ferozsons (Pvt.) Ltd., 1998).
- Latham, Michael E., *Modernization as Ideology: American social science and "nation building" in the Kennedy era* (Chapel Hill; London: University of North Carolina Press, 2000).
- Ludden, David, 'World Economy and Village India, 1600-1900: Exploring the agrarian history of capitalism', in S. Bose (ed.), *South Asia and World Capitalism* (Delhi: Oxford University Press, 1990).

- Madsen, Stig Toft, 'Introduction', in Stig Toft Madsen (ed.), *State, Society and the Environment in South Asia* (Richmond: Curzon, 1999).
- Major, Andrew J., 'State and Criminal Tribes in Colonial Punjab: Surveillance, control and reclamation of the 'Dangerous Classes'', *Modern Asian Studies*, 33:3 (July 1999): 657-688.
- Majumdar, R. (ed.), *Pakistan: Jinnah to the present day*, vol. 1, (New Delhi: Anmol Publications, 1998).
- Malik, Abdul, *Agricultural Development in Pakistan: Past, present and future* (Toronto: Social Sciences & Humanities Press, 1988).
- Malik, Bashir A., *Indus Waters Treaty in Retrospect* (Lahore: Brite Books, 2005).
- Markovits, Claude, *The Global World of Indian merchants, 1750-1947: Traders of Sind from Bukhara to Panama* (Cambridge: Cambridge University Press, 2000).
- Menon, Ritu and Kamla Bhasin, *Borders & Boundaries: Women in India's partition* (New Brunswick: Rutgers University Press, 1998).
- Metcalfe, Barbara Daly and Thomas R. Metcalfe, *A Concise History of India* (Cambridge; New York: Cambridge University Press, 2002).
- Michel, Aloys Arthur, *The Indus Rivers: A study of the effects of Partition* (New Haven; London: Yale University Press, 1967).
- Mitchell, Timothy, *Rule of Experts: Egypt, techno-politics, modernity* (Berkeley; London: University of California Press, 2002).
- , *Colonising Egypt* (Berkeley; Oxford: University of California Press, 1991).
- , 'Orientalism and the Exhibitionary Order', in Nicholas B. Dirks (ed.), *Colonialism and Culture* (Ann Arbor: University of Michigan Press, 1998).
- Moore, R. J., *Liberalism and Indian Politics, 1872-1922* (London: Edward Arnold, 1966).
- Mosse, David, 'Colonial and Contemporary Ideologies of 'Community Management': The case of tank irrigation development in South India', *Modern Asian Studies*, 33:2 (May 1999): 303-338.
- N.a., *Ferozsons Atlas for Pakistan* (Lahore: Ferozsons, 1986).
- N.a., *Pakistan 1954-1955* (Karachi: Pakistan Publications, 1955).
- Nandy, Ashis (ed.), *Science, Hegemony and Violence: A requiem for modernity* (Tokyo; Oxford: United Nations; Delhi University; Oxford University Press, 1988).

- Nazir, Pervaiz, *Local Development in the Global Economy: The case of Pakistan* (Aldershot: Avebury, 1991).
- Nelkin, Dorothy, 'The Political Impact of Technical Expertise', in Godfrey Boyle, David Elliott and Robin Roy (ed.s), *The Politics of Technology* (London: Longman, 1977).
- Paliyo, Rasul Bux, *Sindh-Punjab Water Dispute, 1859-2003* (Hyderabad, Sindh: Center for Peace and Human Development, 2003).
- Panhwar, M. H., *History of Sindh Irrigation: 3500 B.C. - present* (Islamabad: Government of Pakistan, Ministry of Science and Technology, Pakistan Council of Research in Water Resources, 1991).
- Paustian, Paul, *Canal Irrigation in the Punjab* (New York: Colombia University Press, 1930; repr. New York: AMS, 1968).
- Pearce, Roger, *Once a Happy Valley: Memoirs of an I.C.S. officer in Sindh, 1938-1948* (Oxford: Oxford University Press, 2001).
- Perera, Jayantha, *Irrigation Development and Agrarian Change: A study in Sindh, Pakistan* (Jaipur: Rawat, 2003).
- Pithawalla, Maneck B., *A Physical and Economic Geography of Sind (The Lower Indus Basin)* (Karachi; Hyderabad, Sind: Sindhi Adabi Board, 1959).
- Rahman, Tariq, *Language and Politics in Pakistan* (Karachi: Oxford University Press, 1998).
- Rahman, Mushtaqur, *Deh Dali Nandi, West Pakistan: A study of cultural factors in land use* (Karachi: Pakistan Institute of Geography, 1965).
- Roy, Srirupa, *Beyond Belief: India and the politics of postcolonial nationalism* (Durham; London: Duke University Press, 2007).
- Roy, Arundhati, *The Cost of Living* (London: Flamingo, 1999).
- Said, Edward W., *Orientalism* (London: Routledge and Kegan Paul, 1978).
- Schulze, Hagen, *States, Nations, and Nationalism: from the Middle Ages to the present* (Cambridge; Oxford: Blackwell, 1996).
- Scott, James C., *Seeing like a State: How certain schemes to improve the human condition have failed* (New Haven; London: Yale University Press, 1998).
- Shah, Zulfiqar, *Indus Delta: An environmental assessment* (Karachi: Pakistan Fisherfolk Forum, 2005).

- Singh, Amita Inder, 'Divergent World-Views, Divergent Strategies: How America took Britain's place in Pakistan, 1947-54', *Contemporary Record*, 6:3 (Winter 1992): 474-496.
- Stein, Burton, 'Introduction', in Burton Stein (ed.), *The Making of Agrarian Policy in British India, 1770-1900* (Oxford: Oxford University Press, 1992).
- Stone, Ian, *Canal irrigation in British India: Perspectives on technological change in a peasant economy* (Cambridge: Cambridge University Press, 1984).
- Talbot, Ian, *Pakistan: A modern history* (London: Hurst and Company, 2005).
- , *Provincial Politics and the Pakistan Movement: The growth of the Muslim League in North-West and North-East India 1937-47* (Karachi; Oxford: Oxford University Press, 1988).
- Talbot, Ian and Shinder Thandi (ed.s), *People on the Move: Punjabi colonial and post-colonial migration* (Oxford: Oxford University Press, 2004).
- Tinker, Hugh, *Viceroy: Curzon to Mountbatten* (Karachi: Oxford University Press, 1997).
- Tomlinson, B. R., *The Indian National Congress and the Raj, 1929-1942* (London; Basingstoke: Macmillan, 1976).
- Tvedt, Terje, *The River Nile in the Age of the British: Political ecology and the quest for economic power* (London: I. B. Tauris, 2004).
- Wallerstein, Immanuel Maurice, *Historical Capitalism; with, Capitalist Civilization* (London: Verso, 1995).
- Washbrook, David, 'South Asia, The World System and World Capitalism', in S. Bose (ed.), *South Asia and World Capitalism* (Delhi: Oxford University Press, 1990).
- Webster, Andrew, 'Modernization Theory', in Ron Ayres (ed.), *Development Studies: An introduction through selected readings* (Dartford: Greenwich University Press, 1995).
- Whitcombe, Elizabeth, 'Famine Mortality', *Economic and Political Weekly*, 28:23 (June 5, 1993): 1169-1179.
- , 'Irrigation', in Dharma Kumar and Meghnad Desai (ed.s), *The Cambridge Economic History of India vol.2, c.1757-c.1970* (Cambridge: Cambridge University Press, 1983).
- Wittfogel, Karl A., *Oriental Despotism: A comparative study of total power* (New Haven: Yale University Press, 1957).

World Commission on Dams, *Dams and Development: A new framework for decision-making* (London: Earthscan, 2000).

Young, Keith, *Scinde in the Forties* (London: n.p., 1912; repr. Karachi: Indus Publications, 1994).

Zamindar, Vazira Fazila-Yacoobali, *The Long Partition and the Making of Modern South Asia: Refugees, boundaries, histories* (New York; Chichester: Columbia University Press, 2007).

Zia, Farah, *The Submerged Speak: Oral testimonies of Tarbela affectees* (Islamabad: Sungi Development Foundation, 2007).

## **(ii) Unpublished printed matter**

Cook, Matthew A., 'After Annexation: Colonialism and Sindh During the 1840s' (PhD, Colombia University, 2007).

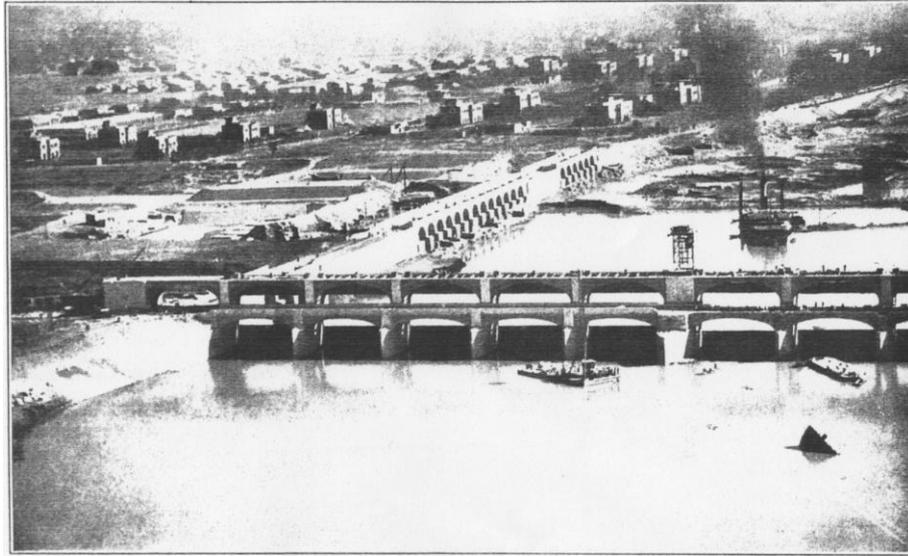
Woolcock, Michael, Simon Szreter and Vijayendra Rao, 'How and Why Does History Matter for Development Policy?', Working Paper 68, Brooks World Poverty Institute, University of Manchester (January 2009).

## **(iii) Electronic material**

Masror Hausen, 'Pakistan Flood Diary IV :: Bund Politics & Army Intervention', 11.09.2010, <http://www.inewsit.com/articles/entry/Pakistan-Flood-Diary-IV-Bund-Politics-Army-Intervention> (retrieved 01.01.2011).

N.a., 'Pakistan Political Map', <http://www.mapsofworld.com/pakistan/pakistan-political-map.html>, (retrieved 07.01.2011).

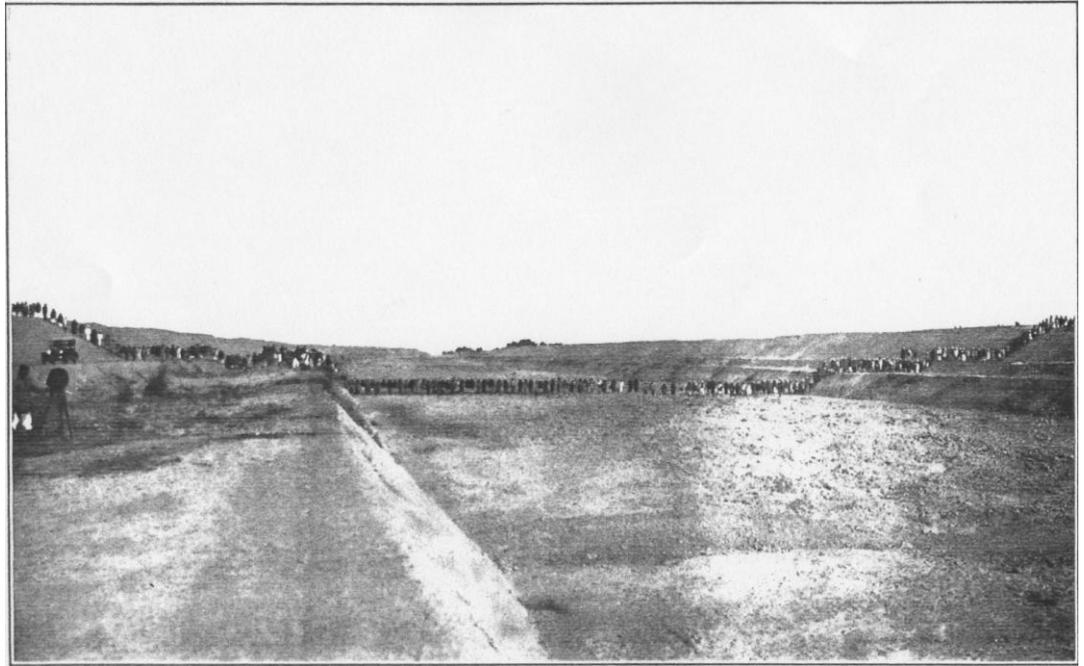
## Appendix: Photographs of Sukkur Barrage works



‘View of barrage, canal head regulators and township on right bank’, N.a., *The Opening of The Lloyd Barrage and Canals by His Excellency The Earl of Willingdon, G.M.S.I., G.C.M.G., G.M.I.E., G.B.E., Viceroy and Governor General of India on Wednesday, the 13th January 1932* (Bombay: Government Central Press, [1932?]), p.4, in Dow Papers, Mss Eur E 372/2, B.L.



“Jacob Bahadur” excavator – general view showing the rear part of machine sunk in a dhoro near Pitpikar on the 24<sup>th</sup> July 1929’, N.a., *The Opening of The Lloyd Barrage and Canals*, p.11.



'View of North Western Perennial Canal – Mile 8, near Bagarji. Designed discharge 5,152 cusecs. Bed width 165 feet. Depth of water 10.2 feet', N.a., *The Opening of The Lloyd Barrage and Canals*, p.28.