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**State, Society and Environment in the Ex-State of Bahawalpur:
A Case Study of the Sutlej Valley Project, 1921-1947**

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**Thesis submitted for the Degree of Doctor of Philosophy in
Contemporary History, University of Sussex, UK**

April 2017

Declaration of Work

I, Zahid Ali Khalid, hereby declare that this thesis has not been and will not be, submitted in whole or in part to another University for the award of any other degree.

Signed: Zahid Ali Khalid

Date: 07-04-2017

Abstract

This study examines the impact of Sutlej Valley Project (SVP) – a colonial mega canal colonisation scheme implemented by the British rulers of India in the years 1921-1947, in order to bring upland crown waste areas of the British Punjab, and the princely states of Bahawalpur and Bikaner, under cultivation. This study covers only that part of the project which was implemented in Bahawalpur State and investigates the impact of this phase of hydraulic engineering on the state, society and its environment through the nexus of hydro-politics, land settlement, migration, demography, agricultural development and ecological change.

The implementation of the SVP opened up large wasteland areas to reclamation, areas which were subsequently colonised by both local and immigrant peasant communities from different parts of India – though predominantly from the Punjab. This thesis argues that the state – through the ownership of extensive colony lands and a large network of perennial canals – monopolised the means of production and thus took control of both society and landscape in order to reshape them to its own advantage. Through the project the state was able to wield power not only over the environment, but also its people and society. Prospective colonists, whose loyalty was ensured by the allotment of land, were carefully selected, not only for their ability to improve cultivation but on the basis of fitness for citizenship.

The SVP – implemented in a desert area – brought about radical changes in ecology. The creation of new agricultural villages and *mandi* (market) towns, criss-crossed by a large network of perennial canals that extended cultivation to one million acres of new colony lands, turned a desert into a productive agricultural region and made it a new commercial centre of the arid region of North-West India. The project, however, along with its positive contributions to economy and society, created significant environmental and social problems: polluting the pure desert environment and dividing the local Bahawalpuri society along ethnic lines. Through the investigation of historical materials, this thesis critically examines all these developments and looks to assess their effects on the social, political, economic and cultural life of the state. Furthermore, the analysis of the SVP presented here is conceived of as an instructive

case study, and the project itself as a microcosm of wider colonial hydraulic endeavours.

In the main, this analysis utilises governmental publications issued in the form of reports, gazetteers, census reports and surveys, along with the secondary sources published as books and articles by contemporary writers. The construction of irrigation works, colonisation of wastelands, and their economic, political, social and ecological implications are analysed in order to explore whether a project of such magnitude was justified in Bahawalpur State at the time. The project is furthermore analysed in terms of the achievement – or failure to achieve – its stated objectives, which, along with an assessment of its contribution to the material progress of the princely state and the impact of this project on the state, society and its environment, form the core of the research.

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List of Abbreviations

A.	Anna
B.L.	British Library
B.S.A.	Bahawalpur State Archives
B.S.S.T.	Bahawalpur State Statistical Tables
Ch.	Chapter
Ed.	Editor
Edn.	Edition
ft.	Foot
I.O.R.	India Office Records, British Library London
Lbs.	Pounds
Misc.	Miscellaneous
No.	Numbers
P.	Paisa
Pr.	Paragraph
P.A.L.	Punjab Archives Lahore
P.W.D.	Public Works Department
R.A.B.S.	Report on the Administration of Bahawalpur State
Rs.	Rupees
R.S.V.P.E.C.	Report of the Sutlej Valley Project Enquiry Committee
S.V.P.	Sutlej Valley Project
Vol.	Volume
%	Percent
&	And

Glossary

Vernacular Terms used in this Study

<i>Abadkar</i>	Colonist; peasant grantee.
<i>Abiana</i>	Water tax.
<i>Bangar</i>	Uplands, away from the river banks.
<i>Banjar</i>	Fallow lands; wasteland.
<i>Bar</i>	Outer space, area away from the human settlement.
<i>Bara</i>	Name given to saline lands.
<i>Barani</i>	Rain-fed; watered by rainfall.
<i>Bigha</i>	Half an acre.
<i>Biradri</i>	Brotherhood; kinship system based on caste in a society.
<i>Chahi</i>	Irrigated by wells.
<i>Chak</i>	A block of land reserved for village settlement; a colony village.
<i>Chaudhri</i>	Village notable.
<i>Crore</i>	Ten millions.
<i>Darbar</i>	Court; place where a ruler held his official meetings.
<i>Desi</i>	Indigenous to Indian subcontinent.
<i>Doab</i>	A tract of land lying between two rivers.
<i>Dofasli</i>	Double cropping.
<i>Gaz</i>	A unit of length equal to thirty six inches.
<i>Haq</i>	A right.
<i>Hithar</i>	Riverain lowland.
<i>Ilaqa</i>	Estate; locality.
<i>Jagir</i>	Officially granted right to a given tract of land.
<i>Jagirdar</i>	Holder of a <i>jagir</i> .
<i>Jhallar</i>	A Persian wheel.
<i>Kallar</i>	Saline land; soil impregnated with saltpetre.
<i>Kamin</i>	Village menials, artisans.
<i>Kanal</i>	One-eighth of an acre.
<i>Karam</i>	A unit of length equal to 5.5 feet.

<i>Khala</i>	Watercourse.
<i>Kharaba</i>	Portion of crop failed to reach maturity; failed area of crop.
<i>Kharif</i>	Autumn harvest.
<i>Khet or killa</i>	A unit of land, one-twenty fifth of a colony square: acre.
<i>Khudkasht</i>	Cultivated by the owner himself.
<i>Lakh</i>	One hundred thousand.
<i>Lambardar</i>	Village headman.
<i>Mahal</i>	Estate or district (a fiscal unit); palace.
<i>Malik</i>	Owner, also title given to a leading man in a tribe.
<i>Malikana</i>	Fee or tax paid in recognition of proprietary title.
<i>Mandi</i>	Market town.
<i>Marla</i>	An area equal to 1/160 of an acre.
<i>Maund</i>	A unit of mass measurement, equal to 37.3242 kilograms.
<i>Mauza</i>	Village.
<i>Muamla</i>	Land revenue.
<i>Munshi</i>	Writer, secretary.
<i>Muraba</i>	A square of land (25 acres of land).
<i>Nazrana</i>	Entry fee paid for land grants.
<i>Nehri</i>	Irrigated from a canal.
<i>Panchayat</i>	Village level dispute resolving body.
<i>Parganah</i>	District.
<i>Patwari</i>	Village accountant of revenues; record keeper.
<i>Qanungo</i>	Revenue official who supervises the work of <i>patwaris</i> .
<i>Qazi</i>	Judge.
<i>Rabi</i>	Spring harvest.
<i>Rais</i>	Rich man; a capitalist grantee.
<i>Raj</i>	A rule; sovereignty.
<i>Riyasti</i>	Native of the state.
<i>Sailab</i>	Flood.
<i>Sanad</i>	A deed of grant.
<i>Seer</i>	A measure of weight, one-fortieth of a maund.
<i>Suba</i>	Province.

<i>Subedar</i>	Head of a <i>suba</i> or province.
<i>Sufedposh</i>	A yeoman grantee.
<i>Takavi</i>	Loan given by government to a landowner for agricultural purposes.
<i>Taluka</i>	Sub-division; tehsil.
<i>Tehsil</i>	A revenue and administrative sub-division of a district.
<i>Tehsildar</i>	A government revenue official, incharge of a tehsil.
<i>Tirni</i>	Grazing fee or tax.
<i>Warabandi</i>	System by which the supply of water to canal branches, distributaries and watercourses is regulated in rotation.
<i>Zakhira</i>	A village plantation of trees; nursery.
<i>Zamindar</i>	An owner or occupier of land.

Introduction

The last sixty years of the British rule in India witnessed major environmental and ecological changes in the plains of the River Indus and its tributary¹ Punjab Rivers. Relying upon weir-controlled technology, the colonial government of India introduced mega irrigation projects on River Indus and its tributaries in order to irrigate, and subsequently to settle, extensive regions which had previously lain waste in the *bar* (upland area between the rivers) areas of these rivers in the provinces of the Punjab and Sind and Bahawalpur State. The Sutlej Valley Project (SVP) was one of these projects and was implemented in areas of the Punjab – specifically in the states of Bahawalpur and Bikaner – during the years 1921 to 1933. At the time of its implementation SVP was the largest irrigation project introduced by the British in India. At 9.1 million acres, the incorporated area was greater in extent than the total cultivable lands of Egypt and Sudan combined.²

Located on the northern edge of the Great India Desert, between the province of the Punjab and the Rajputana states of Bikaner and Jaisalmer, the state of Bahawalpur included three hundred miles of river frontage on the three great rivers of the Sutlej, the Panjnad and the Indus – on the northern frontier. Taking advantage of this river frontier, the rulers of the state developed a local system of canal irrigation based on river inundation and guided the flow of river waters in order to irrigate lands away from the river banks. This irrigation system worked efficiently up to the last quarter of the nineteenth century, during which time the construction of various canal projects on the Punjab Rivers reduced considerably the downstream supply of water, which, in turn, dramatically affected canal irrigation systems in areas of Bahawalpur State.

Indigenous irrigation systems in India, based primarily on *bunds* or tanks, wells and inundation canals, were developed in response to specific local environmental conditions. Although these modes of irrigation worked effectively in different parts of India for centuries, they were not liked by the British colonial administration. David

¹ These rivers are Beas, Chenab, Jhelum, Ravi and Sutlej. For details see, Aloys Arthur Michel, *The Indus Rivers: A Study of the Effects of Partition*, (Yale University Press, New Haven, 1967), p. 25.

² 'Report, Part I, General', p. 4 in Public Works Department, Punjab, Irrigation Branch, *Sutlej Valley Project of June 1920*, (The Superintendent, Government Printing, Punjab, Lahore, 1920), Bahawalpur State Archives (hereafter B.S.A.).

Hardiman writes that the colonial rulers 'frowned upon the backwardness' of the Indian cultivators and denigrating their irrigation system as traditional and centuries-old. The English believed that European knowledge could transcend the limitations of these systems and that nature could be mastered, transformed and made more productive. With the help of their superior science and technology the rivers were to be engineered, controlled, tamed and made into the source of artificial canals.³ Toward the achievement of such objective the British government of the Punjab rolled out various irrigation projects and established several canal colonies in the drainage areas of those above mentioned rivers. Under the SVP four headworks i.e. Ferozepur, Sulemanki, Islam and Panjnad, eleven main canals and several branch and distributry canals were constructed. Of these four headworks, the first three were built across the river Sutlej and the fourth on river Panjnad, while out of these eleven canals, six were built to irrigate areas of Bahawalpur State, four for the Punjab and one for Bikaner State.

This thesis looks at irrigation, settlement, migration and environmental history of a relatively unknown region of Bahawalpur State in historical perspective, and critically analyses the impact of the SVP on the socio-political and socio-economic structure of the state and its environment. The emerging field of environmental history⁴ has looked at debates on different canal systems built in the Punjab during the period of British rule in India; however no research has yet been done on the specific significance of the SVP, despite its status as the largest irrigation project in all of British India.

The idea of harnessing and controlling nature on a grand scale has often been a concern of rulers and states, from the scientific management of royal forests in late-seventeenth century Prussia and Saxony, to hydroelectric projects such as the Hoover Dam in Colorado in the early twentieth century.⁵ In India, the river Ganges, Yamuna (Jumna), Mahanadi, Indus and its tributary Punjab Rivers became the hub of British

³ David Hardiman, 'The Politics of Water in Colonial India', *South Asia: Journal of South Asian Studies*, 25:2 (2002), p. 113.

⁴ The pioneering work in this regard is *Nature and the Orient: The Environmental History of South and Southeast Asia*, (eds.), by Richard Grove, Vinita Damodaran and Satpal Sangwan, (Oxford University Press, Delhi, 1998).

⁵ Daniel Haines, *Building the Empire, Building the Nation: Development, Legitimacy and Hydro-Politics in Sind, 1919-1969*, (Oxford University Press, Oxford, 2013), pp. xx-xxi.

irrigation developments from the second half of nineteenth century and waters of these rivers were tapped in order to facilitate the agricultural colonisation of those regions. The introduction of such mega irrigation schemes brought major environmental and ecological changes, which have been documented and analysed by range of writers including Elizabeth Whitcombe, Ian Stone, Imran Ali, Rohan D'Souza and most recently Daniel Haines in the provinces of the UP (United Provinces), Punjab, Orissa and Sind respectively.⁶

Karl A. Wittfogel in his classic work *Oriental Despotism* writes, "man never stops affecting his natural environment. He constantly transforms it; and he actualizes new forces whenever his efforts carry him to a new level of operation."⁷ The introduction of canal-colonisation projects in British India, the imposition of colonial hydraulic engineering and the associated destruction of pre-existing indigenous irrigation systems was a true example of this human interference in the natural environment, through which an attempt was made to remake the natural environment, its people and society.⁸ Rohan D'Souza has argued that "through the course of the nineteenth century, British hydraulic interventions radically transformed a vast spectrum of pre-colonial hydraulic relationships that had defined and sustained complex equations between land and water."⁹

In what follows, I will look at the conceptual implications of my thesis in terms of the nature of the state and hydraulic societies in order to demonstrate the intellectual value of this project. I hope to highlight the overall argument of my thesis and make clear my intervention in the wider intellectual field. In clarifying the nature of the state in relation to environmental change I hope to show how the state was dynamic, multi-

⁶ Elizabeth Whitcombe, *Agrarian Conditions in Northern India*, vol. 1, *The United Provinces under British Rule, 1860-1900*, (Thomson Press, New Delhi, 1971); Ian Stone, *Canal Irrigation in British India: Perspective on Technological Change in Peasant Economy*, (Cambridge University Press, Cambridge, 1984); Imran Ali, *The Punjab under Imperialism, 1885-1947*, (Princeton University Press, Princeton, 1988); Rohan D'Souza, *Drowned and Dammed: Colonial Capitalism and Flood Control in Eastern India*, (Oxford University Press, New Delhi, 2006); Daniel Haines, *Building the Empire, Building the Nation: Development, Legitimacy and Hydro-Politics in Sind, 1919-1969*, (Oxford University Press, Oxford, 2013).

⁷ Karl A. Wittfogel, *Oriental Despotism: A Comparative Study of total Power*, 5th edn., (Yale University Press, New Haven, London, 1964), p. 11.

⁸ Ian Talbot, 'The Punjab Under Colonialism: Order and Transformation in British India', *Journal of Punjab Studies*, 14:1 (2007), p. 7.

⁹ Rohan D'Souza, 'Water in British India: The Making of a Colonial Hydrology', *History Compass*, 4:4 (2006), p. 625.

layered and contested in South Asia and the wider implications that can be drawn from the SVP in terms of the changes in the nature of political power and the struggles between the *raj* and the *Nawab* in late colonial Bahawalpur. In particular, I hope to show the impact of the changes in the relations between the British *Raj* and the princely state of Bahawalpur in the course of building the SVP.

“Environmental conditions”, according to Daniel Haines, “are a useful starting point for understanding states and politics, as they always play a part in delineating the possibilities and limits of human activity.”¹⁰ Work by David Arnold, Ram Chandra Guha, Richard H. Grove and Stig Toft Madsen has shown links between the natural environment and local social, political, economic, and cultural life in south Asia through small scale, case studies.¹¹ As irrigation has always played a vital role in the development of the society so managing water – its supply, storage, and distribution – has long been a lynchpin of civilization in much of the world. From the ancient to the modern world rulers used water as a tool to control their people. Karl A. 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, centralised states. Only well-organised 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.¹²

In most of the Indian sub-continent where nothing grows without the provision of artificial supply of water to crops irrigation development had been the priority of all the successful dynasties and governments starting from the rule of Maurian kings between the fourth and third centuries BC to the rule of Muslim Kings between the thirteenth and eighteenth century AD. During that period under the patronage of the

¹⁰ Haines, *Building the Empire*, p. xx.

¹¹ David Arnold and Ram Chandra Guha, (eds.) *Nature, Culture, Imperialism: Essays on the Environmental History of South Asia*, (Oxford University Press, Delhi, 1996); Stig Toft Madsen’s Introduction in his edited volume, *State, Society and the Environment in South Asia*, (Curzon, Richmond, 1999), pp. 1-19; Richard Grove, ‘Indigenous Knowledge and the Significance of South-West India for Portuguese and Dutch Construction of Tropical Nature’, in Richard Grove, Vinita Damodaran and Satpal Sangwan, (eds.), *Nature and the Orient: The Environmental History of South and Southeast Asia*, (Oxford University Press, Delhi, 1998), pp. 187-209.

¹² Wittfogel, *Oriental Despotism*, p. 161.

state different irrigation technologies like, small dams, canals, wells, tanks and lift irrigation were developed according to the ecological requirements of the region. In South India, water was stored and distributed from artificial reservoirs and tanks while in North India that is mostly a basin of the rivers, water was provided through canals. As these projects were built and managed by the state they gave the state a dominant control over its people and environment,¹³ and it echoed Wittfogel's notion of the state that "of all tasks imposed by the natural environment, it was the task imposed by a precarious water situation that stimulated man to develop hydraulic methods of social control."¹⁴

In order to understand the nature of water politics and the relationship between the princely states and the British Government of India we will examine the nature of princely state. How was it different from the rest of the British Indian Empire? Ian Copland writes that during British rule India was politically divided in two different sets of units, British India or the provinces and the princely states. The provinces were under the direct control of the Indian government while the states were independent in their internal and economic spheres and were governed by the princes, *Maharajas*, *Khans* or *Nawabs* as they were called. Princely India was about two-fifth of the whole British Indian Empire and comprised of around 600 hundred states.¹⁵ As the provinces were under the direct control of the British, new reforms in the administration and new development projects were first launched in the provinces. Mega irrigation projects were introduced ostensibly for the uplift of the society but mainly to increase the revenues of the government. Imperial science and technology played a vital role in this regard. David Gilmartin who looks at this development notes, "Imperial science with its command over environmentally transformative technologies such as irrigation, operated in India within this political framework. Imperial science suggested a colonized world that became, in many respect a great laboratory in which the natural world was not only catalogued, studied and observed but also technologically

¹³ Satyajit Singh, *Taming the Waters: The Political Economy of the large dams in India*, (Oxford University Press, Delhi, 1997), pp. 23, 34-35.

¹⁴ Wittfogel, *Oriental Despotism*, p. 13.

¹⁵ Ian Copland, *The Princes of India in the Endgame of Empire, 1917-1947*, (Cambridge University Press, Cambridge, 1997), pp. 1-3.

manipulated in the name of commercial transformations on a great scale.”¹⁶ In the advancing princely states they sought to emulate the science and modernisation policies of the provinces and adopted colonial sciences and technology to develop their irrigation systems like the Krishna Raja Sagra Dam that was built in the state of Mysore in 1920s.¹⁷

The introduction of scientific technology and modern amenities of life had created a big difference in the socio-political and socio-economic spheres of both the political units i.e., the provinces and the states. The English bureaucracy in India eulogised and boasted of their own system and looked upon the system of princely states as backward. Harcourt Butler, Political Secretary of Lord Minto notes that “the indigenous system of Government is a loose despotic system tempered by corruption, which does not press hard on the daily lives of the people. [...] our system is a scientific system which pressed steadily on the people in their daily lives, controls them, regulate their actions.”¹⁸ Likewise M. L. Darling in his book *Punjab Peasant in Prosperity and Debt* compares the life of the colony areas of the Punjab which were established by the British and the old settled areas of the pre-colonial era as, “in the western Punjab, conditions are dominated by relentless nature. In the great canal colonies [...] we feel everywhere the beneficent hand of man. In the former, life is the immemorial life of India, primitive, isolated, and fatalistic: in the latter it is the new life brought in by the *Pax Britannica*, prosperous, progressive, and modern.”¹⁹

When we see the socio-political and economic system of the Bahawalpur State it was not different from other princely states of India. The system of administration was autocratic and absolute. The ruling *Nawab* had his full control over all the resources of his state and also had full command and authority over the political, social and

¹⁶ David Gilmartin, ‘Scientific Empire and Imperial Science: Colonialism and Irrigation Technology in the Indus Basin’, *The Journal of Asian Studies*, 53:4 (1994), pp.1127-1128.

¹⁷ Aparajith Ramnath, *The Hindu*, ‘The Historical Roots of our Engineering Obsession’, September 15, 2016. <http://www.thehindu.com/thread/reflections/the-historical-roots-of-our-engineering-obsession/article14639373.ece>, (accessed on 09-01-2018).

¹⁸ Terence Creagh-Coen, *The Indian Political Service: A study in Indirect Rule*, (Chatto and Windus, London, 1941), p. 17.

¹⁹ Malcolm Lyall Darling, *The Punjab Peasant in Prosperity and Debt*, 3rd, edn., (Humphrey Milford, Oxford University Press, London, 1932), p. 116.

economic aspects of the life of his citizens.²⁰ But in Bahawalpur State life was not primitive, isolated, and fatalistic as described by M. L. Darling. The rulers of the state had raised the foundation of their state on its inundation canals²¹ and Bahawalpur had a well established system of canals from the second half of the eighteenth century long before its formal contacts with the British that started in 1833 by signing the treaties of friendship.²² It is important to note here that the network of canals laid by the Daudputras in eighteenth century and which became the life line of the Bahawalpuri society was admired and appreciated by the British engineers. The famous British engineer Robert B. Buckley in his book *Irrigation Works of India* writes, “any account of the canals of India would be incomplete without a brief notice of the Bahawalpur canals.”²³ British engineers had learnt from the working of these canals which helped them to improve and develop their canal system in the province of the Punjab. These hydraulic developments in the princely state had a positive impact on the economy of the state and several commercial centres emerged on the scene that were provided with modern education and medical facilities from the closing years of the nineteenth and early years of the twentieth century.²⁴

From the closing years of the nineteenth century when the province of Punjab became the hub of new hydraulic developments and several canal colonies were established in the *bar* areas of the Punjab, Bahawalpur (as mentioned in previous pages) partly compelled by the shortage of river water and partly to develop its new upland areas became part of the SVP along with the province of the Punjab and the state of Bikaner. The adoption of new irrigation technologies rapidly followed in these princely states with important implications including financial and political with the *Nawab* increasingly became subject to political interference by the British *Raj*. The SVP had a

²⁰ Shahamet Ali, *The History of Bahawalpur, with Notices of the Adjacent Countries of Sindh, Afghanistan, Multan and the West of India*, (James Madden, London, 1848), pp. xi-xii.

²¹ Inundation canals worked only during the days of flood in the river when the water level would rise and flow automatically into the canal. For details see, B. O. Reynolds, *College of Engineering Manual: Irrigation Works*, (The Superintendent, Government Press, Madras, 1906), pp. 2-3.

²² Richard B. Barnett, ‘Greening of Bahawalpur: Ecological Pragmatism and State Formation in Pre-British Western India, 1730-1870’, *Indo British Review; A Journal of History*, 15:2 (1988), pp. 5-8.

²³ Robert B. Buckley, *The Irrigation Works of India, and their Financial Results*, (W. H. Allen & Co., London, 1880), pp. 154.

²⁴ Muhammad Aziz-ur-Rehman Aziz, *Subho Sadiq*, (Urdu), 3rd edn., (Urdu Academy, Bahawalpur, 1988), pp. 177-193.

profound impact on the political, social and economic ecology of the state which is discussed in chapters three, four, five and six of this study.

As mentioned above Bahawalpur was an independent state and was not under the control of the British Government of India but to finance its part of the project the state had to borrow money from the Government of India who in return got control over the appointment of Public Works and Revenue Minister, the Finance Minister and the Colonisation Officer of the state until the loan was paid off which had a profound effect on the whole organisation of the state and ultimately the position of the *Nawab* who lost both his power and his wealth. Maulvi Ghulam Hussain, the old Home Minister of the state and the advisor of the *Nawab* who agitated against British interference in the affairs of the state was hounded out by the British officials and was not only removed from the ministry but was also expelled from the state. All financial matters relating to the SVP were to be handled by the British appointed officers. The Public Works and Revenue Minister was given the authority to control the sales of the colony lands as well as the irrigation receipts received from the canals, built under the project.²⁵ These representatives of the British Government of India influenced the colonisation process [discussed in ch. 4] of the state and had their full say in the selection of the colonists and the settlement of colony areas. They preferably chose the hereditary Punjabi peasant families of Jats and Arrains because of their perceived better skills of cultivation and ignored the local landless communities that divided the Bahawalpuri society on *biradri* (brotherhood) and ethnic grounds and sowed the seeds of future conflict that is discussed in chapter six of this study. The thesis examines the ways in which the British used the SVP to dominate the politics of Bahawalpur and how, the princely state continued to exercise its legitimate autonomy through dialogue and negotiations and was able to procure and protect the rights of its river waters on the basis of its superior riparian rights for the purposes of its peasantry and agriculture.

The thesis will analyse the transformative effects SVP had on the society, culture, economy, and politics of the state of Bahawalpur. In particular the thesis will show for

²⁵ Letter No 20 of 1926, Finance Department, Government of India, to The Right Honourable, the Earl of Birkenhead, His Majesty's Secretary of State for India, dated, Simla, the 1st July 1926, in IOR/R/1/1/1490, pp. 18-19.

the first time the dramatic impact of an irrigation project on the agro economy of the state. It will detail, the colonisation of land, taxation policy, science and modernisation initiatives, including railways, road building, medical and education development in the state. It will also give data on land tenure and migration, crop cultivation, cropping patterns and trends, debt and taxation of land, soil structure and its quality. In the process it will examine the ecological problems of canal irrigation, including crop failure. It will argue that in many ways the impetus for agriculture modernisation and colonisation was partly influenced by the huge debt amount owed to the British Govt of India by the state borrowed for the construction of this project and will show how the peasants of the region toiled and laboured hard to pay off the debt finally in 1949. By then the ecology and society of the region had been transformed by the creation of new villages and *mandi* (market) towns with the doubling of population. In the final analysis study will argue that the scale of transformation in Bahawalpur despite the associated problems allows one to see this period as one of growth with development similar to the transformation that followed in Egypt in the wake of the Aswan Dam.²⁶

Literature Review

Works relating to specifically to the history of Bahawalpur State are few. *The History of Bahawalpur*²⁷ by Shahamet Ali is regarded as the basic source on the history of the state. It was the first book in English on the subject and was published in 1848. It is a simple, narrative history telling the story of the formation and development of the state, its rulers, land and people. It also provides a history of adjacent areas like Sind, Afghanistan, Multan and the west of India.

*Bahawalpur Ki Siyasi Tarikh*²⁸ (Urdu) by Masood Hassan Shahab is a useful source on the political history of the state. It covers both the pre and post-partition political history of the state, with the focus on the post-partition period. It also narrates the

²⁶ Hussein M. Fahim, *Dams People and Development: The Aswan High Dam Case*, (Pergamon Press, New York, 1991), p. xv.

²⁷ Shahamet Ali, *The History of Bahawalpur, with Notices of the Adjacent Countries of Sindh, Afghanistan, Multan and the West of India*, (James Madden, London, 1848).

²⁸ Masood Hassan Shahab, *Bahawalpur ki Siyasi Tarikh*, (Urdu) (Maktabah Ilham, Bahawalpur, 1979).

tussle between *Riyasti*²⁹ and *abadkar* (immigrant peasants) population of the state and tells how both communities fought for the protection of their rights.

*Riyasat Bahawalpur ka Nazm-e-Mumlikat, 1866-1947*³⁰ (Urdu) by Muhammad Tahir is the latest study of Bahawalpur State administration. This work traces the history of administration and state from the 17th century onwards. The author has described the events in chronological manner with the narration of each step like the procedure of session, court/*darbar* system and further explained the central administration of the state.

It is important to note that while the irrigation works and agricultural developments which took place during colonial rule in the Indus basin – especially in areas of the Punjab – have attracted significant scholarly attention, which, through the examination of various social, political and economic aspects of these colonial hydraulic engineering projects, have provided insight into the merits and demerits of this episode of environmental and social engineering. The SVP despite of being one of the largest and the most ambitious agricultural colonisation schemes introduced by the British in India – has not attracted the attention that it deserves, indeed, work on the subject has failed to move much beyond studies of the canal colonies of the Punjab. The pioneering work in this regard was Paul Paustian's study³¹ – undertaken in 1930 – which focuses on the economics of the Punjab canal colonies and, following the official colonial line, suggests that the primary motives behind the canal construction programme were famine prevention, raising the indigenous standard of living, increasing the tax base and relieving population pressure in the most congested districts of the Punjab by choosing prospective colonists from these areas.³²

Almost sixty years later, Imran Ali, in his 1988 work *The Punjab under Imperialism, 1885-1947* was the first to question the colonial narrative. Ali's political analysis of the

²⁹ *Riyasat* is an equivalent Urdu word for the English word 'native state', so *Riyastis* mean the inhabitants of the *Riyasat*. In Bahawalpur State they predominantly speak Saraiki language.

³⁰ Muhammad Tahir, *Riyasat Bahawalpur Ka Nazm-e-Mumlikat, 1866-1947*, (Bazm-e-Saqafat, Multan, 2010).

³¹ Paul W. Paustian, *Canal irrigation in the Punjab: An Economic Inquiry Relating to Certain Aspects of the Development of Canal irrigation by the British in the Punjab*, Columbia University Press, 1930, reprint, (AMS Press, New York, 1968), pp. 41-45.

³² *Ibid.*, pp. 48, 58.

saga of British canal colonisation in the Punjab argues that while the agricultural colonisation produced significant economic growth – if measured with such indices as cultivated area, output, marketing and trade – the Punjab remained a relatively underdeveloped region, and the colonial government showed very little interest in improving the quality of agriculture. According to Ali, the disparity between colonial narrative and economic reality in the Punjab can be seen as revealing of another set of undeclared motivations. Beyond the declared colonial objectives of the relief of population pressure, increase in state revenue and improvement of standards of living in the region, Ali argues that an appreciation of the social and political context of the SVP and other hydraulic projects reveal the colonial administration's desire to reinforce and extend social, political and economic control in the region. Land was distributed keeping in mind the need “to consolidate their political position, to fulfil military requirements and to maintain an extractive system in order to finance their administration” so as to vitiate economic growth in the province and create a special class of people that in turn could “serve more effectively as props to the ruling authority.”³³

Another decade later, M. Mufakharul Islam, in his work *Irrigation, Agriculture and the Raj: Punjab, 1887-1947*, disputed Ali's counter-colonial conclusions, arguing that British interventions in the irrigation system of the Punjab were responsible for a new dynamism in the crop production of the province and produced significant increases in per acre yields. Furthermore such developments in infrastructure were seen by Islam to have aided the development of market-oriented cash crops and improved varieties of seeds. He suggests seeing the colonial intervention in its wider perspective, which is seen here as the evolution of a new pattern of relationships between India and England in the second half of the nineteenth century. During the rule of the East India Company (EIC), India was considered important as a source of mercantile profit and tributes, but now, during the ascendancy of the industrial bourgeoisie, India was expected to play the role of an economic satellite, a supplier of raw materials to, and a market for the products of, metropolitan industry. Such a shift in colonial paradigm was made manifest – according to Islam – primarily through the development of

³³ Imran Ali, *The Punjab under Imperialism, 1885-1947*, (Princeton University Press, Princeton, 1988), pp. 13-14, 237-238.

irrigation based agriculture, which became, consequently, the primary concern of the British government of India and transformed the province into a hydraulic society *par excellence*.³⁴

About one and half decade later Daniel Haines' published a book *Building the Empire, Building the Nation: Development, Legitimacy, and Hydro-Politics in Sind, 1919-1969*. Unlike the above mentioned studies that are concerned only with canal-colonisation in the Punjab and focus on economic, political and agricultural aspects of the colonial irrigation policy up to the division of British India in 1947, Haines' study considers not only colonial hydro-politics and hydraulic developments in the province of Sind, but also discusses post-colonial developments in water management in the Indus basin occurring as a result of partition. In agreement with the much earlier work of Imran Ali, Haines' study argues that colonial land distribution policy in Sind was moulded by the political interests of the British in that province and that land was allotted in order to ensure the support of the Sindhi *zamindars* who not only commanded the loyalty and respect of *haris* (tenants) and smaller *zamindars*, but held social influence far beyond the boundaries of their own property. It is argued that by allotting land to small and major *zamindars* the pre-existing structures of Sindhi agrarian society – which had thus far supported colonial rule – were preserved.³⁵

The most recent contribution to the debate on colonial irrigation developments in the Indus basin is David Gilmartin's book *Blood and Water: The Indus River Basin in Modern History*.³⁶ He looks at the irrigation developments undertaken in the Indus basin during pre-colonial, colonial and post colonial periods and writes that they were crucial in the formation of the political and economic environment of the region. He argues that in pre-Colonial era the local rulers of this region like the Kalhoras in Sind, the Daudputras in Bahawalpur, the successors of the Miranis in Dera Ghazi Khan and the Afghan Sadozai Nawabs in Multan, developed their local canal systems and used water to control communities and as state power. These rulers distributed lands to

³⁴ M. Mufakkarul Islam, *Irrigation, Agriculture and the Raj: Punjab, 1887-1947*, (Manohar, Delhi, 1997), pp. 15-19, 138-141.

³⁵ Haines, *Building the Empire*, pp. 74-76.

³⁶ David Gilmartin, *Blood and Water: The Indus River Basin in Modern History*, (University of California Press, Oakland, California, 2015).

their kinsmen and military elite for the consolidation and expansion of their rule. The British rulers like their forerunners also used hydraulic developments for re-shaping the physical and political environment of Indus basin under the canal colony schemes. He notes that in canal colonies on one hand land was distributed to peasant grantees and on the other the land grants were also made to local influential chiefs to maintain their hegemony and control on their people for political reasons. Thus through their allotment policy colonial rulers were able to create a new society on *biradri* (blood) basis. Moreover, in order to keep the landed community under their control, the British devised a revenue system in which the position of individuals was defined with respect to their property, community and the state and they were bound to follow the state's legal and social requirements if they were to enjoy the benefits of their lands. According to him in the areas of Dera Ghazi Khan, a region predominantly populated by Baloachs, the new hydraulic society was formed keeping in mind the political needs of the colonial government and care was also taken to maintain the dominance of the local Baloach *tumandar* (head of the tribe). He writes, "such effort to fix Baloach property rights as well as to facilitate the exercise of the tribal leadership reflected the broader aims of British policy as they sought to establish imperial authority [and] central to these efforts was the management of control over water."³⁷ However, despite giving the hydraulic history of the Indus region under British rule Gilmartin fails to mention or analyse the irrigation developments in Bahawalpur State during the colonial period.

My study will build on these debates, and move beyond it in examining the contribution to and significance of the SVP in socio-economic and ecological developments within the region and the wider state of Bahawalpur. It is one of the first studies on the politics of the riparian rights. The SVP was one of the earliest projects that were to be built in the areas of the Punjab by the colonial rulers. The work on this project had started in the early years of 1850s but due to the deadlock over the sharing of water of the river Sutlej and the Beas between the government of the Punjab and the Bahawalpur State it could not be materialised. The government of Bahawalpur contested the implementation of this project because of its perceived

³⁷ Ibid., pp. 20-27, 68, 180, 200.

stronger riparian rights over the waters of the river Sutlej. I have discussed in detail the issue of river water politics in chapter three and therefore this study is the first work on the politics of the riparian rights in India. The work will also examine the wider implications of the SVP for the culture and society of Bahawalpur by looking at the role played by the *abadkars* (immigrant peasants) and the perennial canals. In addition, it will also assess the response of the *Riyastis* (natives of the state) to this canal-colonisation scheme and their acceptance of both the *abadkar* community and colonial land reform. This work therefore addresses significant omissions in the study of the region and makes an original contribution to wider academic scholarship and debates on the subjects of colonial hydro-politics, riparian rights and state formation in India.

The construction of irrigation works, colonisation of wastelands, and their economic, political, social and ecological implications are analysed here to ascertain whether a project of such magnitude was actually justifiable at the time in Bahawalpur State. Questions of the achievement of stated objectives, contribution to the material progress of the princely state and the impact of this project on the state, society and its environment will form the core of the research and are addressed through consideration of the SVP in the period from 1921 to 1947.

Methodology

This research project adopts a case study approach, drawing data mainly from documentary material based on archival and Library research from colonial and post-colonial era. A case study according to Robert B. Yin is a research strategy which helps to understand the complex, unexplored issues and objects.³⁸ This study in particular will seek to provide insight into the socio-political, economic, and environmental developments that took place under the SVP in Bahawalpur State.

This study will include a thorough review of the topic carried out through the analysis of printed and electronic documents, published by governmental, semi-governmental and private bodies, including:

³⁸ Robert K. Yin, *Case Study Research: Design and Methods*, 4th edn., (Sage, London, 2009), pp. 3-4.

- India Office Record and contemporaneously published books available in the British Library, London.
- Board of Administration records and the files of General, Political and Revenue Departments of the Punjab Government held in Punjab Secretariat Office, Lahore.
- Board of Revenue Record held in the office of the Financial Commissioner, Bahawalpur.
- Official publications such as reports published by the Indian and Punjab Governments, census reports, annual administration reports, district land revenue and settlement reports, assessment reports, Punjab Government gazettes, parliamentary papers, fortnightly reports etc.
- Newspapers, periodicals and journals available in British Library London, University of Sussex Library, Central Library Bahawalpur, Sir Sadiq Library, Islamia University of Bahawalpur, and *Muhafiz Khana* (record room) of Bahawalpur State are also consulted.
- In order to establish a wider context the study also considers printed secondary sources available in form of books, journals, publications by private associations, magazines, articles, theses/dissertations, biographies, and conference proceedings as well as modern media, like websites, including reference centers.
- While this research utilizes a primarily historical analytical methodology, additional understanding of environmental and climatic issues particular to the region of Bahawalpur will also be developed.

The records available at the *Muhafiz Khana* of Bahawalpur, board of revenue, irrigation, development statistics relevant to state and written by ICS officers and state employees at that time are being used for the first time in narrating the SVP and developing the theoretical framework of environmental history discussed in this thesis. Authors like, Paul Paustian, David Gilmartin, Imran Ali and Mufakharul Islam who have already worked on canal colonies of the Punjab or princely Bahawalpur have focussed either on available British sources at British Library London and Punjab Archives on both sides of India and Pakistan or the secondary material produced. None of them

have retrieved anything from the *Muhafiz Khana*, record room of Bahawalpur State Archives.

In response to the absence of documentary material relating to some areas and issues i.e. the early problems of the *abadkars* and the methods and trends of cultivation in colony areas, reliance has been placed on oral history and interviews with the *abadkar* people have been conducted. The interviewees were chosen from the *abadkar* areas of present day tehsils Chishtian, Haroonabad, Fort Abbas, Yazman and Rahim Yar Khan in the province of the Pakistani Punjab.

Chapter Outline

The main body of research presented here is divided into six chapters, followed by a conclusion. **Chapter One** includes a description of the region where the state of Bahawalpur was formed and depicts the pre-state ecology of the region. This work reveals that before the establishment of the Daudputras rule, the areas away from the river line were sparsely occupied by nomadic communities who eked out a pastoral livelihood.

Chapter Two deals with the formation of Bahawalpur State and plots its historical development, starting from the inception of the state to its merger with Pakistan in 1947. This chapter also looks at the relationship between Bahawalpur State and its colonial rulers, the nature of that relationship and the involvement of the British administrators and engineers in the administration of the state. This section also looks at the irrigation system of the state and its development under a succession of rulers and British officials.

Chapter Three focuses on the SVP, the genesis of the project and its engineers, its implementation and development and critically analyses the water-politics involved in the formulation, and rolling-out of this mega irrigation scheme. It shows how British colonial officials of both the government of the Punjab and of British India pressurised Bahawalpur State to accept this project. It also considers aspects of the project such as its objectives, scope, the allocation of the waters, its geographical extent and the

finances, the construction of headworks and canals as representative of an imposition of colonial technology and knowledge systems.

Chapter Four looks at colony settlement in Bahawalpur, analysing various aspects and issues relating to the process of colonisation, its principles, the terms and condition under which lands were awarded, the response of the local people, especially the nomads and the landless native communities to this canal-colonisation scheme and the recipients of the colony lands.

Chapter Five deals with the key issue of development and change in agricultural production, including the types of crops grown. It is argued that such developments were not only an integral element of the project, but that the desire to control and determine changes in production were the primary motivating factor in the undertaking of all of the hydraulic developments within the SVP. This chapter will consider crops, as well as methods and patterns of cultivation in both pre-SVP and SVP periods, comparing the efficacy of indigenous and pre-existing systems such as inundation canals with colonial perennial canal systems and native peasant communities with immigrant *abadkar* cultivators. Claims of a new agricultural dynamism in the region will be assessed along with the impact of this development on both the peasant and the state.

Chapter Six looks at the impact of the SVP on demography, migration and ecology of the state. The settlement of colony areas attracted hundreds of thousands of immigrant peasants from various areas of India and gave rise to flourishing agricultural villages and *mandi* towns. This chapter explores the profound impact on the ecology of this desert region of these changes, through the investigation of issues relating to demography, migration, the expansion of colony infrastructure and development works. The chapter also examines the reaction of local native communities and the state to *abadkars* and the rise of new Bahawalpuri society in the SVP (1921-1947) era.

Chapter Seven concludes the study, summarising its analysis and findings.

Chapter One: Climate, History and Ecology

Area and Subject of the Study

This chapter provides an overview of the region of Bahawalpur State and its water resources in historical perspective. Bahawalpur provides an excellent example of how environmental and human history and a region's identity are deeply intertwined. In considering the region in the period in question we are able to see that its unique history, geography, geology and hydrology had given rise to a distinctive Bahawalpuri identity, clearly differentiated from that existing in other areas of the Punjab. An identity that was furthermore, intrinsically linked to the question of water. This section of the study reveals how – for the better understanding of Bahawalpuri history, both natural and politico-socio-economic – it is essential to understand the region's obsession with externally supplied river water.

Bahawalpur was the principal Muslim state in united India under the political control of the government of the Punjab and its dependencies. It was founded in 1720s by the Daudputras¹, the natives of Shikarpur Sind on the north-western edge of the Great Indian Desert Thar, locally known as Cholistan. The region was named Bahawalpur, after its capital city, when it was established by Bahawal Khan I in 1748,² and was constituted of a long and narrow tract of land, oval in shape,³ situated between latitude 28° to 30° 50' N. and longitude 70° to 74° E.⁴ Geographically it was bounded to

¹ Word Daudputra is a combination of two words, Daud and putra; Daud is an Arabic name while putra is a Sanskrit word meaning son. So the word Daudputra means sons of Daud. Daud is claimed the progenitor of the Daudputra tribe. The chronicles of the tribe reveal that Daud Khan was a prominent man in the lineage from Hazrat Abbas, the uncle of holy Prophet Muhammad PBUH, who settled in Shikarpur Sind and his descendants were called Abbasi Daudputras. Ruling family of the state of Bahawalpur belonged to this tribe. For more details see, Shahamet Ali, *History of Bahawalpur* (London, 1848), p. 182.

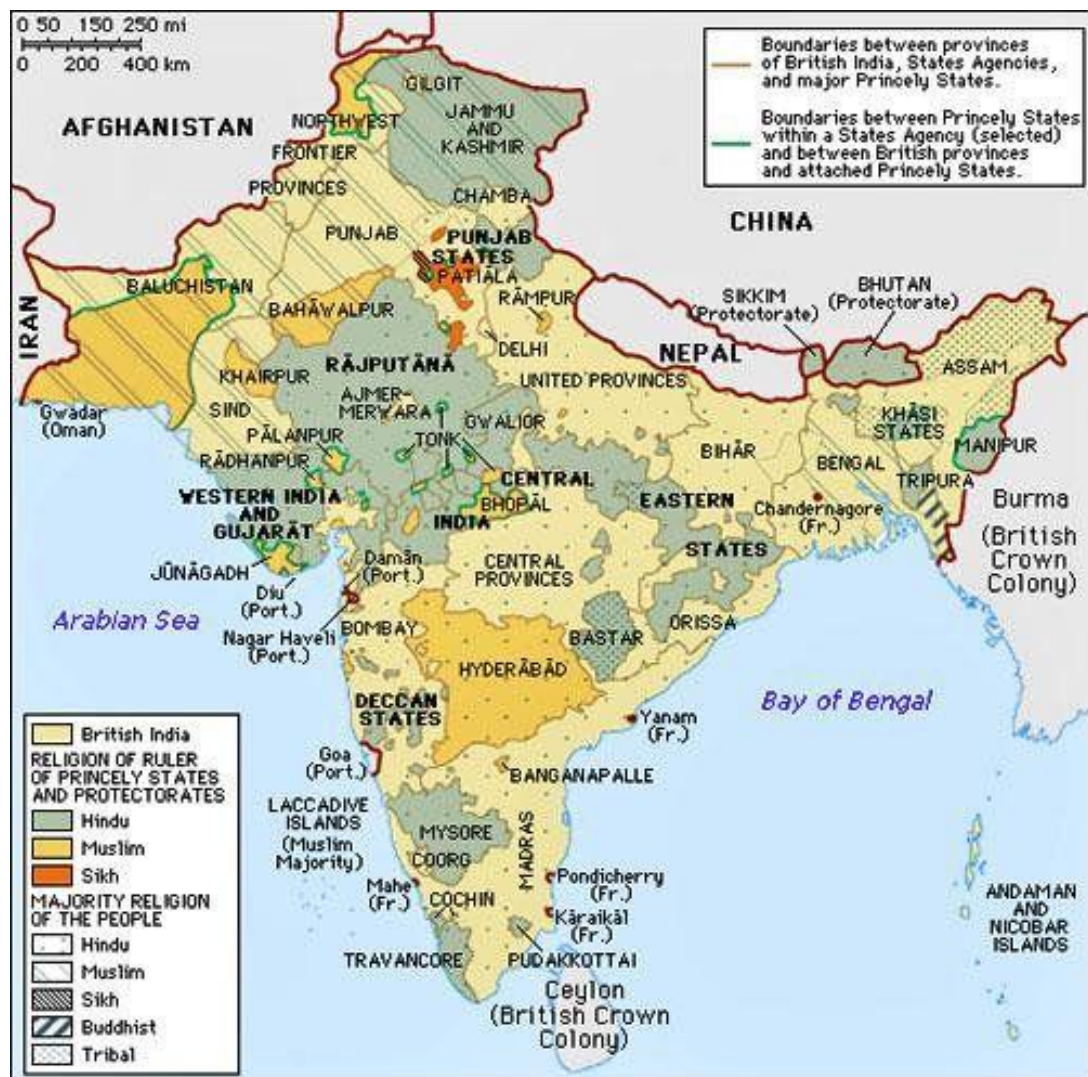
² David Ross, *The Land of the Five Rivers and Sindh*, (Chapman & Hall, London, 1883), pp. 80-81.

³ Edward Thornton, *A Gazetteer Of The Countries Adjacent To India On The North-West; Including Sinde, Afghanistan, Beloochistan, The Punjab, And The Neighbouring States*, vol.1, (W.H. Allen & Co. London, 1844), p. 101.

⁴ A. H. E. Boileau, *Personal Narrative of a Tour Through the Western States of Rajwara in 1835; comprising Beekaner, Jesulmer and Jodhpoor, with the passage of the Great Desert and a brief visit to*

the east, south-east and part of the south by the deserts of Bhutneer, Bikaner and Jaisalmer, to the south-west by the desert of Sind and to the north by territories of the Punjab. Its three hundred mile northern and north-western frontier was formed by the three great rivers of the Sutlej, Panjnad or Chenab and the Indus.

Fig. 1:1, Map of Bahawalpur State in Colonial India

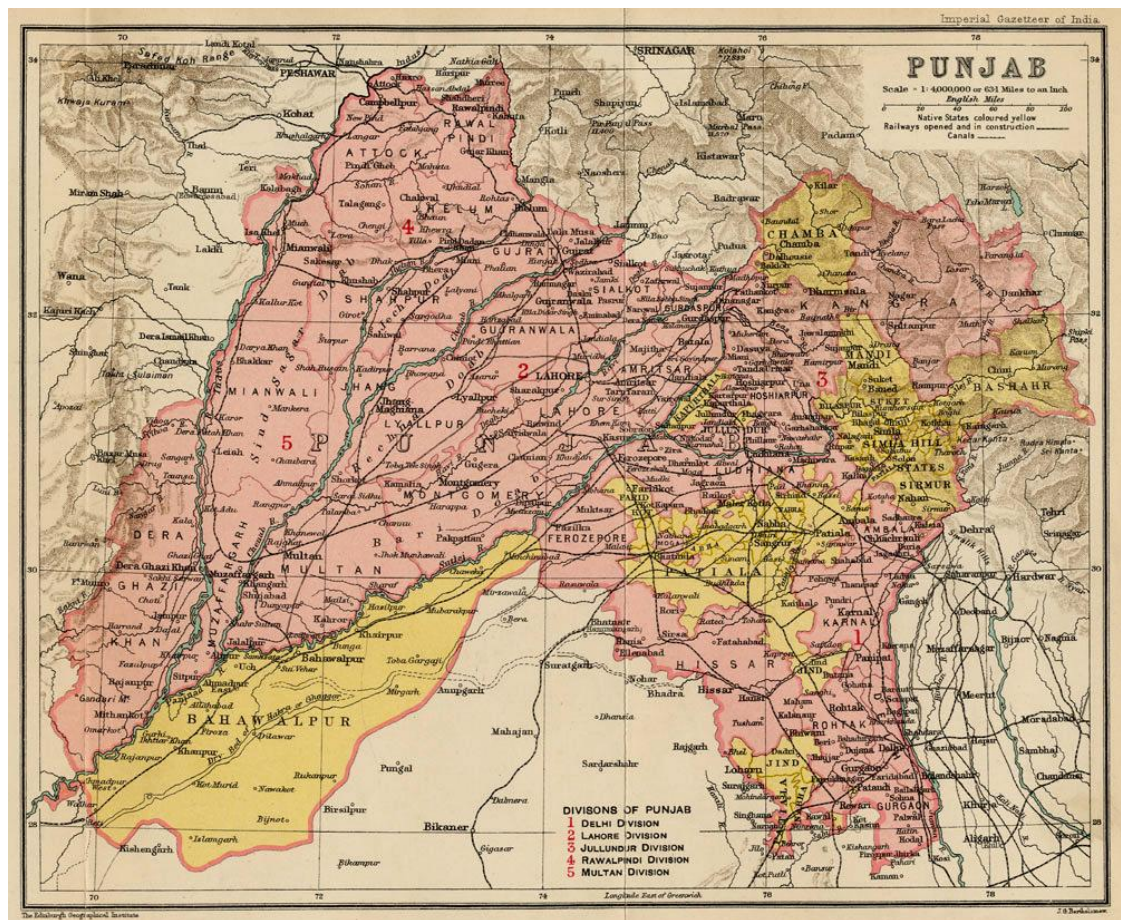


Source: Map Adapted from,

<https://www.google.co.uk/search?q=map+of+bahawalpur+state+in+colonial+india>,
(accessed on 1-10-2016).

the Indus and to Buhawalpoor; Accompanied by various Tables and Memoranda, Statistical, Philological and Geographical, (N. Grant, Calcutta, 1837), p. 165.

Fig. 1:2, Map of Bahawalpur State in British Punjab, 1907



Source: Map Adapted from, The Digital South Asia Library, <http://dsal.uchicago.edu/maps/gazetteer>, (accessed on 02-10-2016).

The physical geography of the desert region of Cholistan had a direct bearing on its human geography and only in those areas where water was available did permanent human occupation persist. Although the state was physically large – some 17,285 square miles in extent – it was mostly covered by lofty sand dunes which in places rose up to a height of five hundred feet, only 6,700 square miles – just over a third of the total landmass – was considered cultivable. Most of the village and town settlements were located in this cultivable area where – in contrast to the greater part

of the region – water was available in excess.⁵ The climate of the state was extra-tropical and characterised by excessive drought. Rainfall in the region, which rarely exceeded five inches per annum, was both scanty and irregular. The majority of what rain the region received fell during the south-west monsoon season – in the months of July and August – with the remaining portion falling in the winter months. The air was typically dry and hot and the wind scorching. The mean temperature in the shade from the end of April to the end of June remained steady at 103 degrees Fahrenheit, 39 degrees C.⁶

The scarcity of rainfall and the limited potential for cultivation had kept the regional population comparatively low. The total population of the state in 1901 was 720,877 persons.⁷ By the end of March 1945 this number had increased to fifteen *lakhs* – that is 1,500,000 people.⁸ In 1947, when partition took place and what was then thought of as the Indian landmass was divided into the states of India and Pakistan, Bahawalpur became part of Pakistan. After joining Pakistan the region briefly retained its status as an independent state, before – in October 1955, when the provinces of West Pakistan were made a single province under one unit scheme – Bahawalpur was subsumed within a larger administrative unit and divided into three districts, namely Bahawalpur, Bahawalnagar and Rahim Yar Khan.⁹

Historical Making of the Landscape

The north-western part of Great Indian Desert Thar, stretching from the left, or eastern banks of the three great rivers of the Sutlej, the Panjnad and the Indus, to the borders of the Rajputana states of Bikaner and Jaisalmer in south-east and the south, has been famous throughout Indian history, not least as home to several tribes and nations. Between 4,000 BC and 1,000 BC when the region was occupied by what is now known as the Hakra Valley Civilisation that flourished particularly on the flood plains of

⁵ Malik Muhammad Din, *Gazetteer of the Bahawalpur State 1904*, (Sang-e-Meel Publications, Lahore, 2001), pp. 90-92.

⁶ J. W. Barns, 'Notes on the Physical Geography of Bahawalpur State', *Journal of the Royal Geographical Society of London*, 42: (1872), p. 403.

⁷ Din, *Gazetteer*, p. 91.

⁸ Government of Bahawalpur, *Report on the Administration of Bahawalpur State* [hereafter R.A.B.S.] *for the Year 1944-45*, (The Civil and Military Gazette, Lahore, 1946), p. 1.

⁹ Masood Hassan Shahab, *Bahawalpur ki Siyasi Tarikh*, (Urdu), (Maktabah Ilham, Bahawalpur, 1979), pp. 344-345.

the river Hakra,¹⁰ the area was both prosperous and populous. However, when the waters of the Hakra dried as a result of natural changes in the course of its tributaries,¹¹ the entire area became deserted as its inhabitants moved to new river banks or other areas of India where water was available. The abandoned dry bed of this river – known as Hakra Depression – can still be seen in the heart of what is now waterless desert. Many remarkable ruins and relics of the ancient and once celebrated towns of the Hakra Valley Civilisation are still visible in the Cholistan Desert, evidence of its brilliant past.¹²

Since its dramatic desertification the region has been inhabited by numerous peoples and nations, exact details and chronologies are however, yet to be established and a variety of scholarly opinion pertains. Nurul Zaman Auj, a modern local historian writes that after the collapse of Hakra Valley Civilisation the area was re-inhabited at first by Aryan tribes as they moved south and east from Central Asia into India, but these tribes, not finding the desolate region to their taste, quickly moved on, eventually settling in the valley of the Ganges.¹³ Later, a second wave of Central Asian nomadic tribes – among them the Huns, Gurajaras and Pariharas – moved into and permanently settled the region between the sixth and eighth centuries, finding its desolation well suited to their wandering habits and nomadic instincts. The Rajputs and the Jats who later became the masters of the Indian Desert were the descendants of these Central Asian nomadic tribes.¹⁴

Alexander Cunningham, in his famous work *The Ancient Geography of India*, writes counter to Auj, that the banks of the river Sutlej, from the town of Ajudhan

¹⁰ River Hakra is known by different names, it is also recalled as the sacred river of Saraswati. In its upper course it was called Ghagar but when it entered the areas of Cholistan it was known there as Hakra.

¹¹ Geographers and archaeologists have different opinion about the tributary rivers of river Hakra. Aurel Stein and Mohammad Rafique Mughal suggest that river Jamna (Yamuna) and river Sutlej were the major contributors of the river Hakra and the changes in their course caused the desertification of this river. However British Archaeologist C. F. Oldham is of the opinion that it dried due to the change of the course of the river Sutlej which was the major contributor of this river. Aurel Stein, 'A Survey of Ancient Sites along the Lost Sarasvati River', *The Geographical Journal*, 99:4 (1942), pp. 180-181; Mohammad Rafique Mughal, *Ancient Cholistan: Archaeology and Architecture*, (Ferozsons, Rawalpindi, 1997), p. 21; Oldham, C. F., 'The Saraswati and the Lost River of the Indian Desert', *Journal of the Royal Asiatic Society of Great Britain and Ireland*, (Jan., 1893), p. 56.

¹² Nurul Zaman Ahmad Auj, *Ancient Bahawalpur*, (Caravan Book Centre, Multan, 1987), pp. 7-12.

¹³ Ibid., pp. 13-15.

¹⁴ G. N. Sharma, *Social Life in Medieval Rajasthan, 1500-1800 AD: with Special Reference to the Impact of Mughal Influence*, (Educational Publishers, Agra, 1968), pp. 19-21.

(Pakpattan) to Uch were occupied by the Johiya Rajputs long before the arrival of Alexander of Macedonia in that region. During his Indian campaign of 327-25 BC, while he rested at the confluence of the Punjab Rivers, Alexander built a town he named Alexandria which later became known as Uch,¹⁵ which, from its inception, to the formation of Bahawalpur State, remained an important commercial centre, and during the early years of Muslim rule in India in the 1220s, served as the capital of Sind and Multan provinces under Nasiruddin Qabacha. Later on in second half of the 16th century during the rule of the Mughal King Akbar the town was permanently annexed to the Mughal province of Multan and when the Daudputras came to this region in 1720s it was still under the control of the *subedar* of Multan.¹⁶

Colonel James Tod in his now famous *Annals of Rajasthan* wrote that while the banks of the river Sutlej, the Panjnad and the Indus were under the control of Johiyas, the interior of Cholistan remained under the control of the Jats who had arrived there in seventh century from Salivahnpur (modern Sialkot) in the northern Punjab, after their leader Yadu Bhatti was defeated and expelled by invaders from Ghazni. Yadu Bhatti settled in the areas of Dahia and Johiya Rajputs across the river Sutlej, as the Jats' or Bhatti's power gradually increased they were able to expand their territory, eventually capturing areas previously under the control of the Johiya, Langha, Barahas and Mohila Rajputs.¹⁷ The settlement of areas in a pure desert environment provided a significant challenge but wells were sunk and forts erected at strategic points. Fort Derawar, for example, which was built in 853 AD, became the centre of Jats or Bhatti power in the region and the point from which they were able to extend their dominion into other areas of the desert.¹⁸ Sir Aurel Stein – who surveyed the Cholistan Desert in 1939 – wrote that Derawar was an important stronghold for those who controlled the desert from medieval to modern times. It was situated on the old caravan route from Sind and Multan to Delhi and served as a check post for centuries.¹⁹ With the passage

¹⁵ Alexander Cunningham, *The Ancient Geography of India*, new enl. Ed., first published 1871, (Indological Book House, Varanasi, 1979), pp. 206-207.

¹⁶ Mughal, *Cholistan*, pp. 113-114.

¹⁷ James Tod, *Annals and Antiquities of Rajasthan: or the Central and Western Rajput States of India*, ed. with an introduction and notes by William Crooke, vol. I, (Humphrey Milford, London, 1920), pp.102, 123-131, 288.

¹⁸ *Ibid.*, vol. II, pp. 1195-1197, 1204, 1234-1235.

¹⁹ Stein, 'Lost Sarasvati River', p. 181.

of time supplementary forts were built in a chain along the dry bed of the river Hakra.²⁰ Later, in twelfth century the state of Jaisalmer was founded on the south of Cholistan and their power was extended up to the river banks in the north and the borders of Sind in the west, which remained under their control up to the early years of eighteenth century.²¹

The historical evidence presented above suggests that since the collapse of Hakra Valley Civilisation, practically cultivable land in the region has been confined to a low-lying narrow strip bounded by the rivers Sutlej, Panjnad and Indus, and the desert, and that the availability of water has remained the guiding factor for the formation and abandoning of any settlement in the desert areas. The pre-Bahawalpur State society of this region was also based on this principle and was divided into two distinct groups of people, the sedentary community and the nomads, who flourished side by side, enjoying a mutually beneficial relationship based on significant levels of cooperation.²² The sedentary people consisted mainly of Johiya, Rajputs, Shaikhzada, Bukhari Syed, Katwal, Kureshi and Dhar, and had their permanent dwellings at Mau, Pattan, Khai Bodla, Sarwahi, Shaikh Wahan, Uch, Jajja, Bhutta Wahan etc., where they practiced small-scale agriculture, harnessing and working in harmony with natural patterns of river inundation.²³ The desert dwellers belonged to Bhatti, Varyah, Jat, Buhar, Rathor, Parhar, Naik, and Menghwal (Hindu) tribes and for the most part pursued a pastoral existence focussed on animal husbandry and breeding.²⁴

After the creation of Bahawalpur State, new settlements were founded by the Daudputra chiefs of various tribal sub-clans. These settlements were inhabited for the most part by their own people along with some from immigrant tribes, mainly the Beluch and Afghans who had come from the areas of Derajat, Multan and Sind and permanently settled in the region. The Beluchs were further divided into sub-clans

²⁰ Nurul Zaman Ahmad Auj, *Cholistan: Land and People*, (Caravan Book Centre, Multan, 1991), p. 94.

²¹ Nazeer Ali Shah, *Sadiqnamah: The History of Bahawalpur State*, (Maktaba Jadeed, Lahore, 1959), pp. 21-22.

²² Din, *Gazetteer*, p. 299.

²³ Abul Fazl Allami, *The Ain-i-Akbari*, (trans.) H. S. Jarrett, vol. II, (Asiatic Society of Bengal, Calcutta, 1891), p. 331.

²⁴ Din, *Gazetteer*, p. 293.

such as the Gopang, Chandia, Khosa, Rind, Dashti, Jatoi and Lashari while the Afghans included the Sadozai, Khakwani, Mallezai, Babars and Ghauri.²⁵

During the pre-state era a live-stock based economy – which was highly suited to ecological conditions in the region – was dominant and flourished. However, in the riverine tract some crop-based agriculture was practised with the help of annual river over-flow and the scanty rainfall received in the months of July and August, and December and January. However, under such unfavourable conditions, crop-based agriculture could not develop on a permanent basis and, in the desert, where cultivation relied entirely on the monsoon rains of July and August, very little attention was given to the cultivation of any kind of crop. The risky and difficult task of irrigation necessary for the rearing of plant crops had inclined people in the region towards animal husbandry and they reared cattle, buffaloes, sheep, goats and camels in large numbers. However, opportunities for crop-based agriculture were not squandered, and, in riverine areas, whenever a land capable of cultivation was thrown up by a river, people settled on it temporarily and engaged in cultivation, and on the arrival of floods moved to the desert.²⁶ The fear of floods always remained a major hurdle in setting up permanent settlements at the river banks and people preferred to live in *gopas* (huts) or mud houses which were easily abandoned during the days of floods.²⁷ In the desert there were two types of settlements, one attached with some permanent feature, i.e. a fort, well or shrine and the other a temporary settlement built by nomads at *tobas* (ponds) which were used to store rain water.²⁸

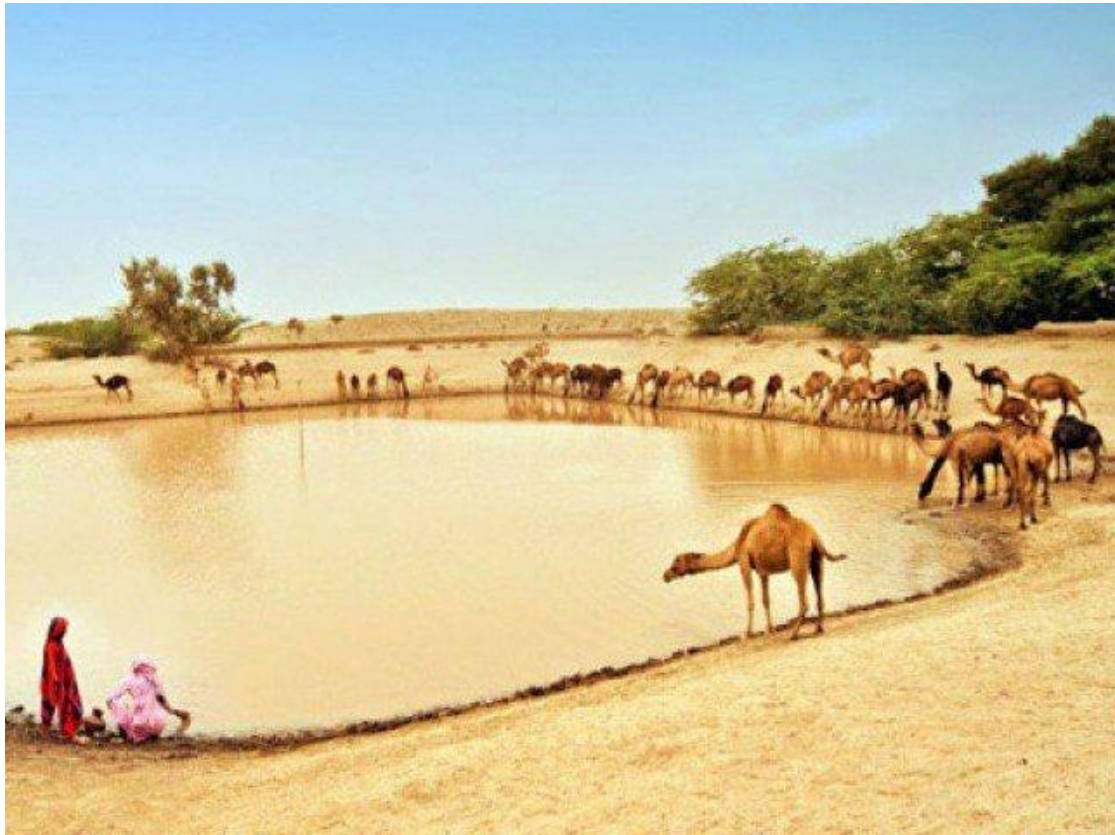
²⁵ Ibid., pp. 118-132.

²⁶ Ibid., p. 299.

²⁷ Auj, *Cholistan*, 62.

²⁸ Kamil Khan Mumtaz, 'Habitat and Desert: The Case of Cholistan', in Brian Brace Taylor, (ed.), In *the Changing Rural Habitat*, vol. I: *Case Studies*, (Concept Media/ Agha Khan Award for Architecture, Singapore, 1982), p. 17.

Fig. 1:3, Toba (Water Pond) at Cholistan Desert



Source: The Express Tribune, 'Meeting to discuss Replacement of Ponds', <https://tribune.com.pk/story/838591/meeting-to-discuss-replacement-of-ponds/>, (accessed on 13-2-2016).

The *tobas* (ponds), which were often perhaps the only sign of life in the desert, were mostly made in natural depressions, and generally had the appearance of a large pond, surrounded by an approximately two metre high mud bank, often overgrown with shrubs and few trees. As the life in desert was highly dependent on mutual help and cooperation of the various tribes, the *tobas* would be maintained by multiple groups, and a family whose *toba* went dry might be expected to camp at another *toba*, and, with the permission of the owner, to use its water. The use of water would generally

be free except for the sharing of digging and protective maintenance work.²⁹ In Cholistan then, the nomadic, pastoral system was characterised by mass movement of animals and humans on an extended, and non-cyclical, multi-annual scale. They moved from one *toba* to the next in search of water and forage and when these became dry they moved to semi-permanent settlements around the wells. Although the rainfall in the desert was very low, the presence of variety of nutritious and drought tolerant species of wild grasses, shrubs and trees made the life of the pastoral nomads easy throughout the year.³⁰

Of the socio-economics of human life in the region Col. Tod wrote that, “the Jats and Joyas of these regions who extended over all the northern desert even to the Sutlej led a pastoral life, their wealth consisting in their cattle which they reared in great numbers, disposing of the superfluity, and of the *ghee* and wool through the medium of Sarsot Brahmans, receiving in return grain and other necessities of life.”³¹ Although this arid region was self-sufficient in fulfilling the needs of its residents, its importance was most often judged in terms of its potential for irrigated agriculture and not in terms of its economic value to the pastoral tribes who occupied it. Shereen Ratnagar in her article on ‘Pastoralism as an Issue in Historical Research’ states in relation to this representational bias that “it has always been easier to tax peasants than mobile peasants” and that this is why “[pastoralists] find little mention in royal inscriptions or land grants.”³²

As an area producing very little in terms of revenue for the government in Delhi, Bahawalpur was often treated with a level of disregard. During Mughal rule the region was attached at first to the *subah* of Multan and later transferred to the *sarkar* (division) of Sirhind, part of Delhi province, a move – which according to Barnett – indicating its insignificance as a source of income for central government.³³ In the *Ain-i-Akbari* – a socio-economic history of the rule of the Mughal King Akbar compiled in

²⁹ Ibid., pp. 17-21.

³⁰ Ghulam Akbar, Taj Naseeb Khan and Mohammad Arshad, ‘Cholistan Desert, Pakistan’, *Rangelands*, 18:4 (1996), pp, 124-125.

³¹ Tod, *Annals of Rajasthan*, vol. II, p. 1127.

³² Shereen Ratnagar, ‘Pastoralism as an Issue in Historical Research’, *Studies in History*, 7:181 (1991), pp. 182-186.

³³ Richard B. Barnett, ‘Greening of Bahawalpur: Ecological Pragmatism and State Formation in Pre-British Western India, 1730-1870’, *Indo-British Review; A Journal of History*, xv:2 (1988), p.6.

1595-96 – the desert region extending from the riverine frontier to the borders of Bikaner and Jaisalmer in the south, labelled *Birun-i-Panjnad* (beyond the five rivers), was declared a barren region and a useless and unpopulated desert. The area was divided into seventeen *parganahs*³⁴ (districts) and was attached to the province of Multan.³⁵

The history of the desert of Cholistan, especially from the beginning of eighth century AD to the establishment of the Daudputra rule in early eighteenth century is marked by almost continual violent confrontation. The settlement of Bhatti areas among the Barahas and Langhas of Multan had created a conflict which continued across subsequent centuries. Although after the conquest of Multan by the Mughal king Babur in the 1520s – when these areas became part of the province of Multan – the powers of Barahas and Langhas were almost broken,³⁶ the onslaught of the Bhattis in the bordering areas of the province continued. In fact, the installation of the Daudputras by the governor of Multan and Lahore [discussed in ch. 2] was motivated in part by the desire to keep the Bhattis away from the frontiers of the province. At the arrival of the Daudputras in the Cholistan Desert from Shikarpur in Sind, the region was politically divided into the following petty states:

- (a) Major portion of the Sadiqabad *Kardari* (administrative division) and some areas of Khanpur *Kardari* were under the control of Nur Muhammad Kalhora of Sind.
- (b) The forts of Winjhrot or Bijnot, Bhamwar, Derawar, Marot and the southern parts of the *Kardaris* of Sadiqabad and Khanpur were under the rule of Jaisalmer State.
- (c) Uch, a large part of the Bahawalpur *Kardari* and a part of *Ubha* (eastern areas) were part of the province of Multan.
- (d) The area of Shahr Farid was under the control of Farid Khan Lakhwera II.
- (e) The Wattus of Minchinabad were under the control of the government of Delhi.

³⁴ The seventeen *parganahs* mentioned in *Ain-i-Akbari* are Ubaurah, Uch, Bhurtiwahn Daman (Bhutta Wahan), Jamsher, Dudai, Diwar-i-awwal (Dirawal or Dirawar), Dud Khan, Rajpur, Rupari, Sitpur, Seorahi, Fatehpur, Kaharor, Majlol, Ghazipur, Mau (Moj), Marot, Mahand. For details see, Fazl, *Ain*, p. 330; Alexander Cunningham could identify only five out of these seventeen settlements. Cunningham provided the list of Dewar-i-awwal (Derawar), Marot, Mau (Maujgarh) Seorai and Uch. For detail see, Cunningham, *Geography of India*, p. 185.

³⁵ Fazl, *Ain*, p. 331.

³⁶ Tod, *Annals of Rajasthan*, vol. II, pp. 1185-1197.

(f) And the forts of Wallhar, Phulra, Anupgarh along with their surrounding areas were under the control of the state of Bikaner.

After their arrival, the Daudputras captured these areas one by one and welded them together to form Bahawalpur State.³⁷ The political developments that took place after the arrival of the Daudputras in this desert region are discussed in next chapter of this study.

Conclusion

This chapter has looked at the historical formation and development of the landscape in which the state of Bahawalpur would later become established. It has shown that Cholistan was not always a desolate wasteland and that up until the second millennium BC – when the river Hakra was reduced to a dry river bed by hydro-geographic changes which turned the whole area into a desolate waste region forcing people to shift to more northerly river banks – it had been a relatively fertile area.

Following the desertification of the region it became occupied by immigrant pastoral communities from Central Asia who permanently settled there. The Jats and Rajputs – the descendants of those pastoral communities – became the lords of Cholistan Desert and ruled over this region up until the beginning of eighteenth century when they were overpowered by Daudputras. With the arrival of these pastoral communities, socio-economic and socio-political patterns within the region were transformed from sedentary to nomadic society where different clans had their own tribal heads and were responsible only to them. The grazing grounds were used as common property and different groups did not have any fixed rights to any specific areas of land. This system worked effectively up to the first quarter of the eighteenth century, but subsequently, when the whole region came under the Daudputra rule, new canal systems were developed and changes made in the land-use pattern of the region which will be discussed in the next chapter of this study.

³⁷ Shah, *Sadiqnamah*, pp. 21-22.

Chapter Two: Some Aspects of the Political, Social and Irrigation History of the Bahawalpur State

Introduction

The eighteenth century was an era of great turmoil in the political history of India. The period witnessed dramatic political change caused by the declining power of the Mughal kings. During the period several new principalities or states emerged and Bahawalpur was one of these.¹ Sadiq Muhammad Khan – the Daudputra chief who was expelled from his native region of Shikarpur in Sind by the rival Kalhora tribe – crossed river Indus and settled in the desert region of Cholistan after receiving the *Taluka*² of Chodree in *Jagir*³ from the Mughal *subedar* (governor) of Multan. It was here that the foundations of the town of Allahabad were laid in 1727. In return for this award, the Daudputra chief agreed to protect the frontier area of the *subah* of Multan – on both sides of the river Sutlej – from the harassment of the Rajputs of Bikaner and Jaisalmer States, and to suppress the revolt of Farid Khan Lakhwera, a local chief who had refused to pay annual tribute.⁴

As promised, after settling themselves, the Daudputras set about and defeated the forces of Farid Khan Lakhwera and in 1731 took control over all his possessions.⁵ Later,

¹ Barbara N. Ramusack, *The New Cambridge History of India: The Indian Princes and Their States*, vol. 3.6, (Cambridge University Press, Cambridge, 2004), pp. 2, 40.

² *Taluka* is an administrative unit equal to Tehsil or sub division. Term was initially used in Sind province. For details see Muhammad Tahir, *Riyast Bahawalpur ka Nazm-e-Mumlikat, 1866-1947*, (Bazm-e-Saqafat, Multan, 2010), p. 131.

³ *Jagir* was a land awarded by a ruler to any person in lieu of his services. It was started by Mughal king Akbar in India in the second half of the 16th century. This grant might be a portion of a village, whole village or as much as one or more sub-districts. For detail see John F. Richards, *The Mughal Empire*, (Cambridge University Press, Cambridge, 1995), p. 66.

⁴ Masood Hassan Shahab, *Bahawalpur ki Siyasi Tarikh*, (Urdu) (Maktabah Ilham, Bahawalpur, 1979), pp. 17-18.

⁵ Muhammad Aziz-ur-Rehman Aziz, *Subho Sadiq*, (Urdu), 3rd edn., (Urdu Academy, Bahawalpur, 1988), pp. 75-76.

with the help of the armies of the governors⁶ of Multan and Lahore, and after defeating the forces of Rawal Akhi Singh, the ruler of Jaisalmer, they captured the desert fort of Derawar. According to Mohan Lal, the occasion of the capture of Derawar was considered so significant that the commanders of the Multan and Lahore forces stated that “by placing the Daudputras in Dilawer (Derawar) they had fixed an iron pin on their boundary to check the progress of their antagonists.”⁷ Because of its geographical location and its position away from the riverbanks and plentiful water supplies for offensive armies, the fort was easy to defend, as a result Sadiq Muhammad Khan made fort Derawar his headquarters.⁸

With these victories over Farid Khan Lakhvera and Rawal Akhi Singh the Daudputras established their power in the Cholistan Desert, which they worked steadily to extend. By the 1740s the Daudputras had become the sole owners of the whole desert region, a position they were able to maintain for more than two hundred years. During this period, although they faced significant challenges, both from the powers in neighbouring regions of Bikaner, Jaisalmer, Sind and the Punjab, as well as from the Persian monarch, the Durrani Kings of Kabul and the British rulers of India, they managed to save their principality from the external politics of the region through the turbulent period of eighteenth and nineteenth century and survived up to the partition of India in 1947.

This chapter will briefly look at the political and social developments that took place in the state from its inception in 1727 to its merger with Pakistan in 1947. This chapter will also discuss the irrigation history of the state during the pre-SVP period, especially of its canal system upon which the foundation of the state was raised. It will describe, how the Daudputras developed their irrigation system, and how it was used as a tool in the consolidation of their rule.

⁶ In 1730s AD, the Mughal governors of the provinces of Punjab and Multan were from the same house. Zikrya Khan was the Mughal viceroy and the governor of Punjab and his father Abd-ul-Samad Khan Taimuri was the governor of Multan. For details see, Humaira Dasti, “Multan during the Mughals, (1525-1751 A.C)”, (Bahauddin Zakariya University, Multan, unpublished PhD Thesis), pp. 181-83.

⁷ Munshi Mohan Lal, ‘A Brief Account of the Origin of the Daudputras, and of the Power and Birth of Bahawal Khan their Chief on the bank of the Ghara and Indus’, *Journal of the Asiatic Society of Bengal*, vii: (1838), Calcutta, p. 31.

⁸ Shahab, *Siyasi Tarikh*, pp. 18-19.

After taking control of the desert, the Daudputras set about imposing a political system which was – according to Shahamet Ali – both absolute and autocratic. All power rested with the ruling Khan, who was answerable to no superior and exercised full control over all his subjects, as well as all the resources of the state, and, although he maintained a team of *wuzra* (ministers), their role was never more than advisory. Succession to power in the Bahawalpur State was hereditary,⁹ and – with the exception of an extraordinary situation in which a ruling Khan did not have a male heir and his brother or any other relative was appointed as his successor – followed a tradition of primogeniture.¹⁰

According to Barbara Ramusack, the political characteristics of the Bahawalpur State were typical of the princely states of India. The Khans held full command and authority over all political, social and economic aspects of the lives of their citizens. They had the power to grant titles, award lands, pensions or any other privilege to anyone within the frontiers of their states. It was, furthermore, the necessity of providing continuity and security, primarily with regard to the granting of such privileges that was at the root of the Khan's desire for an heir who could protect their legacy. The order of succession in almost all the native states was that of primogeniture and in general, the reigning rulers appointed their eldest sons as their successor during their life time.¹¹

Like all other native rulers of India, the Daudputras held their own specific titles, such as *Amir*, *Nawab* and *Khan* which they themselves adopted or were given to them by the Mughal rulers of India and the Persian monarch. Sadiq Muhammad Khan I, the founder of the state of Bahawalpur, first adopted the title of *Amir*, in 1739, at a time when the title of *Khan* was typical; he was awarded with the title of *Nawab* by Nadir Shah, the Persian monarch.¹² The choice of title was largely situational and somewhat interchangeable, in this thesis all three appear as appropriate.

⁹ Shahamet Ali, *The History of Bahawalpur, with Notices of the Adjacent Countries of Sindh, Afghanistan, Multan and the West of India*, (James Madden, London, 1848), pp. xi-xii.

¹⁰ Tahir, *Riyasat Bahawalpur*, p. 146.

¹¹ Ramusack, *Indian Princes*, pp. 7, 40, 132-137.

¹² *Ibid.*, pp. 141-142.

The rulers of the Bahawalpur State belonged to a Pirjani¹³ sect of the Daudputra tribe but they were predominantly known as Abbasi because they claimed their origin from Hazrat Abbas, uncle of the holy prophet of Islam, and the progenitor of the Abbasid Dynasty of Baghdad.¹⁴ However, their claim of descent from Hazrat Abbas was challenged by contemporary historians and writers, both native¹⁵ and visiting¹⁶ of the nineteenth century and requires careful study.

In the first instance the Daudputras chose to settle in low-lying areas neighbouring rivers and it was in such situations that they built their villages and towns. Early in their rule they sank wells for water, but by the middle of 1740s they had started taking water by canal from the banks of the rivers Sutlej, Panjnad and Indus and expanding their settlements away from the river banks.¹⁷ The settlement of areas in a desert region was challenging and significant difficulties were presented by both the people and the environment. Nature was hostile to settlement and both the land and the climate were found unfavourable. As mentioned above, the region was located in the driest part of India and the climate was extremely arid, the rainfall was scanty, irregular and highly seasonal and the scorching heat of the summer made the growth

¹³ Daudputras were the sons of Daud but when the number of people increased they were further divided into sub branches after the names of the elders of the tribe to which they belong. Gazetteer of Bahawalpur State records three main branches of Daudputra Tribe i.e., Pirjani, Arbani, Isbani and several sub branches like, Kehrani, Archani, Halani, Marufani, Jamani, Bakhshani, Mundhani, Tayibani, Talbani, Hamzani, etc. for details see, Malik Muhammad Din, *Gazetteer of the Bahawalpur State*, (Sang-e-Meel Publications, Lahore, 2001), pp. 118-123.

¹⁴ Aziz, *Subho*, p. 8.

¹⁵ Lal, 'Origin of the Daudputras', pp. 27-29; Ali, *Bahawalpur*, pp. 182-183.

¹⁶ The following British officials of the government of India who wrote on the History of Daudputra Tribe or on the state of Bahawalpur did not accept their claim as the descendents of Hazrat Abbas and termed them a native tribe of Sind and weavers by profession: i) Mountstuart Elphinstone, *An Account of the kingdom of Cabaul and its Dependencies in Persia, Tartary and India: Comprising a view of the Afghaun Nation and the History of the Dooraunee Monarchy*, (Longman, London, 1815), p. 503; James Tod, *Annals and Antiquities of Rajasthan*, (first published 1829-32), edited with an Introduction and Notes by William Crooke, vol. iii, (Humphrey Milford: Oxford University Press, London, 1920), pp. 1301-1302; Joseph Davey Cunningham, *A History of the Sikhs*, (first published in 1849) (ed.), H. L. O. Garrett, Revised edn. (Oxford University Press, London, 1918), p. 102; A. W. Hughes, *A Gazetteer of the Province of Sind*, 2nd edn., (George Bell & Sons, London, 1876), p. 30; Denzil Ibbetson, 'The Races Castes and Tribes of the People', in *The Report on the Census of the Punjab*, 1883, ed., H. A. Rose, *A Glossary of the Tribes and Castes of the Punjab and North-West Frontier Province*, (Superintendent Government Printing Punjab, Lahore, 1916), p. 177; David Ross, *The Land of the Five Rivers and Sindh*, (Chapman & Hall, London, 1883), p. 55.

¹⁷ Richard B. Barnett, 'The Greening of Bahawalpur: Ecological, Pragmatism and State Formation in Pre-British Western India, 1730-1870', *Indo-British Review*, 15:2 (1988), pp. 5-8.

of vegetation almost impossible.¹⁸ The river banks were under heavy jungle,¹⁹ and the land away from these areas were mostly covered with sand dunes leaving only small patches of plain land lying among the sand hills available for occupation. These, furthermore could be developed only with the help of artificial means of irrigation and, although near the river banks the groundwater was sweet and could be found at the depth of only twenty to thirty feet, away from the river banks it was necessary to dig to a depth of more than eighty feet, and even at this point the supply was often undrinkable and could not be used for cultivation.²⁰

There were, however, not only environmental but also political hurdles to be overcome by the ascendant Daudputras, indeed all the three neighbouring powers, Bikaner, Jaisalmer and the Kalhora rulers of Sind, held significant grievances against them. The rulers of Bikaner and Jaisalmer were indignant at encroachment into what they considered their territories, while Mian Noor Muhammad Kalhora, the ruler who had expelled the Daudputras from the area of Sind was reluctant to see them flourish in his locale. The Daudputras handled these problems step-by-step, first taking control of the highly symbolic desert fort of Derawar and after making it their headquarters and continuing to expand their territories gradually.²¹

The Daudputras were not long settled in the region when in 1739 the Mughal rulers were forced to relinquish their authority over the north-western areas of India which were permanently ceded to Persian Empire. Nadir Shah, the Persian Monarch had attacked India, and, after defeating Mughal King Muhammad Shah at the battle of Karnal, went on to capture Delhi. The victory of Nadir Shah over the Mughal king brought dramatic change to the political situation in the north-western region of India. All Mughal possessions²² west of the rivers Indus and Attock,²³ and the area of *subah*

¹⁸ J. W. Barns, 'Notes on the Physical Geography of the Bahawalpur State', *Journal of the Royal Geographical Society of London*, 42: (1872), pp. 395-403.

¹⁹ Din, *Gazetteer*, pp. 262-263.

²⁰ Henry Field, *An Anthropological Reconnaissance in West Pakistan, 1955, with Appendixes on the Archaeology and natural History of Baluchistan and Bahawalpur*, Papers of the Peabody Museum of Archaeology and Ethnology, Harvard University, vol. LII, (The Peabody Museum Cambridge, Massachusetts, 1959), pp. 144-145.

²¹ Ali, *Bahawalpur*, pp. 20-23.

²² These areas included all the Mughal possessions located west of the town of Attock on the river Indus including Peshawar with its territories, Hazarajat, principality of Kabul and Ghazna, some areas of the Punjab, and whole of the Sind, Thatta and Baluchistan. For details see, Jonas Hanway, *An Historical*

Multan were handed over to Persian monarch.²⁴ With the cession of the *subah* of Multan to the Persian Empire all Daudputra possessions – being a part of this political and administrative unit – also passed into the hands of the Persian monarch. However, as the Daudputras had become the vassals of the Persian Empire, so recognition of their authority from the Persian monarch had become necessary. At Dera Ghazi Khan, Sadiq Khan made use of an opportunity to meet Nadir Shah who had halted there for few days to deal with the affairs of his newly acquired areas. The Daudputra chief paid homage to Nadir Shah and surrendered all his possessions to him. Nadir Shah received the Daudputra chief favourably and restored to him his desert possessions and awarded him the title of *Nawab*. After accepting the suzerainty of Nadir Shah, Sadiq Khan installed a permanent representative at the court of Nadir Shah to deal with the affairs of his territory.²⁵

Following the recognition of his authority and rule by the Persian monarch, Sadiq Khan turned his entire attention to the settlement of new areas which he divided among his tribal chiefs, ordering them to settle in their respective lands along with their tribesmen.²⁶ In riverine tracts water was available in excess but due to catastrophic annual floods on the rivers Sutlej and Panjnad during the summer season these could not be permanently settled and only a very small number of settlements became established, most of which were to be found in north-eastern and north-western areas of the desert. The very limited and sparse population of this area was mainly comprised of Jats, Rajputs, and Syed tribes. Of these, the Jats and the Rajputs were associated with animal husbandry and small scale farming while the Syed tribes were attached to the holy shrines of the Muslim *sufis* (spiritual leaders) found at the historic town of Uch.²⁷

Account of the British Trade over the Caspian Sea: to which are added the revolutions of Persia during the present century, with the particular history of great usurper Nadir Kouli, (T. Osborne, London, 1762), p. 387.

²³ Ibid., pp. 367-386.

²⁴ Dasti, "Multan during the Mughals", pp. 185-186.

²⁵ Ali, *Bahawalpur*, pp. 24-25.

²⁶ Ibid., p. 25.

²⁷ Richard Barnett, 'Rippling Yarns and Rippling Dunes, State Building in Early Modern Cholistan', in Shafqat Saeed, ed., *New Perspective on Pakistan*, (Oxford University Press, Karachi, 2007), p. 69.

The Daudputra chiefs, after receiving land grants, moved to their new territories, along with their tribesmen. They dug inundation canals from the rivers Sutlej, Panjnad and the Indus in order to irrigate lands beyond the direct reach of the floods. They established villages along these canals and were able to develop a permanent agricultural base, in spite of the region's aridity. Though these chiefs were for the most part independent in their affairs, they had to pay a fixed annual tribute to ruler of the state.²⁸

Sadiq Muhammad Khan's rule was brief and in 1746 he was succeeded by his son Bahawal Khan I, who was extremely ambitious. During his four year rule he extended the areas of under his possessions and laid the foundations of the city of Bahawalpur,²⁹ – which would in time, give its name to all Daudputra possessions – and made it the capital of the state.³⁰ Following this shifting of the capital from Derawar to Bahawalpur he invited and encouraged all kinds of people to settle there and sought and received help from *ullemas* (religious scholars) and chiefs of his tribe in order to motivate people for this purpose.³¹ He conquered new areas and within few years had extended his possessions to include an area over one hundred *Koss*³² in length – beginning at Sabzalkot on the river Indus and extending to Mubarikpur on the river Sutlej near the town of Shahr Farid – and five to fifteen *Koss* in breadth – stretching between the river-line and the desert.³³ From the governor of Multan on a perpetual lease of four thousand rupees per year,³⁴ he also received the *Taluka* of Adam Wahan on the right bank of the river Sutlej, opposite to the town of Bahawalpur. Bahawal Khan took special interest in the development of these areas and built new canals to improve and expand the areas under cultivation on both side of the river Sutlej. Bahawalwah Canal was dug from the right bank of the river Sutlej to irrigate the areas of *Adam Wahan*

²⁸ Ali, *Bahawalpur*, p. 26.

²⁹ The town of Bahawalpur was built at three miles from the southern or left bank of the river Sutlej. It was located at the central point of the Daudputra possessions. For details see Dilshad Kalanchvi, *Zila Bahawalpur: Tarikh, Saqafat, Adab*, (Saraiki), (Pakistan Punjabi Adabi Board, Lahore, 1997), p. 27.

³⁰ Aziz, *Subho*, 83.

³¹ Kalanchvi, *Zila Bahawalpur*, p. 27.

³² *Koss* is a unit of length; in Bahawalpur it was equal to 1.5 British miles, for details see, Ali, *Bahawalpur*, p. ix.

³³ Ali, *Bahawalpur*, pp. 35, 186-187.

³⁴ Nazeer Ali Shah, *Sadiqnamah: The History of Bahawalpur State*, (Maktaba Jadeed, Lahore, 1959), p. 42.

that he had peopled with his own tribesmen, and the canals of Khanwah, Qutbwah and Wahi Qadir Dina from the left bank of the river to irrigate his desert possessions.³⁵

However, unfortunately, during his rule he failed to maintain the tribal unity that had been at the root of their success. Jealousies which developed between, and self interests of, some of his tribal heads began to overcome the unifying power of the common cause and these tribal heads began to desert Bahawal Khan. The main cause of such internal rifts was the award of areas and titles by Bahawal Khan to his favourite chiefs. He awarded the area of Hasilpur to Hasil Khan, the title of *raja* to Qaem Khan and the district of Khairpur to Maroof Khan for their long services and permanent support to his father Sadiq Muhammad Khan, the founding father of the state. The Daudputra chiefs, Vaderah Muhammad Khan, Ikhtiar Khan and Bahadur Khan who were deprived of the profits from those areas raised their voices and asked for equal distribution of land and other privileges. When their demands were not met they chose Morad Ali Khan as their leader and settled in the western areas of the state near the border of Sind. Here they established their own villages and towns, Ali Murad Khan built the town of Tarandeh Ali Murad, Shahbaz Khan laid the foundation of village Shahbazpur, Bahadur Khan Halanee built the town of Bahadurpur and Vaderah Muhammad Khan laid the foundation of village Muhammadpur. This group began to administer their affairs independently and renounced the authority of Bahawal Khan.³⁶

Later, during the rule of Nawab Mubarik Khan (1749-72) when they became more influential in the region, they expanded their possessions by capturing some areas of Sind. Ikhtiar Khan Mundhani captured Garhi Shadi Khan from Kalhoras of Sind and renamed it Garhi Ikhtiar Khan in his own honour. Sabzal Khan Kehrani founded the town of Sabzalkot and dug the Sabzalwah Canal. Muhammad Khan Kehrani built Muhammadwah Canal in the area of Muhammadpur Lamma, Manthaar Lohani founded the village of Mud Manthaar, Ibrahim Khan Kehrani built the fort of Dingarh and Ikhtiar Khan Mundhani captured the fort of Bhimwar from the Rajputs of Jaisalmer and renamed it Islamgarh.³⁷

³⁵ Ibid., pp. 42-43.

³⁶ Ali, *Bahawalpur*, pp. 34-36.

³⁷ Aziz, *Subho*, pp. 86-87.

Amir Mobarik Khan, following his brother, took keen interest in the improvement of agriculture in the state. He distributed the lands lying on the western side of the town of Bahawalpur among his relatives, and there founded the new town of Mobarikpur.³⁸ He received the areas of Mailsi, Karor and Pakpattan on the right side of the river Sutlej on a lease from the governor of Multan,³⁹ and built three new canals Mobarikwah, Sardarwah and Naneewah there. The opening of these canals opened up a vast area for reclamation, which was allotted to people both from Bahawalpur and immigrant peasant families from Multan.⁴⁰

Although the earlier rulers, Bahawal Khan and Mubarik Khan constructed vast networks of canals and developed village and town settlements in the region, the state remained politically divided and they were unable to unite the tribal chiefs under their authority. It was not until the reign of Bahawal Khan II⁴¹ (1772-1810) that real progress was made in this direction, and the claims of rival chiefs effectively suppressed.⁴² Through offers of friendship and cooperation to his rival chiefs, swift military action where required and the pursuit of matrimonial alliances he was able to fully consolidate his power base. These marriage alliances were not only politically astute but also bought new territories as dowry, his marriages to the daughters of Khair Muhammad Khan and Mohabbat Khan Pirjani brought the towns of Khairpur Nauranga and Ahmadpur East under his authority.⁴³

The Daudputra chiefs who had settled in western areas of the state were slow to accept his offers of alliance and so he struck against their power. He attacked and captured their areas of Ahmadpur Lammah, Muhammadpur, Garhi Ikhtiar Khan and Kot Sabzal including their forts, and brought a large area extending up to the eastern border of the province of Sind under his control.⁴⁴ After destroying the power of these

³⁸ Ali, *Bahawalpur*, p. 38.

³⁹ R. Maclagan, 'Fragments of the History of Mooltan, the Derajat and Buhawulpoor', trans. from Persian MSS, in *Journal of the Asiatic Society*, July 1848, pp. 568-569.

⁴⁰ Ali, *Bahawalpur*, p. 49.

⁴¹ Mubarik Khan had no child so he appointed his nephew Jaffar Khan, the son of his younger brother Fatteh Khan, his successor during his life time. Jaffar Khan took over the charge of the state with the title of Bahawal Khan II after the death of his uncle in 1772. For details see, Aziz, *Subho*, pp. 86-89.

⁴² Charles Francis Massy, *Chiefs and Families of Note in the Delhi Jalandhar, Peshawar and Derajat Divisions of the Punjab*, (The Pioneer Press, Allahabad, 1890), p. 17.

⁴³ Kalanchvi, *Zila Bahawalpur*, pp. 82-83.

⁴⁴ Tahir, *Riyasat Bahawalpur*, p. 110.

western chiefs, Bahawal Khan reduced their status to that of tenants and charged them fixed rents for the areas they occupied.⁴⁵

The suppression of his rival chiefs and the acquisition of their territories increased both Bahawal Khan's power and confidence immensely. He soon began to refuse to pay rents on lands on the right side of the rivers which had been taken from former lease-holding rulers which were now due to the governors of Multan and Dera Ghazi Khan to whom the land finally belonged. Bahawal Khan's strict policies and harsh treatment of his chiefs left them keen for revolt and they now joined forces against him and allied themselves with the governors of Multan and Dera Ghazi Khan who were less than pleased with his behaviour. Both governors sent their complaints to their sovereign Taimur Shah – the ruler of Afghanistan – explaining to him the refusal of Bahawal Khan to pay annual tributes and reported his cruel behaviour towards his chiefs. Taimur Shah did not hesitate to act and attacked Bahawalpur in December 1788 AD.⁴⁶ On hearing the news of Taimur Shah's arrival on his frontier Bahawal Khan – knowing that he could not challenge him in battle – moved deep into the desert of Cholistan and wandered from place to place with his troops in order to avoid pursuit. Taimur Shah followed Bahawal Khan for some days but upon failing to catch, he soon resorted to negotiation, after which Bahawal Khan agreed to pay tributes, to make gifts to the monarch and to send his son Mubarik Khan to his court as a guarantee to fulfil all his future obligations and of his peaceful behaviour.⁴⁷

This campaign was followed by three years of uninterrupted tranquillity during which time Bahawal Khan engaged himself in the improvement of his country. He dug out new canals in areas which were thinly populated in order to expand cultivation and, through rent relief and other mechanisms, encouraged people to sink their own wells and cultivate as much land as possible. During this period many peasant families from the areas of Multan and Derajat came to Bahawalpur and were warmly received and offered grants of land for cultivation and jobs at the court according to their qualifications. Bahawal Khan paid special attention to the development of agriculture, trade and industry in the state and within few years Bahawalpur was in a position to

⁴⁵ Ali, *Bahawalpur*, p. 189.

⁴⁶ Tahir, *Riyasat Bahawalpur*, p. 111.

⁴⁷ Ali, *Bahawalpur*, pp. 189-191.

challenge the monopoly of Multan in the production of silk clothes, woollen rugs and carpets.⁴⁸

Both the Daudputra rulers and the chiefs levied taxes on their citizens. The cultivators paid taxes on the crops they grew which was mostly collected in kind. According to Bahawalpur Gazetteer, the founder of Daudputra rule, Sadiq Muhammad Khan and his successors were mild in their treatment of the people and they took the state share at rates varying from 1/4 to 1/6 based on a rough calculation of total crop production. By contrast, the Daudputra chiefs who setup their own principalities after parting ways with their chief were notably aggressive and exacted as much as they could from their subjects. This aggression spread ill will amongst the people and motivated them to use the state share before collections were made. A popular saying at the time advised people to *khada pita jan da, jo bachya khan da*, (eat what you can for that belongs to you, all that is left belonged to khan).⁴⁹

While for some the network of canals laid by the Daudputras in the eighteenth century became – as described by Col. L. G. Grey, a British official of late nineteenth century in the state – “the life blood of Bahawalpur.”⁵⁰ Other, more recent commentators, such as David Gilmartin, seeing these irrigation works in political perspective, have written that the construction of canals served primarily political interests for the Daudputra rulers. According to Gilmartin, “for the *Nawabs* of Bahawalpur, the establishment of regional authority depended on the control of Daudputra kinsmen and the military elite, which required a rapid expansion of cultivable land for distribution to critical allies and supporters, thus suggesting how critical a tool canal construction was for regional state building.”⁵¹

As described above, in second half of the eighteenth century some Daudputra chiefs had become independent, yet these losses did not affect the expansion and development of new areas in the northern part of Cholistan. The disgruntled chiefs brought under their control some areas of Sind and established their own villages and

⁴⁸ Ibid., pp. 192-193.

⁴⁹ Din, *Gazetteer*, pp. 301-302.

⁵⁰ Grey, F. & C., (ed.) *Tales of our Grandfather or India since 1865*, (Smith Elder & Co., London, 1912), p. 162.

⁵¹ David Gilmartin, *Blood and Water: The Indus River Basin in Modern History*, (University of California Press, Oakland, California, 2015), p. 21.

towns in the western areas of the state. They dug canals from the Indus and Sutlej rivers and expanded the area under cultivation, indirectly contributing to the development of the state. The cumulative result of these irrigation and agricultural developments was that by the second half of the eighteenth century Bahawalpur had become a hydraulic society and its canal system was well under way.⁵²

While the relationship of Bahawalpur with its neighbouring states of Bikaner, Jaisalmer and the provinces of Sind and Multan were always guided by the needs and interests of those regions and were influenced by internal political changes. The relationship with the Mughal court, the Persian Empire and the British colonial administration were based on cooperation with those powers. As mentioned above, the relationships with the rulers of Bikaner, Jaisalmer and Sind had become unfriendly from the very inception of the Bahawalpur state. The rulers of Bikaner and Jaisalmer were unhappy about the Daudputras encroachment on their territory, while the Kalhora rulers of Sind were apprehensive at the rise, increasing power and aggression of their neighbour. This unfriendly atmosphere led to armed clashes on several occasions, mostly routed in territorial disputes and the possession of desert forts.⁵³ Territorial issues between Bahawalpur and Bikaner and Jaisalmer state were finally resolved in 1849 with the arbitration of the British East India Company (EIC), when boundaries between the states of Bahawalpur, Bikaner and Jaisalmer were demarcated and permanent pillars were placed at Rukanpur, Islamgarh, Barsalpur – among other places – to mark the end of hostilities between the three states.⁵⁴ The bitter hostilities with the rulers of Sind, which in 1810-11 produced full military engagement that ended with the cession of the areas of Sabzalkot to ruler of Sind,⁵⁵ were resolved only by the annexation of Sind by the British EIC in 1843.⁵⁶

However, while throughout the eighteenth century the political relationship of the Bahawalpur state with its neighbouring powers remained bitter and extremely strained, the Daudputras were able to keep disputes under control and maintain their

⁵² Barnett, 'The Greening of Bahawalpur', pp. 7-8.

⁵³ Ali, *Bahawalpur*, p. 37; Aziz, *Subho*, p. 86.

⁵⁴ Din, *Gazetteer*, p. 74.

⁵⁵ *Ibid.*, pp. 62-63.

⁵⁶ *Ibid.*, p. 69.

power. It was only the emergence of the Sikhs power in the province of Punjab from the 1760s posed any real threat to the existence of the Bahawalpur State.

In the years up to 1764 Sikh forces had captured all the possessions of the Durrani Kings of Kabul, from the river Jhelum in the north to the right bank of the river Sutlej in the south, except the areas which were under the Daudputra control opposite to the border of Bahawalpur State.⁵⁷ In 1766 the Sikh army, under the leadership of Hari Singh also attempted the capture of some areas of Bahawalpur but were repelled by Daudputra forces after a fierce battle was fought on the right bank of the river. Hostilities were concluded by a peace treaty with both parties accepting the neutral town of Pakpattan as the dividing line of their territories and agreeing to respect each other's territorial claims in the future. However, after five years of peace the Sikhs again attacked the areas of Bahawalpur State on the right side of the river Sutlej, and battle was fought near the town of Kahrur which ended in victory for the Daudputras.⁵⁸

The Daudputra victory over the Sikhs checked their progress across the riverline, yet potential Sikh aggression and eventual dominance remained a major concern for Daudputra rulers. The Daudputras leased large areas on the right side of the rivers Sutlej, Chenab and the Panjnad from the rulers of Dera Ghazi Khan and Multan. When those areas fell into the hands of the Sikhs, the Daudputras feared that they might be lost, however, relations were continued with surprising cordiality, and the Sikhs continued to honour lease agreements and renewed them from time to time. It was only when – During the rule of Bahawal Khan III (1825-52) – arrears of payment built up to an unacceptable level that Ranjit Singh cancelled the lease agreement and, in 1831, sent forces under General Ventura to capture all those areas on the right side of the rivers belonging to the Sikh government.⁵⁹ The Sikh forces were also deployed near the northern frontier of the state presenting a significant challenge for Bahawal Khan. Somewhat intimidated, Bahawal Khan sent an envoy to Lord William Bentinck, the Governor General of the EIC seeking his help against the ruler of the Punjab. The

⁵⁷ Joseph Davey Cunningham, *A History of the Sikhs*, (ed.), H. L. O. Garrett, Revised edn., (Oxford University Press, London, 1918), pp. 82, 93.

⁵⁸ Ali, *Bahawalpur*, pp. 52-55.

⁵⁹ Ibid., p. 206.

Governor General responded positively to Bahawal Khan's request for help and Ranjit Singh was persuaded to abstain from attacking Bahawalpur State and to remove his forces from neighbouring regions.⁶⁰ This agreement was formalised by the treaty of Amritsar in April of 1809 in which – as G.B. Malleson writes – Ranjit Singh had agreed to confine himself only to the areas on the right side of the river Sutlej giving protection to rulers of Bahawalpur State on the opposite bank.⁶¹

However, this narrative is far from uncontentious, and in contrast to the above, historians of Bahawalpur such as Aziz-ur-Rehman Aziz, Masood Hassan Shahab and Malik Muhammad Din criticised the Sikhs for their aggressive policies towards Bahawalpur and argued that they intended to annex the state.

Relationships with the British Rulers of India

When we consider the history of relations between the state of Bahawalpur and the British rulers of India, it becomes clear that both parties were compelled by their needs and circumstances to cooperate. Barbara N. Ramusack writes that the native rulers of India, compelled by their limited resources, looked to the British for help in resolving succession disputes, to strengthen their position relative to their kinsmen or to counter a challenge from another regional state. However, Ramusack argues, British policy towards the native rulers was always guided by their own interests. “British officials,” she states, “interfered or did not interfere because of particular political imperatives, intellectual constructs, economic needs and Indian responses.” Relations between native and colonial forces were governed with the help of ‘Residents’⁶² and ‘Political Agents’ who were posted in the capitals of respective states.⁶³ In the case of Bahawalpur State the *Nawab* wanted a powerful ally who could support him against the rising power of the Maharaja Ranjit Singh, the Sikh ruler of the Punjab, while the

⁶⁰ Aziz, *Subho*, p. 101.

⁶¹ G. B. Malleson, *An Historical Sketch of the Native States of India in a Subsidiary Alliance with the British Government*, (Longmans, Green & Co, London, 1875), p. 349.

⁶² The political officers who were deployed by the British East India Company to conclude treaties with the local rulers of India were military officers. These political officers in case of a major state were known as residents and in case of a less important state were called political agents. For details see, Ramusack, *Indian Princes*, p. 53.

⁶³ Ramusack, *Indian Princes*, pp. 49, 56.

British EIC required the support and help of the *Nawab* to achieve its political ends in the provinces of Punjab and Sind.

The first treaty between the state of Bahawalpur and the British EIC was signed on 2nd February 1833 at Bahawalpur. The main objective of this treaty was to promote friendly relations and to develop trade and commerce through the navigation of the rivers Indus and Sutlej. Supplementary treaties were signed between the parties in the years 1835, 1838, 1840 and 1843 by which the EIC were granted further concessions in terms of tariffs and tolls levied on its merchandise passing along river or land routes within the state.⁶⁴ When the EIC administration took control over the areas of Sind and Punjab in 1840s and established its position there, it also reduced the duties payable to Bahawalpur State on all its imports and exports through the state from Rs. 18-15-09 percent to 2 or 1 percent according to the destination. Terms were again renegotiated in 1877 when the state was under the control of a British official Capt. L. J. H. Grey and duties on salt, as well as custom duties on all merchandise were totally abolished and the government of India agreed to pay Rs. 80,000 annually by way of compensation.⁶⁵

The amendment of treaties by the British shows clearly how they used their power and resources to further their own commercial interests and secure privileged trading rights to which the rulers of the Indian states were left no recourse but to agree. While early treaties were based on the principle of mutual friendship, the treaty of 1838 (No., XCVII) transformed the nature of the relationship. It had far reaching consequence for the state of Bahawalpur as it curtailed the powers of the *Nawab* who accepted the sovereignty of the British and agreed to serve in a subordinate position to the government of the EIC. The EIC took the responsibility of the protection of both the ruler and the state. The ruler's heirs were not allowed to negotiate or sign any agreement with another state and were bound to keep the peace with all surrounding states and refused the right to campaign militarily. In case of any dispute with other rulers, the matter was to be submitted to British Government for arbitration. Moreover the *Nawab* was made responsible for the provision of troops to the EIC

⁶⁴ C. U. Aitchison, (comp.), *A Collection of Treaties, Engagements and Sanads Relating to India and Neighbouring Countries; Punjab, Sind and Beloochistan and Central Asia*, vol. ix, (Superintendent of Government Printing, India, Calcutta, 1892), p. 187.

⁶⁵ Din, *Gazetteer*, pp. 80-86.

government whenever and wherever they were required.⁶⁶ Soon after signing the first treaty in 1833, the EIC government appointed Lieut. Mackeson as its political agent at the court of Bahawalpur both to represent company's interests in the affairs of the Daudputras and to observe the political situation.⁶⁷

After signing treaties with EIC, though the ruler of the state lost some of his powers and independence and became subordinate and answerable to the government of the Company, he would have been secure in the knowledge that he now had an extremely powerful ally. The *Nawab* also gave concessions to the EIC allowing for the expansion of its trade in areas of Sind via the navigation of the river Sutlej and the Indus, and during the British campaign at Kabul (1839-42) Nawab Bahawal Khan rendered great services collecting provisions, boats, and camels for the troops passing through his territory. He also became a front-line ally during the British annexation of the areas of Sind and Multan which occurred in 1843 and 1849 respectively. During the British campaign of Multan he sent 9,000 well equipped men to fight with the British troops against Diwan Mulraj, and following the British victory, his services were acknowledged by the grant of a lifelong pension of one lakh rupees annually.⁶⁸ He was also gifted the northern areas of Sind including the district of Sabzalkot and the fertile areas of Bhung Bara which were captured by the Talpur rulers of Sind in 1810s.⁶⁹ As a friendly gesture Bahawal Khan ceded his area of *taluka* Asafwala⁷⁰ to the British so as they could gain direct access to the waters of river Sutlej.⁷¹

Unfortunately after the death of Bahawal Khan III in October 1852 this phase of relative stability came to an end as wars of succession produced a state of political chaos that continued into the middle years of the 1860s. During these years, three rulers, Sadiq Khan III (Oct. 1852-Feb. 1853), Nawab Fatteh Khan (Feb. 1853 - Oct. 1858) and Bahawal Khan IV (Oct. 1858 - Mar. 1866) gained and lost control of the state. The wars of successions and the uprising of the Daudputra chiefs proved disastrous for

⁶⁶ Aitchison, *Collection of Treaties*, pp. 191-199.

⁶⁷ Shah, *Sadiqnamah*, p. 54.

⁶⁸ N.a., 'The Bahawalpur State', ART II., *Calcutta Review*, 114:228 (1902), *British Periodicals*, p. 245.

⁶⁹ Malleon, *Native States*, p. 350.

⁷⁰ This area was mostly inhabited by a Wattu Tribe and was the only territory of Bahawalpur State on the right side of the river Sutlej. It was very fertile area and the revenues produced by this area were twenty five thousand rupees annually. For details see, Din, *Gazetteer*, p. 70.

⁷¹ Din, *Gazetteer*, p. 70.

both the political structures and the agriculture-based economy of the state.⁷² During the wars of succession the British remained ostensibly neutral yet kept an eye on all the affairs of the state and made some changes in their dealings with its rulers. In one such change, negotiated in 1855 entitled the ruler of Bahawalpur to the honour of a 17 gun salute,⁷³ in return the ruler of the state gave further concessions to British trade, reducing duties on merchandise passing through the area.⁷⁴

By the 1850s the relationship between the state of Bahawalpur and the British had developed to such an extent that during the 1857 War of Independence, the ruler of Bahawalpur sided with the British and sent 4,000 troops to their aid,⁷⁵ and when the Indian rebellion was finally suppressed he celebrated the event by firing off guns and decoration state buildings with *chiraghan* (fancy lights).⁷⁶

Rule of Agency (The British officials') in the State (1866-1879 AD)

Following the death of Bahawal Khan IV in March 1866, his son Jind Wada Khan who was then a total of four years and seven months old, was installed on the throne by the officials of the state with the title of Muhammad Sadiq Khan IV. His authority was challenged by Jaffar Khan, the brother of Nawab Bahawal Khan III who had the support of some ministers. On this occasion the wife of the deceased *Nawab* made a request for help to the British Government of the Punjab and, at her bidding, on 4th August 1866, Mr. William Ford, the commissioner of Multan was appointed Political Agent and Superintendent of the state, and would control matters of the state until the young *Nawab* reached maturity.⁷⁷

The period of government by British officials between 1866 -1879, in the early years of the reign of Muhammad Sadiq Khan IV,⁷⁸ became known as the rule of 'The Agency' or

⁷² Aziz, *Subho*, pp. 110-131.

⁷³ It was a protocol granted by British government of India to receive the rulers of the states at the capital of the British Government of India. For details see, Karl J. Schmidt, *An Atlas and Survey of South Asian History*, (Routledge, New York, 2015), p. 78.

⁷⁴ Din, *Gazetteer*, p. 80.

⁷⁵ *Calcutta Review*, p. 245.

⁷⁶ Shahab, *Siyasi Tarikh*, p.28.

⁷⁷ Aziz, *Subho*, pp. 131-139.

⁷⁸ According to the specified rules framed by the British Government of India for the native rulers, any ruler less than the age of eighteen years was considered minor and he had to work under the guidance

the period of *Mudakhlat* (interference). During this period the affairs of state were handled by the British Political Agent who was empowered with administrative, judicial and revenue-collecting powers, but worked under the supervision of the government of the Punjab.⁷⁹ The rule of Agency finished in 1879 when powers were returned to Nawab Sadiq Khan IV, but would latterly become standard practice in the region whenever an heir to the throne was considered too young to take charge. In all there were three periods of rule of Agency, the first one from 1866-1879, the second under Col. L. J. H. Grey from March 1899 to November 1903 and the third from March 1907 to March 1924 under Sir Maulvi Rahim Bakhsh.⁸⁰

Mr. William Ford, after restoring peace and tranquillity in the state returned to his official post and Capt. C. C. Minchin was appointed new Political Superintendent of the state in November 1866. Minchin worked under the guidance of Mr. Ford who was given an additional charge as chief political officer and agent to the Lieut. Governor of the Punjab for the affairs of Bahawalpur State. Capt. Minchin was entrusted with authority in judicial, revenue-collecting and administrative matter. His powers were, however in some ways limited, and in the pronouncement of a death sentences or of transportation for life, he required to seek confirmation from Mr. Ford.⁸¹

The wars of successions and the rivalry of the chiefs had proved disastrous for the economy of the state. Agriculture, which was the main source of the revenues, suffered serious neglect and forced migration of several landholders to neighbouring areas of the Punjab and Sind. Capt. Minchin, after taking charge, restored the confidence of the agricultural community and was successful in persuading these landholders to return.⁸²

of a Political Agent. After attaining the age of eighteen years he was invested with full powers over his state. For details see, Aitchison, *Collection of Treaties*, pp. 189-190.

⁷⁹ Shah, *Sadiqnamah*, p. 67.

⁸⁰ Tahir, *Riyasat Bahawalpur*, pp. 123-126.

⁸¹ Din, *Gazetteer*, p. 85.

⁸² Somerset, Playne, R. V. Solomon, J. V. Bond and Arnold Wright, (comp.) *Indian States: A Biographical, Historical and Administrative Survey*, (Foreign and Colonial Compiling and Publishing Co. London, 1922), p. 136.

Reforms in the Administrative Set up of the State

After establishing their supremacy in Cholistan the Daudputra rulers of the state had divided their areas into two administrative units, *Ubha* (east) and *Lamma* (west). The town of Bahawalpur which was located at the centre of the Daudputra possessions was made capital of the state and marked the dividing line between the two sections. The regional towns and forts became administrative outposts and officials *Kardar*, (civil administrator) *Kotwal* (police officer) and *Qazi* (judge) were appointed to handle affair in those areas.⁸³ These administrative divisions continued up until the end of eighteenth century, when during the rule of Bahawal Khan II, the state was divided into nineteen administrative units, the most important of which were Derawar, Marot, Khanpur, Rukanpur, Ahmadpur, Dingarh, Khairpur, Garhi Ikhtiyar Khan, Maujgarh and Kot Lashkar Khan.⁸⁴

During the rule of Bahawal Khan III (1825-1852) a new administrative system was devised under which the state was divided into *Kardaris* (collectorates), each of which was sub-divided into three to five *Niyabats* (Tehsils).⁸⁵ This system continued to operate until the Capt. Minchin became Superintendent of the state and introduced administrative reforms dividing the state into three *Nizamats*, namely Bahawalgarh, Bahawalpur and Khanpur. Under this system each *Nizamat* was further divided into three Tehsils which were in turn divided into a number of *Peshkaris* (subdivisions or sub-Tehsils).⁸⁶ The administration of these units was handed to native officers in the hope of ensuring the system's continuity when authority was eventually returned to the *Nawab*.⁸⁷ Due to a deficiency of qualified officials within the state, the services of three experienced Tehsildars – Syed Morad Shah, Lal G. Parasad and Noor Muhammad – were hired from the commissioner of Multan. These were appointed as *Nazims*

⁸³ Mir Nasir Ali, *Jughrafiya Riyasat Bahawalpur*, (Urdu) (Delhi, 1892), p. 22.

⁸⁴ Tahir, *Riyasat Bahawalpur*, p. 129.

⁸⁵ Din, *Gazetteer*, Explanatory note on the opening page.

⁸⁶ Tahir, *Riyasat Bahawalpur*, pp. 129-131.

⁸⁷ Roper Lethbridge, *The Golden book of India: a Genealogical and Biological Dictionary of the Ruling Princes, Chiefs, Nobles and other Personages, Titled or decorated of the Indian Empire*, (MacMillan & CO. London, 1893), p. 42.

(administrators) in each *Nizamat* with the powers of a revenue collector and Magistrate.⁸⁸

Capt. Grey, who, in 1871 assumed the role of Political Agent and Superintendent of the state following Capt. Minchin's departure, had, by 1879, restored the system of *Kardaris*. He divided the areas of the state into six *Kardaris* and which were subdivided into a number of *Peshkaris*. This system remained in place up until June 1905 when Nawab Bahawal Khan V, reintroduced the system of *Nizamats* and Tehsils, under which the state was divided into the three *Nizamats* of Minchinabad, Bahawalpur and Khanpur and each *Nizamat* was further divided into three Tehsils.⁸⁹ Later on during the rule of Regency (1907-24) the system of Districts under the administration of Deputy Commissioners was introduced in place of the *Nizamats*, and three Districts, namely Minchinabad, Bahawalpur and Khanpur, comprised of three Tehsils each, were defined. After the implementation of the SVP several new commercial towns emerged in the state and in 1933, the district headquarters of Minchinabad was replaced by Bahawalnagar and that of Khanpur with Rahim Yar Khan.⁹⁰

Although for the administrative purposes the state was divided into three districts, for the purposes of revenue collection only the districts of Bahawalpur and Rahim Yar Khan were defined. In 1946 further changes were made under which Bahawalnagar lost the status of a district leaving only two – both for the purposes of revenue-collection and administration – which were comprised of a total of nine Tehsils. The district of Bahawalpur consisted of Bahawalpur, Chishtian, Minchinabad, and Fort Abbas Tehsils while Rahim Yar Khan District had Rahim Yar Khan, Sadiqabad, Khanpur, Allahabad (Liaquatpur) and Ahmadpur East *Tehsils*. These divisions endured up until 1953 when Bahawalnagar was once again made a district.⁹¹

In order to improve the efficiency and working of the civil administration, the military, police and the judiciary, further reforms were introduced in those departments

⁸⁸ Tahir, *Riyasat Bahawalpur*, p. 136.

⁸⁹ Din, *Gazetteer*, p. 283.

⁹⁰ Tahir, *Riyasat Bahawalpur*, p. 138.

⁹¹ Government of Bahawalpur, *Report on the Administration of Bahawalpur State* (hereafter R.A.B.S.), for the year 1942-43, (The Civil and Military Gazette, Lahore, 1944), p. 18; Tahir, *Riyasat Bahawalpur*, p. 138.

following the pattern of British administrative systems in the Indian provinces. The duties of the police, judiciary and civil administrators were defined and separated from each other, and new officers were also appointed in these departments.⁹² In order to improve the irrigation system and other state infrastructure, Public Works and Canal Departments were established in 1867 and placed under the control of two British officials; Mr Messrs Heenan and J. W. Barns, who served until 1879 constructing several new canals (discussed in next section) and buildings. These included the famous Nur Mahal (Nur Palace),⁹³ an Italian style palace which was built at Bahawalpur at a cost of twelve lakhs of rupees to be used as the state guest house and also for holding *darbars* on important state occasions.⁹⁴

Another major contribution made by British officials to the administration of the state was the award of revenue settlements and the permanent classification of state and private lands. The Daudputra rulers practised their own system of revenue-collection, as they had since the creation of Bahawalpur State in the late 1720s, under which both cultivators and nomads were included on the roll of the tax department. Cultivators paid taxes on the crops they grew, while nomads paid *Tirni* (grazing tax) calculated on the basis of the number and type of livestock they possessed, donkeys for example were exempted from grazing tax. Native cattle herders were mostly taxed in kind, while the foreign nomads who occasionally came into the state were taxed in cash. There were drawbacks in the revenue system – especially in the assessment of the crops – some of which were improved during the rule of Nawab Bahawal Khan III (1825-52). For the assessment of produce and the collection of state's share *chanjuses* (supervisors) were appointed who were assisted by *piyadas* (literal meaning on foot, a low rank official). Taxation was increased and was collected at rates varying from 1/4 to 1/3, and in some cases up to 2/3 of the gross production of the field. State officials would monitor fields and once a crop was harvested would place a *thappa* (mark) upon it, and once the threshing was done the grain was divided by the weigh man. Every functionary from the headman, *chanjus*, weigh man, *piyada* and *kotwal* all the way down to village menials took his share of the crop, and so, after all these

⁹² Din, *Gazetteer*, pp. 333-338.

⁹³ Ibid., pp. 331-332.

⁹⁴ Playne, *Indian States*, p. 145.

deductions, only a small proportion remained for the cultivator. As opportunities for exaction were considerable officials often collected more than their legitimate share.⁹⁵

The method of assessing revenue on the basis of estimated yields sometimes benefited the landlord and sometimes the state. Capt. Minchin was the first administrator who thought it necessary to have a permanent revenue settlement⁹⁶ and it was he who introduced the perpetual lease system for the assessment of revenues on lands irrigated by wells. Perpetual leases were given to cultivators allotting thirty *bighas* of land to each well, which was then assessed at 12 rupees, payable in two instalments, Rs. 5 in the *kharif*⁹⁷ and Rs. 7 in the *rabi*. For lands irrigated by canal, *sailab* (floods) and rainwater, cash assessment was introduced and rates were fixed for each crop. The taxation was levied on the basis of per *bigha* (half an acre) cultivation and was initially set at the rate of; 1 rupee and 12 *anna* for wheat⁹⁸, 1 rupee for lentils, 1 rupee and 8 *anna* for mustard and grams, 1 rupee and 2 *anna* for rice, while for jowar (a kind of millet), bajra (spike millet), and rawanh (beans) the rate was fixed at 1 rupee per *bigha*. This new revenue settlement system was successful and following its implementation receipts from land revenue, which in 1866 totalled Rs. 429,291 rose to Rs. 700,685 in 1867. In 1867-68 changes were also made in the payment of *Tirni* tax by which payments made in kind were permanently replaced by cash and, in order to aid peasant farmers, working animals such as ox, bull and camel were exempted from tax.⁹⁹

The programme of reforms in revenue settlement initiated by Capt. Minchin was continued by Capt. Grey who served as the acting political superintendent of the state in the absence of Capt. Minchin in 1871, and as permanent superintendent of the state in the years 1875-79. Capt. Grey's first act was to reduce the prices of various crops which were higher than those in the neighbouring areas of the Punjab and Sind, so as not to disadvantage cultivators in the region. The rates of assessment for these crops

⁹⁵ Din, *Gazetteer*, pp. 302-303, 318.

⁹⁶ Tahir, *Riyasat Bahawalpur*, p. 294.

⁹⁷ The crops which are harvested in autumn are called *kharif* while those harvested in spring are known as *rabi* crops.

⁹⁸ *Anna* was a unit of currency and it was 1/16th of a rupee.

⁹⁹ Din, *Gazetteer*, pp. 302-304.

were reduced by 4 *annas* per *bigha*¹⁰⁰ and were fixed equal to rates levied in the neighbouring areas of Sind and Derajat.¹⁰¹

In 1875 a new settlement programme based on a contract system at the village level was introduced. Under this program all the cultivable land of the state was assessed and the names of landholders were registered in record books along with their holdings. The total production of every village during the previous couple of years was carefully checked and contracts were signed with each village for the cash assessment of the state share over an agreed period. The main objective of this contract-based assessment system was – according Capt. Grey – to give security of profits and reliefs to cultivators for a period of ten to twenty years.¹⁰² Considered together it is clear that the primary objectives of British revenue reform in this period were to increase revenue by bringing all landholders onto state records, and to curtail corruption at the level of assessment by the regularisation of rates of taxation.

As part of these reform programmes a new Municipal Department was created under the care of Major Beckett – Assistant Political Agent of the state – to provide drinking water, sanitation, roads and communication to the towns. A municipal committee was set up at the town of Bahawalpur, and along with this, three sub-municipal committees were put in place at the towns of Ahmadpur, Khanpur and Ahmadpur Lamma in 1874. The members of these committees were selected from the officials – both native and the English – and the *raises* (rich people) of the towns, and Tehsildars were appointed as the heads of the sub-municipalities.¹⁰³

The implementation of this municipal system was the beginning of public involvement in the affairs of the state – all be it on a limited scale – and paved the way for systems of representation which were improved and enlarged in subsequent years.

The first rule of Agency ended in November 1879 when the young *Nawab* was raised to power with the title of Sadiq Muhammad Khan IV. A council of advisers was

¹⁰⁰ Grey, *Tales of Our Grandfather*, p. 167.

¹⁰¹ Din, *Gazetteer*, p. 304.

¹⁰² Grey, *Tales of Our Grandfather*, pp. 167-168.

¹⁰³ Din, *Gazetteer*, p. 329.

appointed to assist him in the day-to-day administration of the state,¹⁰⁴ and, like his predecessors, Sadiq Muhammad Khan continued to support and assist the British Government of India. During their 1878-80 campaign against Afghanistan he provided his full military support to the British army. The assistance he offered to Quetta Column was in particular appreciated by British the Commander-in-Chief and after the war – in November 1880 – Nawab Sadiq Muhammad Khan was awarded with G.C.S.I (Knight Grand Commander of the most exalted order of the Star of India) by Lord Ripon, Viceroy of India, at Bahawalpur.¹⁰⁵ He also provided land free of cost to the British Government of India in 1880 for the construction of railway tracks through the state. Two lines were built, firstly the 160 mile North-West Railway from Lahore to Karachi in western areas of the state in 1880 and secondly the Southern Punjab Railway which opened in the eastern area of the state in 1898.¹⁰⁶

Sadiq Muhammad Khan had inherited a well established system of administration and an efficient network of canals (discussed in irrigation section) but mistakenly afforded too much freedom to his advisors who proved poor administrators. His nineteen year rule saw much of the hard work done by the British officials spoiled and wasted. Col. Grey who served as superintendent of the state twice – once during the *Nawab's* youth and again after his death during the rule of Regency – stated that, on reflection “had I then been left in Bahawalpur to guide the chief for a few years, I should not have spent four years there, twenty years later, in repairing his mischief.”¹⁰⁷

On the death of Sadiq Muhammad Khan IV in February 1899, his fifteen years old son became the new ruler of the state with the title of Muhammad Bahawal Khan V. Due to his youth the second rule of Agency was established under Col. L. J. H. Grey who ran the administration of the state with the help of a council.¹⁰⁸ Col. Grey continued the task of reform from where he had left off. He introduced a system of *Takavi*¹⁰⁹ loans to help farmers construct their own irrigation wells and relaxed the rules relating to the

¹⁰⁴ Shahab, *Siyasi Tarikh*, p. 31.

¹⁰⁵ Playne, *Indian States*, p. 136.

¹⁰⁶ *Calcutta Review*, p. 247.

¹⁰⁷ Grey, *Tales of our Grandfather*, p. 194.

¹⁰⁸ Tahir, *Riyasat Bahawalpur*, pp. 124-125.

¹⁰⁹ It was an advance loan provided to cultivators by the government to purchase seed, fertilizers and other necessary things for cultivation. It was free of interest and to be payback in small instalments. For details see, K.R. Gupta & J.R. Gupta, *Indian Economy*, (Atlantic Publishers, Delhi, 2008), p. 28.

lease of lands in order to encourage colonisation. In order to facilitate the improvement and development of irrigation works the new post of *Mushir-i-Anhar* (canals advisor) along with a dedicated Canal Department were also created.¹¹⁰

The young *Nawab* assumed control of the region on 12th November 1903 but ruled for only four years before he died in 1907 in mysterious circumstances while returning from performing the Hajj. During his short rule he proved benevolent, undertaking a number of public works including the construction of Bahawal Victoria Hospital at Bahawalpur in 1906 in order to provide medical facilities to his citizens, and of a school at Bahawalpur for the education of girls.¹¹¹ At the time of Bahawal Khan's death his son Sadiq Muhammad was only three years of age and so the third period of Agency rule began, this time power passed to the Council of Regency, which consisted of Indian officials under the presidentship of Maulvi Sir Rahim Bakhsh Khan.¹¹²

Although in this period Indian officials replaced British, the Council of Regency still performed its duties under instruction from the British and provided full support to government of India. During the First World War (1914-18) the state sent more than three thousand of its soldiers to fight for the British in East Africa and Mesopotamia and its Imperial Service Camel Corps was sent to the front in Egypt and Palestine. The state also contributed to various funds established for the relief of injured soldiers during and after the war.¹¹³ Although during the rule of the Council of Regency several development projects were completed, their main achievement in this regard was to attain – in September of 1920 – approval from the government of India for the SVP, in order to improve and extend irrigation systems within the state.¹¹⁴

In 1924 Nawab Sadiq Muhammad Khan V, having come of age, handed power by Lord Reading, the Viceroy of India, in a ceremony held at Bahawalpur. Sadiq Muhammad Khan took particular interest in the development of the state, he established new educational institutions including The Jamia Abbasia (currently the Islamia University of Bahawalpur) – a higher education institution established at Bahawalpur in 1925 on

¹¹⁰ Din, *Gazetteer*, pp. 88, 331-335.

¹¹¹ Aziz, *Subho*, pp. 173-183.

¹¹² Shahab, *Siyasi Tarikh*, pp. 52-53.

¹¹³ Playne, *Indian States*, pp. 140, 145.

¹¹⁴ Shah, *Sadiqnamah*, pp. 72-73.

the pattern of Cairo's Jamia-tul-Azhar in order to spread modern as well as religious education – and the Sadiq-Reading Library, established at Bahawalpur in March 1924.¹¹⁵

Although the SVP was initiated by the Council of Regency during the *Nawab's* youth he took special interests in its completion. He managed his resources effectively and contributed significantly to the successful completion of the project, and, after its completion, built a network of new canals and three headworks, and launched a colonisation scheme in order to promote and develop agriculture in the upland areas of the state.¹¹⁶ The implementation and impact of SVP will be discussed in the depth in the subsequent chapters.

The rulers of Bahawalpur State had always been loyal to the British and they happily provided their support and assistance to the government of India whenever it was required. During the Second World War (1939-45) Nawab Sadiq Muhammad Khan V – following this tradition – was the first native Indian ruler to offer his personal services as well as the resources of his state to Government of India. The *Nawab* was a trained army officer and was sent to various fronts – largely in Muslim regions such as Iraq, Syria, Jerusalem and Malaya – as a Lieut. Colonel under instruction from the British Government to gather support. He also donated Rs. 3,293,012 to the war fund and purchased defence bonds to the value of Rs. 45 lakhs. In 1941 – in recognition of his services – Sadiq Muhammad Khan was awarded the G.C.S.I (Knight Grand Commander of the Star of India).¹¹⁷

With the coming of Indian independence in 1947 and the spectre of partition looming, native rulers of states such as Bahawalpur were given the choice of joining either India or Pakistan. The ruler of the state decided in favour of Pakistan and on October 3rd 1947 the instrument of accession was signed.¹¹⁸ Although it continued up to October

¹¹⁵ Kalanchvi, *Zila Bahawalpur*, pp. 43, 98.

¹¹⁶ Shahab, *Siyasi Tarikh*, pp. 87-89.

¹¹⁷ *R.A.B.S., 1945-46*, pp. 2-3, 18-19.

¹¹⁸ Chaudhri Muhammad Ali, *The Emergence of Pakistan*, (Research Society of Pakistan, Lahore, 1973), p.235.

1955 when the state was merged with the province of West Pakistan, the accession also marked the beginning of the end of authoritative Daudputra rule in the region.¹¹⁹

The history of relations between Bahawalpur State and the British administration in India is marked by notable cooperation which benefited both parties, but which was skewed significantly in favour of later. The British, being the dominant power used the resources of the state at their will and although, after signing treaties of friendship, Bahawalpur was bound only to provide logistical and military support to the British government of India, the state was also compelled to make financial contributions, particularly during both World Wars, to both governmental and charitable funds. Another major factor favouring the British in exchanges between the two parties were the periods of rule of Agency which left all the resources of the state at the disposal of British who, for the most part, used them to their own advantage rather than in the interest of the state. The implementation of the SVP is a prime example of such use of resources and was imposed on the state despite of the serious objections [discussed in ch. 3]. From 1866, when the first rule of Agency was established, up to the installation of the Nawab Sadiq Muhammad Khan V in 1924, the state remained under the direct control of the British officials, and even when the *Nawab* was invested with powers, his political freedom was significantly curtailed by the necessity of servicing the loans – from the British government of India – incurred through the SVP [discussed in next chapter] which would take the next two and half decades to repay.¹²⁰

Irrigation System of the State: Inundation Canals

In India, the history of irrigation is as old as that of agriculture. This long history, related to monsoon dependency in cultivation and the consequent extreme economic value of the collection and distribution of water has made a priority of irrigation development for all successful ruling dynasties and governments to have emerged in India during the last five thousand years.¹²¹ As a result, a large variety of irrigation

¹¹⁹ Umbreen Javaid, 'Bahawalpur State: Effective Indirect Participation in Pakistan Movement', *Journal of the Research Society of Pakistan*, 46:2 (2009), p. 191.

¹²⁰ Penderel Moon, *Divide and Quit: An Eyewitness Account of the Partition of India* (Chatto & Windus, London, 1961), p. 100.

¹²¹ Satyajit Singh, *Taming the Waters: The Political Economy of the large Dams in India*, (Oxford University Press, Delhi, 1997), p. 23.

technologies such as small dams, canals, wells, tanks and lift irrigation were developed at different times and in different regions according to the ecological requirement of the each.¹²²

The rulers of Bahawalpur State utilised those modes of irrigation most appropriate to their circumstances, the economic foundations of the state were its system of canals which remained the primary source of irrigation, throughout its history, though wells, flood waters, and *jhalars* (Persian Wheel) were also used on smaller scales. This section will look at the irrigation system as it existed prior to British intervention and will examine the changes brought about by the British engineers.

Soon after settling the area, the Daudputras began to exploit the riverine ecology of the region by digging irrigation canals from the rivers Sutlej, Panjnad and the Indus which became the lifeblood of the Bahawalpuri society.¹²³ Before their arrival – in some old settlements – agriculture was practised on a small scale but it was mostly carried out with the help of floodwater and the occasional use of wells, this whole region was without canals with the only exception having been constructed by the Mughal prince Aurangzeb in the area of Khairpur in the middle of seventeenth century when he was the governor of Multan. But even this was silted up and blocked and lay unused for many years until Balawul Khan, a Daudputra chief, cleared and extended the canal for the irrigation of newly settled areas when he founded the town of Khairpur in first quarter of the eighteenth century.¹²⁴ As the economy of the state was based on agriculture so every effort was made by the early rulers to improve and develop their canal based irrigation system to aid the expansion and better cultivation of the fields.

Inundation Canals of the State

The state's geography favoured the development of a canal network. The north-western frontier of the state, for a distance of some three hundred miles was formed by the three great rivers of the Sutlej, Panjnad and the Indus. Moreover the presence

¹²² Ibid., pp. 34-35.

¹²³ Barns, 'Geography of the Bahawalpur State', pp. 391-406.

¹²⁴ Ali, *Bahawalpur*, p. 40.

of Hakra and Hurriari depressions – the dried-up beds of ancient rivers – in the northern part of the state had made the task of canal building relatively easy.¹²⁵ The Daudputras exploited the riverine ecology and built new inundation canals, they used natural depressions as canals to lead water to their fields lying away from the river banks.¹²⁶

In Bahawalpur a canal was locally known as a *wah* and was traditionally named after its builder. As mentioned in the beginning of this chapter, Bahawal Khan I (1746-49) and his successor Mubarik Khan (1749-72) paid special attention for the development of irrigation in the state and built several canals during their rule. Many Daudputra chiefs who had settled in western areas of the state also built canals, utilising knowledge of inundation canal technology prevalent in the areas of Sind from where they came. They dug shallow channels at right-angles from the river banks in order to redirect water during the flood season.¹²⁷ At the time of the first rule of Agency in (1866-79), the network of canals consisted of thirty eight small and large working canals (omitting all fewer than ten feet breadth), was properly maintained and was in working condition. Out of these thirty eight canals, twenty six were fed by the river Sutlej, six by the Panjnad and six by the Indus.¹²⁸

The inundation canals built in Bahawalpur during the eighteenth and nineteenth centuries worked only during summer season when the water level in rivers rose and would flow into them automatically. A.V. Williamson, a colonial writer of the early twentieth century, in his article on irrigation, writes that the areas best suited to development by inundation canals were located where the rivers of the Punjab begin to converge to form the lower Indus where the land adjacent to the river banks was

¹²⁵ Robert B. Buckley, *The Irrigation Works of India, and their Financial Results*, (W. H. Allen & Co., London, 1880), pp. 155-157.

¹²⁶ W. W. Hunter, *The Imperial Gazetteer of India*, vol. 1, (2nd edn.), (Trubner & Co., London, 1885), p. 421.

¹²⁷ Tahir, *Riyasat Bahawalpur*, p. 352.

¹²⁸ These canals were, (1) Parpata in Minchinabad Tehsil; (2) Qaimwah, (3) Talharwah, (4) Marufwah, (5) Gaganwah, (6) Tolawah in Khairpur Tehsil; (7) Naurang, (8) Khanwah in Bahawalpur Tehsil; (9) Qutabwah, (10) Sultanwah, (11) Mubarakwah, (12) Bihariwah, (13) Channiwah, (14) Bahawalwah Khurd, (15) Sumarwah, (16) Fazlwah (17) Banwah in Ahmadpur Tehsil; (18) Kudanwah, (19) Kanbirwah, (20) Bahadurwah, (21) Faizwah, (22) Ahmadwah, (23) Sabzalwah, (24) Muhammadwah, (25) Fazilwah, (26) Khunanwah. The names of some canals are missing. For details see, Din, *Gazetteer*, p. 243.

notably low-lying. The region identified by Williamson was located in the north-western areas of the Bahawalpur State.¹²⁹

Although inundation canals were used successfully, the system also had significant disadvantages, first among these was that they worked only during the summer season, between mid-April and mid-October, during the days of heavy floods. It was therefore a far from dependable system, especially outside of the monsoon season. Moreover, the inundation canals were quickly choked by excessive quantities of silt brought down by the rivers when they were in flood and required regular maintenance if they were to remain functional.¹³⁰

Despite this lack of reliability and the labour required to keep them functioning inundation canals were used successfully in Bahawalpur State. The main reason for this, according to Richard Barnett, was the high level of cooperation and understanding between the rulers and the people involved in cultivation, along with a highly effective system of supervision. Officials, such as *kardar* and foremen were appointed to supervise and coordinate the work of channel construction and upkeep. The *zamindars* were awarded grants of land on *chakdari* (rent) tenures along the growing network of canals on the condition that they would cultivate lands and maintain the canals in working condition by sharing profits from future crops with both their labourers and the state. The *zamindars* were so responsible and cooperative that they themselves participated in the process of silt removal, and, along with their labourers, carried buckets of earth and silt. As a result of such cooperation and egalitarian efforts at all levels of the population, up until the last quarter of the eighteenth century, and long before the development of canal colonies in the Punjab in the late nineteenth century Bahawalpur flourished as an agrarian society.¹³¹

On the subject of the Bahawalpur system of inundation canals and their operation, a British engineer, J. W. Barns who served as superintendent of the state irrigation department wrote in one report, that while in most of the countries of the world,

¹²⁹ A.V. Williamson, 'Irrigation in the Indo-Gangetic Plain', *The Geographical Journal* 65:2 (1925), pp. 146-147.

¹³⁰ Ibid., p. 147.

¹³¹ Barnett, 'The Greening of Bahawalpur', pp. 7-8.

inundation canals were considered catastrophic as they often led to the destruction of crops, in Bahawalpur they were nothing less than a blessing because if any acre of crop was damaged during the inundations it would bring fifty other fallow acres under cultivation.¹³²

The successful working of inundation canals was highly dependent on the removal of silt from the canal beds before the start of inundation season which was a difficult and labour intensive task. Karl A. Wittfogel writes that “a large quantity of water can be channelled and kept within bounds only by the use of mass labour; and this mass labour must be coordinated, disciplined, and led.”¹³³ Unfortunately in 1810s and 1850s the rulers were not able to pay these projects proper attention as wars of successions ravaged the region and the irrigation system deteriorated dramatically.¹³⁴

The silt clearance system of the state, known locally as *chher* was developed on the basis of mutual cooperation between the state and landowners. Under this system landlords were bound to provide *chher* (unpaid labour) for silt clearance between the months of November and March when the canals stopped flowing due to the low level of water in the rivers. The *chher* system was administered by a *kardar* (collector or administrator) whose duty it was to fix the numbers of *chheras* required by each village on the basis of its total irrigated area and its production of crops in excess of fifty rupees at the last harvest. The *chheras* were bound to work during the whole season and absentees were punished with fines. The silt clearance system worked efficiently and canals were always made ready before the start of new season.¹³⁵

Although the British rulers of India were in principle against free or forced labour,¹³⁶ they maintained the *chher* system within the state, all be it with some modifications. In the areas which were settled along Fordwah Canal, during the first rule of Agency, the

¹³² Barns, ‘Geography of the Bahawalpur State’, pp. 399-400.

¹³³ Karl A. Wittfogel, *Oriental Despotism: A Comparative Study of total Power*, 5th edn., (Yale University Press, New Haven & London, 1964), p. 18.

¹³⁴ Tahir, *Riyasat Bahawalpur*, p. 353.

¹³⁵ Din, *Gazetteer*, p. 253.

¹³⁶ The British officials were divided on the legality and working of the *chher* system. The officials of the Bombay presidency saw it a state-coerced statute labour whereas the officials of Punjab who favoured this system stated that it was the voluntary cooperation of the irrigators. By the end of the nineteenth century *chher* system of silt clearance was abolished by the British in India. For details 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*, (Curzon, Richmond, 1999), pp. 250-257.

owner of land was bound to provide one labourer for every twenty one bighas, this assessment was eventually implemented everywhere within the state. This requirement was later reduced to one labourer per fifty or one hundred bighas depending on the canal area to be cleared and the number of labourers required for this task.¹³⁷ As the state had a large network of canals so it required around ten thousand men every year during the campaign of annual silt clearance.¹³⁸ In the first regular revenue settlement of 1900, the number of *chheras* or labourers was fixed according to the revenue demand from the landowner and thus the unit fixed was one labourer for one hundred rupees.¹³⁹ The *chher* system was abandoned when the inundation canals of the state were replaced by the perennial canals under the SVP, as discussed in the next chapter.

The use of Colonial Scientific Technology in Canal Building

During the rule of Agency British officials improved and developed the canal network and began to introduce modern canal technology. Permanent headworks were built to control and guide the flow of water, which was monitored by bench marks and gauges, embankments were strengthened to stop the leakage and wastage of water, and the official position of *Mir-e-Ab* (water distributor) was created to ensure the fair distribution.¹⁴⁰

The implementation of these technologies, and more generally, the development of the canal system as it was pursued by the British from the middle of the nineteenth century, was to a great extent ideologically motivated. The British disliked the uncontrollable, irregular pre-existing system of irrigation by inundation and believed implicitly that irrigation and consequently agriculture could be perfected through the application of western scientific knowledge and technology.¹⁴¹

The British officials, who administered the state, following the policy of the central government of India, took substantial government loans and spent lavishly. Capt.

¹³⁷ Tahir, *Riyasat Bahawalpur*, p. 375.

¹³⁸ Barns, 'Geography of the Bahawalpur State', pp. 397-398.

¹³⁹ Din, *Gazetteer*, p. 253.

¹⁴⁰ Ibid., p. 361.

¹⁴¹ David Hardiman, 'The Politics of Water in Colonial India', *Journal of South Asian Studies*, 25:2 (2002), p. 113.

Minchin borrowed fifteen thousand pounds Sterling at the high interest rate of 12 per cent for ten years and dug one hundred and five miles of canal from the river Sutlej in the Bahawalgarh *Kardari* and named it Fordwah after William Ford, the first political superintendent of the state. Several small channels were taken from this canal to irrigate the surrounding areas. Although it was expensive, Minchin's project was a success. In the Khairpur *Kardari* the dry river bed of the Hakra River known as Trewanna, which functioned as an inundation canal, distributing water in times of flood, was silted up and had ceased to function. However, new feeder channels excavated from river Sutlej allowed it to be reopened and the Trewanna and Fordwah canals supplied water to areas stretching from the north-eastern border of the state to the town of Khairpur.¹⁴²

Alongside the construction of canals, reforms were introduced to the administration of both irrigation and revenue collection. For the better administration of the irrigation system professional staff was recruited. A British engineer J. W. Barns was appointed superintendent of the canals and overseers (sub-engineers), draftsman, translators, and clerks were also appointed. Moreover, on each large canal a *Darogha* (inspector) and a team of *naibs* (deputies) were appointed to maintain the canals and punish the people who made cuts and holes in the canals in order to steal water.¹⁴³ One of declared objectives of the development of Indian irrigation system was to increase the financial position of the peasant community to taxable level,¹⁴⁴ and special care was taken in Bahawalpur State to ensure the efficient collection of taxes such as *abiana* (water rates) and land revenue, and for this purpose the irrigation bureaucracy was expanded to include collectors and deputy collectors, Tehsildars, *patwari* and *girdawars*. On the village level *nambardars or lambardars* and *zaildars* were appointed to protect the rights of the peasant community and also to collect state revenues and assist the revenue officers during their visits.¹⁴⁵

¹⁴² Buckley, *Irrigation Works*, pp. 155-156.

¹⁴³ Tahir, *Riyasat Bahawalpur*, p. 360.

¹⁴⁴ Ian Stone, *Canal Irrigation in British India: Perspective of Technological Change in a Peasant Economy*, (Cambridge University Press, Cambridge, 1984), p. 239.

¹⁴⁵ Tahir, *Riyasat Bahawalpur*, pp. 283-284.

Inundation canals were also repaired. Naurangawah, a twenty mile canal that irrigated the areas of both Bahawalpur and Ahmadpur *Kardaris* was redesigned, new embankments were provided and a permanent head was built at higher level to improve the flow of water. In Khanpur *Nizamat* three new canals Barneswah, Minchinwah and Sadiqwah were dug from the river Panjnad to bring more areas under cultivation. Two new canals were dug from the river Indus to irrigate large areas of Sadiqabad *Kardari*.¹⁴⁶ After the termination of rule of agency when Sadiq Muhammad Khan IV assumed power, work continued and two new canals were built; one in the east and one in the west of the state, both of which carried the *Nawab's* name. Sadiqiyah Sharqiyah – in the east – was a twenty six mile long canal with a twenty foot wide head was excavated from the river Sutlej in the year 1889 to irrigate new areas of Minchinabad *Nizamat*. The project was successful, bringing extensive new areas under cultivation, in 1898 the canal was adapted and upgraded to fulfil the increased demand for water; its head was widened to fifty feet and it was extended a further fourteen miles doubling its irrigating capacity. Sadiqiyah Gharbiyah canal was dug from the river Indus during the years 1887-89 to increase water supplies to existing canals in the Khanpur *Nizamat*. It was a large canal at eighty feet wide and was constructed at a cost of Rs. 492,833.¹⁴⁷

The opening of large canals¹⁴⁸ in the Punjab, during last two decades of the nineteenth century, had dramatically affected water supplies to Bahawalpur Canals.¹⁴⁹ The construction of Sirhind Canal from the left bank of the river Sutlej at Rupar to irrigate Patiala, Sheend and Nabah states along with some areas of British districts of Ferozepur and Ludhiana put at risk the very operation of the system of inundation canals downriver.¹⁵⁰ The opening of this canal in 1882 consumed all the winter water supplies of the river Sutlej and reduced the level of summer supplies affecting the

¹⁴⁶ Buckley, *Irrigation Works*, pp. 156-157.

¹⁴⁷ Tahir, *Riyasat Bahawalpur*, pp. 365-366.

¹⁴⁸ The following canals were constructed in different areas of the Punjab: from the river Sutlej, Sirhind Canal 1882, Lower Sohag Canal and Para Canal 1881; from the river Ravi, Sidhnai Canal 1886, Fazil Shah Canal 1890, Abdul Hakim Canal 1891; from the river Jhelum Shahpur Canal in 1871; and from the river Chenab, Chenab Canal in 1892. For details see, *Report of the Indian Irrigation Commission 1901-1903*, (Darling & Sons, London, 1903), p. 365.

¹⁴⁹ Col. L. J. H. Grey, Superintendent Bahawalpur State Canals, 'Selected Evidence, Memorandum by Witness on Canals and Wells, on 29th October 1901', Lahore, in *East India, Report of the Indian Irrigation Commission, 1901-03*, (Darling & Sons, London, 1903), p. 6.

¹⁵⁰ Buckley, *Irrigation Works*, pp. 162-163.

Fordwah, Hussainiwah and Qutabwah Canals of Bahawalpur State.¹⁵¹ This problem was solved by the redesign of canal heads allowing them to operate at lower flow levels and the construction of a network of new canals for the better distribution of existing supplies. During the years 1899-1903 the following changes were made:

- The Qutabwah which ran from the river Sutlej and irrigated the area of Ahmadpur East was remodelled. A new head was built fifteen miles upstream and was widened from twenty to forty feet, almost doubling its irrigation capacity.
- The one hundred and five mile long Fordwah Canal in Minchinabad was choked at its sixty third mile and had stopped supplying water to areas depending upon it. Masudwah a branch canal was dug from Daulatwah Canal and supplies were restored in these regions.
- In turn, a new canal named Mahmudwah was dug from the river Sutlej to irrigate areas left dry by changes to the Daulatwah Canal.¹⁵²

While the introduction of new technology by British officials to the irrigation system of the state no doubt increased the efficiency and working of the canals, it also served British political interests and in some ways reduced the position of the existing population. The introduction of irrigation technology in canal-building and the construction of Fordwah Canal, even before the implementation of canal projects in British Punjab, provided valuable experience to British engineers which they later utilised in the development of canal colonies, while large numbers of landless Sikhs from areas of the eastern Punjab were given lands in the areas of Bahawalpur State ignoring the rights of the local Bahawalpuri community. Capt. Minchin leased out large areas on Fordwah Canal to farmers from the neighbouring areas of Sirsa, Ludhiana and Ferozepur in order to colonise the wasteland areas of the Bahawalgarh *Nizamat*, totalling 166,000 *bighas* of state lands at the rate of one Anna per *bigha*. The sale raised 16,888 Ahmadpuri rupees or 10,375 Company's rupees.¹⁵³

¹⁵¹ Tahir, *Riyasat Bahawalpur*, p. 370.

¹⁵² Din, *Gazetteer*, p. 246.

¹⁵³ *Ibid.*, p. 85.

The British Government of India had announced on several occasions that its main objective in the development of canal networks was to prevent famines and improve the financial conditions of the peasant community¹⁵⁴ and in 1866 the Public Works Department of India issued a circular stating that no irrigation project would be initiated which do not fulfil these criteria.¹⁵⁵ However the records of the Bahawalpur State confirm that there was not a single occasion – before or after the rule of Agency – when the region was hit by a famine.¹⁵⁶ In fact, the sole purpose of canal development in Bahawalpur State was to achieve commercial gains by increasing the production of cash crops – especially cotton for British Mills and wheat for famine hit areas of India. British officials in Bahawalpur were following a more general colonial policy aimed at increasing production of cotton and documented efforts to persuade peasants to shift to cotton cultivation also revealed this intent [discussed in ch. 5]. With their efforts, the area under cotton increased from 2,019 acres in 1867-68,¹⁵⁷ to 20,334 acres in 1875-76.¹⁵⁸

By the end of the nineteenth century the efforts of colonial rulers of India had transformed much of the Punjab's pre-existing system of inundation canals to rely on perennial canals and British hydraulic technology, knowledge and administration. Although this transformation brought revolutionary changes in the irrigation system of the province, reduced water levels in the Sutlej and Panjnad rivers proved catastrophic for the operation of the canals of Bahawalpur. As a consequence the Bahawalpur State found it necessary to rework the established system based on inundation as a perennial canal network and presented a case before 'Indian Irrigation Commission of 1901-1903' on 29th October 1901 at Lahore for the construction of a weir across river Sutlej in the eastern areas of the state.¹⁵⁹ Although the proposal was not accepted at the time it became a reality on 9th December 1921, when the Secretary of State for

¹⁵⁴ Stone, *Canal Irrigation*, p. 239.

¹⁵⁵ PP 1870, LIII, *Report on Irrigation Works*, p. 3, GI to PWDs, Circular 65, 27th April 1866, cited, in Ian Stone, *Canal Irrigation in British India*, p. 239.

¹⁵⁶ Ali, *Gazetteer*, p. 279.

¹⁵⁷ *Report on the Administration of the Punjab and its Dependencies for the year 1867-68*, (Lahore, 1868) p. 7, The Punjab Archives Lahore, (hereafter P.A.L.).

¹⁵⁸ *Report on the Administration of the Bahawalpur State for the year 1876-77*, (Superintendent of the Sadiq-al-Akhbar Press, Bahawalpur, 1877), p. 19.

¹⁵⁹ Grey, *Memorandum by Witness*, p. 8.

India sanctioned the building of a modern irrigation scheme known as the Sutlej Valley Project, to provide perennial irrigation to the areas of Punjab and Bahawalpur State.¹⁶⁰

Conclusion

The purpose of this chapter has been to provide an overview of associated developments in irrigation, and regional politics that brought radical changes in the desert ecology of the Bahawalpur State. This chapter argues that though Daudputras were installed by the Mughal governor of Punjab and the *subedar* of Multan to stop the regular onslaught of the Rajput states of Bikaner and Jaisalmer on the frontier areas of Multan, by their hard work, military skill and tribal unity they were able to establish effective rule across the whole of the Cholistan Desert that lasted for more than two hundred years. By considering the historical evidence available I have sought to give an impression of how tactfully the rulers managed, in the main to protect their state in the turbulent political climate of the eighteenth and nineteenth centuries and survive up to the division of India in 1947. The chapter argues that the relationship of the Daudputra rulers with the neighbouring powers of Bikaner, Jaisalmer, Sind and the Punjab were mostly guided by the needs and interests of the parties while that of with the rulers of Persia, Afghanistan and the British were generally based on cooperation and subordination to those powers.

The chapter also discusses how the rising power of the Sikhs in Punjab compelled the rulers of the state to accept the over lordship of the British EIC in order to counter-balance this threat. The rulers of the state paid the price for this protection by becoming subordinate to British officials and sacrificing some of their power and much of their economic freedom. Yet, this relationship proved a blessing in disguise as British officials introduced administrative reforms and improved and developed the irrigation system with their scientific knowledge.

The last section of this chapter has looked at state's pre-colonial irrigation system which provided the original foundation for its economic development, especially the canal network which became the lifeblood of Bahawalpuri society. The chapter argues that the canal system of the state worked efficiently up to the middle of 1880s but

¹⁶⁰ R.A.B.S., 1942-43, p. 62.

after that period, with the construction of mega irrigation projects on the Punjab Rivers, reduced water supplies forced state authorities to adopt British, technological approaches and construct a weir controlled system of irrigation in the state, which was known as the Sutlej Valley Project, which will be analysed in the following chapters.

Chapter Three: Sutlej Valley Project: An Embodiment of Colonial Hydraulic Technology

“As in most sub-humid regions of the earth, water in the Indus basin is more valuable than land.” Aloys A. Michel¹

Introduction

The previous chapter of this study looked at the canal-based irrigation system of Bahawalpur State, before the implementation of Sutlej Valley Project (SVP) and concluded that the system – which had worked effectively for more than one hundred years – faced major challenges from the early years of 1880s onward. The establishment of the Punjab canal colonies upstream, in the areas of the rivers Jhelum, Chenab, Ravi and Sutlej had reduced the level of water in these rivers, which, in turn, compromised the operation of the system of inundation canals which functioned without any controlled mechanism on the rivers. These problems were largely rectified by the introduction of hydraulic technology on the rivers Sutlej and Panjnad, part of the project known collectively as the Sutlej Valley Project (SVP), which was implemented between the years 1921 and 1933 with the support of the British Government of India. In September 1920 a three-party agreement was signed between the government of Punjab, and the states of Bahawalpur and Bikaner under which they agreed to share the water of river Sutlej for the irrigation of their respective regions.²

Although the link between irrigation canals and state authority in the Indus basin preceded British rule by more than a millennium, from the beginning of the nineteenth century the British administration introduced a new kind of irrigation in which water distribution and social make-up of the peasantry was more closely controlled by

¹ Aloys A. Michel, *The Indus Rivers, A study of the Effects of Partition*, (Yale University Press, New Haven, 1967), p. 11.

² L. F. Rushbrook Williams, *India in 1923-24: A statement prepared for presentation to Parliament in accordance with the requirements of the 26th section of the Government of India Act, 5 & 6 Geo. V, ch. 61*, (Government of India, Central Publication Branch, Calcutta, 1924), pp. 162-163.

engineers and revenue officials.³ This chapter demonstrates the significant levels of continuity observable across British irrigation projects within India, including the SVP. It argues that the SVP laid a network of perennial and non-perennial canals in Bahawalpur State which were intended to provide irrigation for the reclamation of large wasteland areas of the state, for existing cultivation, and to help reshape Bahawalpuri society and the physical environment of the region. The examination of official reports and correspondence pertaining to the project's planning and building show that concerns over the availability of the river supplies and their fair distribution were often neglected. The volume carried by the river that was the main source of water supply and upon which the success of the project was entirely dependent was dramatically over-estimated, which caused serious problems during the development of colony land [discussed in ch. 4]. This chapter argues that during its implementation the British officials did not hesitate to take coercive measures against the officials of Bahawalpur State.

The SVP consisted of two inter-connected sub projects, firstly the construction of headworks and canals and secondly the establishment of canal colonies on crown or state wastelands. This chapter deals with only the first phase i.e. the construction of headworks and canals, the second phase, that deals with colony settlement will be discussed in the next chapter.

The SVP was recommended to the Bahawalpur State by the British government of the Punjab and constructed under the supervision of the British Government of India, that the SVP was conceived of and largely constructed by the colonial administration make the analysis of the circumstances of its implementation all the more important. As mentioned in chapter two of this study, Bahawalpur State was irrigated by two systems of canals; the canals taken off from the Ghara reach of the river Sutlej (a joint stream of the river Sutlej and the Beas) irrigated the districts of Bahawalnagar and Bahawalpur while the canals taken off from the rivers Indus and the Panjnad (a joint stream of the river Sutlej, the Chenab, the Ravi and the Jhelum) provided irrigation to

³ Timothy Daniel Haines, "Building the Empire, Building the Nation: Water, Land and the Politics of river-development in Sind, 1898-1969", (Royal Holloway College, University of London, PhD Thesis, 2011), p. 34.

areas of the district of Rahim Yar Khan. Both the eastern and western parts of the state received their irrigation from the Punjab Rivers which originated from the northern mountains and, passing through the plains of Punjab, entered Bahawalpur State, and then, flowing through it, emptied themselves in the river Indus at Mithankot near the frontier of the Province of Sind.⁴ With a fully functional system of irrigation in place, it seems pertinent to ask at first, why the colonial rulers of India felt that such a project was necessary.

Colonial Interventions in Indian Irrigation and its main Principles

The earliest irrigation works in British India were aimed at the restoration of existing systems such as the Grand Anicut⁵ in Madras presidency which was completed between the years 1804 and 1838.⁶ Its completion, writes Elizabeth Whitcombe, proved a great success as it restored drainage to the area and also produced solid economic results which stimulated the expansion of irrigation works in other areas of India.⁷ After the Anicut, restoration projects were undertaken on the Eastern and Western Jumna Canals in the areas of Delhi and Tanjore.⁸ The restoration work, which included the clearance of canal-beds, strengthening of embankments and the extension of the canals themselves was begun in 1817 and completed in 1846.⁹ The effects of both of these projects on revenue were as striking as on the countryside itself. In 1846-47 revenue receipts for the western canals totalled a sum of Rs. 4,205,879, a surplus of 19 per cent over the total cost incurred, with water rents for the year accounting for 84 per cent of the total direct revenues.¹⁰

⁴ Robert B. Buckley, *The Irrigation Works of India, and their Financial Results*, (W. H. Allen & Co., London, 1880), pp. 129-130, 154-157.

⁵ This Anicut was one of the oldest barrages of the world which was built in 2nd century AD on river Cauvery in the southern areas of India by Chola Kings to provide canal irrigation in their areas. For details see Nirmal Sengupta, 'Irrigation: Traditional vs Modern', *Economic and Political Weekly*, 20: 45/47 (1985), p. 1920.

⁶ Sengupta, 'Irrigation: Traditional vs Modern', pp. 1923-1924.

⁷ Elizabeth Whitcombe, 'The Environmental Costs of Irrigation in British India: Waterlogging, Salinity, Malaria', in David Arnold, and Ramachandra Guha, (eds.) *Nature, Culture, Imperialism: Essays on the Environmental History of South Asia*, (Oxford University Press, Delhi, 1995), pp. 240-241.

⁸ Elizabeth Whitcombe, 'Irrigation', in Dharma Kumar and Meghnad Desai, (eds.), *Cambridge Economic History of India, c. 1757- c. 1983*, vol. II, (Cambridge University Press, Cambridge, 1983), p. 687.

⁹ Whitcombe, 'Environmental Costs of Irrigation', pp. 242-243.

¹⁰ Whitcombe, 'Irrigation', pp. 684-686.

After the early success of their irrigation projects the engineers of the Company were engaged to draft potentially profitable projects which could be introduced in the future. They were also motivated by the government to carry out further irrigation projects in northern India.¹¹ In 1849, the British annexed the province of the Punjab, but, prior to this, in April 1848 the area had been surveyed in order to assess the prospects for large-scale canal-based irrigation projects.¹² The reports of the surveying officers were very encouraging and according to the famous British engineer Proby Cautley – after conducting surveys of different areas of the Punjab – Lieut. Baird Smith had suggested that all the available water of the Punjab should be diverted and utilised in the irrigation of its eight million acres of land, which would render it the most profitable acquisition the British had ever made. In his opinion, which was supported by official data, the expenditure of sixty lakhs of rupees (six lakh Pounds Sterling) on the construction of canals would produce a profit of thirty four lakhs of rupees (3.5 million pound sterling a year).¹³

Cautley himself was very optimistic about the economic potential of the province and described the Punjab as “a territory neither prosperous nor profitable at this present time, but possessing within itself the latent elements of a state of the highest agricultural prosperity, which require only to be developed by the efforts of energetic men furnished with adequate means.” He suggested the construction of a canal in each *doab* area of the Punjab at a cost of only twenty to thirty lakhs of rupees would suffice to transform the region, he believed that “no state could take upon itself a debt to this amount with greater certainty of repaying it, or of reaping advantages from it more than sufficient to warrant its having been incurred.”¹⁴

The government of the EIC responded to its engineers’ advice and the department of Public Works was created for the development of irrigation and railways in place of the Military Boards which had previously been responsible for such projects. A change of

¹¹ Ian Stone, *Canal irrigation in British India: Perspectives on Technological Change in a Peasant Economy*, (Cambridge University Press, Cambridge, 1984), pp. 13-18.

¹² Patrick, McGinn, Capital, ‘Development and Canal Irrigation in Colonial India’, Working Paper 209, Institute for Social and Economic Change, 2009, p. 10.

¹³ P. T. Cautley, ‘First and Second Reports on the Grand Ganges Canal’, *The Calcutta Review*, XII: (1849), Calcutta, p. 142.

¹⁴ *Ibid.*, p. 145.

great significance was made in the financing of irrigation and railway projects which were in future to be financed through loans. Funds for the construction of irrigation projects were increased considerably and the overall budget allocated for the construction of public works excluding railway works totalled in the region two million pounds sterling a year.¹⁵

Despite taking these steps government was still reluctant to invest in mega irrigation projects. The debates of the Select Committee on East India Public Works (1878) in London reveal that in the beginning, the authorities in London were not in favour of introducing large scale irrigation projects in India. The Committee stated that investment in large-scale irrigation projects were by and large a failure both commercially and in preventing famines. These projects were only introduced when it was assured by the Famine Commission of 1880s that they were, on balance, profitable for the government with 6 percent returns on the capital investment after the successful collection of land revenues.¹⁶

Why then, from the early 1890s, were such enormous irrigation and canal colonisation schemes undertaken on the plains of the Punjab? According to Aloys Michel, “The Indus plains offered to man a set of nearly homogenous physical geographical conditions that eventually allowed him to develop there the largest contiguous irrigation system in the world.” This basin was intersected by rivers that carried water throughout the year; it also had a large network of inundation canals which could be developed with the help of modern hydraulic technology. By the middle of nineteenth century Britain had developed an advanced system of canal-based engineering technology and were well equipped to harness the waters of Punjab Rivers for the development of irrigation and agriculture in the crown waste areas of Indus basin in order to cope with the problem of famines in northern India and to supply cotton fibre for mills from Multan to Manchester.¹⁷

¹⁵ John Strachey and Richard Strachey, *The Finances and Public Works of India from 1869-1881*, (Kegan Paul, Trench & CO. London, 1882), pp. 86-89.

¹⁶ Tirthankar Roy, *The Economic History of India, 1857-1947*, (Routledge, London, 2013), p. 237.

¹⁷ Michel, *Indus Rivers*, pp. 13-15.

Engineers transformed technology from the navigational canals of the British Isles to the irrigation canals of the subcontinent. But as they did not have experience of irrigation works, it being largely unnecessary or at least unused in the British Isles or in any other British colonial possession, costly mistakes were made as they learnt and at the same time developed the science of irrigation hydraulics. According to Michel, “the British engineers in India were, one might say, writing the book where perennial irrigation was concerned. They did not, of course, write on a blank sheet. They had the existing inundation systems and a few perennial Mogul works to examine.” As it was a new field for the engineers, government sent its fact finding missions to northern Italy, southern France, Spain and northwest Africa to study the successful working of their perennial irrigation systems. The techniques and methods used in the ancient Middle Eastern irrigation projects and reintroduced by the Arabs and Moors across the Mediterranean region were also utilised but still, trial and error contributed more than the laboratory or the model station to the development of their understanding. However, eventually, they were successful in developing a system of irrigation which had no match in the world.¹⁸ This engineering feat despite its associated problems served as a model for other colonies notably south-eastern Australia where Alfred Deakin and others applied the Indian model of irrigation in the early twentieth century.¹⁹

The pre-colonial irrigation system of the Punjab was mainly based upon the passive technology of inundation canals and, in terms of operation, was very simple. It consisted of a main canal taken out from the river bank and then branched off into several minor canals and water courses. This system of irrigation had two main drawbacks; firstly, canals were built without permanent headworks and so water was only available in them when the river level rose and water flowed directly and automatically into the canals. Secondly, as the rivers originated in the mountains the availability of water was dependent on the amount of snowfall and the timing of the annual melt. If the snowfall was anomalously low or the hot season late in starting the

¹⁸ Ibid., pp. 15, 50-51.

¹⁹ Alfred Deakin, *Irrigated India: An Australian View of India and Ceylon, Their Irrigation and Agriculture*, (W. Thacker & Co., London, 1893); For a critique on Techno-Politics of colonial hydraulic engineering, see, Timothy Mitchell, *Rule of Experts: Egypt, Techno-Politics and Modernity*, (University of California Press, Berkley, 2002).

rivers were slow to rise and crops were either delayed or failed. The British replaced the indigenous system with their weir-controlled technology which had its own disadvantage, primarily its relative complexity and reliance on advanced engineering techniques. The system utilised weirs or a barrage built across the riverbed, the headworks of the canals, the main lines of canals, branch canals, distributaries, minors and outlets (*Khalas*).²⁰

At the time of the British annexation of the Punjab numerous inundation canals were in operation in the region. Most were however notably inefficient, though they were improved and extended by the British engineers in later years. First of all in the 1850s a large canal, Upper Bari Doab Canal, was built and the Madhupur Headworks constructed across the river Ravi in order to feed a network of canals in the districts of Lahore and Amritsar.²¹ Following the tapping of the waters of river Ravi, the Sirhind Canal was dug from Rupar Headworks on the river Sutlej, between the years 1868 and 1882, to provide Irrigation to areas of the native states of Patiala, Nabha, Jind, Faridkot, Malirkot, and Kalsia and the British areas of the Punjab lying between the Sutlej and Jumna rivers.²²

The earliest projects were confined to areas which were already settled, but from the beginning of the 1880s, the British changed their policy and extended the scope of their irrigation projects into unoccupied areas lying away from the river banks. Land in these areas was fertile but the lack of moisture and unpredictable rainfall had made it unsuitable for permanent habitation. For the settlement of these areas the British Government of India devised a twofold policy; firstly they constructed canals which carried river water away from the banks and secondly settled those areas with migratory people from other regions of the Punjab.²³

Every irrigation project which was launched on the Punjab Rivers had a direct effect on the irrigation system of Bahawalpur State and reduced the quantity of water available

²⁰ James Russell Andrus and Aziz Ali Farrukh Mohammad, *The Economy of Pakistan*, (Oxford University Press, London, 1958), pp. 77-78.

²¹ Ibid., pp. 78-84.

²² Paul W. Paustian, *Canal irrigation in the Punjab: An Economic Inquiry Relating to Certain Aspects of the Development of Canal Irrigation by the British in the Punjab*, (Columbia University Press, 1930, reprint, AMS Press, New York, 1968), pp. 41-45.

²³ Ibid., pp. 49-50.

downstream. After Sirhind Canal, two further projects were completed between the years 1886-88. First the Lower Sohag and Para Canal that took from the west bank of river Sutlej was improved in order to irrigate Montgomery District, and then the perennial Sidhnai Canal was built on river Ravi to irrigate the section of Multan District lying between the river Ravi and the old course of the Beas and Sutlej. These projects, however, did not produce the hoped-for financial results and it was only the construction of the Lower Chenab Canal in 1892 that opened the doors to further canal colony schemes in the *doab* area of the Punjab. This scheme – implemented in the region of Sandal Bar, a tract of land lying between rivers Chenab and Ravi – was, according to F. J. Fowler, worked so well that it could soon be referred to as one of the most efficient and successful canal systems in India if not in the entire world. In the wake of this triumph the Lower Jhelum Canal was built in 1901 to irrigate the areas lying between the rivers Jhelum and Chenab.²⁴

Up to the beginning of twentieth century the waters of rivers Chenab, Ravi and Sutlej were tapped and the only surplus water available in the region was to be found in the Jhelum and Beas rivers. The construction of Triple Canal Project in 1917 siphoned off the surplus water of the river Jhelum for the colonisation of the Lower Bari Doab region in the Montgomery and Multan Districts. After the completion of this project the only untapped water left was in the Beas river, this was utilised for the colonisation of the tract of land lying between the old course of the river Beas and the right bank of river Sutlej in South Punjab, along with areas of Bahawalpur and Bikaner States.²⁵

The history of colonial intervention in the irrigation systems of India has been presented with a variety of emphases. According to Patrick McGinn mega-irrigation projects were introduced purely out of the desire to increase revenues.²⁶ It is clear from the statement made by Engineer Proby Cautley, the builder of the Ganges Canal that this was in some cases true. In one report Cautley wrote that “it is very certain that if the restoration and extension of these works had not promised an increase of

²⁴ F. J. Fowler, ‘Some Problems of Water Distribution between East and West Punjab’, *Geographical Review*, 40:4 (1950), pp. 584-585.

²⁵ *Ibid.*, p. 586.

²⁶ McGinn, ‘Development and Canal Irrigation’, p. 10.

revenue to the British Government, they would never have been undertaken.”²⁷ However Paul Paustian, writing in 1930 on the canal colony schemes of the Punjab, follows the official line and argues that these projects were built for the service of humanity and were aimed at the eradication of famine.²⁸ David Gilmartin looks at these colonial irrigation developments in a different way and suggests that although the colonial irrigation policy of the late nineteenth and early twentieth century was influenced by political and financial motives, it was most accurately seen as a contribution to an international discourse on water engineering, a discipline which had gained special attention among colonial rulers, administrators, entrepreneurs and engineers all over the world.²⁹

By contrast, Donald Worster – a contemporary environmental historian – sees these irrigation developments in economic perspective and writes that in the nineteenth century, water lost its mysterious, magical and even holy character becoming nothing more than a commercial entity. It became a special instrument in the hands of governments who learned to manipulate its supply to achieve their own particular objectives. States held the authority to decide which irrigation projects would go ahead and in which areas they should be built and recognised the immense power this granted them over the economic life of people and society.³⁰

Worster suggests that:

Water in the capitalist state has no intrinsic value, no integrity that must be respected. Water is no longer valued as a divinely appointed means for survival for producing and reproducing human life, as it was in local subsistence communities. [...] It has now become a commodity that is bought and sold and used to make other commodities that can be bought and sold and carried to the marketplace.³¹

In order to summarise the above discussion it seems appropriate to argue that the construction of new networks of canals in areas where effective irrigation systems already existed, such as the Upper Bari Doab region – where a small perennial canal,

²⁷ Cautley, *Reports on the Grand Ganges Canal*, p. 80.

²⁸ Paustian, *Canal Irrigation in the Punjab*, pp. 21-25.

²⁹ David Gilmartin, ‘Models of the Hydraulic Environment: Colonial Irrigation, State Power and Community in the Indus basin’, in David Arnold, and Ramachandra Guha, (eds.) *Nature, Culture, Imperialism: Essays on the Environmental History of South Asia*, (Oxford University Press, Delhi, 1995), p. 211.

³⁰ Donald Worster, *Rivers of Empire: Water, Aridity, and the Growth of the American West*, (Oxford University Press, Oxford, 1992), pp. 51-52.

³¹ *Ibid.*, p. 52.

Husli³² or Shah Nuhur was in operation – were not built to eradicate the dangers of famine. If the priority of the government had indeed been to counter the threat of deadly famine, irrigation projects would have been focussed on the semi-arid regions of the southern or western Punjab, where agriculture was totally dependent on rainfall. That this was not the case suggests that it was the desire for increased revenue which prompted the British to expand the network of irrigation.

The Sutlej Valley Project

The Sutlej Valley Project was the last irrigation project to be built by the British in the areas of the Punjab and Bahawalpur State. Although work on this project had started in the early 1850s, both technical and political barriers meant that it could not be realised at this time. By the middle of the 1910s all other areas of the Punjab had – with the exception of Nili Bar – been colonised, and the government of the Punjab turned its full attention for the completion of this project. The primary obstacle to the project's realisation was the opposition of the Bahawalpur State, who did not want to share the waters of the river Sutlej with any other state and opposed any diversion of water on the basis of its superior riparian³³ rights. Finally with the intervention of the British Government of India a compromise was reached in 1920 and Bahawalpur agreed to share the waters of the river Sutlej with Bikaner state and the province of the Punjab. It would be one of the largest irrigation projects completed during the British *Raj* and had far reaching effects on the socio-political and economic environment of the region. It was constructed between the years 1921-33 and consisted of four headworks, out of which three were built on the river Sutlej and one on the Panjnad, and eleven main canals which were to irrigate over five million acres.

³² Husli or Shah Nuhur was built by Mughal Emperor Shah Jehan in 1633 to supply water to the town of Lahore. It was in use for more than two hundred years and was the major source of irrigation in the upper districts of the *doab*. It was later on extended to the town of Amritsar during the Sikh regime. For details see, Buckley, *Irrigation Works*, pp. 144-145.

³³ According to riparian law where a river lies wholly within the territory of one state, it entirely belongs to that state, and no other state has any rights therein. And where a river passes through more than one state, each state owns that part of the river which runs through its territory. This principle was followed in all the disputes arising over the division of water between the states since medieval ages. The jurists like Berber, Stark, Heffer and Samisonian also supported that principle and according to them the disputes relating to river water could only be between the riparian states and not between a riparian and a non riparian state. The British common law all supported the riparian right of the states. For details see, Daljeet Singh, 'Punjab River-Water Disputes', <http://www.sikhfreedom.com/punjab-river-waters-dispute>, (accessed on 13-06-2013).

It was hoped that the project would bring 3.75 million acres of wasteland under cultivation.³⁴

The official objectives of the Sutlej Valley Project as announced by the British Government of India were as following:

- I. To assure the weir-controlled supply of water to existing inundation canals on both sides of the river from April to October.
- II. To extend the reach of existing canals to encompass all low-lying areas in the river valley.
- III. To provide irrigation to new uplands areas away from the river banks on both sides of the river.³⁵

From the stated objectives of the Sutlej Valley Project, it can be inferred that the security of irrigation and the extension of cultivation in order to increase revenue were the primary motivating factors behind the implementation of the project. This study will investigate whether these objectives were achieved and how the project impacted on the state and society of the Bahawalpur State.

The Politics of Water

Soon after taking control of the Punjab in 1849, British engineers started preparing schemes to utilise the waters of the river Sutlej for irrigation on both sides of the river.³⁶ The first scheme was put forward in 1852 by Lieut. Anderson, who proposed a right bank Sutlej canal taken off seven miles above Ferozepur to irrigate the Bari Doab area. In this scheme Lieut. Anderson ignored the needs of Bahawalpur State which held a better claim over the waters of river Sutlej. When Capt. (later on Col.) Joseph Henry Dyas, the Chief Engineer of the Punjab Canals reviewed this proposal in 1855, he remarked that the needs of Bikaner desert should not be ignored while allocating the waters of river Sutlej.³⁷ Capt. Joseph Dyas was quite liberal in his approach and wanted

³⁴ Williams, *India in 1923-24*, pp. 162-163.

³⁵ Ibid., p. 163.

³⁶ Government of Bahawalpur, *Report on the Administration of Bahawalpur State* (hereafter R.A.B.S.) for the year 1942-43, (The Civil and Military Gazette, Lahore, 1944), p. 62.

³⁷ R. Egerton Purves, Chief Engineer, Irrigation Works Punjab, *Report on the Representation of the Council of Regency Bahawalpur State, dated 20th May 1914*, Public Works Department (hereafter P.W. D.) Punjab, Irrigation Branch, Sutlej Valley Canals Project, (Superintendent, Government Printing Punjab, Lahore, 1914), part II, pr. 6, p. 3, Bahawalpur State Archives (hereafter B.S.A.).

to utilise river water irrespective of the state boundaries. On examining a preliminary report of Sirhind Canal he noted that “the water has become a free good and the best line for a canal is that from which the largest extent of country can be irrigated at the smallest cost, irrespective of the name or nature of the existing Government of the country in question.”³⁸ The British Government followed his policy and water from the river Sutlej was awarded to the non-riparian states of Patiala, Nabah, and Jind, along with areas of the British Punjab in Ferozepur and Ludhiana Districts through the construction of the Sirhind Canal which was taken from the Rupar headworks at river Sutlej.

The approval and commencement of work on Sirhind Canal prompted the Bahawalpur authorities to secure suitable supplies of river water for the irrigation of its lands. Major C. C. Minchin, the Political Agent and Superintendent of the state who was responsible for its administration during the youth of the *Nawab*, wrote a letter to the Government of the Punjab in 1869 requesting the allocation of one-fifth of the average winter supply of the river Sutlej to Bahawalpur State. His claim was based on the 180 miles of river frontage held by the state of Bahawalpur. Major Minchin’s request was received favourably, and in response, Col. H. W. Gulliver, officiating Chief Engineer of the Punjab Irrigation Department, suggested to the Chief Secretary of the Government of the Punjab that he allocate 1,450 cusecs³⁹ of winter supplies to Bahawalpur State and 3,550 to the Punjab.⁴⁰ The recommendation, however, appeared not to please the government of the Punjab and was refused.

Another scheme was proposed in 1870 by Col. H. W. Gulliver, the Chief Engineer of Irrigation, which included the construction of two canals, one from the each bank of the river Sutlej near the town of Ferozepur, to irrigate areas of British Punjab on both sides of the river.⁴¹ Interestingly – given his earlier recommendations – in this scheme Gulliver did not reserve any water for Bahawalpur State.

³⁸ Michel, *Indus Rivers*, pp. 69, 93.

³⁹ Cusec is a unit of flow equal to 1 cubic foot per second.

⁴⁰ Purves, *Report on the Representation of the Council of Regency, May 1914*, part II, pr. 8, p. 3.

⁴¹ *Ibid.*, pr. 7, p. 3.

In 1872, Col. Anderson, who had earlier proposed the construction of a right bank canal on the river presented his new proposal for building a dam across the river Sutlej, below its junction with the river Beas, near to the town of Ferozepur, in order to irrigate the central areas of Bari Doab.⁴²

Despite the repeated proposal of schemes, these could not be implemented as the government of Punjab remained reluctant to invest in mega-irrigation schemes. However, once the commercial value of canal irrigation projects became accepted in the 1890s, the British officials again turned their focus on the Sutlej waters. The British government of India, who had shown no interest in any such project up until this point, also became interested and from the closing years of the nineteenth century started pleading the case of Bikaner state through its higher irrigation bureaucracy.

In 1897 Mr. Thomas Higham, the Inspector General of irrigation in India, became acquainted with the needs of Bikaner state while reading a file about the construction of the Lower Bari Doab Canal (hereafter LBDC). He wrote that if the waters of the river Sutlej could be spared it would be desirable to build a perennial canal for the irrigation of Bikaner state or for the highlands of Bahawalpur.⁴³ In October 1901 Mr. S. Preston, Chief Engineer of Irrigation Works of the Punjab, submitted his scheme to Government of India for the construction of the LBDC in order to irrigate the areas of Montgomery and Multan Districts lying on the western side of the river Sutlej.⁴⁴

The Bahawalpur administration were not pleased with Mr. Preston's presentation and requested to reconsider the proposed scheme. The Council of Agency of Bahawalpur State, in its meeting held on 31st January 1900, voiced their concerns to government regarding the potential desolation of Bahawalpur, should the proposed construction of the LBDC go ahead. In the opinion of the Council, the irrigation and agriculture in the five *Kardaris* of the state was entirely dependent on the waters of the river Sutlej and that the construction of the LBDC would not only use up the entirety of the winter

⁴² Buckley, *Irrigation Works*, pp. 151-153.

⁴³ Purves, *Report on the Representation of the Council of Regency, May 1914*, part II, pr. 10, p. 4.

⁴⁴ 'Note by Mr. John. Benton, Chief Engineer, Irrigation Works, Punjab, on the Policy Proposed to be followed with reference to Irrigation Works in the Sutlej Valley below the Confluence of the Sutlej and Beas', dated 2nd December 1903, in Purves, *Report on the Representation of the Council of Regency, May 1914*, Appendix III, pp. 33-34.

supply but also reduce the level of water during summer to an extent that would render the state's inundation canals non-functional. Moreover, the shortage of water – it was observed – might also create a demographic disaster prompting an exodus of people from Bahawalpur to the districts of Montgomery and Multan where a constant supply of water would be available for cultivation.⁴⁵

Soon after the submission of this scheme to Government of India the proceedings of the 'Indian Irrigation Commission of 1901-03' to report on the irrigation of India to government started and the Commission looking at the merits and utility of the LBDC project wrote that, "we are impressed with the great protective and productive value of that project: but we think the construction of this canal must involve, as a necessary consequence, the prosecution, not subsequently but concurrently, of the proposed Sutlej Valley Canal Project." Therefore, the Commission submitted to the government of India an *ad interim* recommendation that:

Nothing should be done to commit Government to the site now proposed until the question has been considered from the new point of view. We understand that the local Government has since submitted a report on the subject [Lower Bari Doab Canal]; but it will probably be unnecessary to come to an immediate decision on the point as in the meanwhile other important proposals have been before us, the adoption of which would render it unnecessary to construct any headworks on the Sutlej at all, at any rate for some years to come.⁴⁶

The recommendations of the Indian Irrigation Commission happened to support the claims made by the Bahawalpur State and halted the Punjab officials' plans for the usage of Sutlej water in Lower Bari Doab region. But as Mr. J. Wilson – settlement commissioner of the Punjab and the member of the Indian Irrigation Commission for the Punjab – had proposed that the waters of Sutlej could be used for the irrigation of the desert country to the south in Rajputana,⁴⁷ so Bikaner henceforth became an integral part of all the schemes which were presented by British officials.

The irrigation schemes described above, put forward by British officials in the region were absolutely contrary to the interests of Bahawalpur State and all included the

⁴⁵ Malik Muhammad Din, *Gazetteer of the Bahawalpur State 1904*, (Sang-e-Meel Publications, Lahore, 2001), p. 257.

⁴⁶ *Report of the Indian Irrigation Commission, 1901-03, part II, Provincial*, (Office of the Superintendent of Government Printing, India, Calcutta, 1903), pp. 12-16.

⁴⁷ *Ibid.*, p. 16.

utilisation of usable irrigation water upstream of the region. Moreover, the Bahawalpur administration took objection to, and rejected, schemes which offered provision of waters to Bikaner state, which had no direct access to, and therefore a seemingly less justifiable claim to usage of, the waters of the river Sutlej. Unfortunately in the final years of nineteenth century Bikaner state was hit by two terrible famines (1897-98 and 1898-99) which convinced the Government of India to approve an irrigation project for the north-western area of Bikaner state. Lord Curzon, the Viceroy of India, now approved the Gang Canal for Bikaner state despite the opposition and objections of Bahawalpur.⁴⁸

After receiving Lord Curzon's blessing, Bikaner state became an integral part of all forthcoming schemes and proposals presented by British officials. This study now looks at the schemes presented by both the representatives of the government of the Punjab and Bahawalpur State, from the beginning of twentieth century to the final approval of the Sutlej Valley Project in 1921.

The terrible famines of late 1890s convinced the government of India to appoint a special commission to report on the irrigation of India and to make recommendations for the avoidance of future famines. For this purpose a commission was formed in September 1901 that held its meetings in different parts of India in order to collect evidence relating to the possible improvement of the irrigation system from different regions.⁴⁹ On the 29th of October 1901 Col. Grey, Superintendent of the Bahawalpur State presented his proposal before the commission, and argued in favour of the construction of a weir across the river Sutlej to provide perennial irrigation to the areas of Bahawalpur on the left side of the river and that of the Punjab on the right side of the river.⁵⁰ Later, Col. Grey modified proposals and presented to the Government of the Punjab on 8th April 1903 a plan for the construction of a weir across the river Sutlej above the town of Pakpattan and suggested the further construction of two

⁴⁸ K. M. Panikkar, *His Highness: The Maharaja of Bikaner*, (Oxford University Press, London, 1937), pp. 288-292.

⁴⁹ *Report of the Indian Irrigation Commission, 1901-03, Part I, General*, (Office of the Superintendent of Government Printing, India, Calcutta, 1903), p. 1.

⁵⁰ L. J. H. Grey, Superintendent Bahawalpur State Canals, 'Selected Evidence, Memorandum by Witness on Canals and Wells, on 29th Oct. 1901, Lahore', in *East India, Irrigation, Report of the Indian Irrigation Commission, 1901-03, part III*, (Darling & Sons, Printed for His Majesty's Stationary Office, London, 1903), pp. 6-7.

perennial canals, one from the right bank for the irrigation of certain areas of the Punjab and another from the left bank to provide irrigation to the Bahawalpur State. The costs of the project were to be borne jointly by the state of Bahawalpur and the British Government of India,⁵¹ but the government of the Punjab rejected this scheme on technical as well as financial grounds.⁵²

In response to Mr. Grey's proposal, Mr John Benton, Chief Engineer Irrigation Works in the Punjab, presented his scheme in July 1905. He proposed two weirs; one at Ganda Singhwala and the other between Lalu Gudar and Pakpattan, near the boundary of Bahawalpur State. The first weir was to serve the upper Sutlej tract of the British Punjab to the west and the desert areas of Bahawalpur and Bikaner states to the east, while the second weir was intended for the irrigation of the lower Sutlej tract of the British Punjab to the west, the existing Bahawalpur canals to the east and probably, in addition, the desert tract of Bahawalpur. He suggested 30 per cent of the total 6,175 cusecs of winter supply from the river Sutlej be used for both the upper and lower Sutlej tracts of the British Punjab, and from the remaining 70 percent, 6 to 8 percent for Bikaner and remaining for the areas of Bahawalpur.⁵³ The government of Punjab did not approve this scheme because it objected to the construction of the very long canals which would be required, while the state of Bahawalpur rejected the plan on the basis of its allocation of river waters to Bikaner state.⁵⁴

After the rejection of Mr. Benton's proposed project, Mr. Kennedy, Chief Engineer Irrigation Works Punjab, made some amendments in Benton's scheme and presented it to Government of India. In this scheme he not only overruled the objections of Bahawalpur but also reduced the share of water allocated to Bahawalpur State. He proposed that only 2,800 cusecs from the winter supply of the river Sutlej be given to Bahawalpur and that the share of Bikaner state should be increased from 242 cusecs

⁵¹ Din, *Gazetteer*, p. 258.

⁵² Mr. J. Benton, Offg. Secretary to the Government of India, P. W. D., Irrigation, Roads and Building, to the Secretary to Government, Punjab, P. W. D., Irrigation Branch, No. 1437 C.W.I, dated Simla, 1st Oct 1904, in Purves, *Report on the Representation of the Council of Regency, May 1914*, Appendix III, pp. 37-38, B.S.A.

⁵³ 'Report by John Benton, Chief Engineer, Irrigation Works, Punjab, dated 6th and 23rd July 1905, on Utilisation of Cold Weather Surplus Waters of the Sutlej River', in Purves, *Report on the Representation of the Council of Regency, May 1914*, Appendix A, pp. 1-31.

⁵⁴ Purves, *Report on Representation of the Council of Regency, May 1914*, part II, & part III, pr. 16, 20, pp. 6-9.

to 1,200 cusecs. While recognising that this scheme might be workable, Mr. Preston made various changes before presenting it to the Government of India for final approval. The British Government of India approved this scheme in March 1906.⁵⁵

Bahawalpur State had fought its case on the basis of its perceived riparian rights which had not proved persuasive to either British Officials of the governments of the Punjab or of India. Mr. Preston, while allotting the waters of river Sutlej to Bikaner state wrote that “we have not hesitated to withdraw water from the river to give to the Phulkian States and Faridkot, none of which have a river frontage, and I am therefore unable to see how we could, or why we should, refuse it to Bikaner if it can possibly be given.”⁵⁶

At the time of the approval of Mr. Kennedy’s scheme it was decided that surveys of Bahawalpur and Bikaner States would be carried out in order to assess their total areas to aid the appropriate and proportionate allocation of waters to each. For this purpose, Mr. Glass, Executive Engineer of the Punjab Irrigation Department was appointed. Mr. Glass – with the help of his team of assistants and surveyors – conducted detailed surveys of Bikaner and Bahawalpur States between the years 1906 and 1909. In Bahawalpur State, Mr. Glass adopted two different approaches, conducting a detailed survey of some areas and reconnaissance survey of the others. The detailed survey was performed only in areas down to a line north-east of Bahawalpur city, drawn from Mirgarh to Tamewali, beyond this point he conducted a reconnaissance survey only. The reason he stated was the low quality of soil, which was unsuitable for cultivation, also, he observed, the patches of cultivable land found beyond this point were surrounded by sand hills making the construction and maintenance of canals and channels through these areas, perhaps unfeasible.⁵⁷

The Council of Regency⁵⁸ of Bahawalpur state was not satisfied with Mr. Glass’s surveys. On 30th May 1912, a three member delegation from Bahawalpur state along

⁵⁵ Purves, *Report on the Representation of the Council of Regency, May 1914*, part. I, pr. 12, p. 5.

⁵⁶ ‘Note, dated 27th September 1905, by Mr. Preston, Inspector General of Irrigation, India, on Sutlej Valley Canals Project’, in Purves, *Report on the Representation of the Council of Regency*, part I, pr. 13, p. 5.

⁵⁷ *Report of the Sutlej Valley Project Enquiry Committee*, (hereafter R.S.V.P.E.C.), *Bahawalpur, 1932*, (Printed by the Manager, Government of India Press, New Delhi, 1932), p. 1, IOL, 1947 b. 84, British Library Archives, (hereafter B.L.).

⁵⁸ Council of Regency consisting of Indian officials was set up in the state of Bahawalpur by British government of India in May 1907 to run the affairs of the state during the minority of its ruler Sadiq

with Mr. Atkinson, Political Agent of the state, met Mr. Tickle, officiating Chief Irrigation Engineer of the Punjab and Mr. Taylor, Under Secretary of the Government at Simla, to discuss the reservations of the state of Bahawalpur over the project approved by the Government and also to request the re-surveying of Bahawalpur. The requests of Bahawalpur were accepted and the Government ordered the re-surveying of the state. Mr. Glass carried out new surveys of Bahawalpur State in the months of October-November 1912 and five thousand additional acres of land were found suitable for irrigation.⁵⁹

As the state of Bahawalpur had voiced its reservations over the approval of Sutlej Valley Scheme of 1906 and had requested the remodelling of the canals, this request was accepted and the Government of India advised to Government of the Punjab to that effect. The Government of the Punjab assigned duty for the drafting and the presentation of the new scheme to Mr. R. Egerton Purves, Chief Engineer of Irrigation Works in the Punjab, who presented the scheme in 1913. The project suggested a weir built at Ganda Singhwala with two canals taken off above it; one from the right bank to irrigate areas of the British Punjab and the other from the left bank to irrigate areas of the British Punjab, Bahawalpur and Bikaner States. The right bank canal was non-perennial and was to run only during the summer season between the months of April and September. The plan did not reserve waters for this canal from the winter river supply of the river and allocated all these waters to the left bank canal. 83 cusecs were allocated for the British areas of the Punjab, 1,919 cusecs for Bikaner and 4,128 cusecs for Bahawalpur State. Mr. Purves was sure that his scheme would be approved as the major changes from previously approved schemes had increased the allocation of waters to Bahawalpur and Bikaner states. But the state of Bahawalpur did not accept this proposed scheme and rejected it on the following grounds:

- i. The inclusion of Bikaner state was not acceptable.

Muhammad Khan V who succeeded his father Nawab Bahawal Khan V after his death in February 1907. For detail see, Masood Hassan Shahab, *Bahawalpur ki Siyasi Tarikh* (Urdu), (Maktabah Ilham, Bahawalpur, 1977), pp. 51-52.

⁵⁹ Purves, *Report on the Representation of the Council of Regency, May 1914*, part, 1, pr. 22, p. 9.

- ii. This proposed scheme did not include the western inundation canals of the state taken off from river Panjnad and Indus and there was no provision of waters for western areas of the state.
- iii. The figures for cultivable lands of the state were wrongly calculated and fifty percent of the cultivable area was missing in this scheme.
- iv. The site of the weir at Ganda Singhwala was not suitable as it was far away from the state, and the length of canals would not only increase the budget of this project but also cause heavy loss of water through absorption and evaporation.
- v. The alignment of the main canal through the areas of Bikaner to Bahawalpur State was faulty and unacceptable.⁶⁰

As is clear from the above discussion, the state of Bahawalpur did not want to share the waters of river Sutlej with Bikaner and opposed every scheme presented by British officials which contained such a provision. The government of India especially, Lord Curzon, the Governor General of India took the side of Bikaner and allotted waters to Bikaner despite of the opposition of Bahawalpur. But following his departure, under the leadership of the Earl of Minto, the Government of India's policy in relation to matters in Indian states underwent radical change. Mr K. M. Panikkar – in his biography of the Maharaja of Bikaner writes that – the first Sutlej Valley Scheme was approved in 1906 by the Government of India, but after its approval, and due to the objections of Bahawalpur State its implemented was abandoned. Moreover, it appears that – following this initial approval by the central government – the government of the Punjab also became less sympathetic towards Bikaner's cause and attempted to obstruct its implementation. In the year 1914 the First World War started and all expensive schemes were put aside by the Government of India.⁶¹

The state of Bahawalpur had rejected Mr. Purve's scheme on technical grounds, and so, for the preparation and presentation of their own scheme to the Government of India, Bahawalpur hired the services of Sir John Benton – a retired consultant engineer – to assist its chief engineer Mr. J. G. Davis. Together they took a detailed tour of all

⁶⁰ Ibid., pp. 1, 7.

⁶¹ Panikkar, *His Highness*, pp. 100-101, 293.

the areas which had been surveyed By Mr. Glass and reported that while his survey was accurate in terms of land areas, it was useless as a guide to the quality or fertility of land. The engineers worked together on the scheme which was presented to the Central Government by the president Council of Regency in 1915. In this scheme the state of Bahawalpur proposed two weirs in place of single weir included in the previous plans. One weir was to be built at Lalu Guddar above the north-eastern frontier of the state, 54.4 miles below the railway bridge at Ganda Singhwala, and the other at Karampur. Two canals, one from the upper and the other from the lower weir were to be taken off to provide perennial irrigation to 1,291,410 acres of Bahawalpur State. The upper canal would irrigate 248,586 acres during *kharif* and 497,172 acres during *rabi* season while the lower canal would provide irrigation to 181,884 acres during *kharif* and 363,768 acres during *rabi*. A main feature of this scheme was the absolute exclusion of Bikaner state and the allocation of total winter supply of river water to the areas of Bahawalpur State, justified by the claim that it would produce better results than would the sharing of water between Bahawalpur and Bikaner states.⁶²

In its proposed scheme, the state of Bahawalpur had suggested a lower canal for the irrigation of its *bangar* (upland) areas which included an area of over 3,100 square miles between the riverine tract (*Khadir* lands) and the desert. The Government of India appointed two officials, Sir M. Nethersole, Inspector General of Irrigation in India, and Mr. F. C. Rose, Chief Engineer Irrigation Works in the Punjab, to survey and inspection of those areas which were proposed to be irrigated by this lower canal. Both officials planned a tour of Bahawalpur State in January 1916 and although all the resources of the state were put at the disposal of these officials and the government of Regency provided them with the transport required for the inspection of its land, the British officials made only three short visits by road, covering an area of 120 miles out of the total 3,104 square miles which were supposed to have been surveyed.

⁶² 'Note, dated 21st May 1919, by the Council of Regency, Bahawalpur State, on the Punjab Project of 1917 and Proceedings of the Delhi Conference of 16-18th December 1918 on the Subject of the Lower Sutlej Valley Canals Project', part, I, ch. II, pr. 5-8, and part II, ch. I, pr. 6-7, in *Some Further Presentations of the Council of Regency, Bahawalpur State, to the Punjab Government on Sutlej Valley Project of 1917 and Delhi Conference of December 1918*, (Civil and Military Gazette Press, Lahore, 1919), pp. 2-3, 23-24, B.S.A.

Moreover most of the officials' time on this touring campaign was spent in the inspection of those areas where very small patches of land were claimed irrigable by the irrigation officers of the state.⁶³

The Council of Regency recorded its displeasure at the methods and behaviour of the British officials in a note which disclosed that Sir Nethersole had attempted to negotiate a compromise, even before the inspection of the state, and on the same terms and conditions which he later proposed in his two addresses to the Council of Regency on 20th and 22nd January 1916. In his addresses to Council he suggested the abandonment of the proposed lower canal which was planned for the irrigation of the uplands of the state and so attempted to deprive Bahawalpur State of its natural rights to the waters of the river Sutlej. His recommendation was based on the assumed inferiority of the soils of these areas, which he had never himself visited. According to the Council, it was clear that the case had been decided in advance and that the decision had been based on the soil surveys of Mr. Glass rather than the personal observations of the officials sent to reassess his work.⁶⁴

The Government of India wanted to finalise a scheme as early as possible but due to technical issues and the uncompromising behaviour of the parties involved no one plan was found acceptable. In his report to the Government of India, Sir Nethersole recommended a single weir on Sutlej River for the irrigation of Bahawalpur and Bikaner states as well as the British Punjab. After his recommendations the Government of India requested from the Government of the Punjab the submission of its final workable proposal, with detailed estimates. For this purpose the Punjab government deputed its executive Engineer A. S. Gibb who submitted his scheme in 1917, his proposals were approved by the Punjab Government and sent to the Government of India for their endorsement.⁶⁵

Mr. Gibb's scheme was based primarily on the proposals of Sir M. Nethersole and included a weir at Ganda Singhwala. He suggested that canals be taken off from both

⁶³ 'Technical Note by the Bahawalpur Irrigation Officer, on Projects Advanced by the Punjab Irrigation Department for utilization of the lower Sutlej Water Supplies, with Special Reference to the Project of 1917', part II, ch. II, pr. 10, in *Some further Presentations of the Council of Regency, 1919*, pp. 25-26.

⁶⁴ 'Note, dated 21st May 1919 by the Council of Regency', part I, ch. II, pr. 9, and part II, ch. II, pr. 11-12, in *Some further Presentations of the Council of Regency, 1919*, pp. 4, 26-28.

⁶⁵ *R.S.V.P.E.C., 1932*, p. 2.

sides of the river in order to irrigate the areas of British Punjab, and Bahawalpur and Bikaner states. From the right bank of the river, Pakpattan and Mailsi Canals were to be taken off to irrigate the area of Nili Bar⁶⁶ while the *Riasti* Canal would be taken off from the left side of the river to provide a perennial supply of waters to the British Punjab, Bikaner and north-eastern areas of Bahawalpur State with the help of four branch canals. He proposed a second weir at Jamlera to protect the existing irrigation of Bahawalpur State, after the perennial supply had been taken off from the upstream weir built at Ganda Singhwala, but he refused to provide any perennial supply from this lower weir to upland areas of the state. In its proposed project of 1915, Bahawalpur State had suggested that a perennial supply be taken off from the river Sutlej for the irrigation of its 1,291,410 acres of land and also that a lower canal be constructed to irrigate its *bangar* (uplands) areas. Mr. Gibb evidently did not agree with these demands and suggested perennial irrigation for only 870,227 acres of land (48% less than the demands made by Bahawalpur) located in the north-eastern areas of the state and discarded the idea of the construction of lower canal partly on the grounds of low soil quality and partly of difficulty of the construction and maintenance of a canal through twenty miles of sand dunes.⁶⁷

The scheme proposed by Mr. Gibbs was counter to the expectations and hopes of Bahawalpur authorities and rejected all proposals presented in the 1915 plan. The Council of Regency therefore refused to accept this project which they criticised as based on “numerous inadvertently incorrect statements.”⁶⁸ The Council of Regency raised objections over inaccurate calculations, statements and remarks made by Mr. Gibb and Mr. W. F. Holms, Chief Engineer of the Punjab Irrigation Works, stating that both the officials of the Punjab Government failed to visit important areas of Bahawalpur State and relied too heavily upon the reports and surveys of Mr. Glass and Mr. Nethersole which were already opposed, and had been rejected by the Council.

⁶⁶ Nili Bar is a tract of land between the old bed of the river Beas and right bank of the river Sutlej.

⁶⁷ *Note, dated 21st May 1919*, by the Council of Regency, para, 1-9, in *Some further Presentations of the Council of Regency, 1919*, pp. 1-5.

⁶⁸ *Ibid.*, pr. 10-14, pp. 5-6.

They declared the proposals biased and potentially harmful to the perennial irrigation of the state.⁶⁹

Delhi Conference of December, 1918

In an attempt to break the deadlock and find a proper solution of the issue of irrigation in the region and the utilisation of the Sutlej waters a three day conference was held at Delhi during December 1918. It was presided over by Sir Claude Hill, finance member of the Viceroy's Executive Council, and was attended by representatives of the Punjab, Bahawalpur and Bikaner states along with other British officials. Opening the proceedings of the conference Sir Claude Hill stated that the necessity of calling this conference arose from the refusal of Bahawalpur state to consent to any sharing of the waters of the river Sutlej with Bikaner and the contesting claims that the waters of river Sutlej belonged to the British Government and of Bahawalpur – as riparian owners – that the water left over in the river after fulfilling the demands of British areas should be at its disposal to irrigate all its cultivable areas. He stated that Bahawalpur's claim was against the principles set out by British Government for the utilisation of river waters. He further added:

that the latest project had been framed with the utmost care after keeping in view the interests of all concerned, and with the idea, after giving full consideration to any prior claim, of making the best use of the water available both from the economic point of view and for the general benefit of the community, without regards to the boundaries between British India and native state territories.⁷⁰

Sheikh Niaz Muhammad, the legal representative of the Bahawalpur State, presented the case of Bahawalpur and appealed to the conference on the following grounds:

- i. Bahawalpur, being a sovereign state, had been using the waters of river Sutlej well before the beginning of British rule in India.
- ii. Their access had been direct and continuous and was supported by all rules of immemorial custom and usage regarding the utilisation of river waters.

⁶⁹ 'Technical Note by the Bahawalpur Irrigation Officer', pr. 12-14, in *Some further Presentations of the Council of Regency, 1919*, pp. 28-29.

⁷⁰ 'Proceedings of the Conference convened in Delhi to discuss the Sutlej Valley Canals', Appendix XXV, p. 130, in *Some further Presentations of the Council of Regency, 1919*.

- iii. Their rights were recognised and confirmed by the treaties signed between the state of Bahawalpur and the British government of India.
- iv. Their rights to waters were supported by the principles of 'justice, equity and good conscience' inferred from the riparian laws of all civilised countries of the world especially that of England and America.⁷¹

He further supported his claim with reference to a treaty signed between the state of Bahawalpur and the government of the British EIC in 1833, which, according to article 2 held that "the honourable the East India Company engage never to interfere with the hereditary or other possessions of the Bahawalpur government."⁷² He claimed that the waters passing through the areas of the state were the possessions of Bahawalpur and Government should not interfere and allot these waters to Bikaner state which held no claim whatsoever over these waters.⁷³

But the claims of Bahawalpur State, based on riparian rights, were rejected by Sir Claude Hill who argued that the British Government of India also held rights over the waters of the Sutlej, downstream in the area of Sind. He further argued that riparian rights were not unassailable and had been abolished in some states of America, Canada and some provinces of Australia and that even if these laws were to be observed, Bahawalpur could only make claims on such grounds for irrigation which had existed there for at least the last twenty years or more. Hill further stated that the proposed location of the weir at Ganda Singhwala was chosen to supply waters to the upper Sutlej inundation canals of British India and that the British Government would certainly not accept a location further downstream. He went on to claim that the British Government of India was now the sole owner of all river waters, and that neither Bahawalpur nor Bikaner had any right over the waters of the river Sutlej, beyond their current usage, and that if additional supplies were to be granted it was a matter of grace and not of right. The British Government, he stated, held at its

⁷¹ Ibid., p. 131.

⁷² 'Treaty concluded between the Honourable the East India Company and Nawab Bhawul Khan, the Ruler of Bhawulpore', No. LXXXIX, dated the 2nd of February 1833, in C. U. Aitchison, comp. *A Collection of Treaties, Engagements, and Sunnuds relating to India and Neighbouring Countries*, revised and continued by A. C. Talbot, vol. VI, (Reprinted at the Foreign Office Press, Calcutta, 1876), p. 177.

⁷³ 'Proceedings of the Conference Convened in Delhi', Appendix XXV, p. 132.

discretion, the power to say 'where the waters, over which they had the sole right, were to be utilised' and Bahawalpur had no greater claim to them than Bikaner.⁷⁴

Sir Claude Hill pointed out that in the proposals presented by the Punjab government in 1917, the largest share of available water had been allotted to Bahawalpur, but that if its Council refused to participate in this project, then the Government of India had no option other than to carry out its scheme ignoring Bahawalpur. After the completion of this project if any damage should occur to the irrigation system of Bahawalpur State, responsibility would lie with the Bahawalpur *Darbar* who, by refusing to participate in the project which would not only have maintained its present usage but would have added very largely to it, would be seen to have neglected their own interests.⁷⁵ Sir J. W. Wood, Political Secretary of the Government of India, supported and ratified the statements made by Sir Claude Hill regarding the relationship between the British government of India and the native states and its authority to decide any controversial issue.

Bahawalpur representatives arrived at this conference with the hope of attaining concessions on the basis of their superior riparian rights, but after the rejection of these claims by Sir Claude Hill – and his further proclamation that the Government of India was the sole owner of all river waters and also had the power to exclude Bahawalpur all together from this project – they were compelled to accept this one sided decision.

At the conference it was decided that the Punjab government project would be circulated to all the concerned parties for final technical examination by January 1st 1919 and after any necessary modification, returned to the government of India by 31st March 1919.⁷⁶ Being a major partner in the proposed project it might be expected that Bahawalpur State would have been familiar with its every aspect, but, surprisingly, the details of the project were kept secret from the Bahawalpur *Darbar* from the day of its preparation to the last day of the Delhi Conference. The president of the Council of Regency applied for a copy of the project on many occasions through

⁷⁴ Ibid., pp. 132-133.

⁷⁵ Ibid., pp. 133-134.

⁷⁶ Ibid., pp. 134- 136.

letters⁷⁷ written to the Punjab government but remained unsuccessful. Even during the Delhi Conference, on 17th December when he requested a copy of the project from Sir Hill he was refused, and Hill remarked “that there were several points which must be discussed and determined before such an examination could be effected with any degree of utility.” It was – furthermore – the legal right of the Bahawalpur state to access the details of the project as set down in the code of Public Works Department, Vol. I paragraph 746, which states, “That native states affected by a proposed irrigation scheme are to be allowed an opportunity of expressing their views on the same before the estimate is submitted to government of India.”⁷⁸

At the Delhi Conference, Bahawalpur representatives were forced by British officials – especially Sir Claude Hill – to accept the Punjab Government project. But, after the approval of this project at the Delhi Conference, when it was finally and thoroughly examined by the Bahawalpur engineers they found it faulty, based on incorrect facts and entirely neglected the interests of the state. The Council could, of course, not accept a project which – according to its engineers – would be ruinous to its irrigation system and it was therefore rejected with the following reasons given:

- i. The location of the weir at Ganda Singhwala was not acceptable as it would increase the cost of construction by Rs. 20,016,000, a major share of which would fall on Bahawalpur State and the construction of long canals would cause a loss of 956 cusecs of water of the average winter supply through absorption and evaporation.
- ii. The winter supply of water was miscalculated and based on speculations.
- iii. The project would return only 2.36 per cent and this low return would bankrupt the state of Bahawalpur.
- iv. Revenues of the state were not sufficient to meet its share of the annual deficit on this project.⁷⁹

⁷⁷ These letters were written on 8th August 1917, 16th June 1918 and 10th March 1919 to Political Agent Bahawalpur State requesting him to receive copy of the proposed project of the Punjab government, in *Some further Presentations of the Council of Regency, 1919*, pr. 32, p.10.

⁷⁸ ‘Engineering Matters relating to Delhi Conference’, pr. 32, 37, in *Some further Presentations of the Council of Regency, 1919*, pp. 10, 12.

⁷⁹ *Ibid.*, pr. 38-39, pp. 12-13.

Once the Council of Regency had unanimously rejected the proposed scheme the president of the Council sent the news, along with the technical notes and criticisms of the state engineers in a letter to W. C. Renouf, Political Agent of Bahawalpur State.⁸⁰ In his letter he revealed that after the refusal of Bahawalpur State to accept the project proposed by Punjab government, Mr. Thomas R. J. Ward, Inspector General Irrigation in India had, in April 1919, visited the state to discuss all matters relevant to the project with the government of Bahawalpur and also to motivate them to accept this project. The president of the Council informed Ward of all of the state's grievances in regard to the project and asked him to visit the *bangar* (upland) areas of the state which had – contrary to state opinion – been declared unsuitable for irrigation by British surveyors. A declaration, on the basis of which, the construction of a lower canal for the irrigation of those areas had been denied. Although Mr. Ward did not comply with the request – remarking that the matter was already decided and that it was beyond his powers to reopen the case – he attempted to clarify the situation accepting that the rejection of the lower canal was not due to the unsuitability of soil but was due to the insufficient availability of waters in the river Sutlej.⁸¹

The case presented by Bahawalpur State in 1919 was handled by the Chief Engineer for Irrigation in the Punjab, who – in his note of 14th August 1919, in which he rejected Bahawalpur's claims – he wrote that the project of 1917 might be improved on.⁸² This, along with the rejection of the project by Bahawalpur authorities, opened the doors for a new scheme. Responsibility for its drafting was assigned to the Chief Engineer of Irrigation in the Punjab.

Mr. H. W. M. Ives' Project of 1919

After the refusal of Bahawalpur State to accept the 1917 Punjab government project which had been approved at Delhi Conference, Mr. H. W. M. Ives', the Chief Engineer

⁸⁰ Maulvi Sir Rahim Bakhsh, President Council of Regency, Bahawalpur to W. C. Renouf, Political Agent, Bahawalpur, dated 21st May 1919, in *Some further Presentations of the Council of Regency, 1919*, pr. 1-21, pp. 1-5.

⁸¹ Ibid., pr. 5, p. 2.

⁸² 'Note by Mr. H. W. M. Ives, Chief engineer, Irrigation Works, Punjab, on the Sutlej Valley Project of 1920, dated 29th August 1920', P.W.D., Irrigation Branch, pr. 6, p. i, in Public Works Department, Punjab, Irrigation Branch, *Sutlej Valley Project, June 1920* (hereafter P.W.D., Punjab, SVP June 1920), (The Superintendent, Government Printing, Punjab, Lahore, 1920), B.S.A.

of Irrigation Works in the Punjab worked on a new scheme taking in account the demands of Bahawalpur State and, in November 1919, presented his new four-weir scheme, which finally paved the way for agreement between all parties. The scheme was presented after informal meetings between Mr. Thomas Ward, the Inspector General of Irrigation in India and Mr. Ives on one side and Mr. J. G. Davis, Chief Engineer, and Mr. J. Benton, the consultant engineer for Bahawalpur State on the other. These informal and lengthy discussions were held at Lahore between 1st and 11th November 1919 and – after their conclusion – Mr. Ives handed over a rough outline of his new and improved project – along with figures of approximate cost and returns – to the chief engineer for Bahawalpur. This project superseded the Punjab Project of 1917 and included four headworks, three on river Sutlej – as against two suggested by the Punjab Project of 1917 – and one on river Panjnad. These measures were taken to provide waters to the canals of Bahawalpur State from a weir within its own boundaries rather than from the tail of Bikaner state, as well as to protect the supplies in the old inundation canals of Bahawalpur State taken off from river Panjnad and the Indus by building a weir at river Panjnad.⁸³

While Mr Ives' four weir scheme was a great advance on all the previous proposals made by the Punjab government, it was still not entirely acceptable to Bahawalpur State. Bahawalpur authorities argued that it had been prepared in accordance with Punjab interests and that the data upon which the project's contents were based had been provided by the chief engineer of the Punjab and it had already been intimated by the Bahawalpur representatives at Lahore that they would not accept it. Moreover Bahawalpur State voiced concerns over both the shortage of water at the beginning and end of the *kharif* season due to the burdening of the river Sutlej at these times, and the distribution of the costs of the project among the parties concerned. After the informal meetings at Lahore, the representatives of the Punjab, Bahawalpur and Bikaner were invited to Delhi by the central government of India in the hope that in

⁸³ 'Note by the Council of Regency, Bahawalpur State, on the Four Weir Scheme for the Utilisation of the Sutlej and Chenab River waters for the Irrigation of the Lower Sutlej Valley, dated the 12th January 1920', in *Note of January 1920 of the Council of Regency, Bahawalpur State on the Various Schemes Advanced for Utilising the Water of the Sutlej and Beas Rivers in the Lower Punjab*, (The Civil and Military Gazette Press, Lahore, 1920), p. 3, B.S.A.

informal meetings conclusions could be arrived at for the preparation of the final project.⁸⁴

A conference was held in Delhi between 8th and 14th December 1919, during which the representatives of the state once again raised objections over the allocation of Sutlej waters to Bikaner state as well as to the allotment of perennial supplies to Nili Bar *khadar* area of the Punjab. Bahawalpur objected that the Nili Bar area was an extension of the upper Sutlej non-perennial tract, in which colonisation had previously been carried out quite successfully without winter supply, it was therefore unnecessary to provide perennial supplies to that area. They argued also that the allocation of perennial supplies to Nili Bar would reduce the supplies in the river at the beginning and end of the *khariif* season – during the months of April and May, and September and October, which would be disastrous for the agriculture of Bahawalpur State.⁸⁵

At the Delhi meetings matters relating to the availability of winter supplies in the river Sutlej and its distribution to various parties were agreed upon. It was decided that the non-perennial channels were only entitled to water from April 1st to October 15th and that during that period they would share the supplies available equally with the perennial channels. The *rabi* supply on which the project was to be based was accepted as 6,500 cusecs and the maximum capacity of the channels was fixed at 13,000 cusecs. The water requirement for *khariif* irrigation was fixed at 70 acres per cusec at the distributry head while for the *rabi* it was fixed at 210 cusecs per acre. It was also decided that the water made available by transferring the irrigation of 270,000 acres of Bahawalpur from the Sutlej to the additional weir proposed at Panjnad, would be distributed between Bahawalpur and Bikaner in proportion to their gross areas. The government of India also agreed to share the cost of Panjnad weir up to Rs. 40 lakhs with the state of Bahawalpur.⁸⁶

⁸⁴ Ibid., pp. 3-4.

⁸⁵ Maulvi Sir Rahim Bakhsh, President, Council of Regency, Bahawalpur State, to W. C. Renouf, Political Agent, Bahawalpur Agency, No. 149, dated 12th January 1920, in *Note of January 1920 of the Council of Regency*, pp. 1-2.

⁸⁶ H. W. Nicholson, Executive Engineer on Special Duty, 'Report on SVP, dated 29th July 1920, Simla, part I, General', pp. 1-4, and part II, Technical, p. 23 in P.W.D., Punjab, *SVP June 1920*.

Soon after the Delhi conference the Government of India sent its instructions to the government of the Punjab to prepare its final project on the lines recommended at Delhi. The government of the Punjab prepared its project hurriedly and sent it to Bahawalpur *Darbar* for approval.⁸⁷ After receiving project, the Council of Regency handed it to its chief and consultant engineers, Mr J. G. Davis and Sir John Benton and sought their advice. After a thorough examination of the project, the engineers pointed out the same drawbacks which they had raised at the Delhi conference; the allocation of perennial supplies to *khadar* areas of Punjab, the shortage of winter supplies in the river, the heavy costs of the project, especially the costs of Panjnad weir and the location of weirs.⁸⁸

In a meeting held on 12th January 1920, the Council of Regency unanimously ratified the findings of its engineers. The Council once again raised objections over the burdening of river Sutlej and the shortage of supplies during the winter, and at the beginning and end of the *khariif* season. The Council also objected to the proposed sites of weirs one⁸⁹ and two⁹⁰ at Sulemanke and Jamlera respectively, as the sitting of the weirs was seen as benefiting the Punjab rather than Bahawalpur. It was suggested that the Sulemanke headworks be moved to Lalu Guddar and Jamlera to Tolewah, sites which were seen as more economical and convenient for the state of Bahawalpur. The Council had doubts over the availability of waters in both the river Sutlej and Panjnad, so it requested that the Government of India provide its assurance for the sufficiency of waters in the region. The Council also requested that the Government of India bear the whole costs of the construction of Panjnad Weir, the necessity of which arose entirely from the opening of new canals in the British Punjab and the utilisation of the

⁸⁷ 'Note by Mr. H. W. M. Ives, Chief Engineer, Irrigation Works, Punjab, on the SVP of 1920, dated 29th August 1920, Short History', pp. i-ii, in PWD, Punjab, *SVP June 1920*.

⁸⁸ 'Note by the Irrigation Officers Bahawalpur, on the Four-Weir Scheme, Lower Sutlej Valley Canals Project, dated the 21st December 1919', in *Note of January 1920 of the Council of Regency*, pp. 7-10, B.S.A.

⁸⁹ Weir No II was proposed at Sulemanke at river Sutlej but Bahawalpur *Darbar* wanted it further upstream at Lalu Guddar which was more suitable place for the efficient irrigation of large areas of Bahawalpur State. For details see, 'A Translation copy of a note by the Council of Regency, dated 25th August 1920, on the Punjab Project of 1920, for the Sutlej Valley Canals', in *SVP June 1920*, p. xxi, B.S.A.

⁹⁰ Weir No III was proposed at Jamlera at river Sutlej but Bahawalpur *Darbar* objected this place and wanted to have it 49 miles downstream at Tolewah Head which was suitable place for Bahawalpur areas because two canals, one perennial and one non perennial were to be taken off from the left side of this weir for Bahawalpur areas and only one non perennial canal for British areas. For detail see 'Note by the Council of Regency, dated the 25th August 1920', p. xxi.

waters of the Punjab Rivers, which were also required by the Chenab and Indus series of canals in Bahawalpur State. Though the Council of Regency raised objections, this new project was seen as a great advancement on all previous proposals made by the Punjab Government. The Council of Regency thanked Mr. Ives and the Government of the Punjab for putting forward this new project, and for rejecting its previous proposals of 1913 and 1917, which were destined to ruin the state of Bahawalpur.⁹¹

Mr. Ives' project was accepted because it obviated the need for long, wasteful canals taken off far away from headworks, it proposed irrigation for more areas on the left bank of the river than the previous projects and because it would add more waters to the system via the construction of a weir across the river Panjnad.⁹²

After its meeting the Council of Regency sent a note to the government of Punjab highlighting the differences which were still unresolved. On receiving this note the government of Punjab invited the representatives of Bahawalpur to Simla to attempt to resolve the remaining issues.⁹³ During these meetings at Simla Mr. Davis, the Chief Engineer of Bahawalpur advised its government not to accept the project of Punjab government as it was, yet again, against the interests of Bahawalpur State and left the meetings. But Bahawalpur representatives felt that they had no other option than to accept the proposals as at the Delhi Conference, the government of India had made it clear that if any of the parties refused to accept this project it would not prevent the Punjab government constructing its project along different lines.⁹⁴

The government of Punjab prepared its final project and submitted it to the government of India for final approval by all the concerned parties. It was sent to Bahawalpur *Darbar* at the end of July 1920 and after technical examination by the president, the Council of Regency sent it to the Political Agent of Bahawalpur State with reservations over the overestimation of water supplies which were, according to

⁹¹ 'Note by the Council of Regency, Bahawalpur State, on the Four-Weir Scheme for the Utilisation of the Sutlej and Chenab River Waters for the Irrigation of the Lower Sutlej Valley, dated 12th January, 1920', pr. 1-16, in *Note of January 1920 of the Council of Regency*, pp. 3-6.

⁹² 'Note by the Irrigation Officers, Bahawalpur, on the Four-Weir Scheme, Lower Sutlej Valley Canals Project, dated the 21st December 1919', in *Note of January 1920 of the Council of Regency*, p. 7.

⁹³ 'Note by Mr. Ives on the SVP of 1920, dated 29th August 1920', in P.W.D., Punjab, *SVP June 1920*, p. i.

⁹⁴ H. M. Ives, Esquire, Secretary to Government, Punjab, P.W.D, Irrigation, Branch, to the Secretary to the Government of India, P.W.D, dated, Simla, 8th September, 1920, in P.W.D., Punjab, *SVP June 1920*, p. ii, B.S.A.

him, in need of more investigation, as the success of the whole project revolved around them. He noted that the Council of Regency had always protected the interests of the state and advanced its fears without any hesitation to the Government of India which was the 'Guardian-in-Chief' of the minor *Nawab*, and to which was referred all important matters of the State. He further observed that:

The council of regency find[s itself] in a very delicate position. It is very difficult for them to venture on an enterprise which may prove unsuccessful and thus may bring untold misery in its train, as their technical advisors do not advise them to accept the project, which they very strongly urge has many technical demerits. At the same time it would be unfortunate if the council were to reject a scheme which may be fruitful in its results, as explained by the government engineers.⁹⁵

The Political Agent of Bahawalpur State, being a British official, was already in agreement with the four weir scheme of the Punjab Government; he therefore overlooked the fears of Bahawalpur State and sent the project to the secretary to the government of the Punjab. In an accompanying note he wrote that "I am completely convinced of the beneficial nature of the scheme and consider that there are no substantial grounds for nervousness on the part of the Council."⁹⁶

So despite of the fears and grievances of the Bahawalpur state, the project was sent for final agreement.

Agreement of September 1920

A final agreement was signed at Simla on 4th September 1920, by the representatives of the British Government of India, the Governments of His Highness the *Nawab* of Bahawalpur and His Highness the *Maharaja* of Bikaner for the construction of a Sutlej Valley Canals Project for the irrigation of areas from the Ghara reach of the Sutlej River and the Panjnad reach of the Chenab River. According to the terms of this agreement the British Government of India was chosen as the guardian of the project and all the works related to the construction of the headworks, main canals and the distributry canals were to be completed under its supervision. It was agreed that Bikaner state would pay seigniorage to the British government for the use of water at a rate not

⁹⁵ 'A Translation copy of a note by the Council of Regency, dated 25th August 1920, on the Punjab Project of 1920', pp. xx-xxii, in P.W.D., Punjab, *SVP June 1920*.

⁹⁶ The Political Agent, Bahawalpur Agency, to the Secretary to Government, Punjab, P.W.D., Irrigation Branch, No. 678-C, dated 1st September 1920, Simla, p. xix, in P.W.D., Punjab, *SVP June 1920*.

exceeding one tenth of the average water rate taken from the Ghara reach. The parties had to bear the cost of their main canals themselves but they also had to contribute to the construction of common headworks and related works, including any survey and other work necessary to this project, after the 1st of January 1920. The government of India took over the responsibility of the maintenance and management of this project for three years after its completion.⁹⁷

Under the final agreement of September 1920, it was accepted that the following headworks and canals would be built:

a) Ganda Singhwala Weir (Ferozepur Weir)

The uppermost weir was to be built at Ganda Singhwala across river Sutlej below the north-western Railway Bridge over river Sutlej, near the town of Ferozepur. From this headworks, three canals, one from the right side of the weir and two from the left side were to be taken off. Of the left side canals, one was to provide perennial irrigation solely to the areas of Bikaner State and the other to protect the supplies in Grey⁹⁸ canals by changing their status from inundation to non-perennial canals. While the canal taken off from the right side of the weir was to provide non-perennial supplies to the Upper Sutlej series of inundation canals in the British Punjab.

b) Sulemanki Weir

The second proposed weir was to be built at Sulemanke, sixty miles below the Ganda Singhwala Weir across river Sutlej within Bahawalpur State. Canals were to be taken off from both side of the weir. From the left-hand side of the weir two canals, one perennial and one non-perennial were to be taken off for the irrigation of areas of Bahawalpur State while the canal taken off from the right-hand side of the weir was to provide both, perennial and non-perennial irrigation to the Nili Bar areas of the British Punjab.

c) Jamlera Weir

The third weir was to be built at Jamlera, across river Sutlej in order to provide perennial and non-perennial irrigation on both sides of the river. From the left-hand

⁹⁷ 'Terms of Agreement, 1920', pp. xi-xv, in P.W.D., Punjab, *SVP June 1920*.

⁹⁸ These canals were named after Col. L. J. H. Grey, Deputy Commissioner of Ferozepur who built these canals in the last quarter of nineteenth century.

side of the weir a non-perennial canal was to be taken off to protect the supplies in the inundation canals of Bahawalpur State – in practice transforming them to non-perennial canals – while the other was to provide perennial irrigation to the uplands of Bahawalpur State. The canal taken off from the right-hand side of the weir was built to protect the inundation canals of the Lower Series of river Sutlej in the areas of the British Punjab.

Later, in 1926, the site of the headworks was shifted from Jamlera to Islam, 30 miles downstream, in order to reduce the cost of taking off canals [see, sub-heading Revision of the Project and its Estimates of this chapter].

d) Panjnad Weir

The fourth and last weir was to be built across river Panjnad – below the confluence point of the rivers Sutlej and Chenab – to provide irrigation to areas of Bahawalpur State. From this weir one non-perennial canal was to be built on the left-hand side of the river to protect supplies to the inundation canals taking off from the river Chenab and the river Indus, while the perennial canal was to be constructed to provide irrigation to upland areas of the state. A third canal was also proposed for the irrigation of some areas of the province of Sind.⁹⁹

The uncompromising approach of parties to the inclusion of their cultivable areas and the allocation of perennial supplies to those areas had remained a major hurdle in arriving at the final agreement. In particular, the state of Bahawalpur had raised serious concerns over the allocation of winter supplies to the Punjab areas of Nili Bar as well as to areas of Bikaner and Bahawalpur and challenged what it saw as the unjust allocation by putting forward its own claim for the perennial irrigation of its 2,500,000 acres of land. This matter was finally resolved at the Delhi Conference of December 1919 when the government of Punjab conditionally agreed to reduce the area for which it demanded perennial irrigation from one million acres to 0.9 million acres, if the state of Bahawalpur would also reduce its claim from 2.5 million to 2 million acres. The president Council of Regency, Sir Rahim Bakhsh accepted this offer and the

⁹⁹ 'Note by Mr. Ives on the SVP of 1920', dated 29th August 1920, pp. ii-iii.

following acreages formed the basis for the allocation of perennial supplies to the parties concerned:

i)	British areas on river Sutlej	900,000 Acres
ii)	Bikaner areas on river Sutlej	500,000 Acres
iii)	Bahawalpur areas on river Sutlej	1,730,000 Acres
	Bahawalpur areas on river Panjnad	270,000 Acres
	Total areas of Bahawalpur	2,000,000 Acres
	Overall Total Areas	3,400,000 Acres

The above acreages were used only as a basis for the distribution of the water and to fix the capacities of the canals,¹⁰⁰ and were nothing to do with actual irrigation as everything would, in the end be dependent on the supplies available in the rivers.

Table 3:1, Allocation of Perennial and non-Perennial Water Supplies to Parties

Party	Command Area (Acres)	Area proposed for Perennial Irrigation (Acres)	Area proposed for non-Perennial Irrigation (Acres)	Proposed Annually Irrigated area, (Acres)
Bahawalpur	4,866,701	2,000,000	2,866,701	2,824,618
British	3,780,846	900,000	2,880,846	1,942,043
Bikaner	544,520	544,520	...	340,870
Total	9,192,067	3,444,520	5,747,547	5,107,531

Source: 'Note by Mr. H. W. M. Ives, Chief Engineer, Irrigation Works, Punjab, on the Sutlej Valley Project of 1920', p. xv.

The above table shows that after its completion, the Sutlej Valley Project was to provide annual irrigation to some 5,107,531 acres of land out of a total command area of 9,192,067 acres. In terms of command area, irrigated area, the number of headworks, and of canals it significantly exceeded the famous Triple Canal Project¹⁰¹ –

¹⁰⁰ 'Report, part II, Technical', p. 5, in P.W.D., Punjab, *SVP June 1920*.

¹⁰¹ Triple Canal project was completed between the years 1905-1917 in the province of Punjab to irrigate the areas of Lower Bari Doab. The total command area of that project was 3,997,434 acres out of which

also developed by the Punjab government – which had a gross command area of about 6,250 square miles and was designed to irrigate some 2,750 square miles annually. The size of the gross command areas of the SVP was over 14,000 square miles and the annual irrigated area was nearly 8,000 square miles making it the largest irrigation project built by the British in India at that time.¹⁰²

Such a large scale irrigation project –requiring enormous investment and aimed at the dramatic transformation of wasteland areas into productive fields – presented major economic questions; the annual financial returns; the value of the crops grown in a year; and the value of receipts available on account of the sale of crown wastelands which are discussed below.

The planners of the project had high hopes for its success. They were expecting high returns from the sale of crown wastelands and crops. The crown wasteland of all three parties was about 3,731,020 acres and the sale of one third of this total acreage was expected to return 60 crores of rupees; 33 crores for Bahawalpur; 17.4 crores for the Punjab and 9 crores for Bikaner. They estimated that the value of crops irrigated in a year would be Rs. 35 crores or more than double the entire capital cost of the project.¹⁰³

1,875,855 acres were to be irrigated annually. For details see Sir, John Benton, 'The Punjab Triple Canal System', paper No. 4137, Minutes of the Proceedings of the Institution of Civil Engineers, 201 (1916), pp. 24-48.

¹⁰² *Note by Sir Thomas Ward, Inspector General of Irrigation in India, on the Sutlej Valley Canals Project, dated 15th Nov. 1920, Enclosure No. 3 to Despatch No. 15, Public Works of 1921, pr. 8, B.S.A.*

¹⁰³ 'Report, part I, General', p. 4, in P.W.D., Punjab, *SVP June 1920*.

Table 3:2, Cost, Contributing Shares and the Expected Percentage Returns for the Parties

Party	Cost of the project in Rupees	Percentage return on sales of land and <i>malikana</i>	Percentage return from water rates
Bahawalpur	71,824,335	42.1 per cent	14.5 per cent
Bikaner	20,121,121	35.9 per cent	8.9 per cent
British	50,091,551	33.6 per cent	12.7 per cent
Total Cost	142,037,007		

Source: 'Note by Mr. H. W. M. Ives, Chief Engineer, Irrigation Works, Punjab, on the Sutlej Valley Project of 1920', p. xv.

Although the project of Punjab government was prepared soon after the First World War when commodity prices were extraordinarily high, the government was hopeful for its economic success. The government of the Punjab proposed to finance the works through a short-term loan or series of loans which were to be returned each year by the parties concerned through the sale of their crown wastelands. As both Bahawalpur and Bikaner had large areas of crown wastelands it was not difficult for them to pay their share of the costs. Moreover, it was easy for the parties to manage their resources as none of them had to pay their full share at the beginning of the work and the process of colonisation in their respective areas was to be started some time before the completion of the project.¹⁰⁴

Final Approval of the Scheme

Mr. H. W. M. Ives, Secretary to Government of the Punjab submitted this project to the Government of India on 8th September 1920 for their approval.¹⁰⁵ The British

¹⁰⁴ *Note by Sir Thomas Ward on the Sutlej Valley Canals Project, dated 15th November 1920, pr. 36, p. 13.*

¹⁰⁵ Letter from H. W. M. Ives, Secretary to Government, Punjab, to Secretary to the Government of India, Irrigation Branch, No. 01209-W.I, dated 8th Sep. 1920, p. i, in P.WD, Punjab, *SVP June 1920*.

Government of India handed the project over to Sir Thomas Ward, Inspector General of Irrigation in India in order for him to assess the feasibility of the scheme before finally sending it to Secretary of State for India for his endorsement. As the project had been prepared in some haste the estimates and plans of execution had not been given in great detail, and during his observation Sir Ward stated with regret that it was not possible for him to scrutinize the project properly as it lacked detailed estimates and necessary exactitude in planning. He wrote that the Local Government had not – as it had been instructed in December 1919 to do – appointed adequate staff for the preparation of detailed project with accurate estimates for its technical sanction. The cost of the headworks was calculated on the estimates of Aliwal Weir of Bhakhra Dam project on river Sutlej which had not yet been submitted to Government of India for its approval, and the cost of the main canals and branches were calculated on the basis of the estimates made for those constructed under the Triple Canal Project with an increase of 25 per cent to cover increases in prices. Although the Chief Engineer of Irrigation Works in the Punjab reported that the estimates were liberally made in order to safeguard against the potential rising costs of the project, the details were still thought insufficient to check the accuracy of this statement. He stated that in the circumstances he was unable to advise on the project's viability, and that he considered it impossible for either the Secretary of State or the Government of India to take responsibility for the adequacy of the estimates as they stood.¹⁰⁶

However – and although not satisfied with the details of the scheme – he did recommend it for administrative approval because it appeared to him a highly remunerative irrigation project and also seemed to provide the best solution to a long standing and difficult problem. He urged that after gaining administrative sanction for this project, the Punjab Government should appoint a special Chief Engineer, with an adequate staff, both for the engineering as well as the revenue aspects to prepare a comprehensive presentation including estimates at the required level of detail and rigour as the work could not be started on the submitted estimates. Moreover, he stated that these detailed estimates were necessary to guide and control the officers responsible and also for the successful execution of the project. He made it clear that

¹⁰⁶ *Note by Sir Thomas Ward on the Sutlej Valley Canals Project, dated 15th November 1920, pr. 37, p. 13.*

once the detailed estimates were ready and it was found that the estimates submitted indicated a favourable economic outcome, the Government of the Punjab would have the power under paragraph 398 of the P.W.D. Code to proceed with construction without further reference to any higher authority.¹⁰⁷

The government of India endorsed the statement of Sir Thomas Ward and while forwarding this project to Secretary of State for India in London for his final approval, requested that a general sanction of the project might be given subject to the condition that if the detailed estimates would exceed the already approved amount a revised estimate would need to gain approval before the commencement of the work. This was seen as particularly necessary because two native states, Bahawalpur and Bikaner were involved in the project.¹⁰⁸

In August 1921, in response to a despatch from the Government of India, the Secretary of State asked for the provision of assurances from the parties concerned regarding their ability to meet financial liabilities incurred through the scheme. In November 1921, the Government of India replied through a telegram that the Punjab Legislative Council had unanimously approved the project and also the states of Bahawalpur and Bikaner had satisfied the Government of the Punjab that they could finance their part of the scheme either from state funds or from the proceeds of land sales. He was informed that Bahawalpur had undertaken to sell sufficient lands every year to provide the required funds. After receiving this assurance from all the parties concerned, the Secretary of State replied on 9th December 1921 that, subject to Bahawalpur giving the required undertaking, he sanctioned the project and the immediate commencement of work upon it.¹⁰⁹ The Department of Local Government of India received this sanction project via telegram No. 561-I on 17th December 1921.¹¹⁰

The Secretary of the State had sanctioned this scheme without conditions that created confusion among the Government of India, the Government of the Punjab and the

¹⁰⁷ Ibid., pr. 37, p. 14.

¹⁰⁸ 'Note by Lt. Colonel A. J. O. Brien, P. W. And Revenue Member, Council of Regency, Bahawalpur State, on the SVP, dated 19th June 1923', pp. 1-2, IOR/R/1/1/1490, File No 39(21)-P(S)/1924-26.

¹⁰⁹ *R.S.V.P.E.C., 1932*, pp. 6-7.

¹¹⁰ P.W.D., Punjab, Irrigation Branch, *History of the Panjnad Headworks, Panjnad and Abbasia Canals 1921-1932*, (Superintendent, Government Printing Punjab, Lahore, 1936), p. 1, B.S.A.

Chief Engineer of the project, as they all took this approval to mean slightly different things. The Government of India naturally held that the sanction was contingent on all that was sent through her despatch and that the commencement of work required the preparation of detailed estimates. The chief Engineer believed that the commencement of work meant the actual construction and the Punjab Government must allot him funds for that purpose.¹¹¹ Thus the work on the project, like the final compromise among the parties also started in an ambiguous and unsteady manner.

In previous pages of this chapter I have provided a general description of the genesis of the Sutlej Valley Project as is necessary for the proper understanding of the project. As the scope of my study is confined only to the State of Bahawalpur I will now focus only on developments relevant to that region.

Commencement of the Work

Work on the Sutlej Valley Project started in March 1922, and according to plans, was to be completed within eight years. Construction on the headworks was to begin with those at Sulemanki, followed by Jamlera then Ferozepur and last of all the Panjnad Headworks. The decision to construct the Sulemanki Headworks first was made for financial reasons: Most of the Crown wastelands of the Punjab and Bahawalpur which were set for perennial irrigation were located in the catchment area of this weir, and so the construction of the Sulemanke Headworks would bring the highest percentage returns on capital and could be achieved in the least time. Moreover, in the area of the Bahawalpur State a canal was already working meaning that capital expenditures could more easily be met through the sales of lands.¹¹² Mr. E. R. Foy, the Chief Engineer for Construction in the Irrigation Branch, Punjab, was appointed the Chief Engineer of the Sutlej Valley Project and all the construction work related to the headworks, main canals and the distributry canals was to be carried out under his supervision.¹¹³

A special feature of this project which set it apart from previous projects undertaken by the Punjab Government was the extensive use of machinery in its construction. The

¹¹¹ 'Note by Lt. Colonel A. J. O. Brien, dated 19th June 1923', p. 2.

¹¹² H. W. Nicholson, Executive Engineer on special duty, 'Report on SVP, dated 29th July 1920, part II, Technical', pp. 24-25, in P.W.D., Punjab, *SVP June 1920*.

¹¹³ *R.A.B.S., 1922-23*, pp. 4-5.

mechanical excavators¹¹⁴ and concrete mixers were used in place of manual labour for digging and gravel mixing.¹¹⁵ It was stated that the First World War and the recruitment of soldiers from the Punjab had produced a shortage of labour in the region which had enhanced the prices of wage labour making machines more economical, and secondly that their use would ensure the early completion of the project.¹¹⁶

These statements regarding the non-availability of the labour appear to have been incorrect. It furthermore appears that labour was available in excess in Bahawalpur State and that the state had offered to complete the canal work within its borders with the help of its own labour, but had their offer refused.¹¹⁷ Due to the immovability of the British Government of India on this point, local labour could not benefit from the undertaking of this project. Later on, during the construction of Bahawal Canal, when the state was able to use its own labour, it was reported by Mr. F. W. Kennaway – the Public Works and Revenue minister of the state who was working on behalf of the British government of India to the governor of Punjab – that the state authorities had utilised forced labour in its construction.¹¹⁸ This complaint created a rift between the revenue minister of the state and the Bahawalpur *Darbar*. Forced labour or *chher* was no longer permitted in Bahawalpur State and the accusations created an environment of suspicion which the administration was keen to clear up. The Political Agent of Bahawalpur State to the governor of Punjab investigated the issue thoroughly and found that the labour had been supplied by the state on the request of the Superintendent Engineer Bahawalpur Canals who had been advised by the Chief

¹¹⁴ Overall sixteen Ruston and Bucyrus Dragline Excavators were used for the digging purposes. For details see, P.W.D., Punjab, Irrigation Branch, *SVP, Revised Estimates, 1926*, vol. I, *Report, part I, General*, p. 5, (Superintendent Government Printing, Punjab, Lahore, 1926), Punjab Archives Lahore, (hereafter P.A.L.).

¹¹⁵ *SVP, Revised Estimates, 1926, Report, part I, General*, pr. 11, p. 5.

¹¹⁶ *Ibid.*, pr. 11, p. 5.

¹¹⁷ Letter from Department of Industries and labour, Central Government of India, to Lieut. Col. A. B. Minchin, Agent to the Governor General Punjab States, dated 18th July 1923, in IOR/R/1/1/1490, p. 10, B.L.

¹¹⁸ Letter from F. W. Kennaway Esquire, I.C.S., Public Works and Revenue Minister, to the Chief Secretary to Government, Punjab, dated 3rd October 1925, in IOR/R/1/11498, 1925-26, 'Bahawalpur Affairs: Employment of forced labour on the SVP in the State', B.L.

Engineer of the Project to speed up the construction and the allegation of forced labour were misplaced.¹¹⁹

The construction of such an irrigation project required huge quantities of building materials such as stone, lime, cement and iron. To supply the building material to the construction sites, railways – which were the fastest and the cheapest means of carriage at that time – were used. Stone was supplied from the Nalagarh Quarries which were opened in 1870s to provide stone for the construction of Sirhind Canal,¹²⁰ and lime came from Bahawalnagar where a central lime factory was established to provide for the whole project. As most of the railway track was already in place, only a connecting track of forty eight miles from Doraha to Nalagarh needed to be built.¹²¹

Revision of the Project and its Estimates

As described above, detailed estimates and costing had not been prepared for the original scheme as time was short and rough estimates for the costs of headworks and canals had been prepared on the basis of those made for the unsanctioned Aliwal Weir of the Sutlej Dam Project and other canals built in the past. The total sanctioned estimates for the project were fixed at Rs. 145,990,433 but in the winter of 1922-23 – when the work on detailed estimates started – it became clear that the scheduled expenditure was insufficient and needed to be revised. The main reason cited was increases in the prices of commodities following the First World War. To address this issue a meeting was held on 12th June 1923 between the finance and irrigation representatives of the Governments of India and the Punjab and the budget of the project was increased. It was decided that the government of Punjab would prepare revised estimates of the project costs based on fresh forecasts and submit these to the government of India. Accordingly the revised estimates were prepared and submitted to government of India on September 3rd 1923. These estimates were thoroughly scrutinised by the consulting engineer of the Government of India and after his

¹¹⁹ Letter from Agent to the Governor General, Punjab States, to Mr. J. P. Thompson, Secretary to the Government of India, Foreign and Political Department, No. 956-R/B-4/22, dated 19th November 1925, in IOR/R/1/1/1498.

¹²⁰ *SVP, Revised Estimates, 1926*, vol. I, pr. 11-13, pp. 6-7.

¹²¹ *Ibid.*, pr. 11-13, pp. 5-7.

approval in September 1924 these were sent to Secretary of State for India in London for his endorsement.¹²²

However, the sanction of these revised estimates had not yet been received when the Government of India was forced – yet again – to reconsider them. The unprecedented rise of the water level in the river Sutlej in August 1925 compelled the Government to remodel and increase the carrying capacity of the Headworks and the distributry system of channels to cope with the potentially greater floods in future. At the request of the Government of India, the Secretary of State delayed his sanction until revised estimates had been prepared.¹²³

Aimed at minimising the costs of the project, a revised scheme was approved in 1924 with the consent of all parties concerned. Therein the following alterations were made to the Sutlej Valley Project of June 1920:

- a) In the original project two separate canals Dipalpur and Katora taking off from the right-hand side of the Ferozepur Headworks were approved. In the revised scheme only the Dipalpur Canal was included.
- b) The site of the Jamlera Weir was shifted to Islam – a point thirty miles downstream on the river Sutlej – in order to reduce the length of the main channels and save a capital input of 19 lakhs for the Bahawalpur State and 17.25 lakhs for the British Government.
- c) In the original project two separate canals; Bahawal – a perennial – and Qaimpur – a non-perennial canal – were proposed from the Jamlera Headworks for the irrigation of Bahawalpur State. In the revised scheme, the non-perennial area was divided into two portions. The upper portion was to be irrigated directly from the Headworks through a shortened Qaimpur Canal while the lower portion was to receive supplies from the Bahawal Canal through a branch canal taken off at Lal Sohanra.

¹²² Ibid., pr. 1-3, p. 1.

¹²³ R. P. Hadow, Secretary to Government of the Punjab, Public Works Department, Irrigation Branch, Sutlej Valley Project, to the Secretary to the Government of India, Department of Industries and Labour, Public Works Branch, Delhi, , No., 3615-C.I, dated Lahore, 18th December 1926, in *SVP, Revised Estimates, 1926*, p. 1, P.A.L.

- d) The irrigation of non-perennial areas of the upper reaches of the Mailsi Canal was shifted to the non-perennial branch of the Pakpattan Canal, taking off from the Sulemanki Headworks.¹²⁴

The wholesale re-examination of the project and its estimates, not only increased the overall budget of the Project but also the burden of each of the individual parties. After the approval of the second revised estimates of 1926, the parties were to pay their share according to the following:

Table 3:3 Revised Estimates and the Contributing Share of the Parties

Parties	Cost in Original Project, 1920 Rs.	Revised Estimate of 1926 Rs.	Actual Total Cost in 1932-33 Rs.	Share of Cost %
Bahawalpur	71,824,335	109,573,152	136,864,319	41.09
Bikaner	20,121,121	27,435,189	29,900,000	8.97
British	54,044,977	100,607,340	166,335,681	49.94
Total	145,990,433	237,615,681	333,100,000	100.00

Source: *SVP, Revised Estimates, 1926*, vol. I; Panikkar, *His Highness, R.A.B.S., 1944-45*.

The sanctioned budget for the project was reconsidered again and again partly due to the rising prices of materials and partially due to the collapse of the Islam Headworks in 1929 and its subsequent repair in the year 1929-30. At the completion of the project in 1932-33, its overall cost had increased to Rs. 33.31 crores.¹²⁵ Out of which Rs. 2.99 crores were paid by the state of Bikaner,¹²⁶ Rs. 136,864,319 by the state of Bahawalpur and the remaining Rs. 166,335,681 by the Government of the Punjab.¹²⁷

¹²⁴ *SVP, Revised Estimates, 1926*, vol. I, pr. 4, 44, pp. 2, 26.

¹²⁵ *R.A.B.S., 1944-45*, p. 5.

¹²⁶ Panikkar, *His Highness*, p. 301.

¹²⁷ *R.A.B.S., 1944-45*, p. 107.

The Financing of the Project through Loans

According to the terms of the agreement the finances of the project were to be provided by the parities in relation to their allotted share. At the commencement of the work the government of Bahawalpur had only 126 lakhs of rupees in its hands and for the remaining amount it was dependent on the sale of its wastelands which could only be instigated after the construction of the canals had begun.

The state authorities were confident that the amount in hand was sufficient to finance the share of the project up until the proceeds of the sale of colony lands could be called upon, but problems arose early as the Chief Engineer of the Project did not discuss his plan for construction with the state authorities and started work on the construction of Nalagarh Railway line instead of the Sulemanke Headworks. The state was then forced to pay Rs. 32.50 lakhs for the construction of the railway line, even before the commencement of the construction of the Headworks, which disturbed its whole financial plan.¹²⁸

Up to the end of March 1923, the State had paid Rs. 8,759,790 to the Government of the Punjab as its share of the project.¹²⁹ But as the construction of the Headworks and the canals pushed ahead and the expenditure increased rapidly, it was realised that the resources of the state would soon be exhausted. The state therefore had to consider borrowing money to finance its share. Originally it was proposed that the government of Punjab would arrange a loan for its own and the Bahawalpur portion of the project, but following unpleasantness in the discussions of the Punjab legislative assembly the ruler of the state, Nawab Sadiq Muhammad Khan V¹³⁰ preferred not to take funds from the Punjab Government. In their place, a decision was made to obtain a loan from the state of Faridkot to finance the work for the year 1923-24, but unfortunately this could not be finalised. Ultimately, the state authorities resorted to a

¹²⁸ 'Note by Lt. Colonel A. J. O. Brien, P. W. And Revenue Member, Council of Regency, Bahawalpur State, dated 19th June, 1923', pp. 2-3.

¹²⁹ *R.A.B.S., 1922-23*, pp. 50-51.

¹³⁰ In October 1922 at reaching the age of eighteen, some of the administrative powers were handed over to *Nawab* and on April 1st 1923 he was appointed the head of the Council of Regency. On 23rd March 1924 he was awarded with full powers by Earl of Reading, the Viceroy of India. For details see, Tahir, *Riyasat Bahawalpur*, p. 126.

loan of rupees one *crore* (ten millions) from the British Government of India.¹³¹ But the request was rejected on the grounds that the general matter of the financing of the project was still under consideration with the Punjab Government and it was not possible to grant a loan until definite decisions had been arrived at.¹³² As Bahawalpur was in financial crisis and could not pay its share, so the Government of India was forced to reconsider its decision and approved a loan of rupees two *crores* at the interest rate of six percent per annum in November 1924 for Bahawalpur.¹³³

As the work proceeded it became clear that even this loan was insufficient to meet the costs of the project and so the sanction of the Secretary of State for India was obtained in July 1926 for the increase of the loan amount to Rs. 427 *lakhs* for Bahawalpur. Approval for loan was given but at great cost to the ruler of the state who was forced to transfer some of his powers to British officials. In order to receive the loan, the government of India put in place certain conditions and took control over the appointment of the Public Works and Revenue Officer, the Finance Minister and the Colonisation Officer of the state until the loan was paid off. All financial matters relating to Sutlej Valley Project were to be handled by these officers. The Public Works and Revenue Minister was given the authority to control the sales of colony lands as well as the irrigation receipts received from the canals built under the project.¹³⁴

Unfortunately in the summer of 1925 substantial floods occurred in river Sutlej which forced the authorities to modify the designs of the headworks and again increased the costs of the project.¹³⁵ The second revised estimates for the cost of the project were received in December 1926 and in these new estimates the cost of the project had increased yet again, adding further to the pressure on state finances. Although in 1926 the sale of colony lands in Bahawalnagar district had started the response of peasants

¹³¹ 'Minutes of a Conference held at Gorton Castle on the 12th June 1923, between the Finance and Irrigation representatives of the Government of India and the Government of the Punjab', in IOR/R/1/1/1490, pp. 8-9, B. L.

¹³² DEMI-Official Letter to Lt. Col. A. B. Minchin, Agent to the Governor General, Punjab States, No. 1583-1303P, Dated Simla, 11th July 1923, in IOR/R/1/1/1490, p. 10, B.L.

¹³³ DEMI-Official Letter from His Highness the *Nawab* of Bahawalpur State to the Agent to the Governor General, Punjab States, No 23, dated 19th January 1925, in IOR/R/1/1/1490, p. 17.

¹³⁴ Letter No 20 of 1926, Finance Department, Government of India, to The Right Honourable, the Earl of Birkenhead, His Majesty's Secretary of State for India, dated, Simla, the 1st July 1926, in IOR/R/1/1/1490, pp. 18-19.

¹³⁵ 'Letter from R. P. Hadow, dated 18th December 1926', in *SVP, Revised Estimates, 1926*, p. 1.

was very slow. As the amount received from the sale proceeds could not meet the ever-increasing expenditures, so the ruler of the state was left with no other option than to borrow money again from the Government of India. The Government of India after its meeting in June 1929 agreed to increase the limit of the loan up to 8.5 *crores* of rupees. But this amount proved insufficient to meet the cost of the project and on the request of the ruler of the state the amount was extended yet again, this time to 11.50 *crores* of rupees in April 1931.¹³⁶

Up to March 31st 1936, the total loan amount had reached Rs. 121,094,778 and state had not been able to pay back even a single instalment.¹³⁷ Even the interest charges had not been paid properly and by 1936 the debt amount had swollen to Rs. 14 *crores*.¹³⁸ In order to cope with the situation and the liquidation of the debt amount an agreement was signed between the state of Bahawalpur and the Government of India in 1936, according to which the state had to pay Rs. 2 *crores* from the sale proceeds of the land starting from 1st of October 1935 and the remaining amount of its loan was to be paid in fifty yearly instalments ranging from fifteen *lakhs* to fifty five *lakhs* of rupees ending in 1986. Thus the total amount paid by these instalments was to reach 28.05 *crores* of rupees including the amount of 2 *crores* of rupees paid from the receipts of sales.¹³⁹

The Construction of Sulemanki Headworks and Canals

Construction on the project was to begin with the Sulemanki Headworks. Mr. H. W. Nicholson – who was an experienced engineer and had worked on the projects of Bhakra Dam and Aliwal Weir – was appointed as the Executive Engineer and was to supervise its building.¹⁴⁰

The project began in 1922-23 and was initially taken up with preparations, necessary before the building of the weir itself could commence. These preliminary works

¹³⁶ R.S.V.P.E.C., 1932, pp. 8-9.

¹³⁷ R.A.B.S., 1942-43, pp. 109-110.

¹³⁸ Penderel Moon, *Divide and Quit: An Eyewitness Account of the Partition of India* (Chatto & Windus, London, 1961), p. 100.

¹³⁹ R.A.B.S., 1944-45, p. 107.

¹⁴⁰ E. R. Foy, Chief Engineer, Sutlej Valley Project, 'Weirs and Headworks on the Sutlej Valley Project and Some Connected Problems', Paper No. 103, Pakistan Engineering Congress, Proceedings, 15th Annual issue 1926, p. 80.

included surveys of the site, construction of a railway line branching off from the Southern Punjab Railway at the Chananwala Railway Station to the site of the weir, the installation of a power-house, acquisition of lands, construction of bridges and regulators over the Sadiq and Fordwah Canals, purchases of tents and office equipment, purchases of tools and plant, installation of the pumping plants, manufacturing of bricks and *surkhi* (brick-dust), construction of the embankment on left bank of the river and the construction of one of the main guide banks of the Weir.¹⁴¹

The design and construction of the Sulemanki Headworks – following the directions of chief engineer Mr. Foy – were to differ from those of other headworks constructed by the Punjab government at Rupar, Khanki, Rasul and Marala. In these previous projects a typical form of weir building was adopted and a single canal was taken off from the weir, however, for the Sulemanki project canals were to be taken off from both sides of the weir. Previously constructed Headworks consisted of a masonry bar which was built across the river, considerably above the level of the ordinary bed of the river, on the crest, moveable iron shutters of about six or seven feet in height held water at the required level and could be adjusted to concentrate flow over any particular portion of the weir. A set of undersluices fitted with gates and gearing were built near that end of the headworks from where canal was taken off. The floor of these sluices was built considerably lower than the weir crest but that design was thought unsuitable for the rivers laden with silt which – it was suspected – might choke the canal head and stop the flow of water into the canal.¹⁴²

The Sulemanki Headworks – by contrast – consisted of two sets of undersluices, one at the each end and each having eight 30ft. gates, capable of holding up to 18 feet of water. The central portion or the weir itself was a high crest – built using cement rather than lime mortar – raised eight feet above the undersluice floor and fitted with 24 60ft. gates holding up to ten feet of water. The width of the undersluice pier was five feet, while the weir pier was seven feet wide.¹⁴³ Furthermore, in order to counter the problem of silt-deposition – which had been a constant threat to the working of

¹⁴¹ R.A.B.S., 1922-23, p. 49.

¹⁴² Foy, 'Weirs and Headworks on the Sutlej Valley Project', pp. 77-79.

¹⁴³ Ibid., pp. 78-80.

previously built headworks – a new design utilising the “still-pond and silt-trap method” was adopted in which silt-trap pockets were used. As canals were to be taken off from both sides of the weir a deep pool was dug out in front of the canal off-take. By closing the gates of the undersluices the silt was to be trapped in a 'still pond' from where comparatively clear water was then drawn into the canal. When the pool became full with silt it would be flushed out by opening the gates of the sluices. Furthermore, unlike in previously built headworks where one short guide bank was used to control the flow of river-water, here guide banks were constructed on both sides of the river to trap and control the flow of the river water effectively.¹⁴⁴

Figure 3:1, Sulemanki Headworks



Source: Adapted from Irrigation Department Punjab, irrigation.punjab.gov.pk/images-portal/suleimanki.jpg, (accessed on 25-09-2015).

It had been agreed that the construction of headworks would be the responsibility of the Government of India while the construction of canals and other network of channels would be left to the parties who would bear the cost of their construction. The construction of the canals themselves – as well as of distributaries – would be carried out by the Superintending Engineer who would be appointed separately for each state and who would work under the authority of a Chief Engineer appointed by the British government of India.¹⁴⁵

¹⁴⁴ Ibid., pp. 82-86.

¹⁴⁵ ‘Terms of Agreement, 1920’, pr. 8, 20, pp. xiv-xv, in P.W.D., Punjab, *SVP June 1920*.

From the Sulemanki Headworks three canals were taken off, two from the left-hand side of the weir for Bahawalpur State and one from the right-hand side for the irrigation of Nili Bar and the Montgomery District of the British Punjab. The two Bahawalpur Canals were known as the Eastern Sadiqia, which was a perennial canal and the Fordwah which was non-perennial.¹⁴⁶

The Eastern Sadiqia was a large canal having nine gates of 20 feet each at the canal-head with overall head capacity of 4,917 cusecs of water.¹⁴⁷ It was 48.3 miles long, eight feet deep and 198 feet wide. In the original project documentation it was expected to irrigate 1,147,322 acres of land,¹⁴⁸ but in the revised scheme of 1926 the command area of the canal was reduced to 1,078,640 acres.¹⁴⁹ The tail of the Eastern Sadiqia Canal was proposed at R.D.¹⁵⁰ 245,000 and from there two branch canals – the Hakra and the Malikwah – and one distributry canal – the Sirajwah – were taken off.¹⁵¹ The Malikwah branch canal was 23.6 miles long with a discharge capacity of 1,350 cusecs of water, while the Hakra branch was 58.6 miles long and had the overall carrying capacity of 2,721 cusecs of water.¹⁵² The total length of the main canal and its branches was 130.5 miles while the length of its distributaries and minors was 737 miles.¹⁵³

Fordwah canal was a non-perennial canal which – as mentioned in chapter two of this study – was built in 1860s by a British official Capt. C. Minchin during the rule of Agency in the state. The Fordwah had previously functioned as an inundation canal but under the Sutlej Valley Project it was adapted to operate as a non-perennial canal. Most of the areas along the canal had long been under cultivation and so it was a

¹⁴⁶ 'Report, part II, Technical', pp. 17-20, in P.W.D., Punjab, *SVP June 1920*.

¹⁴⁷ 'SVP, 1920, Statement showing the number of Stoney Gates', Appendix, p. 104, in P.W.D., Punjab, *SVP June 1920*.

¹⁴⁸ 'SVP, 1920, Estimate of Cost of Bahawalpur Perennial Canal, Main Line from Sulemanki (Fazilka) Headworks', Appendix, p. 120, in P.W.D., Punjab, *SVP June 1920*.

¹⁴⁹ *SVP, Revised Estimates, 1926*, vol. I, pr. 42, p. 25.

¹⁵⁰ R.D. is a reduced distance (in 1,000 foot) from the head of a canal.

¹⁵¹ Muhammad Shabbir Haider, and Mushtaq Ahmad Khan, 'Research Opportunities in Canal Irrigation Management in Malik Sub Division, Sadiqia Canal Division, Bahawalnagar: Inception Report', Report No. P-2, International Irrigation Management Institute, Lahore, 1996, p. 6.

¹⁵² 'Revised Estimates, Eastern Sadiqia (Bahawalpur Perennial) Canal', in P. W.D., Punjab, Irrigation, Branch, *SVP, Revised Estimates, 1926*, vol. III, *Estimates*, (Superintendent, Government Printing, Punjab, Lahore, 1926), pp. 171-173, P.A.L.

¹⁵³ *R.S.V.P.E.C., 1932*, ch. III, p. 32.

terrain of good quality soil.¹⁵⁴ It was relatively a small canal as compared to the Eastern Sadiqia Canal. It had six spans of twenty feet each and the overall discharge capacity of 3,366 cusecs at its canal-head.¹⁵⁵ The total length of the main Fordwah Canal was nine miles after which it divided into the two branch canals McLeod and Fordwah. The McLeod branch was 12.2 miles long, 60 feet wide and 5.6 feet deep and had a command area of 102,022 acres while the Fordwah branch was 66.8 miles long, 108 feet wide and 7.3 feet deep with an overall command area of 336,053 acres of land.¹⁵⁶

Although the Fordwah Canal – along with its branch canals – had already existed, the alignment of the old canals was considered poor and so new canals were built. The upper reaches of the Fordwah Canal was a riverine area where underground water level was high. There was danger of waterlogging at some places so special care was taken of drainage and protective works, including seepage drains were constructed.¹⁵⁷ Fordwah Canal was completed in 1928-29 but the weir controlled supplies to the old Fordwah inundation canal were provided from the *kharif* season of 1926-27.¹⁵⁸

Construction Works on Islam Headworks and Canals

The Islam Headworks was the third barrage of the Sutlej Valley Project and was built across river Sutlej about eighty miles below the Sulemanki Headworks. Its construction was experimental in two significant ways; firstly, the weir was built away from the river which was then diverted over it, and secondly, the river was diverted over the weir from a much greater distance than was normal. In the previous projects the Punjab government had used the established technique whereby a barrage was built on one side of the river or pushed out across it during periods of low discharge. But at Islam Headworks the weir was built half a mile away from the smaller branch of the river and two miles from the main river and, after its completion, the river was diverted to the weir. This technique provided significant benefits as it minimized the need for pumping, reduced the dangers of flood to the plant and the weir and allowed work to

¹⁵⁴ Buckley, *Irrigation Work*, pp. 155-156.

¹⁵⁵ 'SVP, 1920, Statement showing the number of Stoney Gates, required for Headworks', Appendix, p. 104, in P.W.D., Punjab, *SVP June 1920*.

¹⁵⁶ *SVP, Revised Estimates, 1926*, vol. III, pp. 197-199, 207-209.

¹⁵⁷ *SVP, Revised Estimates, 1926*, vol. I, pp. 25-26.

¹⁵⁸ *R.A.B.S., 1942-43*, p. 64.

continue throughout the year.¹⁵⁹ After preparations were completed,¹⁶⁰ the work on Islam Headworks began in the winter of 1923-24 and was completed in October 1927.¹⁶¹

The original design for the Islam Headworks was adapted from the Aliwal Headworks and like those at Sulemanki it consisted of both undersluices and spans. It had two sets of undersluices at each end of the weir having eight spans of thirty feet each, while the central part of the weir consisted of twenty eight spans of sixty feet each. In the revised scheme of 1924 – in order to reduce the cost of the headworks – the undersluices were replaced by spans,¹⁶² it now consisted of twenty four bays of sixty feet clear span openings, with seven feet wide piers. The rate of flow through these spans was to be controlled by steel sluice gates. Four bays were separated at each end of the weir by divide Groneys – which also contained a fish ladder – in order to provide pockets for the canal off takes. Like at the Sulemanki Headworks canals were taken off from both sides of the weir and guide banks were constructed to control the flow of water towards the weir. Guide banks were extended up to 3,500 feet upstream with short extensions downstream for the protection of the weir. The upstream banks were bottle-neck shaped while downstream they were kept straight.¹⁶³

Special care was taken to ensure the stability of the weir and its foundations were raised on a bed of very fine sand and clay which was strengthened with the extensive use of various grades of stones; crushed stone Ballast, fine shingles, grit, and large shingles and in the horizontal downstream section the floor was laid with concrete to the depth of two feet and six inches. For the construction of each Pier four comparatively shallow rectangular wells were sunk with the help of a No. 6 Ruston Excavator and reinforced concrete curbs were laid up to the spring level for its erection. The use of the excavator saved considerable time, performing what would

¹⁵⁹ Francis William Hall Downing, 'Islam Weir, Sutlej Valley Project', Paper No. 69, Selected Engineering Papers, The Institute of Civil Engineers, (William Clowes and Sons, London, 1929), p. 3.

¹⁶⁰ Before the start of work on weir site some preliminary tasks, i.e., the construction of godown and buildings, the erection of power-house, purchases of the plant and the tools and the laying of a thirteen miles long feeder-line between the weir site and Bakhshan Khan, a small town at Southern Punjab Railway track were completed between 1922-23. For details see, *R.A.B.S., 1922-23*, p. 49.

¹⁶¹ Downing, 'Islam Weir', p. 4.

¹⁶² *SVP, Revised Estimates, 1926*, vol. I, pr. 29, p. 14.

¹⁶³ Downing, 'Islam Weir', pp. 3-4.

have taken a week by hand in roughly a day.¹⁶⁴ After the completion of construction work on the weir the diversion bund was built and river was successfully diverted over the weir.¹⁶⁵ The Islam Headworks were opened by the His Excellency, Lord Irwin the Viceroy of India on 28th October 1927. While the weir-controlled supplies to Bahawal and Qaimpur canals were opened in April 1928.¹⁶⁶

Figure 3:2, Islam Headworks



Source: Adapted from Geo View Pakistan, pk.geoview.info/head_islam,42145600p, (accessed on 16-10-2015).

High hopes were attached with the Islam Headworks and the new techniques with which it had been built, but these were not to be met. In the summer of 1929, due to heavy monsoon rains, the water level in the river rose to an extraordinary level and on the 24th of August the flow rate was calculated at 228,000 cusecs at Islam Headworks.

¹⁶⁴ Ibid., pp. 4-5.

¹⁶⁵ Ibid., pp. 10, 15.

¹⁶⁶ *R.A.B.S., 1944-45*, p. 72.

Although the weir had been designed to pass 300,000 cusecs but the sixty feet width of the bays between piers which made the structure light also represented a critical weak point and the weir proved unable to resist the heavy flow which caused the collapse of the six central bays. The main cause of the collapse according to Aloys Michel was the destabilisation of the downstream apron and pier foundations which were heavily affected by the clear water¹⁶⁷ emerging from the barrage. As the downstream bed of the weir was damaged it led to the piping of subsoil below the structure and the progressive removal of the sand and soil grains that caused the collapse of the central bays. The collapse was unprecedented and it compelled the engineers to modify the design, reducing the length of bays from 60 to 29 feet each which consequently increased the number of bays from six to eleven. New piers and aprons were built with reinforced concrete and a nine inch layer of concrete was applied to the whole weir in order to increase its weight and strength. All the repair work was completed within a year and the headworks were reopened before the summer season of 1930.¹⁶⁸

Canals were taken off from both side of the weir. Mailsi, a non-perennial canal was taken from the right bank to irrigate the areas of Nili Bar in the British Punjab,¹⁶⁹ while from the left bank two canals – Bahawal and Qaimpur – were taken off to irrigate areas within Bahawalpur State. The Qaimpur was a small, non-perennial canal designed to provide irrigation to areas neighbouring the river. It was seven and half miles long,¹⁷⁰ its regulator at the canal-head consisted of two spans of ten feet each, its bed width was twenty feet and it had a discharge capacity of 200 cusecs.¹⁷¹

Bahawal Canal was a combined perennial and non-perennial canal and its regulator at the canal-head was made up of seven bays of twenty feet, each fitted with Walton gates to control the flow of water. The overall carrying capacity of the canal was more than 5,000 cusecs.¹⁷² It was 48 miles long, eleven feet deep and 138 feet wide.¹⁷³ From

¹⁶⁷ Water had dropped most of its silt in the deep, wide pond upstream and had become silt free. For details see, Aloys Michel, *The Indus Rivers*, p. 96.

¹⁶⁸ Michel, *Indus Rivers*, p. 96.

¹⁶⁹ *SVP, Revised Estimates, 1926*, vol. III, pp. 38, 216.

¹⁷⁰ *Ibid.*, p. 251.

¹⁷¹ Downing, 'Islam Weir', p. 7.

¹⁷² *Ibid.*, pp. 6-7.

the tail of the Bahawal Canal at Lal Sohanra, two branch canals; Desert branch – a perennial canal – and Ahmadpur branch – a non-perennial canal – and two perennial distributaries, Bahawalpur distributry and 3L distributry were taken off. Ahmadpur branch was to provide non-perennial irrigation to proprietary lands that were located in areas neighbouring of the river between Lal Sohanra and the town of Ahmadpur East, while the Bahawalpur distributry was designed for the perennial irrigation of the proprietary lands near the town of Bahawalpur. The 3L distributry was a long channel running parallel to the Ahmadpur branch and had its command area on the southern side of the Ahmadpur branch.¹⁷⁴

The Desert branch of the Bahawal canal provided perennial irrigation to most of the colony areas of Bahawalpur district located in Yazman. At Tailwala bangla (bungalow) it further split into the Dera Nawab branch to the west and the Derawar branch to the south. One small canal – the Mithra distributry – lay between the two.¹⁷⁵ The Dera Nawab branch – after reaching Head Rajkan – further split into three distributry canals, Dera Nawab distributry, Dahri distributry, and 2R distributry.¹⁷⁶

The Building of Panjnad Headworks and Canals

Panjnad Headworks was the fourth and also the lowest headwork in the series built as part of the Sutlej Valley Project. It was constructed one mile below the confluence of the rivers Chenab and Sutlej on the river Panjnad. Unlike the other headworks of the Sutlej Valley Project canals were taken off only from one side of the weir to provide irrigation only to certain areas of Bahawalpur State. At the time of the agreement of the Sutlej Valley Project, the British Government reserved the right to construct a canal from the Panjnad Headworks for the irrigation of its areas in Sind, upstream of the Sukkur Barrage, and for that purpose the Government had to contribute 39.2 percent of the total cost of the headworks and the same percentage of its upkeep costs.¹⁷⁷ But during the preparation of the revised estimates of 1926 it became clear that the Government of Bombay – who controlled those areas of Sind – was not interested in

¹⁷³ *SVP, Revised Estimates, 1926*, vol. III, pp. 250, 255.

¹⁷⁴ *R.S.V.P.E.C., 1932*, p. 15.

¹⁷⁵ *Ibid.*, pp. 15-16.

¹⁷⁶ *Ibid.*, 16-17.

¹⁷⁷ P.W.D., Punjab, *History of the Panjnad Headworks*, p. 1, B.S.A.

participating in the Sutlej Valley Project, consequently the construction of this canal was abandoned.¹⁷⁸

The construction of the headworks started in 1927 under the supervision of Mr James L. Roy who was appointed Executive Engineer of the project and continued in this role up till its completion in 1931. In its original design Panjnad Headworks consisted of 33 bays of 60 feet width but after the collapse of the Islam Headworks the Islam Headworks Inquiry Committee recommended that the number of the bays at Panjnad Weir be increased from 33 to 47, in order to ensure that even dramatic floods might be dealt with in future.¹⁷⁹

As mentioned above, following the collapse of Islam Headworks, changes were made in the original design of the Panjnad Headworks, however by the time this happened, in 1929, construction work on the weir was almost completed, and so it was completed in two phases. Thirty three out of forty seven bays were constructed between December 1927 and September 1929 while the annexe or extension bays were constructed during the years 1930-31. The headworks consisted of a large river barrage made up of 47 spans, each 60 ft wide and 13.5 ft long. The rate of flow through these spans was controlled by counterbalanced stoney pattern gates fitted with hand operated gearing.¹⁸⁰ The two sets of the bays were divided by a 250 feet wide Junction Groyne which extended 300 feet upstream and 323.6 feet downstream. For silt depositing a divide Groyne was built on the left end of the weir between the first and fourth bay and extending 803 feet upstream and 92.3 feet downstream in the line of the gates to form a silt regulation pocket in order to feed more or less clear water into the two off taking canals.¹⁸¹

In order to maintain the flow of water in the direction of the weir, guide banks were constructed on both side of the weir. The guide banks extended 3,612 feet upstream and 600 feet downstream. The Panjnad Headworks was unique in that it was the only Headworks in the world which had a set of pressure pipes located and fitted with great

¹⁷⁸ *SVP, Revised Estimates, 1926*, vol. I, p. 16.

¹⁷⁹ P.W.D., Punjab, *History of the Panjnad Headworks*, pp. 1, 5-6, Appendix, p. viii.

¹⁸⁰ Ajudhia Nath Khosla, 'Pressure Pipe Observations at Panjnad Weir', Paper No. 162, Pakistan Engineering Congress, Proceedings of the 21st Annual Issue, 1933, p. 51.

¹⁸¹ P.W.D., Punjab, *History of the Panjnad Headworks*, p. 4.

care and precision. During the extension of the weir ninety pressure pipes were fitted in bays number 43, 44, 45, 46 and behind the two flank walls of the extension. The main objective of the introduction of pressure pipes was to determine the pressure distribution in the subsoil and under the impervious floors of the weir. The data collected was used to increase understanding of dynamics within the ground below the headworks and would inform future development and advancement of Hydraulic technology.¹⁸²

Fig. 3:3, Panjnad Headworks



Source: Adapted from Geo view Pakistan, <http://pk.geoview.info/,74046571p>, (Accessed on 23-10-2015).

Construction work on the headworks was completed in May 1931, soon afterwards a diversion regulator was built and the river was diverted over the weir on 19th December 1931. The work of diverting the river to the main weir was helped by the low water levels in the river at the time, which was running at a rate of only 3,000 cusecs.¹⁸³

From Panjnad Headworks only two canals, Panjnad and Abbasia were taken off from the left side of the weir.¹⁸⁴ Panjnad was the largest canal built under the SVP. It was

¹⁸² Khosla, 'Pressure Pipe', pp. 50, 57.

¹⁸³ P.W.D., Punjab, *History of the Panjnad Headworks*, p. 6.

¹⁸⁴ SVP, *Revised Estimates, 1926*, vol. I, pr. 30, p. 17.

55.4 miles long, 10.6 feet deep and 230 feet wide canal.¹⁸⁵ It had a carrying capacity of 9,567 cusecs,¹⁸⁶ and was designed to provide irrigation to a gross area of 1,455,500 acres.¹⁸⁷ It was a non-perennial canal and so had to provide irrigation only during *kharif* season between the months of April and October. The head-regulator of this canal consisted of twelve bays, out of which ten bays were 26 ft wide and the two middle bays were 18 ft wide,¹⁸⁸ it was constructed to protect supply to the series of state inundation canals taken off from river Chenab and the Indus. The command area of this canal was low lying and ran near the river banks made by the annual inundation of the rivers. It was quite fertile and was probably some of the best land in the state.¹⁸⁹ After the construction of this large canal the existing network of inundation canals including Behariwah, Minchinwah, Sadiqwah and Dallaswah was linked with it along with the associated branch canals, in order to irrigate the large areas in the north-western areas of the state.¹⁹⁰

The second canal to be taken from the Panjnad Headworks was Abbasia Canal, a 43 mile perennial canal,¹⁹¹ with an average sharing capacity of 516 cusecs of water, making it the smallest perennial canal in the state. Its gross command area was 270,000 acres.¹⁹² The regulator of the Abbasia Canal at Panjnad Weir had two bays, each 20 feet wide and was designed with the overall carrying capacity of 1,032 cusecs.¹⁹³ Unfortunately after the construction of this canal most of what were thought to be culturable areas were found unsuitable for cultivation. The Sutlej Valley Project Enquiry Committee, in its report, suggested that of the total command area of this canal only a small portion – some 30,000 acres – was suitable for cultivation and the remaining area being a land of poor quality soil. The Committee recommended the abandonment of the Abbasia Canal and suggested that other arrangements could be

¹⁸⁵ *SVP, Revised Estimates, 1926*, vol. III, pp. 301, 309.

¹⁸⁶ 'SVP, 1920, Statement showing the number of Stoney Gates', in P.W.D., Punjab, *SVP June 1920*, Appendix, p. 104.

¹⁸⁷ *SVP, Revised Estimates, 1926*, vol. I, pr. 45, p. 27.

¹⁸⁸ P.W.D. Punjab, *History of the Panjnad Headworks*, p. 5.

¹⁸⁹ R.S.V.P.E.C., 1932, p. 19.

¹⁹⁰ *SVP, Revised Estimates, 1926*, vol. III, pp. 300-314.

¹⁹¹ *Ibid.*, p. 287.

¹⁹² P.W.D. Punjab, *History of the Panjnad Headworks*, p. 1.

¹⁹³ *Ibid.*, p. 5.

made for the irrigation of the area which had been found suitable for cultivation.¹⁹⁴

Following this recommendation the areas which were found uncultivable were abandoned and the surplus supplies from the Abbasia Canal were diverted to the non-perennial areas of the Panjnad Canal.¹⁹⁵

The weir-controlled supplies to Panjnad and Abbasia Canals were opened in April 1,932,¹⁹⁶ and were the last within the Sutlej Valley Project to be completed. The agreement signed in 1920 stated that “the British Government undertake to maintain and to manage the canals and their distributaries on behalf of the States concerned for the first three years after their completion.”¹⁹⁷

According to the terms of the agreement Bahawalpur canals passed under the control of the British Government of India and were retuned on the completion of this time period.¹⁹⁸

¹⁹⁴ *R.S.V.P.E.C., 1932*, p. 17.

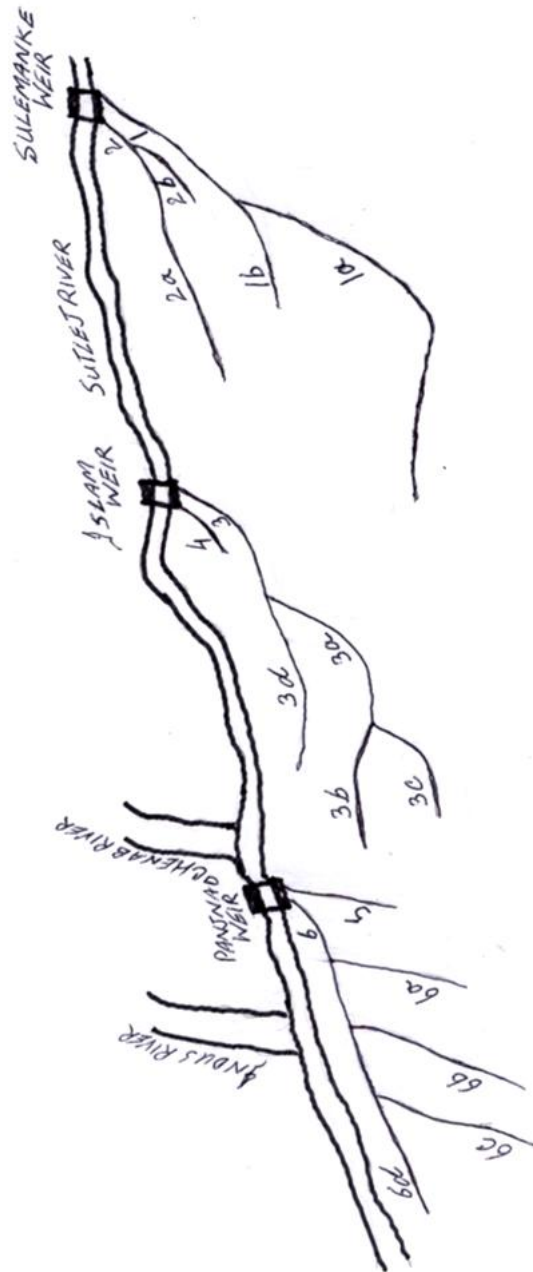
¹⁹⁵ P.W.D. Punjab, *History of the Panjnad Headworks*, p. 1.

¹⁹⁶ *R. A.B.S., 1942-43*, p. 64.

¹⁹⁷ ‘Terms of Agreement, 1920’, p. xiv, in P.W.D., Punjab, *SVP June 1920*.

¹⁹⁸ The canals were handed over to Bahawalpur engineers on the following dates; Malik Branch of the Eastern Sadiqia Canal on 20th May 1930 while Hakra Branch during the year 1932-33; Fordwah Canal on 20th May 1930; Qaimpur Canal and the Ahmadpur Branch of Bahawal Canal on 23rd April 1930 and the Desert and Dera Nawab branches during the year 1932-33; Panjnad and Abbasia Canals were made over on 1st November 1933. For details see, *R.A.B.S., 1942-43*, p. 64.

Fig. 3:4, Map showing Main and Branch Canals Built under SVP in Bahawalpur State



Source: Canal Map drawn by me, according to Colony Map in *R.A.B.S, 1944-45*.

Note: In above map,

1: Eastern Sadiqia Canal; 1a Hakra Branch, 1b, Malikwah Branch,

2: Fordwah Canal; 2a Fordwah Branch, 2b McLeod Branch

- 3: Bahawal Canal, 3a Desert Branch, 3b Dera Nawab Branch, 3c Derawar Branch, 3d Ahmadpur Branch
- 4: Qaimpur Canal
- 5: Abbasia Canal
- 6: Panjnad Canal, 6a Minchinwah Branch, 6b Behariwah Branch, 6c Sadiqwah Branch, 6d Dallaswah Branch.

Under the Sutlej Valley Project a 2,313 mile long canal network consisting of main, branch and distributaries was constructed. But in 1932 – on the recommendations of the SVP Enquiry Committee – 473 miles of canal were permanently abandoned after the command areas of those canals were declared unfit for cultivation. Of the abandoned mileage of canals 9 miles were on Sadiqia Canal; 289 miles on Bahawal Canal and 175 miles on Abbasia Canal.¹⁹⁹ The abandonment of these canals was not only disappointing but also impacted on the economics of both the project and of the state. In the final analysis, out of two million acres of colony land that was reclaimed, one million acres on the tail of the canals listed above was abandoned due to ecological reasons, including pre-existing salinity (*kallar*) and low quality of soil (as discussed in the next chapter) and shortage of canal water.

The successful completion of the long-awaited project had provided a great opportunity to secure perennial irrigation, to expand the area under cultivation and for the socio-economic development of the state. The speech given by Lord Reading, the viceroy of India, at Bahawalpur *Darbar* had attached high hopes to this project and which he called “one of the greatest irrigation works that have been undertaken in India, [and which] promises to place Bahawalpur among the wealthiest states in India.”²⁰⁰

However, at this stage, the Bahawalpur authorities were themselves not entirely confident that the project would prove a success, and could only hope that it would prove as beneficial as the other canal colony projects undertaken by the government

¹⁹⁹ R.S.V.P.E.C., 1932, pp. 32, 74.

²⁰⁰ R.A.B.S., 1923-24, p. 2.

of the Punjab had been. The next chapters of this study will describe the actual outcome of this project considering the development of the colony settlement, agriculture, migration as well as the ecological aspects of this project.

Conclusion

This chapter has investigated the implementation of Sutlej Valley Project which was built to provide perennial irrigation to crown wasteland areas of the states of Bahawalpur and Bikaner and the province of Punjab. It was one of the largest and most expensive irrigation project undertaken by the British in India. Bahawalpur State had never desired a project on such a grand scale, requiring such massive investment as their resources were limited. Unfortunately at the time of preparation, approval and implementation of this scheme the ruler of the state was a young boy and the state was under the administration of the British officials. Both the state authorities and the British Engineers appointed to the administration had voiced concerns over the estimated cost and the availability of river supplies which, according to them were wrongfully calculated. They were therefore reluctant to participate in such a scheme which they saw as running contrary to the interests of the state and which was destined to ruin their economy. They were pressurised and compelled by the representatives of the governments of the Punjab and India to participate in the scheme under the threat that it would otherwise be completed without their consultation.

This chapter argues that a project of such magnitude should have been more carefully handled. Unfortunately all the necessary arrangements; surveys, estimates, file work, including the agreement itself, were prepared in haste and were consequently inaccurate and often mistaken, leading to serious technical and financial problems during its execution and placing extra and unnecessary pressure on the economy of the state. The Chief Engineer for Irrigation in Bahawalpur State, Mr J. G. Davis was well aware of these mistakes and had advised the state authorities to abstain from participating in the project, however, the state was left with no other option than to accept the proposals after Sir Claude Hill, the finance member of the Viceroy's executive council, stated that the British Government of India was the sole owner of all

river waters and consequently had the power to exclude Bahawalpur all together from negotiations surrounding their use. It is clear that the British government compelled Bahawalpur to accept a development project they did not desire on terms which were notably unfavourable to their own interests. It was a failure of the paramount rule which – according to Penderel Moon, a British official in the Indian government – had “failed to safeguard the *nawab*’s interests during his minority.”²⁰¹

After the completion of the project all the concerns and objections raised by Bahawalpur State relating to overestimates of the river supplies proved correct and the rivers failed to provide the amount of water required by the Bahawalpur Canals and a large areas on the tail of the Sadiqia, Bahawal and Abbasia Canals were abandoned on the pretext of the unsuitability of the land for cultivation. The miles of canals constructed in the desert area along with some rest houses and the residences of the canal officials were also abandoned forever.

During the construction of the Headworks the British Engineers used experimental techniques which increased the cost of the project to unprecedented levels. The technique and design adapted for the Islam Headworks were a dramatic failure and its collapse set back Bahawalpur State plans for the colonisation of lands on Bahawal Canal by more than two years, while at the same time increasing the cost of the project. The project which it was agreed would be completed for fourteen *crores* (140 million) of rupees, would eventually cost more than thirty three *crores* (330 million) of rupees and the state of Bahawalpur had to face significant economic and political consequences. To finance its part of the project state had borrowed money from the British Government of India, who, in return, gained control over key financial positions within the administration of the state. This loss of control would have a profound effect on the whole organisation of the state and ultimately compromise the position of the *Nawab* who lost both his power and his wealth.

Despite all the irregularities and the mistakes committed during the execution of the project, its successful completion had opened up new opportunities for both the state and colonists. It had laid a network of canals in the areas intended for colonisation and

²⁰¹ Moon, *Divide and Quit*, p. 101.

provided lands to new colonists. It was now their duty to make it a success. The next chapter of the study will look at the developments which took place in the social, political, and economic spheres of the state after the implementation of this project.

Chapter Four: The Colony Settlement: Opening of a new Era

Introduction

The previous chapter of this study discussed the large-scale irrigation projects undertaken in Bahawalpur State under the SVP. This chapter will deal with the second part of the project – the settlement of colony in the newly irrigated regions. The SVP involved not only physical engineering – the building of infrastructure – but also social and demographic engineering, and soon after the opening of waters in Eastern Sadiqia Canal in 1926, the state launched its colonisation scheme. The colony settlement also extended to areas along the Bahawal and Abbasia Canals once they were opened in 1928 and 1932 respectively. The effective use of the colony land was absolutely essential if the project was to be considered a success. Special care was taken in the development of colony areas and the model of the Punjab schemes – that had already proved successful – was followed.

Canal colonies were a relatively new phenomenon in the Punjab, having first emerged in the mid-1880s when the British rulers of India started constructing canal projects in the *bar*, or interfluvial, zones of the Punjab in order to bring new areas under permanent settlement. According to Hugh Kennedy Trevaskis – a British official and the Director of Land Records in the Punjab – The earliest irrigation projects in British India had been aimed at extending existing cultivation and improving the lot of cultivators who had a long history of occupation in the area. However, in the *doab* areas of the Punjab the situation was totally different, there was no resident population beyond a few nomads who eked out a precarious existence as graziers. The introduction of canal projects – at least if they were to justify the investment required – therefore necessitated the creation of canal colonies.¹ These were settled by

¹ The colonisation process that commenced in 1886 continued up to the early years of 1940s and during this period overall ten canal colonies, nine in the areas of Punjab and one in the state of Bahawalpur were set up. Following are the colonies, (i) Sidhnai 1886-88, (ii) Sohag- Para 1886-88, (iii) Chunian 1896-98, 1904-06, (iv) Chenab 1892-1905, 1926-30, (v) Jhelum 1902-06, (vi) Lower Bari Doab 1914-1924, (vii)

transporting agriculturist communities from congested areas of the province and allotting them lands in the form of *murabas* (squares) of different sizes. The settlement of new areas gave rise to new agricultural villages and *mandi* (market) towns which were provided with modern facilities and linked with rail and road networks to other areas of India heralding a new era of development in the region.²

In its policy statement the British government of India had announced that the canal colony schemes would be launched in order to expand the area under cultivation in order to increase revenues, to relieve population pressure in congested districts of the province and to raise the standard of village life by creating model communities.³

The objectives of colony formation might have seemed attractive, carrying the notion of social development by raising the standard of living in village communities; however scholarship on British irrigation projects in the Indus basin tends to argue that though development might have been a motivating factor, it was a minor one compared to political and economic interests. David Gilmartin argues that like their forerunners the British used land settlement to tie powerful local elites and the peasantry to the state. Big land grants were given to their favourite people who in return protected the interests of the British and worked as a bridge between the rulers and the ruled.⁴

However, James C. Scott opines that the new village societies were formed to achieve higher production of specialised, market oriented crops. He argues that “colonial rule has always been meant to be profitable for the coloniser. This implied – in a rural society – stimulating cultivation for the market. A variety of such means as head taxes payable in cash or in valuable crops [...] were deployed to this end.”⁵

Upper Chenab 1915-19, (viii) Upper Jhelum 1916-21, (ix) Nili Bar 1926-1940s, (x) Bahawalpur Canal Colony 1926-1940s. For details see, Imran Ali, *The Punjab under Imperialism, 1885-1947*, (Princeton University Press, Princeton, 1988), pp. 8-9.

² Hugh Kennedy Trevaskis, *The Punjab of Today: An Economic Survey of the Punjab in Recent Years (1890-1925)*, (The Civil and Military Gazette Press, Lahore, 1931), pp. 273-284.

³ Lewes French, *The Punjab Colony Manual, vol. 1, 1907*, (Superintendent Government Printing Punjab, Lahore, 1913), IOR/V/27/315/24 1913, pr. 67, B. L.

⁴ David Gilmartin, ‘Scientific Empire and Imperial Science: Colonialism and Irrigation Technology in the Indus Basin’, *The Journal of Asian Studies*, 53:4 (1994), pp. 1133-1134.

⁵ James C. Scot, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*, (Yale University press, New Haven and London, 1998), p. 225.

Imran Ali focuses on the political ends achieved by the British through the development of canal colonies, describing how, as the agrarian hierarchy of the province of Punjab had supported the British in the struggle of 1857 against their countrymen, so the future support of this community was considered essential for the maintenance of British rule. The colonial rulers used land as a tool and allotted it only to those who were considered appropriately supportive of or beneficial to the maintenance of their rule. Land was distributed on the basis of caste and distinguishable social, economic and even physical attributes were inscribed in official thinking to each of the major caste groups that obtained land. Certain tribes like the Jats, Arrains and Kambohs were declared the most skilled and efficient agricultural castes and bulk of the colony land was allotted to men belonging to them. The native semi-nomadic pastoral tribes were considered unsuitable for settled agriculture and in most cases were denied the right to land grants and intentionally kept away from the colonisation process.⁶

The participation of local communities in the colony settlement was essential for the fair distribution of lands and also for the creation of a peaceful agricultural society. Trevaskis has suggested that, "it is of the first importance to the success of any scheme of colonisation to make adequate provision for the indigenous inhabitants of the tract to be colonised and for the introduction of immigrant peasant colonists of suitable type."⁷ But unfortunately in the colony settlement of the Punjab the indigenous population was intentionally kept apart from the colonisation process and the award of land was formed primarily by economic and political considerations.

In the case of the colony settlement of Bahawalpur State, land was offered to all – without any discrimination – and anyone from within or without the state could apply for colony lands. Though the tract that was colonised did not have any permanent settlement, the nomads of Cholistan – who had their settlements in the area to the south – had been grazing their animals in the region for centuries and, along with other landless or permanently unsettled communities of the state held better claims on the land than the external applicants. These claims were however, ignored.

⁶ Ali, *Punjab under Imperialism*, pp. 10, 48-65.

⁷ Trevaskis, *The Punjab of Today*, pp. 275-276.

The state – under pressure to service substantial debts – was unable to offer any particular concessions to these groups and land was made available to them at the same rates as to applicants from outside, as a result they stayed away from the colonisation process. The indifference of the local community provided opportunity to agriculturists from the Punjab to claim lands in Bahawalpur State. B. H. Dobson writes that “the riverine and Cholistani population prefer cattle and sheep to cultivation in any case. [But] Sooner or later as in other colonies, they will probably appreciate the opportunities which now present themselves for securing colony lands.”⁸

Following the slow response of the *Riyastis* (natives of the state) to the offer of colony lands the state sent its representatives to areas of the Punjab to motivate agriculturist communities to apply for settlement in Bahawalpur. The peasant community responded positively and came in large numbers to apply for the colony lands.⁹ After receiving land grants the Punjabi settlers – through their continuous hard work and labour – turned this desolate region into one of productive agriculture. Through the exploitation of land grants and their own hard work, these groups were able to dramatically improve their financial and social position and became a notably well-off sub-section of Bahawalpur society. The economic and social imbalance which developed between the local and *abadkar* (immigrant peasants) communities was highlighted by some local politicians and the media who declared the *abadkars* usurpers and the perpetrators of a land grab. This negative response and criticism of the *Riyastis* to *abadkar* community is discussed in chapter six of this study.

The following pages of this chapter look at the colony settlement policy of the state, the principles and objectives which guided the allotment of land and which will increase our understanding of the process of colonisation.

⁸ B. H. Dobson, ‘Note on Land Administration and Colony Operations in the Bahawalpur State’, in *Report of the Sutlej Valley Project Enquiry Committee*, [hereafter R.S.V.P.E.C.] Bahawalpur 1932, Appendix II, part I, pr. 5, p. 89, B.L.

⁹ Masood Hassan Shahab, *Bahawalpur ki Siyasi Tarikh*, (Urdu) (Maktabah Ilham, Bahawalpur, 1979), p. 88.

The Colony Area of the State and its Making

The colony area of the state amounted to twenty lakhs (two million) of acres and was located in the central tract and bordered by the riverine area to the north and the pure desert to the south, and was held by the rulers of the state as crown land.¹⁰ It was dispersed across the three districts of the state, mainly on its perennial canals. The major portion of it was on the Eastern Sadiqia Canal in Bahawalnagar District while the remaining sections lay on the Bahawal Canal in Bahawalpur District and the Abbasia Canal in Rahim Yar Khan. The soil quality was good and the land could be developed rapidly, the land was located in the drainage areas of Gajiani Distributry and the upper portions of Fateh and Murad distributaries of the Malikwah branch in Bahawalnagar and Chishtian Tehsils which were made of excellent soil but the tail areas of the Murad distributry in Chishtian and Hasilpur were mostly occupied by sand hills and were unfit for cultivation and abandoned later on.¹¹

The colony areas on Hakra branch of the Eastern Sadiqia Canal were located to the south of the Malikwah system of canals. The upper portion of the Hakra branch in the area of Haroonabad was a land of good quality soil though it was occupied in several places by low rolling sand hills. In the tail area of Fort Abbas both good and poor quality of soils might be found.¹²

The colony areas in Bahawalpur District were mainly located on the Desert and Dera Nawab branches of the Bahawal Canal in Yazman, and on the Bahawalpur and 3-L distributaries between the railway track and the Ahmadpur branch of the Bahawal Canal in areas neighbouring the town of Bahawalpur. This land had good quality soils formed by constant interaction with the river.¹³ The colony area located on the Desert branch consisted of both good and inferior quality lands. The desert branch – separating from the Bahawal Canal at Lal Sohanra – for its first twenty miles, ran through an area which was covered with high sand hills and was unfit for cultivation, but beyond this was largely made up good quality land. Upon reaching Tailwala bangla (bungalow) it split again forming Dera Nawab branch to the west, Derawar branch to

¹⁰ *R.S.V.P.E.C., 1932*, ch. II, pr. 46, p. 14.

¹¹ *Ibid*, pr. 47-48, p. 14.

¹² *Ibid*, pr. 49-50, pp. 14-15.

¹³ *Ibid*, pr. 51, p. 15.

the south and the small Mithra distributry which lay between the two.¹⁴ The drainage area of the Derawar branch – except for a small portion on the 1L and 1R distributaries – was a desolate region of Cholistan Desert, covered with lofty sand dunes which was unfit for cultivation and therefore was abandoned. On the recommendations of the SVP Enquiry Committee of 1932, Derawar branch was permanently closed and the small portion of land which was cultivable transferred to Mithra distributry. The areas around the tail of the Mithra distributry were hard *rakkar* soil impregnated with salt and – being unfit for cultivation – were also abandoned.¹⁵ Most of the areas located on Dera Nawab branch were of good quality soil and were perfect for cultivation, the exceptions being the areas at the tails of the Dahri and Dera Nawab distributry which were of poor quality soil and were again abandoned.¹⁶

The colony area of the Abbasia Canal was located west of the areas irrigated by the Dera Nawab branch of the Bahawal Canal. With the exception of one block of 30,000 acres, the lands along this canal were again found unsuitable for cultivation and were eventually abandoned.¹⁷

The abandonment of exactly the half of the colony area – a total of one million acres – was a great loss for the state of Bahawalpur. The money spent on the surveys and the construction of canals, rest-houses and other necessary works in the desert areas which could not be colonised because of the poor quality of the soil, was wasted, while loans still remained to be paid. As discussed in chapter three of this study most of the abandoned areas had been noted as unsuitable for cultivation by Mr. Glass during his survey of the proposed colony areas within the state. However, the Council of Regency, which had wanted to attain for itself the best possible settlement in terms of share of river water on the basis of its large colony areas had refused Glass's assessment and now had to face the consequences of this mistake.

The proposed colony areas contained no permanent settlements, and permanent inhabitants who might occupy and cultivate the newly available lands, therefore a

¹⁴ Ibid, pr. 52, pp. 15-16.

¹⁵ Ibid, pr. 53-54, p. 16.

¹⁶ Ibid, pr. 55, p. 16-17.

¹⁷ Ibid, pr. 56-57, p. 17.

colonisation scheme was launched. For the allotment of its colony lands the state adapted the colony laws of the government of Punjab given in 'The Colonisation of Government Lands (Punjab) Act, V of 1912' and making some necessary modifications according to its own requirement.¹⁸

Work on the colonisation scheme had started soon after the commencement of construction work on the Sulemanki Headworks in 1922. The first was to carry out rectangulation¹⁹ and levelling of the colony area along with the preparation of contour maps to break the colony tract in small blocks of land for allotment purposes.²⁰ The rectangulation surveys and levelling of land had become an essential and compulsory part of the colonisation schemes after the bad experience of the Sidhnai Canal Colony (1882-86) where the government of Punjab had left the task of levelling of lands in the hands of the peasants who could not do it properly which created problems for the flow irrigation as water could not reach some of the colony lands.²¹

The authors of the Technical Report of the Sutlej Valley Project of June 1920 had also recommended the Rectangulation and levelling of the colony areas. The report suggested that in the Lower Bari Doab Colony areas the Rectangulation, levelling and the laying out of the area into 25 acre rectangles had been quite successful for allotment and irrigation purposes so it would be advisable to adopt the same method

¹⁸ Laws in the Bahawalpur State were usually framed on the lines of the Acts as sanctioned by the Central Government of India or the Government of Punjab. For this purpose "The Council of Ministers" of the state used to meet periodically to take into consideration the new laws passed by the Central Assembly and the Punjab Assembly and adopted those Acts which were relevant to the needs of the state after certain modifications. For details see, Government of Bahawalpur, *Report on the Administration of Bahawalpur State*, [hereafter R.A.B.S.] for the year 1942-43, (The Civil and Military Gazette, Lahore, 1944), pp. 105, 141-143.

¹⁹ Vinod Sharma, a modern irrigation Engineer writes, "Rectangulation is process of dividing portion of land into sub rectangle square of fixed size by accurate method and demarcating their corners with permanent marks." It helps in the consolidation of land holdings and the preparation of contour maps for the distribution of watercourses and the village settlements in the drainage areas of the canal. For details see Vinod Sharma and R. N. Agarwal, *Planning Irrigation Network and OFD Works*, (New Age International Publishers, New Delhi, 2005), pp. 32-33.

²⁰ 'Note by A. J. O. Brien, P. W. And Revenue Member, Council of Regency, Bahawalpur State, on the Sutlej Valley Project, dated 19th June 1923', File No 39(21)-P(S)/1924-26, *Sanction of a Loan by Secretary of State for India for Bahawalpur State*, p. 2, IOR/R/1/1/1490, B. L.

²¹ Paul W. Paustian, *Canal irrigation in the Punjab: An Economic Inquiry Relating to Certain Aspects of the Development of Canal Irrigation by the British in the Punjab*, (Columbia University Press, 1930, reprint, AMS Press, New York, 1968), pp. 52-53.

in the colony areas of the Nili Bar and Bahawalpur.²² The responsibility of conducting the land surveys was handed over to the Survey Department of India. During its operation the surveying team at first divided the areas in large rectangles and then broke down these rectangles in sub-rectangles and finally undertook the precise levelling of the sub-rectangle sides, the placement of bench-marks and the preparation of contour maps.²³

In Bahawalpur State the surveying operation started in 1922 under the supervision of Major Foster, the officer in charge party No. 23 of the Punjab Rectangulation branch of the Indian Survey Department. The Surveying party conducted surveys of Ahmadpur, Bahawalpur, Khairpur, Minchinabad, Bahawalnagar Tehsils and some parts of the Cholistan Desert completing this work at the end of the year 1922-23. The levelling of sub-rectangle sides – which was necessary for the preparation of final estimates and the layout of the scheme – was conducted by Capt. Glenni who was appointed at the special request of the Chief Engineer Construction of the Sutlej Valley Project.²⁴

After the rectangulation of lands, in 1923, the process of *Killabandi* or *Khetbandi* (the breaking down of big plots into acre subdivisions) was begun and was conducted by the local staff of the state under the supervision of Muhammad Amir Khan, the Assistant Director Colonisation in Bahawalpur State. During this period the surveying team divided the sub-rectangles into 25 acre squares and fixed stone markers at the corner of each plot for the purpose of identification.²⁵ The measurement and demarcation of lands was carried out according to the existing rules of *Khetbandi*²⁶ which had been in place in Bahawalpur State since 1915.²⁷

²² 'SVP, 1920, Report, Part II, Technical Report, Rectangulation Surveys, Abstract Statement', Line 62, p. 20, in Public Works Department, Irrigation Branch, *Sutlej Valley Project, June 1920*, (hereafter P.W.D., Punjab, SVP June 1920), (Superintendent Government Printing, Punjab, Lahore, 1920), B.S.A.

²³ E. R. Foy, President Punjab Engineering Congress session 1924-25, His presidential Address on April 1925, in Minutes of Proceedings of Punjab Engineering Congress, Lahore, 1925, vol. xiii, (The Civil and Military Gazette Press, Lahore, 1927), pp. vi-vii.

²⁴ *R.A.B.S., 1922-23*, pp. 7, 51.

²⁵ *R.A.B.S., 1924-25*, pp. 3, 39-40.

²⁶ The procedure of *Khetbandi* starts with the formation of a *Gaz* of the size of 1 *Karam* or 5.5 feet which was the unit of land measurement in the State. In Bahawalpur the fixed size of the *Khet* (acre) was 40 *Karams* east to west and 36 *Karams* north to south (40 X 36 *Karams* or 220 X 198 feet) and the size of each *muraba* (square) consisting of 25 *khet* was 200 X 180 *karms* or 1,100 X 990 feet. During the rectangulation operation the surveying team at first divided the land into large rectangular blocks consisting of 16 rectangles each of the size of 200 x 180 *Karams* and then those rectangles were further

Alongside the process of *Khetbandi* the surveying team also conducted soil surveys of the colony areas in order to assess the quality of land and to categorise them for the purpose of revenue assessment.²⁸ As the surveying team had no expertise in soil surveys it assessed the quality of soils on the basis of the level and amount of sand on the surface and declared lands with heavy sand deposits as poor and unallotable and those without heavy deposits of sand as good, average or poor, these were then marked on the map with distinctive and characteristic colours.²⁹

Later on during the colonisation process when – in 1930-31 – peasants refused to occupy the lands on the Abbasia and Bahawal Canals due to the poor quality of soils, new surveys of the land along these canals were done by Mr. J. A. Mackeown, Colonisation Officer of Bahawalpur State. He conducted his surveys and classified land on the basis of natural vegetation or lack of it on the surface of land and declared these to be good, average, poor or unallotable. These surveys marked level land with *Jhand*, (*Prosopis Spicigera*), *Wan*, (*Salvadora oledides*), *Karil* (*Capparis aphylla*), and *Farash* (*Tamrix orientalis*) trees as of good quality; land with occasional *Wan* or *Karil* trees and mostly occupied by grasses such as *Katran* (*Cymboppong jwarancusa*) or *Chimber* (*Eleusine Flagellifera*) as average; land with *Lani*, (*Salsola foetida*) and *Khar* (*Holoxylon recurvum*) plants with *Bui* (*Aerua javanica*) and *Phog* (*Calligonum polygonoides*) bushes as fair land; and land covered with low rolling sand hills, with *Lani* or *Bui*, *Phog* or bare level soil with no plants as poor land.³⁰

In 1931-32 on the recommendation of Sutlej Valley Enquiry Committee which was formed by British government of India to investigate matters relating to the project, Prof. W. Roberts was appointed to carry out soil surveys to determine the exact extent of culturable lands within the state. Following his surveys of perennially irrigated areas along the Abbasia and Bahawal Canals, Prof. Roberts approved the method developed by Mr. Mackeown and declaring it accurate and reliable with minor changes accepted.

broken up into 25 sub-rectangles or acres of the size of 40 x 36 *Karams*. For details see, Maulvi Muhammad Abdul Malik, Mohtmam Bandobast, *Hidayat Khetbandi Riyasat Bahawalpur* (Urdu), (Sadiq-al-Anwar Press Bahawalpur, 1915), pp. 9-25, B.S.A.

²⁷ Malik, *Hidayat Khetbandi Riyasat Bahawalpur*, pp. 1-35.

²⁸ R.A.B.S., 1924-25, p. 39.

²⁹ R.S.V.P.E.C., 1932, ch. I, pr. 31, p. 9.

³⁰ W. Roberts, 'Report on the Soils of Bahawalpur State', in R.S.V.P.E.C., 1932, Appendix No. III, ch. III, pr. 8-10, pp. 169-170.

He classified the soils of the colony areas on the basis of fertility and remarked that that “there is no more sensitive soil Barometer, if properly understood, than wild vegetation.” On his recommendation the enquiry committee declared almost half the colony area of the state misfit for cultivation and advised not to colonise it.³¹

After the completion of rectangular surveys – and although land was ready for allotment purposes – it was adjudged that for the fair distribution of land a comprehensive allotment policy along with proper administrative machinery would be required. For the management and administration of the colony settlement a special bureaucracy was put in place consisting of high and low rank officials; a Colonisation Officer,³² two Assistant Colonisation Officers, Tehsildars, *Naib* Tehsildars, *Qanungos* and *Patwaris*. The Colonisation officer worked separately and independently from the ordinary district administration to plan and implement the programmes which were to guide the development of the colony. In position and importance the Colonisation Officer was traditionally similar to a regular Deputy Commissioner but in Bahawalpur State the position gained importance after the signing of loan agreements in 1924 and 1926 with the government of India, under the conditions of these loans the ruler of the state lost control over some of the key administrative posts of the state, one of which was Colonisation Officer. The appointment of Colonisation Officer along with the Public Works & Revenue Minister³³ and the Finance Minister of the state passed to the Government of India until the loan amount had been paid in full.³⁴

The presence of these powerful British officials had a profound effect on the whole organisation of the state and ultimately the position of the *Nawab* who not only lost

³¹ Ibid., pr. 11-19, pp. 170-172.

³² The post of Colonisation Officer was created under Government Tenants Act 1893 to govern the tenancies of the Crown wastelands. Colonization officer was directly responsible to Settlement Commissioner. In colony areas both the Colonisation and Assistant Colonisation officer were given the powers of Deputy Commissioner and were responsible for the colony matters relating to settlement, revenues, public works, irrigation, agriculture, building, roads etc. For details see, Government of the Punjab, *Gazetteer of the Chenab Colony, 1904*, (Civil and Military Gazette Press, Lahore, 1905), p. 124.

³³ The Public Works and Revenue Minister of the state who was the representative of Central Government of India was the most powerful official having the following eight departments under his control, i.e., (i) Agriculture and veterinary, (ii) Forests, (iii) Fisheries, (iv) Colony Administration, (v) *Panchayats*, (vi) Court of Wards, excluding Aukaf estates, (vii) Colony Railway and Motor traffic, (viii) Control of prices and food supplies. For details see, R.A.B.S., 1942-43, p. 18.

³⁴ Letter from Finance Department, Government of India, to The Right Honourable, the Earl of Birkenhead, His Majesty's Secretary of State for India, No. 20 of 1926, dated, Simla, 1st July 1926, pp. 1-4, in IOR/R/1/1/1490, B.L.

his power and wealth, but also much interest in administration and stayed largely in England or elsewhere, leaving the state in the hands of British officials.³⁵ The authority and power enjoyed by the British officials are noted by Penderel Moon, who states that “[...] in practice, if not in theory, effective control of these departments had been vested in outsiders instead of in the nawab and natives of the state.”³⁶

The allotment of land in the state followed the pattern developed by the Punjab government during the settlement of other canal colonies in the province and was made under various names or categories which denoted the type of recipient. Land was disposed of under the categories of sale-purchase, *abadkari* (peasant) grants, military grants, *lambardari* and *kamin* grants and tree planting or *zakhira* grants.³⁷ The sale-purchase category was flexible and gave the right, even to non-peasant capitalist classes to obtain land. *Abadkari*, tree plantation, and *lambardari* grants were reserved for hereditary peasants while military grants were reserved for retired military personnel and *kamin* grants for the menials of the community.

The allotments of colony lands began soon after the opening of canals from Sulemanke Headworks in 1926 and first of all lands were allotted on the Malikwah branch of the Eastern Sadiqia Canal.³⁸ The colonisation scheme adopted by Bahawalpur State was a simple one and lands were not reserved for any specific purpose as they were in the Punjab where grants were made for the rehabilitation of certain depressed classes and criminal tribes or for some special purposes such as mule and horse breeding.³⁹ B. H. Dobson has written that “Bahawalpur Colonisation Scheme seems not to have followed any definite line of policy or if it did it emulated the Nili⁴⁰ Bar model, where though the idea of reclamation and uplift is by no means absent, the leading

³⁵ Penderel Moon, *Divide and Quit: An Eyewitness Account of the Partition of India* (Chatto & Windus, London, 1961), p. 101.

³⁶ *Ibid.*, p. 102.

³⁷ *R.S.V.P.E.C., 1932*, ch. iv, pr. 91, 107, pp. 33, 36.

³⁸ *Ibid.*, ch. iv, pr. 92, p. 33.

³⁹ Ali, *Punjab under Imperialism*, pp. 8-43.

⁴⁰ Nili Bar Colony was a contemporary scheme of the Bahawalpur Canal Colony and was established under the Sutlej Valley Project in the areas of Montgomery and Multan Districts of the Punjab province. The colony operation of the Crown wastelands in Nili Bar areas started in 1925 and continued up to the middle of 1940s. For details see, Ali, *Punjab under Imperialism*, pp. 38-43.

characteristics are those of a business concern destined with good fortune to return a handsome dividend.”⁴¹

The declared objectives of the Bahawalpur Colony scheme were the uplift of the society and the reclamation of the state wastelands, but soon after the opening of the sale proceeds and other business concerns influenced by the high costs of the project became the dominant factor and priority was given to purchasers rather than to the claims of ordinary peasants.⁴²

The allotment of land was made under certain conditions; the recipient of lands had to remain loyal to the state and to fulfil certain other obligatory conditions described in the colony laws. Under allotment conditions the government reserved rights over all mines and minerals, gold-washings, treasure-troves, earth oil and quarries found in or under the allotted lands, as well as easement rights. The tenants were bound to permit access to their lands at all times to the officers of the government for the purpose of searching for minerals or working mines. The government however, did undertake to pay damages or compensation for disadvantage caused by the exercise of such rights. The government also reserved the right of the public to traverse a width of 3 *Karams* or 16.5 feet along one side of the lines bounding 25 acre rectangles wherever it was considered to be in the public interest, and to traverse a width of 3 *Karams* otherwise situated wherever the collector considered this necessary in order to replace an existing thoroughfare. The tenants were prohibited from cultivating or obstructing the thoroughfares so provided. The tenant was bound to pay the costs of the survey and demarcation of his lands along with the costs of construction and repairs of watercourses of the estate where land was situated, and of the roads and culverts as well as of other works necessary to the general convenience of the residents of that estate.⁴³

The above mentioned conditions not only gave power and authority to the state over the peasants and their landholdings, but also served their political interests, binding

⁴¹ Dobson, 'Land Administration in the Bahawalpur State', Appendix II, part III, pr. 17, p. 103.

⁴² *R.S.V.P.E.C.*, 1932, Appendix II, part III, pr. 17, p. 107.

⁴³ 'Statement of Conditions Relating to *Nazrana* paying *Abadkari* Grants on the Perennial Sutlej Valley Canals in the Bahawalpur State', Appendix, 9, pr. 5-15; 'Conditions of Sale of Perennial Lands of the Bahawalpur Government', Appendix, 10, pr. 2; in *R.S.V.P.E.C.*, 1932, pp. 151-158.

them to cooperate with the state if they were to obtain the *haq-e-malkiyat* (proprietary right) of their lands.

Soon after the opening of Eastern Sadiqia Canal in 1926 the land was set for sale, and – as the state needed money to finance its share of the project – the best lands were kept separate to be sold in the open market.⁴⁴ As with the construction of the SVP canals – where certain interests of the Punjab government and Bahawalpur State such as the quota of river-water and its distribution remained a major hurdle in the implementation of the project – the sale of colony land created a new controversy. Both the parties had large number of acres on the perennial canals which were to be sold in open market. The colony area of Bahawalpur included twenty *lakhs* (two million) of acres while that of the Punjab in Nili Bar contained some nine *lakhs* acres.⁴⁵

The government of the Punjab feared that Bahawalpur would dominate the land market and so aimed to restrict the extent of the State's land sales.⁴⁶ As the costs of the project had been more than double the initial estimates, both the parties needed to recover money through the land sales. The government of Punjab reserved 300,000 acres out of its 900,000 perennially irrigated acres for sale over eight to ten years,⁴⁷ while the state of Bahawalpur – which had more than double the land area of the government of Punjab – reserved 600,000 acres out of its 2,000,000 perennial acres to sell in the open market over a period of ten years.⁴⁸

The state of Bahawalpur and the government of the Punjab had jointly placed 900,000 acres of land for sale on open market, but neither was sure whether the market would or could swallow such large sales. Neither the government of the Punjab nor the authors of the Sutlej Valley Scheme had realised that the vast acreage held by Bahawalpur State meant that they could monopolise the land market and hamper the sales of lands in the Punjab. In light of the concerns of the Punjab government – when

⁴⁴ R.S.V.P.E.C., 1932, ch., IV, pr. 92, p. 33.

⁴⁵ 'Note by Mr H. W. M. Ives, Chief Engineer, irrigation Works, Punjab, on the Sutlej Valley Project of June 1920, dated 29th August 1920', in PWD, Punjab, *SVP June 1920*, p. iii, B.S.A.

⁴⁶ Letter from Finance Department, Government of India, to the Secretary of State for India, No. 20 of 1926, 8-19, in IOR/R/1/1/1490, B.L.

⁴⁷ 'Note by Sir John Maynard, Financial Commissioner Punjab, on the disposal of Crown Wastelands under the Sutlej Valley Project, dated 12th June 1920', in PWD, Punjab, *SVP June 1920*, Appendix, D-4, pp. 55-56, B.S.A.

⁴⁸ Brien, 'Note dated 19th June 1923 on the Sutlej Valley Project', p. 3.

the British government of India sanctioned its loan for the state of Bahawalpur in 1926 – the state was bound only to sell a certain numbers of acres in a year, as would be agreed with the government of the Punjab.⁴⁹ The British government again missed no opportunity to exploit the subordinate position of the Bahawalpur State.

In the beginning the governments agreed to the sale of 40,000 acres of land every year, out of which, two thirds or 26,666 acres were to be Bahawalpur land. But, as it was feared that this acreage would not meet the costs of the project, the total limit was soon increased to 50,000 acres; 15,000 acres from the government of the Punjab and the remaining 35,000 from the state of Bahawalpur.⁵⁰

In the opening year only 11,593 acres were sold at the average price of Rs. 230 per acre, well below what had been expected by the Bahawalpur authorities. Owing to the general reluctance to purchase land at the rate of Rs. 230 per acre, the government changed its method of auction and adopted private treaties for the disposal of lands in order to maintain the price level. Despite of significant efforts the government was able to sell only 80,661 acres of land up to the 31st of December 1931, out of which 14,623 acres were confiscated due to the non-payment of instalments, thus reducing that figure to only to 66,038 acres.⁵¹

The lands were sold with *haq-e-malkiyat* and the sale price of land was fixed by the government and was not disclosed unless the highest bid was lower than that price. The auctions were carried out in the district where the lands on sale were located and were supervised by a presiding officer appointed by the state. Anyone – after depositing one rupee per acre could participate in the bidding. Once the bidding was over the winner of the auction would deposit ten percent of the purchase amount with the presiding officer as *nazrana* and sign an agreement on stamped paper with the government undertaking to fulfil all the conditions set forth under the sale. The remaining amount was to be paid in ten or sixteen successive, half yearly equal instalments with an interest rate of 7 percent on the remaining amount. As the lands

⁴⁹ Letter from Finance Department, Government of India, to the Secretary of State for India, No 20 of 1926, pp. 18-19.

⁵⁰ Brien, 'Note dated 19th June 1923 on the Sutlej Valley Project', p. 1-2, B.L.

⁵¹ Dobson, 'Land Administration in the Bahawalpur State', p. 123.

were new to cultivation, purchasers were given concessions and were allowed the first two harvests free of land revenue and water rates.⁵²

The agreement between the state of Bahawalpur and the government of the Punjab over the sale of land had restricted the state authorities to selling only 35,000 acres of land which was seen as interference in the internal policies of a sovereign state. However, while in the first instance this figure seemed restrictive, it was soon seen that the market had been entirely misjudged and that demand for such lands was far weaker than anticipated. The high price of land along with living expenditure and the cost of making land cultivable made settlement very difficult, and this was the case not only in Bahawalpur, but everywhere in the canal colonies. M. L. Darling, in his book *The Punjab Peasant in Prosperity and Debt* writes that:

To bring the virgin soil of the bar under cultivation, to clear, level and embank a square of 25 acres, to find the three or four bullocks required for draught, and to purchase the timber needed for the new homestead costs about Rs. 1,000; and before the whole farm is in proper trim, a man may very well have to spend twice as much.⁵³

But in Bahawalpur the situation was even more difficult, as most of the colony lands were covered by sand. In the absence of bulldozer technology, which only came into use after 1947,⁵⁴ the land was to be levelled and brought under cultivation by peasants using bullocks, which required far more labour and was a difficult task. Despite these problems, the state authorities were hopeful that with the passage of time the scheme would attract more buyers, however – unfortunately – the global economic downturn of the early 1930s badly affected the already slow sales. The Punjab government's Nili Bar scheme was also affected, and owing to the downturn in land prices, the government suspended the sale of lands until the beginning of 1940s.⁵⁵ Bahawalpur State could not abandon its colonisation scheme as it had continue to pay loan instalments to the government of India and therefore pushed ahead with its colony

⁵² 'Conditions of Sale of Perennial Lands of the Bahawalpur Government (in force from 3rd March 1930)', Appendix 10, in *R.S.V.P.E.C.*, 1932, pp. 155-158.

⁵³ Malcolm Lyall Darling, *The Punjab Peasant in Prosperity and Debt*, 3rd edn., (Humphrey Milford, Oxford University Press, London, 1932), pp. 131-132.

⁵⁴ Ali, *Punjab under Imperialism*, p. 5.

⁵⁵ *Ibid.*, p. 42.

scheme even in the face of the poor response to land sales, and in the next ten years up to the March 1941 only 11,789 acres⁵⁶ were sold.⁵⁷

In 1941 the land market regained some confidence due to increased global demand for agricultural products on the world market as a result of WWII. The lands of Bahawalpur State became the focus of investors and in the next five years, up to the end of March 1946, the number of acres sold increased to 212,501.⁵⁸ These lands were sold both in the perennial and non-perennial areas of Bahawalpur and Rahim Yar Khan Districts. The terms of sale in both districts were different: In Rahim Yar Khan, purchasers were allowed to pay in instalments, while in Bahawalpur they had to pay in full at the time of auction. This difference reflected the confidence of the state in the lands being sold. In Rahim Yar Kahn the lands offered for sale had good quality soils and their water supplies – from the Panjnad Headworks – were extremely secure, so purchasers were expected to face no difficulty in keeping up with instalments. In Bahawalpur however, the better lands had already been sold and the lands offered were of poor quality, it was therefore expected that purchasers might find repayments difficult at certain times, indeed, purchasers of lands of comparable quality sold in previous years had often defaulted in their payments.⁵⁹ The share of colony land included in the sale-purchase category was 21.3 percent of the total allotted area [see Table 4:1] – a comparatively large proportion if compared with the Punjab canal colonies with the exception of Nili Bar colony where 45.02 percent of the total allotted area was included in this category.⁶⁰

⁵⁶ This number of acreage is the final after the deduction of areas confiscated for default and adjustment of restoration.

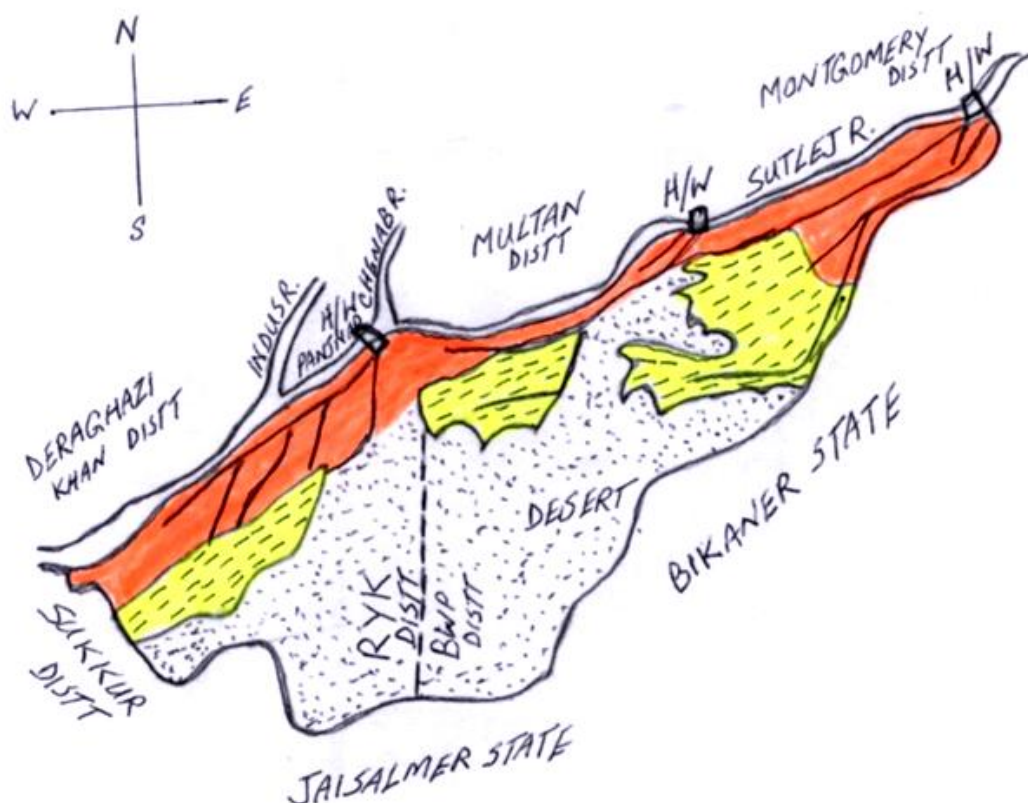
⁵⁷ *R.A.B.S., 1942-43*, p. 25.

⁵⁸ *R.A.B.S., 1945-46*, p. 28.

⁵⁹ *R.A.B.S., 1944-45*, p. 26.

⁶⁰ In Chunian Colony 11.75 percent of the allotted area was distributed under the sale auctions; in Chenab Colony 7.9; in Jhelum Colony 2.78 percent whereas in Lower Bari Doab Colony 7.83 percent. For details see, Ali, *Punjab under Imperialism*, pp. 16-39.

Fig. 4:1, Map showing Colony, Proprietary and Desert Areas of Bahawalpur State, 1946-47



Source: Map drawn by me according to Colony Map in *R.A.B.S.*, 1944-45

Colony Area

Proprietary Area

Desert Area under the nomad communities



Although the sale-purchase of lands provided a quick route to realising funds necessary for loan repayments, the bulk of the colony land was allotted under *abadkari* (peasants) grant scheme. The *abadkari* grants were aimed at benefiting ordinary peasants who could not afford to purchase land in auctions. In this scheme the purchase price was paid in instalments, which had obvious benefits and so 72.35 percent of the colony land was allotted to *abadkars* (peasant colonists) and the *sufedposh* (yeomen) under the *abadkari* grants.⁶¹ This category of land allotment had been very popular and successful in the Punjab canal colonies where the peasants had become the backbone of the economy. Most of the colony lands in the earlier schemes of the Punjab had also been distributed under peasant grants but in the latter schemes of early twentieth century, this relatively philanthropic system was overrun by commercial and other outside forces and most of the land was allotted to capitalists or retired servicemen.⁶²

Bahawalpur State opened its *abadkari* scheme in 1927, and soon large numbers of peasants came from across the Punjab and registered in advance for peasant grants. In order to register people were required to deposit a *nazrana* amount of Rs. 10 per acre or Rs. 250 per square for a tract of land not exceeding 50 acres or two squares per *abadkar*.⁶³ As the major colony areas of the state were located on its three main perennial canals – the Sadiqia, Bahawal and Abbasia which were opened in 1926, 1930, and 1932 respectively – the colonisation of lands located along these canals started soon after their opening.⁶⁴

The price of land was fixed Rs. 150 per acre for *abadkari* and Rs. 200 for *sufedposhi* grants. The grantees had to pay a *nazrana* amount of Rs. 10 and Rs. 20 per acre respectively at the time of allotment and the remaining amount was to be paid in twelve yearly instalments to begin at the end of the third year after taking occupancy. In the case of non-payment of any instalment or portion of an instalment, interest was

⁶¹ R.A.B.S., 1945-46, p. 30.

⁶² In its earlier schemes the priority of the Punjab government was the ordinary peasants and most of the colony lands were allotted under this category. The breakdown of the allotted land was as, in Sidhnai, and Sohag Para Colonies all the lands were allotted to ordinary peasants, in Chunian Colony 78.45 percent, in Chenab Colony 80 percent, in Jhelum colony 36 percent, in Lower Bari Doab Colony 36.53 percent, and in Nili Bar Colony 17 percent. For details see Ali, *Punjab under Imperialism*, pp. 14-39.

⁶³ Ibid., p. 34.

⁶⁴ R.A.B.S., 1942-43, pp. 63-64.

charged at a rate of 6 percent per annum. The peasants were liable to pay *malikana* or occupier's rates [discussed in chapter 5] which were fixed by the government and reassessed occasionally. The peasants were bound to bring one third of their land under cultivation within three years of allotment and one half within five years, after which half the acreage would be under cultivation during every crop season. Peasants also had to fulfil all the general conditions mentioned earlier in this section.⁶⁵

There were high hopes for the success of the *abadkari* scheme. Both, the state authorities and the *abadkars* were optimistic, but soon after cultivation began it became clear that peasants would be unable to produce the quantities of crops which would be required to meet their expenses and food requirements. This badly affected the further development on the scheme as the *abadkars* became reluctant to occupy their lands. Up to the 31st of December 1932 the number of acres allotted to *abadkars* had reached 318,782 but only 199,209 of these acres were occupied. The main reason for the non-occupancy of lands was low fertility of previously uncultivated soils. Under these unfavourable conditions some *abadkars* forfeited their deposits and returned to their homes while others demanded the exchange of their allotted lands in the hope of receiving better lots elsewhere. In order to cope with the situation government gave concessions to *abadkars* and extended from three to four years the period before the payment of instalments began. The period of free harvests was also extended from one to two, and in some areas three years in order to persuade cultivators to remain on the land.⁶⁶

Alongside permanent allotment, a temporary cultivation scheme was also introduced to make use of the un-allotted colony lands. Under this scheme lands were leased for a period varying from one harvest to a period of five years or more at varying rates starting from Rs. 1-8-0 per matured acre per annum to Rs. 4 per acre in addition to the payment of land revenue, *malikana*, and water rates.⁶⁷ The scope of this scheme was extended to the following categories of lands; areas reserved for sale or allotment pending arrival of the purchaser or grantee, confiscated or abandoned areas, pending

⁶⁵ 'Statement of Conditions Relating to *Nazrana* paying *Abadkari* Grants', Appendix 9, pr. 16-23, in *R.S.V.P.E.C.*, 1932, pp. 153-154.

⁶⁶ *R.S.V.P.E.C.*, 1932, ch., IV, part 1, pr. 102-103, p. 35.

⁶⁷ *Ibid.*, ch., IV, part, I, pr. 106, p. 36.

resale or re-allotment, areas reserved for specific purposes such as, *darakhtpal*, *lambardari* or *kamin* grants until they were required, and the unsold or un-allotted plots.⁶⁸

The temporary cultivation scheme was beneficial for both the state and the peasants. For the state it provided a quick and secure source of revenue while increasing the fertility and market value of colony lands, while for the peasants – especially for the new settlers – it provided additional land at low prices in areas neighbouring their plots where they could grow more crops in order to help meet their expenditures.

By 1932 only the better quality lands had been disposed of and land with relatively poor quality soils, commonly known as *bara* (*rakkar* or *kallar* soils) which were mostly located on the Eastern Sadiqia and Bahawal canals were lying unattended. In order to dispose of *bara* lands the government introduced a *bara sharait* (conditions) scheme in 1933. Under this scheme lands were offered at reduced prices and some other concession regarding the attainment of *haq-e-malkiyat* were also given. Some amendments were further made in 1937 to improve conditions for the peasants; the price of land was fixed Rs. 40 per acre, the applicant could take possession of land after depositing a sum of Rs. 50 for a *muraba* (square) of land (two rupees per acre) at the time of application. He had to pay the land revenue, water rates and *malikana* at the rates prescribed by the government. For the attainment of *haq-e-malkiyat* the grantee had to deposit a sum equal to Rs. 8 per acre for the total of their allotted lands after the expiry of five years from the date of their taking possession. After depositing this amount the grantee was eligible for *haq e malkiyat*, assuming he had successfully fulfilled all other conditions under which the land had been allotted, proprietary rights could be purchased by paying the balance of Rs. 30 per acre.⁶⁹

When, despite of providing concessions and relief measures to peasants, the state was unable to attract customers to its colony lands in sufficient numbers, the *abadkari* scheme was updated and new terms and conditions were offered to peasants. In 1935 the price of the land was reduced from Rs. 150 per acre to Rs. 100 per acre, *abadkars*

⁶⁸ Dobson, 'Land Administration in Bahawalpur State', Appendix, II, part III, pr. 19, p. 110.

⁶⁹ Government of Bahawalpur State, 'Sharait Araziyat Bara Inhar Mustaqil, Sutlej Valley Riyasat Bahawalpur, Bahawal Canal wa Nehr Sadiqia Sharqi, 1933', (Urdu) (Bahawalpur, 1938), pp. 1-8, B.S.A.

had to pay a *nazrana* of Rs. 20 per acre or Rs. 500 per square at the time of allotment, with the remaining amount to be paid over anything from ten to 86 monthly instalments. The conditions relating to the construction of thoroughfares, watercourses, free harvests, payment of *malikana*, land revenue, *abiana*, and cesses were the same as offered in the original *abadkari* scheme.⁷⁰

The new *abadkari* scheme represented a great opportunity for those who wanted to invest in land but had been dissuaded from doing so by global economic depression. As with straight forward land sales described above, the *abadkari* scheme also received new impetus at the beginning of 1940s and over this period large acreages were allotted. The total which stood at 424,832 acres on 31st March 1937 had increased to 669,832 acres by the end of March 1943. Of this number 142,694 acres were allotted in district Rahim Yar Khan and the remaining in the districts of Bahawalpur and Bahawalnagar.⁷¹ As the allottable lands in districts Bahawalpur and Bahawalnagar were now largely disposed of government now sought to ban further allotments in these regions. The allotments which were subsequently made in those areas were confined to confiscated lands or the partially available plots of the *abadkari* chaks.⁷² Thus, by March 1946, all the available colony area of the state had been allotted and in general terms the *abadkari* scheme had been completed. Over all 721,521 acres had been allotted and the only remaining areas were of poor quality *rakkar* or *kallar* soils and were not suitable for cultivation.⁷³

As well as by grants to peasants land was disposed of under military grants. These were made to retired military personnel – both from within the state and from elsewhere – as a reward for services rendered to the government of India or the state of Bahawalpur. There was no particular necessity for making such grants in Bahawalpur Colony as retired military men in the state were few in number and if land were needed it could easily be offered though adjusted peasant grants. However, as the state was following the pattern of Punjab government who had made these grants

⁷⁰ Government of Bahawalpur State, 'Jadeed Sharait Abadkari Araziyat Inhar Mustaqil', (Urdu), Bahawalpur Division, 1935, pp. 1-8, B.S.A.

⁷¹ R.A.B.S., 1942-43, p. 25.

⁷² R.A.B.S., 1943-44, p. 26.

⁷³ R.A.B.S., 1945-46, p. 30.

in its own colonies, the lack of necessity for such an arrangement went ignored, the result of which was that the state of Bahawalpur inadvertently ended up extending this offer largely to the military personnel of the government of India. Although the terms of grants were same as offered to *abadkars* but military grantees enjoyed more favours in the allotment procedure. They were allotted better lands than the *abadkars*, were given greater freedom of exchange and might request the refund of their deposit money if they were not satisfied with their allotment. With the opening of the scheme several retired military personnel applied for grants and were allotted lands in the perennial areas of Sadiqia and Bahawal canals. But despite all the concessions and favours offered by the state the scheme did not gain significant popularity, quickly losing momentum and up to the closing date of 1st November 1931 only 26,185 acres were allotted, of which 5,818 acres were abandoned by the grantees. This scheme was practically curtailed after the 1st of November 1931 and after this date only small areas were allotted.⁷⁴ One of the main reasons for the unpopularity of this scheme was the lack of farming experience on the part of the military personnel who consequently had to rely upon tenants for the cultivation of their land which put them at a disadvantage compared to self-cultivating peasants. Being dissatisfied with their grants and discouraged by the hostile conditions many returned to their homes after claiming back their deposits.⁷⁵

Apart from the allotment of lands on a permanent basis, other colony holdings which were allotted temporarily on the basis of service, these included *Imbardari*, *kamin* (menials) grants, tree plantings or *darakhtpal* grants. *Lambardari* grants were made to facilitate *lambardars*⁷⁶ or *numberdars* who were responsible for the collection of *muamla* (land revenue) from the peasant community. The *lambardar* was a low-ranking but important revenue official operating at village level. During the settlement of the Punjab colonies *lambardari* grants were made in almost every other colony

⁷⁴ R.S.V.P.E.C., 1932, ch. IV, part, I, pr. 104, p. 35.

⁷⁵ Dobson, 'Land Administration in Bahawalpur State', Appendix, II, part III, pr. 17(3), p. 108.

⁷⁶ In 1833 when the British East India Company introduced the Mahalwari (village-wise) revenue settlement in the areas of north-western India including the territories of Ganga-Jumna Doab, Oudh, Delhi and the Punjab, the post of *lambardar* was created at village level. *Lambardar* was responsible for the collection and supervision of land revenues from the peasant community of the village. For details see, S. N. Sen, *History Modern India*, 3rd edn., (New Age, Delhi, 2006), pp. 77-78.

under the Punjab Tenancy Act of 1912 to village headmen and they worked successfully.⁷⁷

In Bahawalpur State *lambardari* system had worked successfully since the middle of the 1870s and was consequently extended to the peasant villages of the colony areas. In all some 12,349 acres of land were reserved for *lambardari* grants, the size of each grant was 12.5 acres or half a *muraba* of land for each *lambardar*, subject to the payment of land revenue, water rates and malikana. A *lambardar* was exempt from the payment of *nazrana* and acreage rate until the grant had been held for five years or more. The lands were temporarily allotted and the grant was extendable only upon the good behaviour and satisfactory performance of the *lambardar*. Proprietary rights were not given under this scheme.⁷⁸

Kamin grants were made to menials who were often village artisans. They provided assistance to village community and were an essential part of the community. Every village had a number of artisans such as a *tarkhan* (carpenter), a *lohar* (blacksmith), a *mochi* (cobbler), a *kumhar* (potter), a *nai* (barber), a *mashki* (water carrier), a *dhobi* (washer man), a *тели* (oilman), a *Julaha* (weaver) etc. who provided valuable service to predominantly agriculturist communities and were paid an annual allowance in grain, at the time of harvest, by each cultivator.⁷⁹

The grants of land to *kamins* were an off-shoot of *abadkari* system and were first introduced in the Punjab canal colony schemes, hereby a square of land was reserved in each village of the colony for the village menials without whose assistance and help the peasant communities could not perform their duty properly.⁸⁰ These grants functioned as an inducement to *kamins* to settle in inhospitable new environments where life was tough, at least to begin with. Furthermore, as most of the colonists in Bahawalpur State came from areas of Punjab where *kamins* were an essential part of the village society their arrival helped to facilitate settlement and provided peasants

⁷⁷ Government of the Punjab, *The Colonisation of Government Lands (Punjab) Act V, 1912*, (Punjab Gazette, 1912), pp. 1-13.

⁷⁸ Dobson, 'Land Administration in Bahawalpur State', pr. 18, p. 108-110.

⁷⁹ G. R. Madan, *Changing Pattern of Indian Villages: with special reference to Community Development*, 2nd edn., rev., and enl., with a foreword by Ram Das and an Introduction by K. B. Bhatnagar, (S. Chand & Co., Delhi, 1964), pp. 1-2, 217.

⁸⁰ Punjab, *Colonisation of Government Lands (Punjab) Act V, 1912*, pp. 1-13.

with familiar social structures. The allotment of land under this scheme was of a temporary nature as proprietary rights were not given and lands remained the property of the state. These grants were managed by the *lambardars* or by the village community.⁸¹

Under this scheme the square of land reserved in each colony was administered by the Tehsildar who allotted few acres of land each to the *tarkhan* (carpenter), *lohar* (blacksmith), *mochi* (cobbler), *kumhar* (potter), *nai* (barber), *mashki* (water carrier), *dhobi* (washer man) and *imam masjid* (a person who leads prayers at mosque) as the case might be, from the reserved square. A total area of 11,347 acres was reserved for this scheme and allotment was made on the condition that the holder of the land would stay in the village permanently and in the case of his permanent departure the grant would be surrendered.⁸² This scheme proved effective as it provided an additional source of income to the *kamins* while their presence played a significant role in the ensuring the successful establishment of the new village communities.

Tree plantation grants were made in order to help improve the extremely arid and shadeless environment in which most of the colony areas were situated. The terrain which became the colony area of the state, with an average rainfall of 4.4 inches annually was the most arid and rainless tract in which colonisation had been attempted by the British in India.⁸³ The scarcity of trees and natural vegetation had made these very difficult areas to settle. Grants of land were consequently made to peasants for tree plantations along the roadsides and for the growth of *zakhiras* (cluster of trees) on their lands. Under this scheme a total of 19,613 acres were reserved, of which 1,281 acres were marked for *zakhira* grants and 18,332 acres for roadside plantation grants. A *zakhira* grant consisted of five acres of land and was originally made to *lambardars* who undertook to grow a *zakhira* on four acres while the fifth acre was to be reserved as a nursery. The roadside plantation grants were

⁸¹ Dobson, 'Land Administration in Bahawalpur State', pr. 18, pp. 109-110.

⁸² Ibid., pp. 109-110.

⁸³ 'Note by the Council of Regency, Bahawalpur State, on the Four Weir Scheme for the Utilization of the Sutlej and Chenab River waters for the irrigation of the Lower Sutlej Valley, dated the 12th January 1920', p. 4, in *Note of January 1920 of Council of Regency, Bahawalpur State*, on the various Schemes advanced for utilising the waters of the Sutlej and Beas Rivers in the Lower Punjab, (The Civil and Military Gazette Press, Lahore, 1920), B.S.A.

made to peasants and bound the grantees to plant trees along a certain length of road as determined by the collector. This was generally one mile for each *muraba* with plants on both sides and a maximum two squares of lands were allotted to each peasant.⁸⁴ Other terms and conditions of the allotment were similar to those of the *abadkari* scheme.⁸⁵

Under this scheme *shisham* (sissoo) and *kikar* (*Acacia Farnesiana*) trees were planted on both sides of colony roads over a distance of 768 miles up to the end of March 1944. The growth of trees under the plantation scheme – though it could not resolve the general condition of the scarcity of trees in the colony areas – did improved the situation by providing shade along the roadsides and the canals. The positive effect of these plantations in the area of Yazman was noted by Henry Field who wrote, “[as] we continued through a narrow, twisting track, back to the good road beside the canal [...] the well-built road continued dead straight beside the canal (30 feet wide) under an arch of trees. The road continued under these beautiful trees, making delightful shade after the burning sun on Lurewala.”⁸⁶

The tree plantation scheme worked as an incentive to grow shady trees in treeless areas of the colony and no doubt improved the environment as far as cultivation was concerned, but the real efforts in this direction came unprompted from the colonists who – soon after occupying their lands – planted trees both around their houses and their fields by which the problem of arboriculture in the colony areas was largely solved.

As stated above the colony area within the state totalled 2 million acres of land. The SVP Enquiry Committee of 1932 that was formed by the British government of India to investigate financial matters relating to the project and the process of colonisation of state lands recommended in its report the abandonment of areas with poor quality soil which were deemed unfit for cultivation. According to the report only 904932 acres of

⁸⁴ Dobson, ‘Land Administration in Bahawalpur State’, pr. 18, p. 109.

⁸⁵ ‘Conditions Relating to *Nazrana* paying Abadkari Grants on the Perennial Sutlej Valley Canals’, pr. 5-15.

⁸⁶ Henry Field, *An Anthropological Reconnaissance in West Pakistan 195: with appendixes on the Archaeology and Natural History of Baluchistan and Bahawalpur*, Papers of the Peabody Museum of Archaeology and Ethnology of Harvard University, vol. LII, (Peabody Museum, Cambridge, 1959), p. 170.

the proposed 2 million were suitable for cultivation.⁸⁷ In the later years this assessment was validated as – despite all of its efforts – by the end of the financial year 1945-46 the state had only been able to dispose of 997,294 acres of land. At this point the remaining allotable land left with the state amounted to only 17,773 acres, land which was cultivated under lease and was to be allotted at the expiry of the lease. Thus the year 1946-47 marked the end of the first phase of the colonisation scheme in Bahawalpur State.⁸⁸ The following table shows the distribution of the colony area under different categories of allotment:

Table 4:1, Allotment of Colony Land under Different Categories

Type of Grant	Allotted acres	Percentage %
Peasant grants	721,521	72.35
Sale-Purchase	212,501	21.30
Military grants	20,367	2.04
Tree plantations	19,209	1.93
<i>Kamin</i> grants	11,347	1.14
<i>Lambardari</i> grants	12,349	1.24
Total	997,294	100

Source: *R.A.B.S., 1943-44, 1944-45, 1945-46.*

Table 4:1 shows that bulk of the land – around 94 percent – was allotted under the peasant and sale-purchase categories, while the remaining six percent was allotted under military, tree plantation, *lambardari*, and *kamin* grants. Peasant grants, including both the ordinary and *sufedposh* peasants with a share of 72.35 percent remained the by far largest category. Ordinary peasants who worked small holdings of less than two squares of land formed a self-cultivating class of peasants who managed their lands themselves with the help of their family members and proved central to the socio-economic structure of the canal colonies. M. L. Darling also noted the skills and

⁸⁷ *R.S.V.P.E.C., 1932*, ch. II, pr. 64, p. 20.

⁸⁸ *R.A.B.S., 1944-45*, pp. 26-28; and *1945-46*, pp. 28-30.

achievements of the ordinary peasant whom he described as “the backbone of the colonies, [and the backbone] of the Punjab.” By contrast the *sufedposh* who were allotted more than two squares of land and were men with resources and who it was hoped would provide leadership failed to deliver, partly perhaps as most operated as absentee land holders.⁸⁹ Furthermore, Imran Ali argues that the allotment of land to self-cultivating peasants not only minimised the economic and social dislocation of the agriculturist communities but also prevented the rush of the subtenants and the labourers to the new tracts from the neighbouring areas.⁹⁰

Sale-purchase remained the second major heading under which lands were granted with 21.30 percent lands sold in open auctions or by private treaty to those who had the capacity to buy land outright. The presence of this class was necessary both for the development of the colony as well as for their contribution to state revenues. As the agreed price was paid in full at the time of purchase these sales provided the much needed income required by the state to develop the colony areas. As well as providing money direct to government schemes they – as men with resources – could spend and invest generously in developing their plots in order to achieve better production of crops. B. H. Dobson writes that the state was fortunate to have had both the classes (ordinary peasants and the purchasers) in its colony areas.⁹¹ Military grants had a share of 2.04 percent but as they did not prove successful were stopped in the early phase of the colony. Tree plantation grants with a land share of 1.93 percent proved beneficial for the colony as they provided much needed tree cover in a largely barren region. The *lambardari* grants represented a share of only 1.24 percent and were made to *lambardars* by way of reward for the services they provided to the state in the collection of land revenues from the peasant community. *Kamin* grants that had only a 1.14 percent land share but were primarily seen as an inducement to *kamins* to settle in the inhospitable new environment to provide services to peasant community.

⁸⁹ Darling, *Punjab Peasant*, pp. 122-124.

⁹⁰ Ali, *Punjab under Imperialism*, p. 15.

⁹¹ Dobson, ‘Land Administration in Bahawalpur State’, p. 114.

Recipients of the Land

As described in the early part of this chapter land in Bahawalpur Colony was allotted without discrimination so that anyone within or from beyond the state boundaries could apply unlike the Punjab canal colonies where – according to Imran Ali – “Canal colonisation was an exclusively Punjabi affair: it involved few, if any, from outside the province.”⁹² Here, in Bahawalpur State, it also became a Punjabi affair due to the disinterest of the local community in land and most was allotted to Punjabi peasants who came to the region from various areas of the Punjab. The successful working of the canal colony schemes of the Punjab had proved the economic value of agricultural land and people were ready to invest in land wherever it was available. The opening of Bahawalpur colony scheme provided another opportunity for those peasant families of the Punjab who could not receive land or if they had it was in quantities insufficient to support their large families.

Soon after the opening of colony allotment in Bahawalpur many people from different districts of the Punjab came and applied for the lands and were successful in receiving land grants. The settlement report of Bahawalpur State reveals that up to 1932 the number of acres for which *nazrana* had been paid, allotted or to be allotted later had reached almost half⁹³ the total colony lands. The peasants came from both, the old congested districts of Sialkot, Amritsar, Hoshiarpur, Gurdaspur, Jullundur and Ferozepur as well as the newly settled colony districts of Lyallpur, Montgomery, Shahpur, Sheikhupura, and Gujranwala within the Punjab.⁹⁴ As previously described the officials of the Bahawalpur State had toured different districts of the Punjab with the aim of motivating people to apply for colony lands. In response the peasants came in groups and were allotted land in the same village which became standard practice in the Punjab canal colony schemes, where, according to David Gilmartin, “[In Indus basin] new hydraulic societies were formed on the basis of kinship and *biradri*

⁹² Ali, *Punjab under Imperialism*, p. 43.

⁹³ At the closure of the colonisation scheme in March 1946 overall 973,598 acres were allotted. Up to 1932, the total acreage of land for which *nazrana* amount had been paid was 496,376 acres, out of which 384,770 acres were allotted. The share of the local recipient of the land was only 3.36 percent. For detail see, Dobson, ‘Land Administration in Bahawalpur State’, Appendix, II, part, III, ‘Colony Operations’, pr. 11-22, p. 114.

⁹⁴ Ibid., p. 115.

(brotherhood, patrilineal lineage) networks.”⁹⁵ And much of the success of canal colonies according to Paul Paustian had been attained due to the “*esprit de corps*” of the colonists.⁹⁶

Jats⁹⁷ came primarily from the districts of Sialkot, Shahpur, Sheikhupura, Lyallpur and Gurdaspur while the Arrains came from the districts of Lyallpur, Montgomery, Jullundur, Sheikhupura, Amritsar, Gurdaspur, and Hoshiarpur. Rajputs mainly came from Hoshiarpur, Shahpur, Rohtak and Jhelum. Awan chiefly came from Shahpur, Jhelum, and Attock while Pathan from Mianwali, Peshawar and its neighbouring areas. Gujjar mainly came from Hoshiarpur; Baloach from Bahawalpur, Rajanpur and Dera Ghazi Khan; Sayed, Qureshi, Sheikh, and miscellaneous classes that included Kashmiris and mixed Punjabi Muslims hailing from Bahawalpur State and different areas of the Punjab. The Sikhs and Hindus who received lands only in the sale-purchase category mostly came from areas within the state while the remaining came from Montgomery, Jullundur, Lyallpur and Ferozepur.⁹⁸

Table 4:2, Tribe or Caste-wise Distribution of Colony lands

Tribe		<i>Abadkars</i>		Sale Purchasers		Total acres/ Percent
		Acres	Percent	Acres	Percent	
1	Jat	188,118	43.51	13,771	20.86	40.51
2	Arrain	167,812	38.81	10,480	15.87	35.77
3	Rajput	28,213	6.53	5,615	8.51	6.79
4	Awan	15,431	3.57	797	1.21	3.26
5	Pathan	7,300	1.69	1,844	2.80	1.83

⁹⁵ Gilmartin, ‘Scientific Empire’, p. 133.

⁹⁶ Paustian, *Canal Irrigation in the Punjab*, pp. 66-67.

⁹⁷ Here the Jat represent as a tribe or main caste, it was further divided into several sub-castes.

⁹⁸ Dobson, ‘Land Administration in Bahawalpur State’, pp. 114-115.

6	Sayed	4,925	1.14	806	1.21	1.15
7	Gujjar	4,425	1.02	393	0.59	0.97
8	Sikh	Nil	..	18,540	28.09	3.72
9	Hindu	Nil	..	6,513	9.86	1.31
10	Sheikh	425	0.09	2,322	3.51	0.55
11	Qureshi	1,900	0.44	2,036	3.08	0.79
12	Baloach	Nil	..	1,132	1.71	0.23
13	Misc.	13,787	3.20	1,789	2.70	3.13
	Total	432,338	100	66,038	100	498,376 100

Source: Dobson, 'Note on Land Administration in Bahawalpur State'.

Table 4.2 shows the share of colony lands claimed by different tribes or castes. Unfortunately, complete data for the tribal distribution of colony land is not available so the table covers only half of what was allotted, nevertheless the table helps to understand the distribution of the people who eventually came to constitute the colony population. General, early established trends, continued in subsequent years and the colony areas were overwhelmingly settled by both Jat and Arrain tribes. The above Table shows both the categories of land recipients such as the *abadkars* (peasants) and of sale-purchasers. The data shows that as in the canal colonies of the Punjab, in Bahawalpur Jats and Arrains remained the major recipients of the land. The share of both castes combined was around 76 percent, out of which Jats received 40.51 percent and Arrains 35.77 percent. Why these two tribes were given preference over others and were allotted most of the land. B. H. Dobson concludes was down to the fact that "the Jats are capable cultivators; [...] being also a prolific stock and steeped in the best tradition of husbandry, they are likely to turnout well." While in his opinion, "[Arrains] are even more desirable. [...] No colonization scheme would be complete without these hard working and submissive people, addicted neither to

crime nor to extravagance, and ready to address themselves to the most arduous labours.”⁹⁹

In addition to these two main agriculturist tribes Rajputs held some 6.79 percent of the land and constituted the third largest group and received lands in both the peasant and sale-purchase categories. Another important community who received lands were the Sikhs. They belonged entirely to the agriculturist class and their skills of cultivation had been proven everywhere in the eastern Punjab and the canal colonies, but here in Bahawalpur they would receive only 3.72 percent because they were offered lands only through sale-purchase category.

The allotment of a major portion of the colony lands to agriculturist classes shows that the state did not want to experiment and relied upon the Punjab practice of allotting lands only to those classes whose agricultural expertise and skills had been proved in the Punjab, and it was hoped that they would produce the same results here in Bahawalpur. Non-agriculturist tribes such as the Sayeds, Qureshis, Sheikhs, Baloachs, and the tribes mentioned under the miscellaneous heading such as Kashmiris, Mughals, and Ghakkars, received land mostly in sale auctions. However, the distribution of land on the basis of class, caste or tribe did not prove beneficial for the state. On the one hand where the state divided the Punjabi *abadkar* community on *biradri* basis – into rival groups of Jats and Arrains who, after the introduction of democracy in Pakistan from the early 1960s always chose representatives from their respective tribes¹⁰⁰ – and on the other it along ethnic and communal lines which sowed the seeds of future conflict which will be discussed in chapter six of this study.

By way of summary it can be said that contrary to the expectations of the state the process of colonisation moved forward very slow and only half of the area considered suitable for cultivation was allotted. Economic concerns remained the guiding principle behind the distribution of lands and grants were made mostly to agricultural hereditary tribes or castes of the Punjab. Moreover, the response of local communities, both the sedentary and pastoralists comprising of mainly Sama, Laar,

⁹⁹ Ibid., p. 115.

¹⁰⁰ *Daily Dawn*, (Karachi), ‘Split in Jats, Arrains in Yazman Tehsil’, October 2, 2002; *Daily Dawn*, (Karachi) ‘Biradri Factor Causes rift in Ruling PMLN’, August 17, 2005.

Sheikh, Bohar, Panwar, Bhatti, Charhua, Daiha, Baloach, Joiya and Langha tribes¹⁰¹ to the prospect of taking up colony land was far from favourable and they remained isolated from the colonisation process, partly due to the high price of land and partly due to a traditional inclination towards animal husbandry as opposed to cultivation. In his settlement report on Bahawalpur colony B. H. Dobson criticised the government and placed responsibility for the indifference of local communities on the state. He wrote that “[the] indifference of local residents is a common feature of all colonisation in its early stages; what is rather remarkable here is that the authorities have not made any particular efforts to counteract it.”¹⁰²

Attribution of blame entirely to the state authorities; the accusation that they did not motivate the local communities to apply for land and failed to offer any concession in the price of land would be unjustified. Responsibility must at least be shared by the local communities who did not take advantage of the opportunity which arose when the price of land was reduced from Rs. 150 per acre to Rs. 100 per acre in the middle of 1930s. There appear to be at least two good reasons for lenience in our judgement of the government; firstly, the enormous investment required at the beginning of the project [see ch. 3, Table 3:3] – which required the loan of more than twelve crores of rupees from the government of India – left them in a poor position regarding the possibility of providing financial concession to any community. And secondly, in light of the state's commitment to the colonisation process which it pursued for some twenty years¹⁰³ – despite the unfavourable attitude of the peasant community to Bahawalpur lands – it would be unjust to say that government denied the right to land to its local people.

The settlement report of Lower Chenab Colony reveals that the indifference and hostility of the local semi-nomadic communities towards land quickly faded and that in

¹⁰¹ Kamil Khan Mumtaz, ‘Habitat and Desert: the Case of Cholistan’, in Brian Brace Taylor, (ed.), In *the Changing Rural Habitat*, vol. I, Case Studies, (Concept Media/ Agha Khan Award for Architecture, Singapore, 1982), p. 19.

¹⁰² Dobson, ‘Land Administration in Bahawalpur State’, Appendix II, part I, pr. 5, p. 89.

¹⁰³ The colonisation process or the allotment of the Bahawalpur colony lands started in 1926-27 and continued till 1946-47 and it was the longest period that any colonisation scheme took. In Chenab Colony of the Punjab government two million acres were allotted in different periods (1892-1905 and 1926-30) and it took less time than Bahawalpur Colony and even in Nili Bar Colony when land market collapsed due to the onset of World Economic Depression, government abandoned allotment until the early years of 1940s. For details see, Imran Ali, *Punjab under Imperialism*, pp. 18, 42.

less than a decade and they not only applied for and received colony lands but also turned out to be successful cultivators.¹⁰⁴ However, the attitude and indifference of local Bahawalpur communities towards colony lands did not change during the entire period of settlement. The reasons – at least in part – were that the conditions in Bahawalpur State were very different from those in the Punjab where the lands in *bar* areas were fertile and the abundance of irrigation water made it easy for local community to change its attitude. But in Bahawalpur State the colony scheme was introduced in a desert area where land was mostly covered with sand dunes or was a hard *rakkar* soil impregnated with salt and was less fertile. Moreover the extreme hot weather of the desert and the scarcity of water in the time of the year when it was most needed made it difficult for the local community to change their mind and accept the colony lands. The attitude of the local community is expressed by Mohabbat Ram of Feroza who explains his preference for nomadic over settled life saying that “this [settled] life does not suit us, and farming is very hard.”¹⁰⁵

Moreover, it is evident from the letter of the Political Agent to the Governor General of Punjab States to the secretary of the Indian Government that people from Bahawalpur were more interested in the lands of the Punjab than those of Bahawalpur. He writes that “there are several Bahawalpur men who are now bidding for land at small auctions we are holding in the Punjab, who frankly confess that they would prefer to have more expensive land with us rather than go further in investment in Bahawalpur.”¹⁰⁶

In the recent past the *Riyasti* community – especially some self-interested local politicians – have raised voices against *abadkars* accusing them of having grabbed land under cover of the Sutlej Valley Project [discussed in ch. 6]. This does not appear to reflect the true and much more nuanced picture as the above discussion has lain out and by which has been shown that conditions in colony areas were often less favourable than foreseen, which created problems for the *abadkars* who nonetheless

¹⁰⁴ Kapur Singh Bajwa, “A Study of the Economic Effects of the Punjab Canal Colonies”, (University of Leeds, unpublished PhD Thesis, 1925), p. 34.

¹⁰⁵ Mazhar Arif, ed., *Cholistani: Shifting Sands*, (Siraiki Adbi Board Multan, 2000), p. 7.

¹⁰⁶ Letter from H. B. St John, Agent to the Governor General Punjab States, No D/57-p-C, dated 31st January 1926, to J. P. Thompson, Secretary to the Government of India, Foreign and Political Department, Delhi, in IOR/R/1/1/1948, 1925-26, B.L.

remained committed to developing their plots even in the non-productive years. The *abadkars* being members of the agriculturist community knew the value of agriculture land, while local communities were ill-equipped to assess its quality and the long-term benefits of resettlement and so remained aloof from the colonisation process.

Conclusion

This chapter has investigated the colony settlement in Bahawalpur State by analysing its objectives, the distribution of land and the demography of recipients of the land. The construction of a network of canals in state wasteland areas had opened the doors to the development of new agricultural settlements and in order to fully reap the benefits of their investment the state launched its colony scheme under which lands were allotted or sold to agricultural communities both from within and beyond the borders of the state.

As mentioned in chapter three, the state eventually had to spend almost double the initial estimated cost of the project due to a series of surveying and construction errors and so special care was taken in the implementation of the colonisation scheme so that it would be both remunerative and productive, producing significant returns every year. With these factors in mind a major portion of the better quality colony land was sold to men of resources and the remaining was allotted preferably to Jat and Arrain peasant families of the Punjab who had the experience of cultivation. This chapter argues that the state – as the owner of perennial canals as well as of colony lands – monopolised the means of production and used them as tools in the remodelling of its society and landscape. The state, at first chose only those colonists who were considered fit for both cultivation and citizenship and then through the allotment of land and the withholding of *haq-e-malkiyat* of their lands, forced them to remain loyal.

The local nomad and other landless communities who were more interested in animal husbandry than agriculture were poorly treated by the state and they could not get enough share of the colony land. Had the state given them preference or fixed a quota of colony land, as had been done during the colonisation projects undertaken by Sukhar Barrage in Sind, where, according to Daniel Haines 350,000 acres of land was

reserved for the Sindhi cultivators,¹⁰⁷ the situation would have been different. The opposition and criticism the Punjabi *abadkars* faced during and after the colonisation period might therefore have been avoided by making the *Riyastis* part of the colonisation process. Moreover, it is argued here that the tying of distribution and allotment to certain castes and social groups fostered division in Bahawalpuri society along *biradri* and ethnic grounds and sowed the seeds of future conflict.

¹⁰⁷ Daniel Haines, *Building the Empire, Building the Nation; Development, Legitimacy, and Hydro-Politics in Sind, 1919-1969*, (Oxford University Press, Oxford, 2013), pp. 74-75.

Chapter Five: Impact of Sutlej Valley Project on the Agriculture of the State

Introduction

Muhammad Safdar, a farmer from Bahawalpur, is standing in the middle of his land at chak No 1/D.N.B. The lush green wheat fields surrounding him afford him real joy, but when he closes his eyes and thinks back to the past, his memories are of hardship and adversity. Eighty years ago – when he came here from Lyallpur (now Faisalabad) along with his father who had received lands in this colony – it was a desolate region full of sand dunes, mostly occupied by desert shrubs, with no sign of agriculture. The transformation to agricultural productivity did not occur overnight; it took his whole life and energy.¹ Safdar's story is also that of the agricultural development of the colony areas of Bahawalpur State. There is however; another side to this story, the development of productive cultivation came at huge cost to the pure desert ecology as various rare species of desert plants and animals perished as settlements emerged. This will be fully discussed in chapter six of this study.

The current chapter analyses consequences of the agricultural development that occurred following the building of canals and the colonisation of the state wastelands. The chapter will describe what was grown, and the methods and patterns of cultivation. I will argue that the arrival of the perennial canal and the *abadkar* peasants brought a new dynamism to state agriculture, the former providing security to crops and the latter – through their superior skill in the cultivation – producing market-oriented crops like cotton and wheat, along with some minor food crops such as grams and bajra (spike millet), which gave noticeable boost to agricultural production in the state.

Before the implementation of the Sutlej Valley Project (SVP) cultivation in the state was carried out primarily in the low lying areas between the river banks and the

¹Interview with Muhammad Safdar (my father), Chak No 1/D.N.B., Tehsil Yazman, 23rd February 2013.

desert, with the help of inundation canals and wells. Although the system of inundation canals had been the main source of irrigation in Bahawalpur State for more than one hundred and fifty years and were central to the regional economy, they were a far from reliable source of irrigation. They worked only during the summer season when the water level in rivers would rise, in the case of low or late rise cultivation was always at risk. It was only the introduction of SVP canals – both perennial and non-perennial – that provided water security to crops and a permanent system of cultivation to the state.

The introduction of the perennial canal as a mode of irrigation represented a major breakthrough in agricultural practice. The system was superior to that of inundation canals in that the flow of water could be controlled and in order to provide water in the rainfall deficient part of the year.² The immediate impact of the introduction of perennial canals was the rapid increase in areas under cultivation in the state and in productivity in existing areas. New areas were cultivated in the highlands that were located away from the riverbanks and were lying waste due to the lack of water. The canals also provided a regular supply of water to those lands which had previously been irrigated by inundation. Official records show that in 1925-26 – just before the commencement of colony operations – the total cultivated area of the state was 1,111,401 acres, out of which 770,683 acres were irrigated from inundation canals, while the remainder relied on from wells, floods, from *jhalars* (Persian wheels) and rains.³ However, with the introduction of the SVP canals, both the total cultivated area and the canal irrigated area more than doubled, reaching 2,521,157 acres in 1946, out of which 2,450,486 acres were irrigated from canals.⁴ This was a major change and had a dramatic impact on the agriculture, economy and the desert ecology of the region.

² B. O Reynolds, *College of Engineering Manual: Irrigation Works*, (The Superintendent Government Press, Madras, 1906), pp. 2-3.

³ Government of Punjab, *Punjab States Gazetteers*, vol. 45B, *Bahawalpur State Statistical Tables, 1935*, (hereafter B.S.S.T.), (Superintendent Government Printing Punjab, Lahore, 1935), p. iii, The Punjab Archives Lahore, (hereafter P.A.L.).

⁴ Government of Bahawalpur, *Report on the Administration of the Bahawalpur State* (hereafter R.A.B.S.) for the year 1945-46, (The Civil and Military Gazette, Lahore, 1947), p. 25, B.S.A.

Fig. 5:1, Muhammad Safdar in his Fields at Chak No 1/DNB



Fig. 5:2, Desert Branch (a perennial canal) of Bahawal Canal at Yazman



Fig. 5:3, Agricultural Fields at Chak No 1/DNB



Historical Development of Agriculture in Bahawalpur State

This section discusses the historical development of agriculture in Bahawalpur State, both in the pre-SVP and SVP periods. Richard Barnett writes that the state was built around its flourishing agriculture which remained the major occupation of its population for more than two hundred years and also remained the main source of revenue.⁵ In this section we will see how this development unfolded; what was grown, how it was grown, what was exported and to whom?

The cropping season in Bahawalpur State was divided into two main parts; those sown in May and July and harvested between September and November – called *kharif* crops – and crops sown from the later part of September to the end of December and harvested in March and April – called *rabi*. The major *kharif* crops were rice, nil (indigo), bajra, jowar (a kind of millet), makki, (maize), gawaar (cluster bean), moth (a kind of bean), manh (a kind of pulse), til (sesame), cotton, and sugarcane while the

⁵ Richard. B. Barnett, 'The Greening of Bahawalpur: Ecological Pragmatism and State Formation in Pre-British Western India, 1730-1870', *Indo-British Review*, XV:2 (1988), pp. 5-11.

rabi crops were wheat, jau (barley), grams, peas, turnips, tobacco, sarhon (mustard), toria (rapeseed), poppy, bhang (cannabis), and zira (cumin).⁶

The cultivation of any crop relied on the supply of water and so irrigation was the main concern of the peasant cultivators. The first step in the annual cycle of work was often the division of cultivating land into *kiaris* (plots). Generally land irrigated by canal was partitioned into bigger *kiaris* (plots) and that irrigated by wells into small *kiaris*. The *kiaris* were made in rectangular shape and were surrounded by *bannas* (hedge) to prevent the escape of water. Before sowing, land was repeatedly ploughed to increase its fertility. Seeds were then sown either by *chhatta* (broadcast, spread through hand) or by *nali* (drill). Malik observed that – during pre-SVP period – although weeding and fencing were practised, as a rule very little attention was paid to the rotation of crops and fallows and mostly *hik fasli* (single cropping) was used, except on the lands where rice was grown in *kharif* where the order followed was wheat then gram or sarhon. The use of manure was also not common, nor was any scientific method of manuring known to the people. It was generally applied for the cultivation of vegetables in order to increase yields, by restoring fertility to the land.⁷

In different areas of the state different crops were grown and different series were followed. The most common system saw the division of land into two portions, one was sowed with *rabi* crops and the other with *kharif*, then in the following year, the first was sown with a *kharif* and the second with a *rabi* crops. The availability of water, along with soil and climatic conditions were the factors which determined the selection of crops. Wheat – which was the staple crop of the state – and was grown on almost all the cultivable land where water was available. However, the cultivation of cotton had more specific requirements including a medium or stiff, loamy soil, it was therefore grown in Minchinabad, Ahmadpur and Khairpur, while the rice gives best results in heavy soil and was consequently cultivated in the areas of Khanpur, Ahmadpur Lamma, and Allahabad.⁸ Following the commercialisation of agriculture during the first quarter of the twentieth century, though the cropping seasons

⁶ Malik Muhammad Din, *Gazetteer of the Bahawalpur State*, (Sang-e-Meel Publications, Lahore, 2001), p. 226.

⁷ Ibid., pp. 213-218.

⁸ Ibid., pp. 220-226.

remained the same, new cropping patterns emerged which used different sets of crops in both the *kharif* and *rabi* seasons. Some disappeared entirely and were replaced by new market-oriented crops.

Crops were produced both for the local consumption and for export, wheat, rice, sugarcane, grams, manih, pulses and vegetables were grown to fulfil the food requirements of the citizens, bajra, jowar, gawar, moth, and jau for the fodder of animals, sarhon and toria both for fodder and oil-extraction, cotton for clothing, and nil along with any surpluses of wheat, rice and cotton was exported to other areas of India.⁹ Nil and rice were the main export crops of the state during the nineteenth century. Lieut. R. Leech, a British official of the East India Company who stayed at Bahawalpur in 1836-37 reported that in that year about 1,000 *maunds* (1 *maund* = 37.325 Kilograms) of indigo was produced in the state, out of which 800 *maunds* were exported to Muscat, Kabul and Khorasan, while the remaining was consumed locally.¹⁰ And the official report of 1867-68, recorded a total area of 320,384 acres under cultivation for the year 1866-67; out of which 137,865 acres were under rice, 2,226 under indigo, 2,219 under cotton, 72,500 under wheat and remaining 105,574 acres under other grains including, jowar, bajra, barley, grams, pulses, til. The total production of grains during the year remained over 2,125,000 *maunds* out of which 115,759 *maunds* were exported to Multan, Bikaner, Jaisalmer, Ferozepur, Sirsa, Fazilka and Sukkur with the remaining kept for local needs. The export of rice remained 26,465 *maunds*, indigo 2,022 *maunds*, oil 1,514 *maunds*, cotton, 1,720 *maunds* and cotton clothes 211 *maunds*. The total value of the export during the year was estimated Rs. 1,203,144.¹¹

As an agrarian state, Bahawalpur kept track of changing trends in foreign markets and was ready to shift its cropping patterns accordingly. From the early 1880s when the market for natural indigo was destroyed by the invention of synthetic indigo in Europe,

⁹ Ibid., pp. 220-226, 273-274.

¹⁰ Lieut. R. Leech, 'Commercial Information Regarding Bahawal Khan's Country', in Alexander Burnes, R. Leech, Doctor Lord, and Lieut. Wood, *Reports and Papers, Political, Geographical and Commercial, submitted to Government, employed on Missions in the years, 1835-36-37, in Scinde, Afghanistan and Adjacent Countries*, (Bengal Military Orphans Press, Calcutta, 1839), p. 56.

¹¹ *Report on the Administration of the Punjab and its Dependencies for the year 1867-68*, (Lahore, 1868), pp. 6-9, P.A.L.

Bahawalpur reduced the production of this crop and brought more areas under wheat and rice.¹² Similarly, from the beginning of twentieth century, a regional cropping pattern, based on the local climatic conditions was developed in the canal colonies of the Punjab, by which crops like, wheat, cotton, cereals, pulses, and rice which had high value in the European markets were grown there,¹³ Bahawalpur also benefitted from this shift and larger areas within the state were brought under these crops. European firms like Rally Brothers, Sanday Patricks & Co., Clements & Co., and David Sassoon & Co., were given licences for the export of these crops from the state. These firms established their centres at the tehsil headquarters and purchased crops from the grain-markets through their agents or the *arhtis* (brokers at grain-market) which were then sent to the ports of Karachi or Bombay by railways. Sanday Patricks and Co., exported 299,600 *maunds* of wheat in 1902 and 278,740 *maunds* in 1903, while Rally Brothers' exports during the five years from 1899 to 1904 remained 401,817 *maunds* of wheat and 1,815 *maunds* of grams.¹⁴

As these firms purchased from the *arhti* or agent rather than directly from the peasant it was primarily these middle-men who benefitted from the exports of crops. In the 1910s when the Punjab started producing new hybrid varieties of wheat and cotton, export from Bahawalpur almost stopped. The following table looks at the changing trends of crop cultivation in Bahawalpur State, during the pre-SVP period.

Table 5:1, Matured Area of Crops during pre-SVP period, 1895-1925

Area under Major Crops in Acres, Calculated on Ten years Average Basis				
Crops	1904-05	1914-15	1924-25	Percentage of the Crops, 1924-25
Rice	614,30	115,190	82,053	8.84
Sugarcane	276	444	810	0.09

¹² Richard B. Barnett, 'Ripping Yarn and Rippling Dunes: State Building in Early Modern Cholistan', in Saeed Shafqat, ed., *New Perspectives on Pakistan: Visions for the Future*, (Oxford University Press, Karachi, 2007), p. 79.

¹³ Tirthankar Roy, *The Economic History of India, 1857-1947*, 3rd edn., (Routledge, London, 2013), p. 121.

¹⁴ Din, *Gazetteer*, pp. 273-274.

Cotton	9,975	11,192	9,325	1.00
Jowar	39,247	56,272	54,756	5.90
Bajra	41,000	54,803	42,678	4.60
Nil	12,259	8,010	3,260	0.35
Wheat	204,443	389,522	306,222	32.98
Barley	11,629	18,803	17,822	1.92
Oilseeds	22,844	41,443	33,993	3.66
Cereals	62,618	108,298	187,592	20.20
Gram	21,226	78,961	71,912	7.74
Mung / Mash	5,401	11,228	6,732	0.72
Pulses, Moth, vegetables	42,747	103,505	111,460	12.00
Total Cultivated Area	535,095	997,671	928,615	100

Source: *Bahawalpur State Statistical Table (B.S.S.T.) 1935.*

The data in Table 5:1 shows that during the pre-SVP period, food crops – both for humans and the animals – remained the priority of peasant cultivators and were grown on more than 90 percent of the total cropped area, whereas cash crops such as cotton, oilseeds, tobacco, indigo etc., were grown on less than 10 percent of the cropped area. This cropping trend was similar to that in most other areas of India, where up to the early years of twentieth century the main focus had remained on food grains, and according to Neil Charlesworth, the priority was “first, to ensure their food grain supply, before producing for market on any scale.”¹⁵

At the beginning of the twentieth century big changes occurred in the agriculture sector in the Punjab, where the settlement of large colony areas had induced the government to re-organise its agriculture department along scientific lines. With the

¹⁵ Neil Charlesworth, *Peasants and Imperial Rule: Agriculture and Agrarian Society in the Bombay Presidency 1850-1935*, (Cambridge University Press, Cambridge, 1985), p. 71.

discovery of new varieties of seed¹⁶ – especially of American cotton and hybrid varieties of wheat – cultivation was launched on a different scale, aimed at commercial markets. American cotton – because of its longer staple as compared to indigenous *desi* cotton – and the new varieties of wheat were highly appreciated in European markets, which gave a boost to export markets and brought a new dynamism to agriculture production in the province.¹⁷ The agriculture department of the Punjab promoted the new varieties of seed and peasants were induced to follow a particular rotation of crops – generally American cotton in *kharif* season, followed by wheat in *rabi* – in order to obtain better yields. Along with these new varieties of seed, the use of manure, improved cultivating appliances and pest scouting of harmful insects were also promoted.¹⁸

The result of this new, scientific approach to cultivation, and the promotion of market oriented crops by the colonial government was that crops such as American cotton, some hybrid varieties of wheat, sugarcane, oilseeds and grams became the priority of farmers as they fetched better prices and higher returns as compared to indigenous varieties, many, more traditional crops for which the export market was less substantial, lost their popularity among the peasants.

The research facilities at the Lyallpur Agricultural College and the work done there were intended not only for the benefit of farmers within the Punjab, but also for other native states of the province. Through the efforts and propaganda of agricultural experts, peasant cultivators in the canal colonies of the Punjab had been persuaded to adopt new methods of cultivation and to apply these to new seed varieties which

¹⁶ The new varieties of American cotton, named Punjab-American 4-F, 285-F and 289-F., and that of the wheat named Punjab No. 11 and Punjab-8A were separated at agriculture research centre at Lyallpur which was established in 1905 for the promotion and development of agriculture in the province. In 1906 an agriculture college was also established there for the agricultural research. For details see, *Royal Commission on Agriculture in India, Introduction to vol. VIII, Evidence Taken in Punjab*, (the Government Central Press, Bombay, 1928), pp. 21-22, P.A.L.

¹⁷ Imran Ali, *The Punjab under Imperialism, 1885-1947*, (Princeton University Press, Princeton, 1988), p. 206.

¹⁸ *Royal Commission on Agriculture in India*, pp. 22-27; *Report of the Indian Famine Commission, 1901*, (Superintendent of Government Printing, Calcutta, 1901), pp. 112-113, B.S.A.

increased the production of American cotton and wheat by 21% and 571% respectively over the period 1911-1940.¹⁹

However, farmers in Bahawalpur State gained little from the discoveries and modern agricultural techniques of the Lyallpur Research Centre. The agriculture department of the state had not yet been organised along scientific lines and did not have staff who could advise peasants on how to apply new methods and techniques of cultivation. It could not procure new varieties of seed and modern appliances for cultivation and even up to the beginning of the 1930s agriculture in proprietary areas of the state still utilised the old methods. On this lethargy of both the peasants and state, B. H. Dobson comments that “[in Bahawalpur] cultivation is not of a high order. The local peasantry show little inclination for remunerative crops like cotton; their complaint is that good quality crops cannot be grown in view of the uncertainty or shortage of canal water. This at least is the general excuse for absence of deep ploughing and proper preparation of agricultural land.”²⁰

The settlement of colony areas eventually disrupted this trend and new methods and patterns of cultivation were introduced. *Abadkar* peasants who hailed from different areas of the Punjab, following trends apparent in their home regions introduced new combinations of rotation systems of the crops. They started growing cotton and sugarcane in *kharif* and wheat, oilseeds and grams in *rabi* seasons with the help of canal water, thus *dofasli* (double-cropping) became permanently established in the state.²¹ These immigrant peasants brought seeds of American cotton and other crops from the Punjab and with their expertise, were able to cultivate them successfully on their new lands. My *abadkar* interviewees told me that during the early years of the colony they faced substantial problems. Their land was not level and was covered with sand and bushes. To clear and level the land was difficult and in the first two or three years they struggled to bring even a portion of their land under cultivation. As they had to feed and fulfil the various needs of their family members – and also to pay their loan

¹⁹ Fareeha Zafar, “The Impact of Canal Construction on the Rural Structure of the Punjab: The Canal Colony Districts, 1880-1940”, (School of African and Oriental Studies, University of London, Unpublished PhD Thesis, 1981), pp. 147-148.

²⁰ B. H. Dobson, ‘Note on Land Administration and Colony Operations in the Bahawalpur State’, in *R.S.V.P.E.C.*, 1932, Appendix II, part I, pr. 5, p. 89, B.S.A.

²¹ *Ibid.*, part, III, pr. 21-22, pp. 114-116.

instalments, *abiana* and land revenue to state [discussed in last section of this chapter] which could only be met through the cultivation of market oriented crops – they preferred new varieties of crops over the indigenous ones.²²

However, in proprietary areas there was no such compulsion as peasants had only to pay *abiana* and land revenue to state, and – being under less pressure to do so – were slower to adapt to new trends of cultivation. The situation remained the same for several years, even after the conversion of inundation canals to non-perennial canals in the region. In riverine areas, the canal water was only available from April 1st to October 15th and the maturity of *rabi* or winter crops therefore depended on well irrigation, consequently, peasants often left a major portion of their land fallow to avoid the extra charges incurred through well operation. By contrast, in the colony areas, canal water was available throughout the year so peasants were free to bring as much land under cultivation as they wanted. They grew extra crops for the markets and received better rates of their agricultural produce. Dobson acknowledges this in stating that “in concentrating on sugar and cotton, the central Punjabi immigrant shows himself as the keen business-man he is.”²³

If we compare the colony area of the state with the neighbouring proprietary areas it becomes clear that even in the project's infancy there were remarkable differences in terms of crop production. The availability of perennial supplies of water in colony areas brought new and increased areas under cultivation and preference was given to high valued crops such as cotton, sugarcane, oilseeds and wheat. The figures for crops cultivated both in colony and proprietary areas provided here reveal that during the years 1927-31, in colony areas, cotton was cultivated on 24.88 percent area as against 6.29 percent in the proprietary area, sugarcane on 2.40 percent area as compared to 0.43 of the proprietary areas, bajra on 4.77 percent as against 2.11 percent in the proprietary areas whereas the cultivation of wheat was slightly lower in the colony areas; 27.32 percent areas as against 30.27 in the proprietary. The decrease in acreage under wheat was due largely to the rise in area under oilseeds, which had emerged as a major *rabi* crop in the colony areas due to their high market value. The percentage of

²² Interviews with Muhammad Safdar; Ghulam Rasool, Chak No. 150/2L, Tehsil Haroonabad, 24th February 2013; and Fiaz Ahmad, Chak No. 50 Fateh, Tehsil Chishtian, 25th August 2013.

²³ Dobson, ‘Land Administration in Bahawalpur State’, Appendix II, part III, pr. 22, p. 116.

area under oilseeds in the colony remained 10.54 percent as against the 3.08 in the proprietary area. The popularity of cash crops in colony areas and the shift from rice to cotton and sugarcane was noted by B. H. Dobson who described the changes as a transition from the old-fashioned standards of the south-west Punjab to the modern enterprise of the colonial exporter.²⁴ The major factor behind this shift was the higher value and lower labour requirement of such crops, leading to substantially increased profits.²⁵

The colonial rulers' interest in cash crops – especially in American cotton and hybrid varieties of wheat – had made them the most popular everywhere in the canal colonies, but Bahawalpur authorities were slow to respond and it was only from the later part of 1930s when the state re-organised its agriculture department to benefit from the market oriented crops that such trends emerged in the region. A separate department *Mehkmah Islah-e-Dihaat* was established in 1937 for the development of agriculture in rural areas. The main objective of the formation of this department was the promotion of agriculture by providing necessary advice and help to the peasant community, by which they might bring better production through the usage of new seeds, new tools and modern techniques of cultivation.²⁶

Alongside with its operation as an advisory body, the department paid special attention on the supply of pure seed which was at first procured from the reliable firms of the Punjab and supplied to *zamindars* through seed agencies, and later on produced at the state's own farms. Improved agricultural tools such as ploughs, drills, harrows and hoes were also imported from Punjab and sold to peasants at low rates or

²⁴ Ibid, pr. 22, pp. 115-117.

²⁵ The average per acre produce of cotton in the early phase of the colony in ending years of 1920s was four to five *maunds* and per *maund* price was Rs. 8, so after the deduction of taxes per acre profit remained Rs. 23 to 25; that of bajra, 5 to 6 *maunds* and per *maund* price was Rs. 2.8 thus after deduction it provided Rs. 9; the per acre produce of rice was 10 to 11 *maunds* and the per *maund* price was Rs. 2.7 so it gave profit of Rs. 21 after taxation; an acre of sugarcane produced 20 *maunds* of sugar and the price of per *maund* sugar was Rs. 4 so after taxation which were higher than any other crop it provided Rs. 66 but this amount was not the net price as for the making of raw sugar or *gur*, more labour was required or in case of a share cropping more percentage was given to tenant as compare to other crops so the net income was almost equal to the price of cotton plus wheat produced from an acre in a single year; wheat with average produce of 10 *maunds* per acre and per *maund* price of Rs. 2.12 yielded Rs. 20 after taxation. For details see Dobson, 'Land Administration in Bahawalpur State', Appendix II, part II, pr. 11-15, pp. 99-106.

²⁶ *Weekly Sadiq-al-Akhbar*, June 10, 1937, Bahawalpur, pp. 1-2.

provided on interest free *Takavi* loan.²⁷ The major factor which compelled the state authorities to promote the development of agriculture along such scientific lines was the gigantic debt owed to the British Government of India [discussed in ch. 3]. The state had determined that in order to get rid of its debt more colony lands would have to be brought under cultivation and agricultural production increased.

Experts were recruited to train the staff of the agricultural department who in turn imparted this knowledge to peasants through “propaganda”²⁸ and demonstration campaigns which were intended to motivate peasants to use modern appliances and new methods in the cultivation of crops.²⁹ The demonstration of improved methods of farming was considered the surest and quickest way of improving the peasant as an agriculturist and the approach had proved its value in Europe and America.³⁰ The Agriculture Department had its own *beldars* (workers) and bullocks who made frequent visits to colony villages to give demonstrations. They carried implements like, cotton drills, bar harrows, furrow turning ploughs, hoes, chaff cutters, cane crushers, *gur* pans, and iron gratings and demonstrated to peasants the proper usage of these implements for the cultivation of crops along scientific lines. They also demonstrated how to sow cotton in lines, inter-culture and ridge making with the help of bullock-driven hoes and *desi hals* (ploughs).³¹

²⁷ R.A.B.S., 1942-43, pp. 29, 122.

²⁸ This term was officially used. For details see, R.A.B.S., 1944-45, p. 31.

²⁹ R.A.B.S., 1942-43, pp. 28-30.

³⁰ M. L. Darling, *The Punjab Peasant in Prosperity and Debt*, 3rd edn., (Humphrey Milford, Oxford University Press, London, 1932), p. 264.

³¹ R.A.B.S., 1942-43, pp. 29, 122.

Fig. 5:4, Cotton Fields at Chak No 1/DNB, Yazman



Fig. 5:5, Sugarcane Field at Chak No 1/DNB, Yazman



Prior to the arrival of such equipment and methods, cotton was mostly sown broadcast (*chhatta*) and its inter-culture was not common among the peasants. If it was practised somewhere it was done with the help of *khurpa* (hoe) which was an expensive and difficult task.³² They also demonstrated how to detect and control insect pests, how to use improved *gur* (raw solid-sugar)-making furnaces and how to keep manure in pits. Along with this – in order to convince the *zamindars* of the efficacy of modern methods of farming – a number of demonstration plots were laid at *zamindars'* own fields so that they might see for themselves the superiority of the improved seeds and methods recommended by the department. The state was so keen to develop its agriculture on modern lines that during the years 1944-45 fifty propaganda parties were sent to 5,737 villages to perform demonstrations.³³

The result of all these efforts was that farmers started using improved implements and improved seeds, which not only increased production³⁴ but also enhanced the quality of their crops which in turn fetched higher prices at market. In the colony areas several *mandi* (market) towns were established [discussed in ch. 6] to provide peasants with an outlet for their crops. The creation of these *mandi* towns directly linked the colony tracts to the international market and the peasants kept a close eye on the developing trends. The result was however, not the same for all peasants. The richer peasantry who had more to sell in market and had access to transport were in a better position to take advantage of higher prices whereas the poorer peasantry who held less land, had little for the market and did not have transport facilities remained at the mercy of the local *arhti* and earned less profit.³⁵

The following table outlines cropping trends and shifts that emerged in Bahawalpur State after the introduction of SVP canals and the settlement of its colony areas which will help inform the understanding of the impact of SVP on the agriculture of the state.

³² Din, *Gazetteer*, pp. 215-16.

³³ R.A.B.S., 1944-45, pp. 30-31; 1945-46, pp. 34-36.

³⁴ In the early years of the colony the average per acre produce of the main crops like cotton, sugarcane and wheat was 4 to 5 *maunds*, 20 *maunds* and 10 *maunds* respectively (see f.n. 25) that increased to 8 to 10 *maund* for cotton, 25 to 30 *maund* for raw sugar and 15 to 18 *maunds* for wheat. Interview with Allah Rakha, *Iambardar* Chak No 137/P, Tehsil, Rahim Yar Khan, 28th February 2013; Abdul Aziz Chak No 170/7R, Tehsil Fort Abbas, 26th February 2013; Muhammad Safdar, Chak No 1/D.N.B.; Fiaz Ahmad, Chak No 50 Fateh; Ghulam Rasool, Chak No. 150/2L.

³⁵ Interviews with Allah Rakha, Abdul Aziz, Muhammad Safdar, Fiaz Ahmad, and Ghulam Rasool.

The official reports compiled during the period 1935-1940 were not published and so the statistics from this period are missing in the table 5:2.

Table 5:2, Shift in Cropping Trends and Matured Area of the Crops

Crop	Total Crop (Kharif & Rabi) Matured Area in Acres on the average of five years basis			Percentage of total crops, 1941-46
	Pre-SVP period 1922-27	SVP 1927-32	SVP 1941-46	
Rice	78,632	49,933	31,910	1.55
Sugarcane	1,119	1,426	17,987	0.87
Cotton desi	20,556	30,519	67,973	3.30
American Cotton	X	x	323,963	15.70
Jowar & Chari	71,264	74,657	144,625	7.00
Bajra	51,187	68,928	161,890	7.85
Maize	X	1,763	21,080	1.02
Pulses, Vegetables,	125,780	104,044	502,393	24.36
Indigo	1,720	200	280	0.01
Wheat	296,078	304,638	415,074	20.13
Oilseed	41,460	57,172	61,089	2.96
Gram	88,838	115,958	89,325	4.33
Barley	15,716	15,473	6,567	0.32
Mixed grain / Cereals	245,771	295,654	217,975	10.57
Total cropped area	1,038,121	1,120,365	2,062,132	100

Source: Dobson, 'Land Administration in Bahawalpur State'; *B.S.S.T.*, 1935; *R.A.B.S.*, 1941-1946.

The data in the above table shows the positive impact of the SVP canals on the acreage of matured crops which almost doubled within two decades (1927-46). It also shows that as well as changes in the choice and combination of crops, double cropping emerged as an important factor in the agricultural production of the state. Most of the peasants began to prefer cotton, along with maize, bajra, jowar and sugarcane for the *kharif* crops and wheat, mixed grains, grams and oilseeds for the *rabi* season, consequently, the traditional combinations of crops from the pre-SVP period that provided rice and fodder in *kharif* and wheat and fodder in *rabi*, largely disappeared. During the years 1941-46 the proportionate area under cash crops increased many fold, especially the area under cotton which was only 1 percent in 1932 rose to 19 percent at the end of the year 1946. The rise in area under cotton from early 1940s was due to the exceptionally high price of cotton which had risen to Rs. 10.8 per maund for *desi* and Rs. 18.0 for American cotton during the days of World War II.³⁶ Separate records for *desi* and American cotton were only maintained from early 1940s and so, in the above table the data for American cotton is missing and counted with *desi* cotton. Beyond this, the breakup of cotton area into American and *desi* varieties shows that the matured acreage of *desi* cotton remained 3.30 percent while that of the American cotton reached 15.70 percent.

Interestingly, and despite all the efforts of agriculture department to promote American cotton, *desi* cotton also maintained its popularity among the peasants, the main reason was, it required less watering than American varieties and it could also tolerate and even prosper in soils which were of medium fertility. One other main factor that kept the area under *desi* cotton increasing was its popularity on the domestic market. Although American cotton had become more valuable than *desi* as it was preferred in much of the textile industry, it did not replace the indigenous variety for use in cottage industry, especially in the making of *khes*, and *razai* (quilts) which

³⁶ These prices are taken from the accounts of W. Roberts. During the days of WWII, the prices of cotton had increased due to the shortage of cotton and were similar in all the areas of Punjab and its subordinate states. W. Roberts and S. B. S. Kartar Singh, *A Text book of Punjab Agriculture* (Civil and Military Gazette, Lahore, 1947), p. 433.

were used for the bedding purposes during the summer and winter season as it was more difficult to spin on *charkha* (hand-wheel).³⁷

The data also show that the area under sugarcane – which was only 1,119 acres in 1927 increased to 17,987 acres, however, this rise appears very small when compared to the overall increase in area under all crops. Birendranath Ganguli, an agro-economist of mid twentieth century wrote that the cultivation of sugarcane required much capital and labour and it occupied the lands for a longer period, so the peasants could not afford the luxury of cultivating this crop.³⁸ But in Bahawalpur State the reason was different, here it remained unpopular because it required regular irrigation which the peasants could not afford given the short supply of canal water.

The rise of cotton, maize, jowar and bajra proved disastrous for the raising of nil and rice which had been the most popular kharif crops during the nineteenth century. The table shows that in 1946 nil cultivation all but disappeared and the crop was cultivated on only 280 acres or 0.01 percent of the total cropped area. Rice also showed a continuous decline – despite of the increase in area under other food grains – as it needed weekly irrigation and consumed relatively more water which could not be provided at cost to other crops, colony peasants consequently often preferred cotton. Just before colony settlement in 1922-27 rice was grown on 78,632 acres or 7.58 percent of the total cropped area but as the colonisation process moved forward this proportion went into decline and was reduced to 31,910 or 1.55 percent of the total cropped area by 1941-46. Crops like jowar and bajra maintained their popularity due to their double advantage of being both fodder and grain crops, consequently their acreage increased two and three times from 71,264 acres to 144,625 acres and 51,187 acres to 161,890 acres respectively. Bajra remained the second most popular *Kharif* crop after cotton and was grown on 7.85 percent of the total cropped area. In colony areas the re-emergence of bajra was due to two main factors, firstly it could be successfully cultivated on poor, sandy or inferior lands and secondly it required only one or two waterings. The agro-economist Ganguly sees the popularity of bajra as a sign of agricultural distress and argues its popularity was merely an indication of the

³⁷ Roberts, *Punjab Agriculture*, p. 414.

³⁸ Birendranath Ganguli 'The Agricultural Regions of India', in Radhakamal Mukerjee, ed., *Economic Problems of Modern India*, vol. I, (MacMillan, London, 1941), pp. 33-34.

inferiority of the soil,³⁹ an assertion which was at least partially true in Bahawalpur State.

For *rabi* crops the table shows an increase in oilseeds (*sarhon* and *toria*) and grams in terms of absolute area of cultivation but a decrease as a proportion of the total land under crops, a reflection of their replacement with food grains, the demand for which had increased dramatically during the war years and was more financially profitable. Wheat – which was the state's primary staple and export crop – maintained its popularity among peasants and – despite the decline in area under barley, grams and mixed grains – saw an increase from 304,638 acres in 1922-27 to 415,074 acres in the years 1941-1946. The rise in area under wheat was due in part to the Grow More Food campaign instigated by the government of India which was started in 1943 with the aim of overcoming the shortage of food grains during the days of World War II by bringing more areas under cultivation.⁴⁰ The *Nawab* of Bahawalpur also encouraged peasants, especially in colony areas to take advantage of this temporary price hike and bring as much as their land under foodgrains and cotton as they could do successfully and obtained the *haq-e-malkiyat* of their lands from the additional money obtained through this programme.⁴¹

Encouraged by the state program, peasants grew wheat, cotton, rice, barley and other food grains at large acreages increasing both overall production of these crops and their own incomes. The financial gains from this increased production were very encouraging for both parties; during first half of 1940s the area under cotton and wheat, plus other grains, had risen to around 4 lakh and six lakh acres respectively. The average annual production of food grains was around 3.5 lakh tons while the requirement of the state was only two lakh tons, thus the state was able to exporting around 1.5 lakh tons of food grains annually to food deficient areas of India, mainly the United Provinces, Madras, Travancore, Cochin, Baluchistan, Rajasthan, North-West

³⁹ Ibid., p. 18.

⁴⁰ Taylor C. Sherman, 'From Grow More Food to Miss a Meal: Hunger Development and the Limits of Post Colonial Nationalism in India, 1947-1957', *Journal of South Asian Studies, South Asia*, 36:4 (2013), pp. 571-588.

⁴¹ *Weekly Sadiq- al-Akhbar*, August 19, 1943, Bahawalpur, p. 2.

Frontier Province, Kashmir, and to the defence services, whereas the annual export of cotton to Europe and other areas of India remained around 2 lakh bales.⁴²

The result of this agricultural development was that the income of both the state and the peasants increased. The *abadkar* peasants used this windfall to purchase the *haq-e-malkiyat* and became the owner of their lands which did away with the requirement to pay *malikana* tax – official records show that at the end of year 1945-46 about 43% of the allotted lands were fully paid off. The development also proved very beneficial for the state which utilised its share of profits to help pay off the enormous loans taken out from the Government of India in order to pay for its share of the Sutlej Valley Project.⁴³

The production of large quantities of cotton, wheat and oil-seeds also gave rise to industrial development in the state. The availability of raw materials prompted state authorities to pursue further profits through the export of products manufactured from these crops and to this end an industrial development plan was announced in 1944 that envisaged the development of major and minor industry within the state, soon after the end of World War II. The Post-War Policy Committee (PWPC) was formed in November 1944 to assess the feasibility of the plan, and after some deliberation suggested a “Five Crore Post-War Plan (1947-52)” that included the active promotion and development of cotton, wheat, oil-seeds, sugarcane and wool industries in the state. The recommendation of this industrial development program was approved by the state and was sent to Government of India for its consent.⁴⁴

The development plan shows that even while under severe financial constraint industrialisation was not ignored in Bahawalpur, unlike in the Punjab where – according to modern south Asian writers Imran Ali and Mufakharul Islam – the potential for industrialisation was intentionally ignored by the colonial rulers who sought to reserve the right to exploit such potential for the British home economy.⁴⁵

⁴² R.A.B.S., 1943-44, p. 9; 1944-45, p. 19; 1945-46, p. 21-25.

⁴³ R.A.B.S., 1945-46, p. 29.

⁴⁴ R.A.B.S., 1944-45, pp.10-11; 1945-46, pp. 9-11.

⁴⁵ Imran Ali, ‘Malign Growth? Agricultural Colonization and the Roots of Backwardness in the Punjab’, *Oxford Journals*, 114: (1987), p. 132; Islam, *Agriculture and the Raj*, p. 15.

The Government of India approved the scheme but by the advent of partition in August 1947, only the work on Abbasi textile Mills had begun and work on remaining projects was stopped to be completed only once the matters relating to the division were settled.

Although the industrial development beyond 1947 is beyond the main scope of this research project, a brief account seems justified: The foundation stone of the Abbasi Textile Mills Ltd., was laid at Rahim Yar Khan in January 1947 and operation began on 19th January 1950. Along with textile mills, Sadiq Hydrogenated Oils and Allied Industries Ltd., were also set up at Rahim Yar Khan – with the cooperation of Unilever Bros. – and started production at the end of 1950. This was pioneering work and the project was the first of its kind to be established in the region that would become Pakistan. The annual crushing capacity of the mill was 20,000 tons of cotton-seed, yielding about 3,500 tons of oil which was hardened for the production of 3,000 tons of Vanaspati and hydrogenated oils and 14,000 tons of cattle cake. Alongside the oil industry a soap factory was also established with the cooperation of Unilever Bros., under the name of The Sadiq Soap Co. Ltd. The machinery for this factory was imported from France and produced soap in sufficient quantity and variation for the whole of West Pakistan.⁴⁶

The development of industry in Bahawalpur not only increased the revenues of the state but it also opened new ventures for both the educated and uneducated population of the state to find jobs according to their abilities. Bahawalpur colony was a very small unit as compared with the colonies of the Punjab for their agricultural production but in terms of industrial development it left them behind.

Some Problems linked with Canal Irrigation

Beyond doubt, the perennial canal system had established its utility as a dependable source of water supplies among the peasants all over India but it also badly affected the supplementary means of irrigation like wells, tanks and sailaba irrigation.⁴⁷ In

⁴⁶ R.A.B.S., 1949-50, p. 13.

⁴⁷ Nirmal Sengupta, 'Irrigation: Traditional vs Modern', *Economic and Political Weekly*, 20:45/47 (1985), p. 1930.

Bahawalpur State the development of the perennial system of irrigation proved disastrous for the indigenous system of *jhalars* and *sailaba* irrigation. *Jhalars* were used to lift the water from canals or *jhils* (lakes) which otherwise could not reach the fields due to their higher level. A few years after the opening of SVP canals they were still working in the district Bahawalnagar where they were used for lifting up the well, canal and *sailaba* water and were assessed as *chahi-jhalari*, *nahri-jhalari*, and *daryai-jhalari*. The official statement shows that during the year 1931-32, *jhalars* were used to provide irrigation to 21,508 acres, but as the colonisation process went ahead, river water was used extensively and the use of *jhalars* almost disappeared.⁴⁸

However, unlike other areas of the Punjab canal colonies, well irrigation survived relatively intact in Bahawalpur State as the perennial supplies of water were provided only to areas located away from the river banks most of which had brackish water under their surface which was unsuitable for cultivation. If, in any perennial area, wells were put out of use or no longer wanted, the number of wells increased in the riverine areas where canal water was provided only for the *Kharif* (summer) season and for the first watering of *rabi* crops, continuing irrigation for which would be provided by wells. As the ordinary peasants who had small holdings could not afford the sinking of new wells, the state provided *Takavi* loans for this purpose. With the support of the state the number of wells which were 22,339 in 1924-25 increased to 39,003 at the end of the year 1942-43, greatly improving the prospects for the development of agriculture in riverine areas.⁴⁹

As mentioned above the presence of perennial canals had encouraged the peasants to bring the maximum possible acreage under cultivation. But unfortunately – despite its technical advancement – the success of perennial canals was still depending on the amount of water in the rivers, and excess, shortage or delay of rainfall could still – though to a lesser extent – damage crops at any stage of their life circle. More important for state revenues and agricultural production was the area on which crops actually matured than the area on which they were cultivated and the revenue assessment was made on the matured acreage not on the area under cultivation. If we

⁴⁸ Dobson, 'Land Administration in Bahawalpur State', Appendix II, part I, pr. 3-6, pp. 83, 86.

⁴⁹ R.A.B.S., 1942-43, p. 23.

look at the cropped and failed area of the state, just prior to the implementation of the Sutlej Valley Project the picture looks very gloomy.

Table 5:3, Relationships between Total Cropped, Canal Irrigated and Crop Failed Area

year	Total Cropped Area Acres	Canal Irrigated Area in Acres		Crop Failed Area	
		Inundation Canals	SVP Canals	Acres	Percent
1920-21	960,136	704,710	x	208,468	21.71
1925-26	1,046,527	770,683	x	215,352	20.58
1930-31	1,379,858	1,204,239	x	165,758	12.01
1941-42	x	X	2,060,915	203,197	x
1942-43	2,572,889	X	2,281,949	212,329	8.25
1943-44	2,605,896	X	2,322,738	216,554	8.31
1944-45	2,510,978	X	2,286,063	205,040	8.16
1945-46	2,521,157	X	2,450,486	248,954	9.87

Source: B.S.S. T., 1935; R.A.B.S., 1942-45.

The data in table 5:3 gives the average cropped failure area of the state during the pre-SVP and SVP periods. The incidence of *kharaba* or crop failure was almost double during the pre-SVP period when cultivation was practised with the help of inundation canals. Table shows that during the year 1920-21 the cropped failure area was 21.71 percent, which was mostly due to the shortage of river supplies during the maturing periods of both the *rabi* and *kharif* crops while in 1925-26, just before the opening of SVP canals the figure was 20.58 percent. In 1930-31 – with the opening of canals from Sulemanki and Islam Headworks – the percentage of *kharaba* was reduced to 12.01 percent which was still high as the canals taken from Panjnad Headworks would remain closed until 1932-33. The data for the total cropped area of the year 1941-42 is not available which is why the percentage of *kharaba* for that year is missing in the

table, but looking at the total canal-irrigated and failed areas and the trend shown in the subsequent years it might be estimated at between 8 and 10 percent. According to the above table the crop failed area in the 1940s remained around nine percent – a very high percentage in the presence of a modern irrigation system. The crop failed area was mostly on the tails of the Hakra and Fordwah Canals in Bahawalnagar District and the Dera Nawab Branch in Bahawalpur District where the shortage of canal water during the crucial time of the crop growth was often witnessed.

The *kharaba* or cropped failure area had the direct impact on both the state and the peasants. In the case of *kharaba* the state usually provided relief to peasants by remitting *abiana* and land revenue on the affected lands at the cost of its revenues. For the peasants the failure of crops meant the loss of their wealth, energy, and labour which they spent on raising the crops and compensation was often insufficient as their life depended totally on the returns from their fields. In the case of *kharaba* the role of canal and revenue bureaucracy also increased as it was for them to decide – after the inspection of the fields – the level of loss or damage to standing crop which would be considered sufficient to declare it *kharaba*. If the affected peasant was refused relief at this stage he was able to appeal to the Deputy Commissioner and subsequently to the Revenue Minister who had final say in this regard.⁵⁰

In Bahawalpur State canal water was shared on the basis of *warabandi*⁵¹ and cultivators were only allowed to use water in their weekly turn. If there was a shortage of water it should therefore affect all equally. Why then did shortages appear to disproportionately affect areas on tail and not on the upper reaches of the canal? In order to find the answer to this question I visited the areas of Fort Abbas and Marot on the tail of the Hakra branch of Eastern Sadiqia Canal, the areas of Chishtian and Hasilpur on the tail of Malikwah branch of Eastern Sadiqia Canal and the area of Yazman on the tail of Desert Branch and Dera Nawab Branch of Bahawal Canal. I interviewed some elderly peasants who had themselves experienced this problem and they were largely consistent in stating that the peasant farmers with lands in the upper reaches of the canals usually bribed the low rank canal bureaucracy to get more than

⁵⁰ R.A.B.S., 1942-43, pp. 23, 66.

⁵¹ *Warabandi* means access to outlet by turn, under this system, each cultivator was allowed a certain period of time in a week to irrigate his fields. For details see Ali, *Punjab under Imperialism*, p. 175.

their due share of water.⁵² So, despite the development of the network of perennial canals the problem of water shortage remained prevalent in the tail areas of the canals.

Furthermore, the sophistication of the technology applied to canal construction was not matched by parallel advances in countering the drawbacks of perennial supplies of water. Canal engineers could not devise a method of diverting surplus waters back into the rivers, instead they created depressions along the canals surrounded by earth embankments, forming reservoirs which aggravated the problem of seepage, increasing the height of the water table and causing salinisation.⁵³ These drawbacks of the perennial canals were highlighted by Elizabeth Whitcombe and Katrina Proust in their works on irrigation in India.⁵⁴ Whitcombe wrote that “irrigation continued to pose problems which defied solution. First, there were the injurious side effects: the loss of irrigated land through salination [...] the loss of life and more importantly the chronic debilitation brought about by malaria.”⁵⁵

It could not be claimed that the authors of the Sutlej Valley Project were not aware of the problem of water logging. Indeed, when the SVP was designed the canals serving the *khadar* (low lying) areas in the riverine tract were intentionally made non-perennial as the sub-soil water level in those areas was considered high enough that canal irrigation would be required only during the *kharif* (April-October) season and that empty canals might help to avoid water logging, whereas the upland areas – which were mostly state waste, barren and uncultivated with deep spring level – were considered fit for perennial cultivation.⁵⁶

⁵² Interviews with Muhammad Hussain, Chak No. 105/6R Tehsil, Haroonabad, 24th February 2013; Sanaullah, Chak No, 139/ D.B. Tehsil Yazman, 23rd February 2013; Muhammad Safdar; Abdul Aziz; Fiaz Ahmad.

⁵³ Paustian, *Canal irrigation in the Punjab*, p. 55.

⁵⁴ Elizabeth Whitcombe, ‘Irrigation in India’, in Dharma Kumar and Meghnad Desai (eds.), *The Cambridge Economic History of India, 1751-1970*, vol. 2, (Cambridge University Press, Cambridge, 1983), pp. 677-737; Katrina Proust, ‘Salinity in Colonial Irrigation: British India and south-eastern Australia’, *Australian Geographer*, 39:2 (2008), pp. 131-147.

⁵⁵ Whitcombe, ‘Irrigation in India’, p. 735.

⁵⁶ Mercel Kuper and Pierre Strosser, ‘The Appropriateness of Canal Water Supplies: the Response of the Farmers; A Case Study in the Fordwah/Eastern Sadiqia Area, Punjab, Pakistan’, Discussion Paper 6, 1992, International Irrigation Management Institute, IIMI Pakistan, Lahore, pp. 5, 37.

However, despite these precautionary measures canals in some areas continued to cause water logging, adverse increases in soil-salinity and associated health problems. The provision of perennial and non-perennial supplies of irrigation in the drainage areas of the canals raised the level of underground water through seepage from the poor alignment of canals and watercourses and over-irrigation of the fields. The north-eastern areas of the state in Bahawalnagar district – fed by the Eastern Sadiqia and Fordwah Canals – were affected by water logging due to seepage from the main and distributary canals,⁵⁷ neighbouring areas were turned into swamps where malaria and other diseases began to spread. An official report shows that after the opening of colony settlement the number of deaths caused by cholera and other kinds of fever increased.⁵⁸ During the years 1942-43 there was a widespread epidemic of malaria in the colony areas of Bahawalnagar, Chishtian and Haroonabad which caused havoc and resulted in several casualties. The seriousness of the situation is clear in the statement by Nawab Sadiq Muhammad Khan V – made during his visit to the town of Haroonabad in March 1943 – in which he regrets “that [the population] have suffered so severely from the recent malaria and I hope that the steps will be devised to give more efficient aid to those who live in areas exposed to this sickness.”⁵⁹

The above discussion reveals that although the SVP canals brought fundamental changes in the agriculture sector of the state and contributed greatly to the economy of both the state and the peasants, it proved disastrous for the indigenous irrigation system and created significant ecological and environmental issues by giving rise to water logging, increased soil-salinity, and epidemics in certain drainage areas.

State Extractions: The Profitability of the Colony lands

The Sutlej Valley Project was implemented with the expectation of huge economic benefits. The authors of this scheme were optimistic about the financial success of the project and it was hoped that it would produce a 14.5 percent return in the form of

⁵⁷ M. Akram Kahlown, Gaylord V. Skogerboe, and others, *Fordwah, Eastern Sadiqia (south) Irrigation and Drainage Project: Waterlogging, Salinity and Crop Yield Relationship*, MREP Report No 233, IIMI Report No R. 73, 1998, pp. 4, 25, 45.

⁵⁸ *B.S.S.T., 1935*, p. xxxiii.

⁵⁹ *R.A.B.S., 1942-43*, Appendix 1, p. 118.

water rates for Bahawalpur State, 8.9 percent for Bikaner and 12.7 percent for the British Punjab.⁶⁰ In order to receive these high economic returns the colony areas were carefully surveyed, designed and administered so that every single incidence of local cultivation could be identified and assessed for taxation. A system of taxation similar to that developed on the canal colonies of Punjab where it was levied as *abiana*, (water rates), land revenue, *malikana*, local rates, taxes on village and town shops, acreage rates, etc., was introduced.⁶¹

Of the above mentioned streams of revenue, *abiana* and land revenue had been the traditional source of state income under every Daudputra ruler and were charged at different rates at different times (see land revenue system of the state in chapter two), but the remaining streams of taxation were new. The most significant introduction was the water rate or *abiana*, its payment was made by the cultivator for the use of canal water. It was assessed on the number of acres sown, but in the early years of the colony – as a concession – it was assessed on the basis of matured acres of crops. Its rates were fixed on the basis of the value of crops and their consumption of water and were high for remunerative or cash crops like sugarcane, rice and cotton and lower for less valuable crops such as fodder, grams and oilseeds.⁶²

In the Punjab canal colonies, this tax was implemented at varying rates and was liable to alteration at the whim of the government. But here in Bahawalpur colony it was outlined in the allotment agreement that higher rates would not be charged for ten years and, that after that period, rates would not exceed those levied in the Nili Bar areas.⁶³

⁶⁰ 'Note by Mr. Ives on the Sutlej Valley Project of 1920, dated 29th August 1920', in P.W.D., Punjab, *SVP June 1920*, p. xv.

⁶¹ Ali, *Punjab under Imperialism*, pp. 159-160.

⁶² Dobson, 'Land Administration in Bahawalpur State', part, II, pr. 11, p. 99.

⁶³ *Ibid.*, pr. 11, p. 99.

Table 5:4 Comparison of *Abiana* (water rates) in Bahawalpur and Nili Bar Colony

Name of Crop	Bahawalpur			Nili Bar	
	Old Inundation Canals	Perennial Canals	Non Perennial Canals	Perennial Canals	Non Perennial Canals
	Rs. A. P. ⁶⁴	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Sugarcane	3-0-0	10-0-0	8-0-0	12-0-0	10-0-0
Cotton	2-4-0	5-0-0	5-0-0	6-4-0	6-4-0
Rice	3-0-0	7-8-0	7-8-0	7-8-0	7-8-0
Maize	1-12-0	4-0-0	4-0-0	5-0-0	5-0-0
Bajra	1-12-0	2-12-0	2-0-0	3-4-0	2-8-0
Wheat	1-2-0	4-8-0	2-0-0	5-4-0	2-8-0
Gram	1-2-0	2-12-0	2-0-0	3-4-0	2-8-0
Rabi oilseeds	1-2-0	4-0-0	2-0-0	4-4-0	2-8-0
Fodder Crops:	1-2-0	1-8-0	1-8-0	1-8-0	1-8-0

Source: Dobson, 'Land administration in Bahawalpur State'.

The data in above table show that despite facing serious financial problems, the *abiana* rates in Bahawalpur State were kept reasonably low and the state was more sympathetic to its peasants than were the Punjab government.

Land revenue was computed as a proportion of the assets that remained with the cultivator after the deduction of costs of production. Before SVP in Bahawalpur State its assessment was based on matured areas and varied according to the classes of crops, quality of the land and method of cultivation. However, under the SVP rates

⁶⁴ 1 rupee= 16 anna, and 1 anna= 10 paisa, thus 1 rupee consisted of 160 *paisas*. The coinage system of the government of India had been in practice in the State of Bahawalpur since 1866 when state went under the rule of Agency. For details see Din, *Gazetteer of Bahawalpur State*, p. 328.

were fixed everywhere in the colony at Rs. 2 per acre matured for *nehri* assessment, irrespective of the quality of the land.⁶⁵ From 1938 some changes were made in the assessment of land revenue and it was charged at a fixed rate ranging from Rs. 2-7-0 to Rs. 2-1-0 per assessed acre.⁶⁶

Malikana or occupier's rate became another important source of revenue for the state and was payable up until the acquisition of proprietary rights and can be considered a practical acknowledgment of the state's ownership rights over crown wastelands. Initially it was charged at the rate of Rs. 1-8-0 per acre to peasant grantees only, while purchasers were exempted as they were assumed to be the proprietors of the land. But after the relief packages of 1928 and 1930 – under which the period of instalments for the purchasers was extended – they were asked to pay Rs. 2 per allotted acre per harvest as *malikana*. The rate of *malikana* was in accord with that in the neighbouring colonies of Nili Bar and Lower Bari Doab where rate was Rs. 3 per acre allotted per annum and Rs. 1 per acre assessed respectively.⁶⁷

Acreage rates were charged from the colonists for the provision of certain facilities in their colony tracts such as the surveying and demarcation of land, the construction of roads, watercourses and culverts. It was assessed at the rate of Rs. 2-8-0 per acre and could be paid off by single payment or in instalments.⁶⁸

Along with the above mentioned major categories of taxation there were some minor streams of taxation which were levied for the development of the colony areas like cesses – rents payable on rural and town shops sites – local rates and *lambardari* fees. Cesses were charged at the rate of 12.5 percent of the land revenue while a *lambardari* fees – which was basically a remuneration fee payable to *lambardar* for the collection of land revenue and water rates from the colonists – was charged at the rate of 5 percent. In the early years of the colony *lambardari* fees were charged at the rate of 5 percent for land revenue and 3 percent for water rates, but from the kharif season

⁶⁵ R.S.V.P.E.C., 1932, p. 36; Dobson, 'Land Administration in Bahawalpur State', Appendix II, pp. 90, 99, 117.

⁶⁶ R.A.B.S., 1942-43, p. 18.

⁶⁷ Dobson, 'Land Administration in Bahawalpur State', Appendix II, part III, pr. 23, p. 118.

⁶⁸ Ibid, pr. 14, pp. 103-104.

of the year 1931 this was reduced to 3 percent and 2 percent, respectively, of the amount collected.⁶⁹

Table 5:5, Rate of Taxation on Major Crops

Crop	Occupier's rate Rs. A. P.	Land revenue Rs. A. P.	Malikana Rs. A. P.	Cesses Rs. A. P.	Total Rs. A. P.
Sugarcane	10-0-0	2-0-0	1-8-0	0-5-7	13-13-7
Cotton	5-0-0	2-0-0	1-8-0	0-5-7	8-13-7
Wheat	4-8-0	2-0-0	1-8-0	0-5-7	8-5-7
Oilseed	4-0-0	2-0-0	1-8-0	0-5-7	7-13-7
Gram	2-12-0	2-0-0	1-8-0	0-5-7	6-9-7
Fodder	1-8-0	2-0-0	1-8-0	0-5-7	5-5-7

Source: Dobson, 'Land Administration in Bahawalpur State'.

While there is no doubt that above mentioned categories of revenue extraction were in accordance to the terms and conditions of the allotment of lands to the colonists, in the early years of colony when the conditions were unfavourable – partly due to the shortage of water supplies and partly to the low fertility of colony lands – these charges were looked upon as a overly burdensome by the colonists as their income was low as compare to their expenditures.

As already mentioned, high hopes were attached with the success of Sutlej Valley Project but due to unexpected increases in the cost of the project, large scale borrowing with high interest rates and the low response of the peasants to the release of colony lands, such expectations could not be met within first decade. The financial returns of the project in 1939-40 on all the capital investment were 3.7 percent and the net revenue of the state after meeting all the working expenses amounted to Rs. 14,884,002 while the simple interest on the borrowed money totalled Rs. 57,464,181. These figures show that the project was slow to respond and could not meet the

⁶⁹ R.S.V.P.E.C., 1932, pr. 110, p. 37.

desired results, and was considered a failed scheme in terms of its financial returns up to 1940.⁷⁰

The situation in Nili Bar area was no different from that in Bahawalpur and the region produced the lowest percentage of financial returns of all the canal colonies instigated by the Punjab government.⁷¹ By the end of 1930s, the SVP seemed to be a failed project – along the lines of the colonial resettlement and agricultural villagization schemes of Shire Valley in Tanzania (East Africa)] described by James C. Scot in his work *Seeing like a State*,⁷² – but the situation started to change from the beginning of 1940s and by the middle of 1940s it could be considered a success in financial terms. The main factor that contributed in its success was the high demand for agricultural produce during the Second World War which provided higher rates to peasants for their crops and encouraged them to bring maximum possible acreage under cultivation, this, in turn, increased the income of the state through both the direct and indirect system of taxation. The combined receipts for the state from land revenue and irrigation which were Rs. 3,842,697 in 1924-25, increased to Rs. 12,981,486, a rate of Rs. 9,138,789 per year, while the total value of crops which was only Rs. 19,756,501 in 1924-25 increased to Rs. 150,417,028 in 1945-46.⁷³ The state used this income to clear its debt of Rs. 121,100,000 which was cleared entirely in 1949-50 – about thirty seven years ahead of time.⁷⁴

The clearance of that debt was a huge relief to ruler of the state who had suffered for twenty five years the withdrawal of most of his administrative and financial powers which were assigned to officials of the British government of India under the conditions of the loan – now he became the sole owner of the state and was free to enjoy all his ruling powers. The following statement issued on the occasion of the full payment of the debt shows how important the SVP was considered to the agriculture and economy of the Bahawalpur State: “The state has been able to redeem its liability

⁷⁰ Government of Bahawalpur, *Administrative Accounts of the Development Section since Commencement of the S. V. Project up to the end of the year ending March 31, 1940*, (Bahawalpur, 1941), p. III, B.S.A.

⁷¹ Islam, *Agriculture and the Raj*, pp. 129-136.

⁷² James C. Scot, *Seeing Like a state: How Certain Schemes to Improve the Human Condition Have Failed*, (Yale University press, New Haven and London, 1998), pp. 223-237.

⁷³ R.A.B.S., 1944-45, p. 6; 1945-46, pp. 6-11.

⁷⁴ R.A.B.S., 1949-50, p. 22.

in full this year [1949], and has become the sole owner of one of the greatest irrigation schemes in the sub-continent.”⁷⁵

Conclusion

This chapter has discussed agricultural development in the state – especially in the colony areas – after the implementation of Sutlej Valley Project. Looking at the varying agricultural trends it has analysed developments in the types of crops which were grown in the state and the methods of cultivation which were adopted. This chapter argues that as Bahawalpur was predominantly an agricultural economy, and that during whole of the nineteenth century – up until the implementation of Sutlej Valley project in 1920s – wheat, food grains, indigo and rice had remained the major crops, but, that with the settlement of new colony areas the cropping pattern changed abruptly and cash or commercial crops like wheat, cotton, and oilseeds gained currency and became the priority for peasant farmers. Two major factors were behind this change; the *abadkar* peasants who following the Punjab practice had started cultivating cash crops in their lands and set a new trend, and the perennial supplies of canal water that fulfilled the extra requirement of irrigation of those crops.

The chapter argues that although the institutional development of agriculture in the state was slow, the steps taken by the Agriculture Department of the state in the late 1930s toward encouraging a scientific approach to agriculture among the peasants were commendable. Through their demonstrations, the workers and officials of the agriculture department were able to teach the peasants how to use the improved agricultural instruments and the seeds to increase production, as well as how to reclaim the fertility of the *kallar* (salinity) affected areas which allowed for an increase in cultivated area. The discovery of improved seeds for cotton and wheat transformed typical cropping patterns in the state and American cotton emerged as a major *kharif* crop while wheat became the major *rabi* crop. The increases in area and production of crops, especially in the area under cotton and wheat proved beneficial both for the state and for the peasants. The state exported its surplus production of cotton, wheat and foodgrains to other areas of India and Europe, and earned large revenues which

⁷⁵ Ibid., p. 22.

were utilised for the early repayment of the state debt which had been the main hurdle to continuing development works and the provision of facilities to citizens.

Chapter Six: Impact on Demography, Migration and Ecology of the State

Introduction

The colony settlement in Bahawalpur State was comprised of a large network of agricultural villages and *mandi* towns which were founded by people hoping to reap the benefits of modern hydraulic engineering. These settlements were neatly laid out and populated by the *abadkars* (immigrant peasants) who mostly hailed from various areas within the Punjab. The towns were connected by a network of railways and roads which provided them with access to regional markets and to the commercial centres of India. The launch of this canal colony scheme not only improved the lives of peasant farmers but built new society in what was previously a relatively unpopulated desert region. In 1937, one of the officials of the state observed that “a decade ago Cholistan areas that [had previously appeared] desolate had witnessed rapid change and turned into a garden. New villages and towns have sprung in the region.”¹

This chapter will analyse the impact of these developments with specific focus on village and town settlements, demography, migration and development projects in colony areas. I will argue that the colonisation of state wastelands followed by the influx of large numbers of immigrant peasants transformed the socio-economic structure of Bahawalpur State. Colony settlement brought fundamental change in desert areas of the state – increasing both the area under cultivation and the population – and contributed to its socio-economic development. Settlement had both positive and negative effects on the desert environment which the canals helped to transform from sandy, arid, wastes into lush, green fields. The clearance of wild grasses and bushes threatened the ecological stability of the region and contributed to the disappearance of habitat for the wildlife, the released solid waste and the

¹ *Weekly Sadiq-al-Akhbar*, June 10, 1937, Bahawalpur, p. 2.

production of sewage, noise, smoke by human settlement also had a significant impact.

As discussed in chapter four of this study, the colony settlement scheme was introduced in a central region, located between the riverine area and the pure desert. This tract was – up until the implementation of the SVP largely considered a wasteland and was occupied by wild grasses and desert shrubs upon which nomadic communities occasionally came to graze their animals. The construction of a system of perennial canals had opened this area to the extension of cultivation, which attracted an immigrant peasant (*abadkar*) population who built a large network of agricultural villages and *mandi* towns. The colonisation of state wastelands was driven and shaped by two forces in particular, the state – who controlled the allotment of lands – and the social structures which developed within the colonies. While the latter might have been left to develop naturally, the state – in fact – used its discretionary powers in the selection of citizens or the allottees of land so that the shape and social structure of the new society was actually dictated by the state. Imran Ali calls this interference the beginning of “interventionist imperialism” extensively and actively engaged in prompting and directing demographic and economic change.²

The following pages describe how the new villages and *mandi* towns were developed and what impact they had on the ecology of the state.

The Creation of Village and Town Settlements in the Colony Areas

As discussed in chapter four of this study, the stated aim of colony settlement had been the creation of model village and town communities and the provision of better facilities for peasant farmers. For this purpose land was reserved and marked out on survey maps during the demarcation and mapping of colony areas. Each and every colony village was given the name *chak*, which was followed by a number which was registered in the revenue records of that estate. During the allotment of land the tenant *abadkar* was allotted a small piece of land in the estate for his permanent residence and was bound to settle there within six months of the date specified at the

² Imran Ali, *The Punjab under Imperialism, 1885-1947*, (Princeton University Press, Princeton, 1988), p. 10.

time of his taking possession, the construction of this residence would have to be approved by the collector.³

The colony lands were mostly located on the perennial canals, new village and town settlements were made in the drainage areas of Sadiqia, Bahawal and Abbasia Canals in the eastern, central and north-western areas of the state. In terms of their layout and shape, these settlements were totally different to the old villages found in the state and were laid out according to a fixed plan following the pattern developed within the Punjab Canal colonies. In rural areas of the colony, a square (25 acres) of land was reserved in every village estate for the village settlement itself, where plots of land varying in size from 1 or 2 to 2.5 *kanals*⁴ were allotted to recipients of land at the time of allotment. The residential plot was priced at the same rate at which land was sold.⁵ B. H. Dobson – in his report on Bahawalpur colony settlement – remarked that “it is unnecessary to say anything about village sites, beyond observing that the latest Punjab practice appears to have been followed with some success. The Enquiry Committee inspected several of these sites, and was satisfied both with the design adopted and the manner in which they were executed.”⁶

This 'Punjab practice' of village formation – according to David Gilmartin – exercised in colony areas of the Punjab the British gave a common form to all village settlements which were territorially bounded and mapped out for revenue administration purposes.⁷ Even before the construction of the canals – when contoured maps of the colony areas were prepared – the village settlements which were to be formed there were plotted on the maps in the drainage areas of the canals and were watered by one or more of the larger watercourses. Special care was taken to ensure that every village should have a separate watercourse in order to avoid any kind of risk to peace and

³ Government of Bahawalpur, ‘Statement of Conditions relating to *Nazrana* paying *Abadkari* grants on the Perennial Sutlej Valley Canals in the Bahawalpur State’, Appendix 9, in *Report of the Sutlej Valley Project Enquiry Committee, Bahawalpur, 1932*, (hereafter R.S.V.P.E.C., 1932), pp. 151-155, B.L.

⁴ An acre of land in Bahawalpur colony was consisted of eight *kanals* while in each *Kanal* there were twenty *marlas* thus each acre of land consisted of one hundred and sixty *marlas*.

⁵ Government of Bahawalpur, ‘A Brief History of the *Abadkari* Scheme of Bahawalpur State’, pp. 1-2, B.S.A.

⁶ B. H. Dobson, ‘Note on Land Administration and Colony Operations in the Bahawalpur State’, in *R.S.V.P.E.C., 1932*, Appendix II, part III, pr. 29, p. 130.

⁷ David Gilmartin, ‘Water and Waste: Nature, Productivity and Colonialism in the Indus Basin’, *Economic and Political Weekly*, 38:48 (2003), pp. 5060-5061.

order which might arise over water sharing between two villages. The site of village settlement was generally located at the centre of the land worked by the villagers so as to allow them easy and fair access to their lands. While settling the general layout of the village the needs of the villagers were kept in mind and areas were reserved for communal use, such as the enactment of customs and traditions and for the accommodation of the village menials or *kamins*. All this was completed before the arrival of the colonists who were then required to build their houses and to construct the watercourses needed to bring water to their fields. The village sites were planned so that in every settlement the inner group of houses belonged to the peasants and the outer houses or huts were mostly occupied by the village menials and artisans.⁸ The houses were made from mud or *kacha* (unburnt) bricks and looked very similar to one another. M. L. Darling writes that “at first sight there is not much change to note in the village house. The flat-roofed, mud-plastered building with its single storey is still the general rule, but here and there – especially around the towns – the two storeyed red- brick house is beginning to be a feature of the landscape.”⁹

After occupying a piece of land the first thing which a grantee generally did was to construct a hut or temporary house for his residence. Colony law bound him to construct a house at his allotted village plot – according to the satisfaction of the collector – within one year of its occupation.¹⁰ In the beginning, in colony areas, conditions were very difficult, so most peasants left their families at home with their elderly parents, and only later, when they were settled, did they build permanent houses on the village sites and brought their families with them. The houses were mostly made from mud or *kacha* (sundried or unburnt) bricks and consisted of one or two rooms which were used for sitting and sleeping, and for keeping household stuff, a shed made from the plaited reeds to sit under it during the hot summer days and a hut for the animals. These houses were simple but clean, and were built according to the

⁸ Paul W. Paustian, *Canal irrigation in the Punjab: An Economic Inquiry Relating to Certain Aspects of the Development of Canal Irrigation by the British in the Punjab*, Columbia University Press, 1930, reprint, (AMS Press, New York, 1968), pp. 64-65, 97-100.

⁹ Malcolm Lyall Darling, *The Punjab Peasant in Prosperity and Debt*, 3rd edn., (Humphrey Milford, Oxford University Press, London, 1932), p. 146.

¹⁰ Bahawalpur Government, ‘Sharait Abadkaran wa Sufaidposhan Araziyat nehr Sutlej Valley’, (Urdu), pr. 17, DC-6/7 65/66 G-P-B, p. 4, B.S.A.

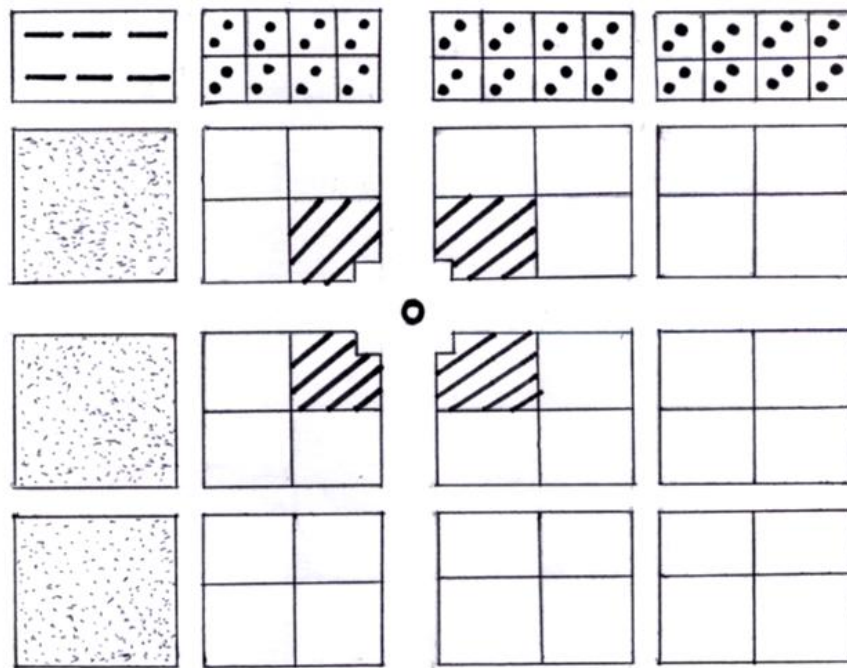
instructions in the colony manual that compelled the villagers to build their compound walls on fixed alignments so as to ensure regular streets.¹¹

The properly designed colony villages were different from the old village settlements of the state in their outlook. Kamil Mumtaz writes that “as the tidal wave of modernisation and the industrialisation/mechanisation has driven the desert and its creatures before it, none of the traditional elements of their architecture have survived in its wake.”¹² Every colony village consisted of three or four bazaars (streets) – according to the size of the village – that ran parallel to each other divided the village settlement into small blocks. The central point, at which the streets met was called the chowk and had pond and one or two small grocery shops from which villagers could purchase anything they could not grow.

¹¹ David Gilmartin, ‘Migration and Modernity: the State, the Punjabi Village, and the Settling of the Canal colonies’, in Ian Talbot, Shinder Thandi, (eds.), *People on the Move: Punjabi Colonial and Post Colonial Migration*, (Oxford University Press, Oxford, 2004), p. 7.

¹² Kamil Khan Mumtaz, ‘Habitat and Desert: the Case of Cholistan’, in Brian Brace Taylor, (ed.), *In the Changing Rural Habitat*, vol. I, Case Studies, (Concept Media/ Agha Khan Award for Architecture, Singapore, 1982), p. 25.

Fig. 6:1, Layout of a Colony Village, Chak No 1/DNB Yazman



Source: Drawn by me

Shops in *Chowk* (centre of the village)



Houses of *Zamindars*



Houses of landless Community and Menials



Drinking Water pond/tank



Playground



Public Utility Area



In the early years of the colony – as the economic condition of the *abadkars* was not good – they could not build beautiful houses and village sites presented a gloomy picture. British officials were not impressed by the colony villages. Humphrey Trevelyan – the Colonisation Officer of Rahim Yar Khan District – writes that “the new settlements in the canal colonies, as they were called, were wholly without charm,” his

remarks – based on a colony village located near the border of Sind – were derogatory, he described one as “the newest and ugliest village.”¹³ In the middle of 1940s – when the economic condition of the *abadkars* improved – they started building *pakka* (made from burnt bricks) houses. According to Kamil Mumtaz, “the reason for the employment of the new technologies appears to be a desire, and in the settled areas, a need, for more permanence and a desire to identify with the more “advanced” areas of the Punjab.”¹⁴

Along with the village settlements some new *mandi* towns were also established in the colony areas in order to promote commerce. These towns were built next to the railway line and a *ghalla mandi* (grain market) was established near the railway station to provide easy access to agricultural produce at the *mandi*. The first of these new *mandi* was built in Bahawalnagar in 1927 and was actually an extension of the old town.¹⁵ Within two years two other *mandi* towns such as Chishtian and Haroonabad were founded on the upper reaches of Sadiqia Canal. In 1928 when the Cholistan railways opened, the commercial lives of these *mandis* also began. After the opening of Hakra branch in 1929-30, market facilities were provided at the old town of Fort Abbas which was located at the tail of the Hakra branch of the Sadiqia Canal. Later on when colony operation advanced further, and after the opening of Islam and Panjnad Headworks, three more *mandi* towns – Hasilpur¹⁶ and Yazman on Bahawal Canal and Sadiqabad on Abbasia Canal – were built in the districts of Bahawalpur and Rahim Yar Khan respectively. As the *mandi* towns were commercially designated, plots of land in these towns were sold at higher rates. Plots were sold at the sites of *mandi* (grain market) bazaars and in residential areas.¹⁷

¹³ Humphrey Trevelyan, *The India We Left*, (MacMillan, London, 1972), pp. 204-210.

¹⁴ Mumtaz, ‘Habitat and Desert’, pp. 26-27.

¹⁵ The town of Bahawalnagar was founded in 1904 and was given a status of Municipality in 1922. After the opening of colony operation a new *mandi* was built in the vicinity of the town in 1927. To develop it as a *mandi* town a drainage scheme was completed there with the cost of Rs. 240,000 and amenities of life like postal, medical and school were also provided but it could not turn to be a developed *mandi* town as it did not have enough Crown land in its neighbouring area which was necessary for the development of a *mandi*. For details see, B. H. Dobson, *Land Administration and Colony Operation in Bahawalpur State*, pr. 29, p. 130.

¹⁶ The town of Hasilpur was at first founded by Hasil Khan Ghumrani, a Daudputra chief, in 1760s AD, seven miles south of the river Sutlej. For details see, Din, *Gazetteer of Bahawalpur State*, pp. 363-364.

¹⁷ R.S.V.P.E.C., 1932, ch. iv, part II, ‘Colony Facilities’, pr. 126, p. 41.

Land prices were different in different towns and were high for the commercial plots which were sold for the construction of shops at the sites of bazaars and grain markets. The size of the commercial plots varied from one to five *marlas* while residential plots were from five *marlas* to one or two *kanals*. The price of commercial plots at *mandi* sites was higher than the residential plots in the town. The average price of a residential plot in the towns of Bahawalnagar, Chishtian and Haroonabad during the years 1942-44 was Rs. 1,040, Rs. 3,400 and Rs. 3,954 respectively, while the price of a grain market shop was almost three times this and these exchanged hands for Rs. 3,240, Rs. 9,375 and Rs. 9,505.¹⁸

Commercial land was much more profitable for the state. A *mandi* town was hardly more than two *murabas* (squares) in extent but the price of a small plot here was more than the average price of one *muraba* of agricultural land, which was around rupees 2,500 only. Up to March 1946 the state had earned Rs. 3,966,268 from the sale of its land in *mandi* towns, the equivalent of having sold 1,586.50 squares of agricultural land.¹⁹

The formation of new village and town settlements brought big changes to the region's demography. Some new district and tehsils were formed by colony settlement and estates were transferred from one tehsil to another. These territorial changes had a significant impact both on the physical and human geography of the state, on the one hand giving rise to new human and agricultural settlements, and on the other extending state administration deeper into the desert. With the formation of new towns some old towns that had been administrative centres for decades lost their importance and were replaced by new *mandi* towns. The creation of the vast network of colony chaks had necessitated establishment of new commercial centres in the colonies, such as the new *mandi* towns of Chistian, Haroonabad, Fort Abbas, Yazman, Hasilpur, Rahim Yar Khan and Sadiqabad. The emergence of the towns of Chishtian and Fort Abbas – which took land from Khairpur – reduced the importance of this town, one of the oldest in the state. The settlement of agricultural *abadis* (settlements) in

¹⁸ Government of Bahawalpur, *Report on the Administration of Bahawalpur State* (hereafter R.A.B.S.) *for the Year, 1942-43*, (The Civil and Military Gazette, Lahore, 1944), p. 27; 1943-44, pp. 28-29.

¹⁹ R.A.B.S., 1945-46, p. 32.

Chishtian and Fort Abbas enhanced their economic and commercial value, Khairpur – that did not have new settlements – lagged behind. Likewise the settlement of Yazman in Bahawalpur Tehsil brought new economic vitality there and reduced the pressure on Bahawalpur, the capital city of the state. In western Areas of the state the development of the *mandi* at the town of Sadiqabad reduced the importance of the old town of Ahmadpur Lamma and emerged as a new tehsil headquarters while the town of Rahim Yar Khan – which also had the large number of colony villages in its neighbouring areas – emerged as a new tehsil and district headquarters. The following table gives an idea how these changes were made.

Table 6:1, Tehsil-wise Total number of Villages and Towns before and after the Colony Settlement, 1921 and 1941

Serial	Tehsil	1921		1931		1941	
		Town	Village	Town	Village	Town	Village
1	Minchinabad	--	214	--	250	2	252
2	Bahawalnagar	--	164	1	514	1	228
3	Khairpur	--	177	--	387	--	--
4	Chishtian	--	--	--	--	4	406
5	Fort Abbas	--	--	--	--	2	358
6	Bahawalpur	1	114	1	257	3	113
7	Yazman	--	--	--	--	--	156
8	Ahmadpur East	1	101	1	410	5	169
9	Allahabad	--	64	--	118	3	110
10	Khanpur	1	51	1	121	5	159
11	Naushehra/	--	73	--	--	--	--

	Rahim Yar khan	--	--	--	167	3	255
12	Ahmadpur/Lamma	1	62	0	148	--	--
	Sadiqabad	--	--	--	--	3	228
Total		4	1,020	4	2,372	31	2,443

Source: *Census of India, 1921, 1931 and 1941.*

Table 6:1 shows a significant variation in the number of town and village settlements during the period 1921 and 1941. This huge variation was a result of large-scale migration to colony areas. The number of village settlements which was only 1,020 in 1921 rose to 2,443 in two decades,²⁰ and similarly the number of urban centres also increased. According to the census report of 1921 there were only four towns in Bahawalpur State that had a population in excess of five thousand,²¹ but with the settlement of new areas, this number had increased to 31 by 1941.²² In 1942-43 some changes were made in the municipal law of the state and ten smaller municipalities/towns were merged which reduced the number of towns to 22.²³ The *mandi* towns of Chishtian, Haroonabad, and Fort Abbas emerged as new urban centres and their population rose to 10,720 persons, 10,010 and 2,500 persons respectively.²⁴

Table 6:1 provides the details of the colony villages and towns only up to 1941 while the colonisation process continued up until 1946. This, however, did not make any big

²⁰ The number of these colony villages may not be final as colony settlement continued up to the year 1946-47 and some new chaks that could not attract peasant clients in first instance due to their poor quality of land were allotted later on under the *Bara* conditions. For details see, *R.A.B.S., 1945-46*, pp-28-30.

²¹ The criterion for the selection of any settlement as town was different both at the state and Indian union level. The definition of town given in Census Report of 1921 refers that 'every municipality or a continuous collection of houses inhabited by no less than 5,000 persons'. And according to this criterion only the towns of Bahawalpur, Bahawalnagar, Ahmadpur Sharqi, and Khanpur had the status of a town. For details see, *Census of India 1921, vol. XV, part I*, p. 103 and *part II, Provincial Table I*, p. vi. Whereas according to the Municipal laws of Bahawalpur State, every settlement with a minimum population of 2,500 persons and having the urban facilities was declared town. According to the official report of the state there were 22 urban areas in Bahawalpur State. For details see, *R.A.B.S., 1945-46*, p. 1.

²² *Census of India 1941, Punjab: Tables*, p. 38.

²³ *R.A.B.S., 1945-46*, p. 121.

²⁴ *Census of Pakistan, 1951, Village List: Bahawalpur State (1952), Bahawalpur District*, (Office of the Provincial Superintendent Census, Punjab and Bahawalpur, Lahore, 1952), pp. 37, 61, Punjab Archives Lahore, (hereafter P.A.L.).

difference to the total number of villages as the settlement of all the colony chaks had begun and the lands which were allotted in the subsequent years were located mostly in those chaks. The tehsil-wise division of colony chaks provided in the Census Report of 1951 is as follows: Bahawalpur Tehsil 157 – of these 128 were settled in the areas of Yazman – Chishtian 232; Fort Abbas 337, Rahim Yar Khan Tehsil 4, Abbasia Colony 136, Ahmadpur East 17, Allahabad 31, and Khanpur 31.²⁵ The number of colony chaks settled in Bahawalpur district including the areas of Minchinabad, Bahawalnagar, Chishtian, Fort Abbas, Khairpur, and Yazman can be taken as final as the colonisation process had effectively finished there at the end of year 1945-46. However, the information provided about the colony settlement in Rahim Yar Khan District is incomplete as many of the colony chaks settled in Rahim Yar Khan and Sadiqabad *Tehsils* were listed under the group name *ghair mustaqil chakook* (non-permanent chaks) rather than individual names.²⁶ Moreover, several new colony chaks which are part of this list were settled in Abbasia Colony Tehsil during the years 1948-50.²⁷

Population Changes and Colonisation

The population of the state increased rapidly once migration to colony areas had begun and the population almost doubled between the years 1926 and 1947. It was not only the state of Bahawalpur that witnessed this change and the situation was similar over the whole of north-western India – wherever the modern irrigation projects were implemented. The increase in population was due not only to the migration of peasant grantees and auction purchasers but many other groups such as *kamins*, and agricultural labourers who also went to the colonies to find work.²⁸ Alloys Michel argues that without the introduction of such mega-irrigation projects the population of the Indus basin region would have remained very small. He observes that “each new canal was followed by a migration, by the foundation of new towns, including the *mandi* or market towns deliberately spaced along the roads and the

²⁵ Ibid, pp. 1-95; *Rahim Yar Khan District*, pp. 1-45.

²⁶ The number of colony chaks that were counted as *ghair mustaqil chakook* was as following; in Tehsil Rahim Yar Khan Chaks spanning over an area of thirty square miles having population of 8,450 persons and in Sadiqabad with a population of 8,600 persons the area is missing there. *Census of Pakistan, 1951: Rahim Yar Khan District*, pp. 6, 48.

²⁷ *R.A.B.S., 1949-50*, p. 24.

²⁸ M. Mufakkarul Islam, *Irrigation, Agriculture and the Raj: Punjab, 1887-1947*, (Manohar, Delhi, 1997), p. 142.

railways to serve an irrigated hinterland and by the development of a modern infrastructure of transportation and trade.”²⁹

After the opening of colony settlement in Bahawalpur State a large number of peasants came and applied for colony lands. The successful allottees – after receiving award letters – migrated to colony areas where their land was located. However the peasants’ migration to Bahawalpur colony was different from the canal colonies of Punjab which, according to K. C. Zachariah could largely be considered an intrastate migration as people moved from congested areas of the province to newly formed canal zones for their own economic advancement.³⁰ Immigrant peasants (*abadkars*) came mostly from Sialkot, Amritsar, Hoshiarpur, Gurdaspur, Jullundur, Ferozepur, Lyallpur, Montgomery, Shahpur, Sheikhupura Gujranwala, Mianwali, Rohtak, Jhelum, Attock and Dera Ghazi Khan districts of Punjab.³¹ Indu Agnihotri writes that the colonisation of wastelands offered an opportunity to explore the possibility of finding economic advantage in newer lands, when these opportunities had been almost exhausted at home. Although the idea of migration to canal colonies ran counter to the local proverb which states that *ghar ki adhi bahir ki sari* (the half bread available at home is better than whole you get from outside), people – compelled by their economic needs – migrated to canal colonies wherever land was available.³²

With the arrival of immigrants – including both the peasants and the working class – the population of the state which was 781,191 persons in 1921 rose to 984,612 in 1931.³³ This increase of 203,421 persons in a single decade was the highest³⁴ since the introduction of census system in Bahawalpur State in 1881.³⁵ As the colonisation

²⁹ Michel, *The Indus Rivers*, pp. 12-13.

³⁰ K. C. Zachariah, *A Historical Study of Internal Migration in the Indian Subcontinent, 1901-1931*, (Asia Publishing House, London, 1964), p. 216.

³¹ Dobson, ‘Land Administration in Bahawalpur State’, Appendix II, part, III, Colony Operations, pr. 21-22, pp. 114-115.

³² Indu Agnihotri, “Agrarian Change in the Canal Colonies, Punjab, 1890-1935”, (Jawaharlal Nehru University, New Delhi, unpublished PhD Thesis, 1987), pp. 59-62.

³³ Government of Punjab, *Punjab States Gazetteers*, vol. XLV, Part B, *Bahawalpur State Statistical Tables*, (hereafter B.S.S.T), 1935, (Superintendent Government printing Punjab, Lahore, 1935), pp. xvi-xvii, P.A.L.

³⁴ During the years 1911-21, the population of the state increased from 780,641 to 781,191, an increase of only 550 persons whereas during the years 1901-11 it increased from 720,877 to 780,641, an increase of 59,764 persons. For details see, Government of India, *Census of India, 1931, Table II*, p. 8.

³⁵ Government of India, *Census of India, 1931, vol. XVII, Punjab, part II, Tables*, (Civil and Military Press, Lahore, 1933), p. 8.

process moved ahead more and more people came. The census report of 1941 gave a figure of 1,341,000 persons, meaning an addition of 356,388 people in one decade – one and half times more than in the previous decade.³⁶ The increase of population continued reaching 15 lakhs at the end of March 1946. In twenty five years of the Sutlej Valley era (1921-1946) the state saw an increase of 718,809 persons in its population, a little less than double of its original population.³⁷ The increase in population was, due on the one hand, to the migration of *abadkar* peasants to colony areas and on the other to the extension of cultivation encouraging growth of families.

Table 6:2, Population Variations, Population Density of Culturable Area of 6,700 sq. miles and Total Area of 17,494 sq. miles

Census	Population	Variations		Net Variation 1921-1941, 1921-1945	Density per sq. mile	
		(+) (-)	%		Cult. Area	Total Area
1891	650,042				97.02	37.16
1901	720,877	+70,835	10.90		107.59	41.20
1911	780,641	+59,764	8.29		116.51	44.63
1921	781,191	+550	0.07		116.59	44.65
1931	984,612	+203,421	26.04		146.96	56.28
1941	1,341,209	+356,597	36.21	560,018, 71.69 %	200.18	76.66
1945	1,500,000	+158,791	11.84	718,809, 92.01%	223.88	85.74

Source: *Census of India, 1921, 1931 and 1941; R.A.B.S., 1945-46.*

Table 6:2 shows a big difference in the variation of population and its density from 1931 to onwards. If we compare the data from the three censuses (1901, 1911, 1921)

³⁶ Sheikh Fazl-i-Elahi, *Census of India, 1941, vol. VI, Punjab: Tables*, (Government of India Press, Simla, 1941), p. 2.

³⁷ *R.A.B.S., 1945-46*, p. 1.

taken in pre-SVP period with two taken after the implementation of the project we see that the first three give a total rise of 131,131 persons or an average 6.06 percent increase while the next two show an increase of 560,018 persons or 31.12 percent in two decades. The total increase in population during the first three counts remained far less than the increase of 203,421 persons which occurred between the years 1921 and 1931. In particular the census of 1921 shows a very small rise of only 550 persons or 0.07 percent which due to the migration of the local people to colony areas of the Punjab, where lands were offered for sale under the Triple Canal Project in the middle of 1910s combined with other factors such as disease, natural calamities and death.³⁸

The population of the state included both Muslims and non Muslim citizens. The religious distribution of population – according to the census report of 1941 – was as follows: Muslims 1,098,841, 81.93 percent, Hindus 174,408, 13 percent, Sikhs 46,945, 3.5 percent, Jain, Christians and others 21,402, 1.5 percent.³⁹ As mentioned in chapters one and two of this study, non-Muslim communities – mainly Hindus – had been living in the state from the very beginning and had some control in the commercial sector of the state while Sikhs arrived during the rule of Agency (1866-79) when forty new agricultural villages were settled in the north-eastern area of the state in Minchinabad. Under the colony settlement scheme both Sikh and Hindu settlers also came, the Sikhs after receiving lands settled in north-eastern areas and Hindus who came mainly as bankers, merchants and shopkeepers and settled in *mandi* towns after purchasing sites there.⁴⁰

The distribution of the large-scale migration was vital in determining the future of the state. The migration to colony chaks gave a boost to agriculture while to the towns' increased business and trade activity and also provided markets to the peasant community for the sale of their agricultural produce and provided for their household needs. The following table shows the distribution of population in the state.

³⁸ B.S.S.T., 1935, p. xxvi.

³⁹ R.A.B.S., 1942-43, p. 1.

⁴⁰ Penderel Moon, *Divide and Quit: An Eyewitness Account of the Partition of India* (Chatto & Windus, London, 1961), p. 98.

Table 6:3, Growth of Urban and Rural Population, Density of the Culturable Area

Year	Population	Urban	Rural	Density per sq. mile		
				Urban %	Rural %	Total
1911	780,641	41,301	739,340	5.29	94.71	116.51
1921	781,191	34,367	746,824	4.40	95.60	116.60
1931	984,612	43,177	941,435	4.39	95.61	164.96
1941	1,341,000	137,440	1,203,560	10.24	89.76	200.15
1945	1,500,000	150,000	1,350,000	10.00	90.00	223.88

Source: *Census of India 1921, 1931, and 1941; R.A.B.S., 1945-46.*

The data in Table 6:3 give the relative rise in urban population compared to the rural. Considering the variation in urban and rural density between the years 1921-1945, we see that the urban variation remained +4.40 persons while the rural -5.60 persons which means that the urban population increased as compared to the rural. During the forty years from 1911-1951, the urban population almost doubled, while the density of the rural population – despite of the creation of large number of colony chaks – decreased due to the provision of the amenities and better chances of work there which drew people to larger centres. It also shows that the immigrant population was not only comprised of the peasants and the *Kamins* who settled in villages but also of business communities and the working class or labourers who settled in town centres.

Table 6:4, Tehsil-wise Population Size of the State, 1921-1941

Serial	Tehsil	1921 Persons	1931 Persons	1941 Persons	Population Variation %
1	Minchinabad	97,130	110,101	130,206	+34.05
2	Bahawalnagar	57,266	124,401	123,062	+114.90
3	Khairpur	88,497	126,785	--	+236.85
4	Chishtian	--	--	186,337	
5	Fort Abbas	--	--	111,766	
6	Bahawalpur	98,247	121,853	122,069	+56.87
7	Yazman	--	--	32,051	
8	Ahmadpur East	116,400	136,253	159,576	+37.09
9	Allahabad	90,656	92,794	111,538	23.03
10	Khanpur	88,201	90,534	113,057	28.18
11	Naushehra / Rahim Yar khan	82,659 --	104,883	137,868	66.79
12	Ahmadpur/Lamma Sadiqabad	62,135 --	80,008 --	-- 114,189	83.77
Total		781,191	984,612	1,341,209	71.69

Source: *Census of India, 1921, 1931, 1941.*

The above table records population of the state by tehsil-wise between the years 1921 and 1941 and shows that though the population of all tehsils increased, in those areas where more colony chaks and towns were founded population increased more dramatically than in areas that had few or no new settlements. The tehsil of Chishtian,

Fort Abbas and Sadiqabad did not exist at all at the beginning of the period and developed into notable habitations while the population of Bahawalnagar, Bahawalpur and Rahim Yar Khan increased considerably.

Provisions of Public Facilities in the Colony Areas

The provision of public facilities in colony areas was an absolute necessity if the state was to enjoy the benefits of its canal colonisation program. Bernard Darley, chairman of the SVP Enquiry Committee insisted that

No new colony can develop satisfactorily unless the colonists are provided with the amenities of life to which they are accustomed, such as schools, dispensaries, police arrangements etc., and more important still, markets and communications to enable them to dispose of the produce of their land at reasonable prices.⁴¹

According to Tirthankar Roy, the Punjab experience had proven that the opening of canal colonies had revolutionised the structure of society. The expanding network of canals, railways and roads led to unprecedented social change and commercial growth fuelled by agricultural trade which gave rise to new towns populated by merchants and professionals and a new urban, commercial ethos.⁴² The Aswan Dam – built across the river Nile during the years 1898-1902 – is cited as another proven case. Examining the socio-economic repercussions of dam building Hussein Fahim suggests, “since dams are often associated with development, [...] Economic benefits and human development should constitute part and parcel of the development process of water projects. Otherwise dams will result in situations of growth without development.”⁴³

Bahawalpur authorities were well aware of the needs of the colonists and knew the development potential of this new agrarian society. They started providing educational and medical facilities and markets to *abadkars* soon after the opening of the colony scheme in eastern areas of the state.⁴⁴ But unfortunately – with its limited resources – the state was unable to cope with the economic slump of the 1930s during which the sale of colony land was halted while loan instalments to the government of India

⁴¹ Bernard Darley, ‘Colony Administration and Development’, ch. IV, in *R.S.V.P.E.C.*, 1932, p. 41.

⁴² Tirthankar Roy, *The Economic History of India, 1857-1947*, 3rd edn., (Routledge, London 2013), pp. 120-121.

⁴³ Hussein M. Fahim, *Dams People and Development: The Aswan High Dam Case*, (Pergamon Press, New York, 1991), p. xv.

⁴⁴ *R.S.V.P.E.C.*, 1932, ch. IV, part II, ‘Colony Facilities’, pr. 126-134, pp. 41-43.

remained to be paid. Development projects were put on hold and did not recommence until the early 1940s when dramatic increases in agricultural production [discussed in chapter five] and associated increases in revenue allowed left the state financially able to continue.

The situation in the neighbouring Nili Bar colony was totally different, here the government of Punjab had provided all necessary facilities to its *abadkars* in advance. Malcolm Darling writes that in Nili Bar colony – which was founded in days of prosperity – necessities of urban infrastructure were put in place before the arrival of colonist. Three new *mandi* towns Arifwala, Burewala and Vehari were founded soon after the opening of the colony operation there in 1926 and were consciously developed as commercial centres.⁴⁵ The government of the Punjab made changes in its financial policy and development funds for these towns were provided from the annual budget of the province allocated for Civil Works rather than from colony funds, a sum of Rs. 4.5 *lakhs* was fixed for each town for the provision of public facilities.⁴⁶

However, in Bahawalpur State the provision of public facilities followed the pattern set in the old canal colonies of the Punjab, where only the network of railways and roads was constructed in advance, while the other facilities were gradually added. The primary reason for this was that the state did not have reserves of money which could be spent on such projects. Although the colony operation in Bahawalpur had begun soon after the opening of Sulemanki Headworks, construction work on the remaining two headworks was still in progress and completion was not expected until 1933. Under these circumstances the state was unable to provide public facilities in advance and only those works were completed which were considered absolutely indispensable. Another factor which slowed development work in the colony was the repayment of Rs. 6,211,000 to the government of India in interest on its loan, as a

⁴⁵ Malcolm Lyall Darling, *Wisdom and Waste in the Punjab Village*, (Humphrey Milford, Oxford University Press, London, 1934), pp. 207-232.

⁴⁶ Prior to the Nili Bar colony, the town development in all the eight canal colonies of the Punjab took place from the budget allocated to Financial Commissioner, Development. But in 1927 the Government of Punjab changed its old policy and announced that "it has been decided that in future such works as are considered necessary for a new town will be built at the expense of government and should be included in the ordinary way in the schedule of new works and shown in the budget of the Civil Works." For details see, Letter No. 1255-D., dated March 5th, 1927, from Junior Secretary to the Financial Commissioner Punjab, to the Colonisation officer Nili Bar, Colony Montgomery, in Appendix 12, *R.S.V.P.E.C.*, 1932, pp. 160-161.

result of which, the state had to borrow again from the government of India, this time a sum of Rs. 2,925,847 for the construction of watercourses in the colony areas to bring water to peasants' land.⁴⁷

The development works undertaken in the early years of the colony were carried out using proceeds from the sale of colony lands, but with the start of the great depression of 1930s the sale of such lands all but stopped, this combined with the servicing of the relief package offered to peasants dramatically reduced the income of the state and setback colony development. The colony operation in Bahawalpur State had begun in the areas of Bahawalnagar which were cut off from the traditionally inhabited areas of the state – it was one expanse of wilderness, without roads, population, wells or trees.⁴⁸ The provision of communication facilities there was necessary to give *abadkars* access to residential areas and market towns so that they could purchase necessities and sell agricultural produce. The construction of communication and market facilities was in accord with the colonial principle that, in order to achieve the objectives of maximizing revenue generation and exports, the allotment of land to colonists and the provision of water was not enough, transporting the produce from farm to market was crucial.⁴⁹

The provision of railways to newly settled areas was relatively straight forward as the state had a well established system of railways⁵⁰ that passed through northern riverine areas. The old towns of the state were connected to each other through this network

⁴⁷ Government of Bahawalpur, Accounts Department, *Administrative Accounts of the Development section since commencement of the S.V. Project up to the end of the year ending March 31, 1940*, p. ii.

⁴⁸ T. N. Kunzru, 'Cheap Feeder Railways of 5 ft. 6 in. Gauge and the Bahawalnagar- Cholistan Railway', Paper No. 115, presented at 16th Annual issue 1928, Pakistan Engineering Congress, 1928, p. 4.

⁴⁹ Idrees Khawaja, 'Development, Disparity and Colonial Shocks; Do Endowments Matters?', working papers, Institute for Research on Labour and Employment, UCLA, 7: (2012), p. 10.

⁵⁰ Two separate systems of railways, North-West Railways and Southern Punjab Railways passed through the northern areas of the state throughout its length of three hundred miles. One hundred and forty eight miles long track of North-West Railways bound from Lahore to Karachi was opened in 1880. It entered in the areas of state few miles above the town of Bahawalpur through Adam Wahan railway bridge and after passing through the town of Bahawalpur it served sixteen more railway stations in the areas of the state on the west side of the town of Bahawalpur. Southern Railways served the areas located on the east of the town of Bahawalpur. One hundred and fifty six miles long railway track of this railway system was opened in 1898. This railway system connected the state of Bahawalpur with Delhi and other areas through the town of Ferozepur. It entered the areas of the state from the town of Mcleodganj and passing through Bahawalnagar, Chishtian, Hasilpur, Khairpur and Bahawalpur joined the North-West railways at the Junction of Samasatta. For details see, Muhammad Tahir, *Riyasat Bahawalpur ka Nazm-e-Mumlikat, 1866-1947*, (Bazm-e-Saqafat, Multan, 2010), pp. 447-451.

and the newly settled areas were to be connected in turn via a link track running from Bahawalnagar to the junction of Samasatta, passing through the *mandi* towns of Haroonabad, Fort Abbas and Yazman. Work on this project was completed in two phases, the first between November 1926 and April 1928, saw the laying of the 63.5 mile long⁵¹ Bahawalnagar-Cholistan track between the towns of Bahawalnagar and Fort Abbas, to provide the communication facilities in the area irrigated by Fordwah and Sadiqia Canals.⁵² Service on this track was inaugurated by ruler of the state Nawab Sadiq Muhammad Khan V, on 3rd April 1928.⁵³ In the following years when the colony operation began in Yazman, this railway was extended with the construction of a further 88.2 miles of track between Fort Abbas and Kat-ul-Imara – via Yazman itself – and was linked with Samasatta Junction in 1930-31.⁵⁴ Once the railway facilities were in place the *mandi* towns began to operate effectively as regional commercial centres.⁵⁵

Alongside the system of railways, a temporary system of *kacha* roads was provided and canals banks were temporarily used as main roads giving access to newly settled villages and towns, however a network of feeder roads connecting each *mandi* with the associated agricultural tract was also required. The traditional means of transport in Bahawalpur State was the camel – which did not require roads – but *abadkars* were not familiar with this method and were accustomed to transport by ox-carts which did require roads.⁵⁶

As mentioned above – in the beginning – canal banks were used as main roads, while in the countryside a network of small roads within the village estate was provided with the help of the allottees of land. At the time of the allotment of land it was made obligatory for every recipient to leave 3 *karms* (16.5 feet) along the full length of his 25 acres for thoroughfare or village road. These were known as village or *zamindari* roads and they connected each square of land to the village site or the main road and each

⁵¹ Seven small stations were built on this track to provide the transportation facilities there. These stations were Dhab Sanithika, Saiwala, Dunga Bunga, Khatan, Faqirwali, Khichiwala, and Fort Abbas. For details see, Kunzru, 'Bahawalnagar-Cholistan Railway', p. 6.

⁵² Kunzru, 'Bahawalnagar-Cholistan Railway', pp. 1-33.

⁵³ Muhammad Aziz-ur-Rehman Aziz, *Subho Sadiq*, 3rd edn., (Urdu Academy, Bahawalpur, 1988), p. 193.

⁵⁴ *Census of India, 1931, vol. XVII, Punjab, part I*, p. 51.

⁵⁵ *R.S.V.P.E.C., 1932*, ch. IV, part II, 'Colony Facilities', pr. 126, p. 41.

⁵⁶ Dobson, 'Land Administration in Bahawalpur State', pr. 29, in *R.S.V.P.E.C., 1932*, p. 132.

village to the other.⁵⁷ However, these countryside roads were only good enough for local transportation – within the village or to neighbouring settlements – but could not be used for the access to *mandis*, ease of which was a corner stone of settlement programs. The SVP Enquiry Committee that was sent by the government of India to look into the matters and push forward the project, lamented the condition of roads in Bahawalpur State and advised the authorities to construct in the region of 850 miles of main roads immediately, which – in the first instance – could be maintained as *kacha* roads and developed into metalled roads later on. The committee also suggested that 2,000 miles of small roads would be required by the time the colony was fully settled.⁵⁸ The problem and shortage of roads was realised by the Enquiry Committee which stated that

There are no metalled roads in the state beyond a few miles around Bahawalpur town and one road 36 miles long from Bahawalpur to Dera Nawab, apart from the canal roads which are of little help to the general public there are only a few tracks quite unfit to heavy traffic. In the colony areas land has been set aside for roads but very few miles have been constructed. ... The construction of a reasonably efficient system of communication cannot be delayed much longer if the colony is to thrive.⁵⁹

Keeping in view the advice of the Enquiry Committee, 1,226 miles of main and small un-metalled or *kacha* roads were built in the colony up until March 1937. A lorry service was also instituted between Chishtian and Haroonabad, via Dahrnwala, to provide transport for *abadkars*. In subsequent years more *kacha* roads were built in colony areas and by 31st March 1943 the overall mileage of roads had reached 1,570 miles, of which 1,006 miles were constructed in Bahawalpur District and the remaining 564 miles in Rahim Yar Khan District. These roads were constructed keeping in mind the needs of both motor vehicles and cart users. On 358 miles of road, separate tracks were constructed for motor and cart traffic while 448 miles were for cart users only.⁶⁰

The development of communication facilities received a great setback when a large section of the desert railway – between Kut-ul-Imara and Fort Abbas – was removed and handed over to the Government of India who, in 1940, claimed the material for

⁵⁷ 'Conditions of Sale of Perennial lands of the Bahawalpur Government', Appendix 10, part V, pr. 2(d), 1930, in *R.S.V.P.E.C.*, 1932, p. 155.

⁵⁸ *R.S.V.P.E.C.*, 1932, pr. 132, p. 42.

⁵⁹ *Ibid*, p. 42.

⁶⁰ *R.A.B.S.*, 1942-43, pp. 75-76.

the war effort. The removal of this track proved a substantial impediment to the development of the colony in Fort Abbas, Marot, Mansurah and Yazman as the peasant community were now denied quick and convenient access to the towns of Bahawalpur, Bahawalnagar as well as to other areas of the state. After the removal of the track, a lorry service was instituted between the towns of Bahawalpur and Yazman, and between Fort Abbas and Marot, but the service was far inferior to that offered by the railways.⁶¹ One factor contributing to the removal of this section of the track was the recommendation made by the SVP Enquiry Committee for the abandonment of a large area on the tail of both the Sadiqia and Bahawal canals in the areas of Fort Abbas, Marot, Mansurah, and Yazman. As the abandonment of this large area reduced the economic value of the region so the provision of rapid transportation was far from a priority for the government and the region was left without railways throughout the colonisation process.

During the early years of 1940s – during WWII – the price of agricultural commodities increased abruptly, dramatically improving the financial standing of the state, and, as a result, more funds were allocated for the development of colony areas. During the financial year of 1941-42 all the *mandi* towns of the state, including Sadiqabad, Chishtian, Haroonabad, Hasilpur, Fort Abbas, Yazman and Bahawalnagar were declared notified areas⁶² town committees and public facilities; medical, sanitary, veterinary, educational etc. were provided by the Development Department of the state.⁶³ The following pages look to critically examine the nature and extent of the facilities which were provided.

The success of the colony was to a great extent dependent on healthy and active peasants and their animals. From the very beginning – despite the poor economic position of the state – efforts were made to provide proper medical facilities in the

⁶¹ Ibid., p. 28.

⁶² This system was implemented by the government of Punjab in 1927 for the development of its colony towns and the state of Bahawalpur borrowed it from there. Under this system any colony town which was to be declared a notified area by the Financial Commissioner, Development would remain under the charge of financial commissioner for six years from the date on which it was constituted a notified area and all the development works in that town would be carried by the expense of government and all proposals for that purpose submitted by various department would go through him. For details see, Letter No. 1255-D., Dated 5th March, 1927, from Junior Secretary to the Financial Commissioner, Punjab, Nili Bar Colony, in *R.S.V.P.E.C.*, 1932, p. 160.

⁶³ *R.A.B.S.*, 1942-43, p. 28.

colony areas. For this purpose, two civil hospitals – one each at the towns of Chishtian and Haroonabad – and two veterinary hospitals – one at Bahawalnagar and the other at Chishtian – were set up soon after the settling of those areas.⁶⁴ However, unfortunately, when the colony operations were extended to Bahawal and Abbasia canals in Bahawalpur and Rahim Yar Khan Districts respectively, new hospitals could not be setup there, and up until 1940 the patients were treated at canal medical dispensaries which were built during the construction of canals. At the beginning of the 1940s, when the financial condition of the state improved, fifteen⁶⁵ more hospitals were built in different areas including both in colony and proprietary areas. Surprisingly all these hospitals were set up in town centres, with the exception of two which were built in the rural areas of district Rahim Yar Khan at the villages of Bhung and Machka, where malaria had broken out in August 1943. Mobile dispensaries which were sent to the towns to provide emergency care were modified and transformed into permanent dispensaries.⁶⁶

Perennial irrigation no doubt solved the problem of water security to crops, but it also created problems for the environment and people who lived there. The drainage areas of the newly built canals – near the canal banks – turned into swampy ponds and became breeding grounds of malaria and other diseases that affected the villagers living close-by. During the summer seasons of 1942-45 an epidemic of malaria broke out in various areas and proved difficult for the state to control. The shortage of medical facilities in rural areas, along with the absence of quinine (preventive medicine for malaria) – the supply of which was controlled by the government of India – added to people's suffering. Although the state undertook some relief measures – under which mobile dispensaries were set up in affected areas, an anti-mosquito campaign was started and arrangements were made for the periodical oiling of the stagnant waters in villages by kerosene and crude oil – they failed to eradicate the disease

⁶⁴ *R.S.V.P.E.C.*, 1932, p. 42.

⁶⁵ Tahir Mehmood provides the list of 39 hospitals which were established in the state of Bahawalpur between the years 1867 and 1947. Out of these 39 hospitals 20 were established before the opening of colony operation in the state in 1926, 4 between 1926 and 1932 and the remaining 15 between 1940 and 1943. For details see, Tahir, *Riyasat Bahawalpur*, pp. 668-671.

⁶⁶ *Ibid.*, pp. 671, 681-682.

which properly required the setting up of dispensaries in the countryside and the provision of medicines there.⁶⁷

One of the main objectives of the colony settlement was to create model communities by raising the standard of village life [discussed in chapter four] one aspect of which was the provision of educational facilities. Soon, after the settlement of new areas in Bahawalnagar district new schools were opened. Up to 1932, eight vernacular primary schools were set up in the colony, one each in the towns of Bahawalnagar, Chishtian and Haroonabad and five in rural areas.⁶⁸ However, during the 1930s – as colony operations moved ahead and new settlements were founded around Bahawal, Abbasia and Panjnad Canals – funds ran short and appropriate education facilities could not be provided.

Focussing on the educational system within the state it becomes clear that even during the pre-SVP period, the rulers of the state were generous enough to provide educational facilities to their people. Their system included the provision of two different types of institution, the *madrasahs* or religious schools and the secular schools. *Madrasahs* were set up at mosques and provided a purely religious education from the Holy Quran, while the secular schools were set up at big towns and imparted an education in Persian and Arabic languages. The general population were more inclined to pursue a religious education while the rich people used to send their children to secular schools to receive education in Persian and Arabic. At the time of the opening of colony operations, a network of primary schools and a college named 'Sadiq Egerton College Bahawalpur' (S.E. College) was working in the state. But the response of the village people to modern education was not what it might have been and enrolment in the schools remained low.⁶⁹

As the people were generally uninterested in a modern education and state authorities failed to motivate them in that regard, so attendance in schools fell and several schools were closed. Muhammad Tahir – a local historian – writes that, in the early days of Nawab Sadiq Muhammad Khan's rule – during the 1920s – forty primary schools were closed due to the lack of the interest from officials and the poor financial

⁶⁷ R.A.B.S., 1942-43, pp. 96-97; 1943-44, pp. 105-06; 1944-45, 95-96; 1945-46, pp. 116-117.

⁶⁸ R.S.V.P.E.C., 1932, p. 41

⁶⁹ Tahir, *Riyasat Bahawalpur*, pp. 475-544.

condition of the state. In the old proprietary areas people were less interested in sending their children to school and powerful local elite and *waderas* (landlords) were against education as they considered an educated youth a threat to their power. However, according to him, the settlement of colony areas reversed this trend and new schools were opened in these regions. Moreover, the response of the *abadkars* to education was notably positive: they sent their children to school eagerly and – having come from areas of Punjab where education facilities were already provided. They considered education the key to success and so willingly sent their children to schools. After completing the necessary secondary level education this generation took up important jobs in the government offices which exacerbated imbalance between these societal groups.⁷⁰

On the subject of the provision of education, Tahir's criticism is harsh and seemingly somewhat founded on inaccurate calculations. He writes that the state officials – who were borrowed from the government of the Punjab – were more supportive to the Punjabi *abadkar* community and provided better facilities to colony areas than they did to the old settled areas, especially in education.⁷¹ However, the official statement of 1942-43, shows that equal education facilities were provided to the old and newly settled areas. The proprietary areas with a population of 1,039,734 had 207 primary schools or one government school for every 4,683 persons, whereas in colony areas there were 66 schools for a total population of 301,475 persons, the equivalent of one government school for every 4,568 persons. Of these 66 schools, 56 were provided in Bahawalpur District for the population of 224,634 persons and 10 in Rahim Yar Khan District for the population of 76,841 persons.⁷²

The number of students enrolled in primary (5th grade), middle (8th grade) and secondary (10th grade) schools just before the opening of colony operation in 1924-25 was 5,000, 2,462 and 364 students respectively, which increased to 22,925 in primary schools in 1946-47 and 10,459 in middle schools and 6,603 in secondary schools in 1949-50. The colony settlement also increased the number of students at studying at college level. In 1924-25 the number of student enrolled at Sadiq Egerton College

⁷⁰ Ibid., pp. 597-598.

⁷¹ Ibid., p. 598.

⁷² R.A.B.S., 1942-43, Appendix 17a, p. 134.

Bahawalpur was 69 by 1944-45 this number had increased to 376.⁷³ This huge increase in enrolment – both at the school and college level – following colony settlement shows the enthusiasm of local and *abadkar* communities for education. As the *abadkars* were more inclined towards education, they benefited disproportionately from the provision of these facilities, and many important jobs went to people from such backgrounds, a fact which riled *Riyastis* and which is discussed in the last section of this chapter.

The Census Report of 1951 also appears to nullify Tahir's claims as it shows that the colony areas of the state were provided with least education facilities. Only in the areas of Chistian, Haroonabad and Hasilpur on the Fordwah and Sadiqia canals were provided relatively higher numbers of schools than the neighbouring old settled areas. In those areas, for a village population of 117,310 persons spread over 193 colony chaks only 31 schools were provided, equating to one school for every 6.2 villages of average population of 3,784 persons. Whereas in Gajjiani – the earliest settled area of the colony on Sadiqia canal – for a village population of 20,510 spread over 35 colony chaks only two schools – one middle and one primary – were established. The situation was not different in Fort Abbas tehsil where only four schools – one middle standard school and three primary schools – were established for a population of 31,512 persons living in 79 colony chaks. The condition in colony areas of Bahawal, Abbasia and Panjnad canals was even worse. In the areas of Hamaiti on Bahawal Canal near the town of Bahawalpur for a village population of 12,900 persons living in 29 chaks only two schools – one middle and one primary – were provided, whereas in the area of Yazman, only a single primary school was established at the town of Yazman and for a village population of 50,692 living in 128 colony chaks not a single school was provided up to the year 1951.⁷⁴ Likewise in the colony areas of Panjnad and Abbasia canals in Rahim Yar Khan District, which stretched over the tehsils of Rahim Yar Khan, Ahmadpur, Allahabad, Khanpur, and Abbasia only 20 schools were operational in the year 1945-46 as against 145 in the old settled areas of the district.⁷⁵

⁷³ Tahir, *Riyasat Bahawalpur*, pp. 601-621.

⁷⁴ *Census of Pakistan, 1951, Bahawalpur District*, pp. 5-18, 76-80.

⁷⁵ *R.A.B.S., 1945-46*, Appendix X, p. 157.

The above discussion suggests that despite the greater enthusiasm for education amongst *abadkars* the facilities of higher education were not provided to them in the same relative abundance as they were to other sections of society. In 1945-46 there were only three high schools in operation in the colony towns of Haroonabad, Bahawalnagar and Chishtian, compared to seven in the proprietary areas. Similarly, only two middle schools, one each at the town of Fort Abbas and Sadiqabad as against twelve in the proprietary areas were provided.⁷⁶ Although at the beginning of the 1940s the government announced that a primary school would be established at every centre with a population of 1,200 persons or more within a 3-miles radius,⁷⁷ technical problems and the non-availability of the necessary building material during the war years meant that this goal was not achieved.⁷⁸ And without adequate education facilities the objective of the creation of model village communities could not be claimed to have been fulfilled. According to M. L. Darling, “without education prosperity demoralises, but with it a new and better order of things may be started.”⁷⁹

In conclusion it may be said that development work in the colony was directly linked with the agricultural production and the revenue producing capacity of the area. The areas on Sadiqia and Fordwah Canals were given preference over other colony areas as they were settled in the very early years of the colony and had already begun producing financial returns for the state in the form of land revenue, water rates and other cesses. Whereas the areas of Marot and Mansurah and Yazman that were located on the tail of the Hakra branch of the Sadiqia Canal and the Desert branch of the Bahawal Canal respectively, were poorly treated as – due to the shortage of canal water there – agricultural production and therefore revenue returns were weak. The amenities of life such as drinking water, roads, railways, schools, dispensaries and sanitation were provided preferentially to areas of Bahawalnagar, Chishtian, Haroonabad and Fort Abbas and due to the development of *mandis* in these towns the socio-economic condition of the populations of those areas improved while the removal of railway line between Fort Abbas and Kut-ul-Imara proved disastrous for the

⁷⁶ R.A.B.S., 1943-44, p. 30, 45-46, Appendix X, p. 157.

⁷⁷ R.A.B.S., 1942-43, p. 90.

⁷⁸ R.A.B.S., 1945-46, p. 108.

⁷⁹ Darling, *Punjab Peasant*, p. 237.

development of *mandis* in Marot and Yazman which were neglected by the state administration due to their low revenue generating capacity.

Colonisation and the Ecological Changes

The colonisation of state wastelands and the creation of agricultural villages and market towns in the northern part of the desert brought profound physical changes in the desert ecology of the region. An area that had been an arid, sun-scorched, sandy waste, dotted with a sparse and scanty growth of desert plants was transformed into a prosperous, green and intensively cultivated region within two decades. The perennial system of canals was behind this transformation and the area which, only a few years previous had hardly a shady tree was now punctuated by large leafy banyan (*Ficus benghalensis*), *babul* (*Acacia nilotica*), *peepal* (*Ficus religiosa*), *neem* (*Azadirachta indica*), *shisham* (*Sissoo*) and other trees which provided shelter to the newly sprung homesteads of the *abadkars*.⁸⁰ The newly settled areas started producing lavish crops [discussed in chapter five] which had a great and positive impact on the socio-economic position of the *abadkar* community and leaving them in a better position than the people living in old proprietary areas. This divergence is noted by M. L. Darling when he states that “in the great canal colonies [...] we feel everywhere the beneficent hand of man. In the former, [non colony areas] the life is the immemorial life of India, primitive, isolated and fatalistic, in the latter it is the new life brought in by the Pax Britannica, prosperous, progressive, and modern.”⁸¹

However, the impact of this modern development was not all positive; it created ecological problems for the diversified habitat of the desert. It contaminated the desert environment through the release of garbage, sewerage, noise, and smoke and brought the problems of soil salinity and water-logging which were dangerous both for animals and plants. The environmental issues such as water-logging, soil salinity and malaria are discussed in chapter five of this study, while below I will describe the impact of colony settlement on the flora and fauna of the region.

⁸⁰ Salim Ali, ‘The Birds of Bahawalpur, Punjab’, *The Journal of the Bombay Natural History Society*, XLII:3,4 (1942), p. 704.

⁸¹ Darling, *Punjab Peasant*, p. 116.

The development of canal-colonisation badly affected the rich flora and fauna found in the region. This did not happen only in Bahawalpur State, unfortunately these problems are associated with development projects and wherever irrigation and agriculture extension schemes were introduced, these ecological hazards soon developed. Guy Mountfort, the famous English conservationist, in his book *The Vanishing Jungle* writes that in every country the wildlife and wilderness have suffered severe losses as the development of agriculture, roads, railways, airports and new towns have gulped thousands of square miles of countryside and the hunting and poisoning of wild animals have increased beyond all limits.⁸²

The vegetation in Cholistan desert was typical of arid regions and consisted of mainly desert scrub along with a few other species such as Kandi (*Prosopis spicigera*), the Ak (*Calotropis gigantea*), the wild Caper (*Capparis aphylla*), the Wan (*Salvadora oleoides*), the Lana and Lani (*Salsola foetida*) and vast stretches of Khar (*Haloxylon recurvum*).⁸³ This wide range of nutritious, drought and salt-tolerant species of grasses, shrubs and trees provided a plenty of biomass to desert livestock.⁸⁴ The Cholistan Desert was also rich in fauna that included hog deer and rare varieties of Chinkara Gazelles and Blackbuck (deer), Nilgai, Houbaras, different kinds of sand grouse, lizards and a variety of snakes including the cobra. Guy Mountfort who passed over Cholistan during World War II wrote about the rich wildlife of the desert stating that he “could remember flying low over the Cholistan desert during the second world war and seeing large herds of Blackbuck and Chinkara Gazelle, to say nothing of the dense flocks of sand grouse which took off to right and left of the aircraft.”⁸⁵ He visited this area again in the middle of the 1960s by which time the situation was totally changed, wild animals were ruthlessly hunted and few could be found in the area. He voiced his concern, stating that “the losses of wildlife and primary vegetation were much greater than had been feared. Some animal species had disappeared altogether and many

⁸² Guy Mountfort, *The Vanishing Jungle: Two Wildlife Expeditions to Pakistan*, (Collins, London, 1969), p. 12.

⁸³ Ali, ‘Birds of Bahawalpur’, p. 705.

⁸⁴ Ghulam Akbar, Taj Naseeb Khan and Mohammad Arshad, ‘Cholistan Desert, Pakistan’, *Rangelands*, 18:4 (1996), p. 125.

⁸⁵ Mountfort, *Vanishing Jungle*, p. 26.

others were nearing extinction.”⁸⁶ Some kinds of wild animals – according to Mountfort – were killed because of their fondness for foraging in cultivated areas, these included Nilgai and deer, some, such as snakes and lizards were killed as they were seen as dangerous to people, while the others such as the Indian bustards, Chinkara and Blackbuck were hunted for food and sport.⁸⁷

Unfortunately, many species of wild plants were removed during the creation of village or town settlements or the laying of agricultural fields or were collected as fuel. The loss of these plants was significant for the delicate dessert ecosystem and wild animals which depended upon these plants for their food and shelter suffered.

It is clear that while the colony settlement contributed positively to the economic development of the state its impact on the flora and fauna was wholly negative.

Impact on the Bahawalpuri Society

Agricultural colonisation had a profound impact on the position of people in a society. As access to colony land had affected the distribution of economic and political resources among the people. Those who received land strengthened their position and were the real beneficiaries of the colonisation scheme, while those who were excluded from this new resource suffered a relative loss of status.⁸⁸ In particular the nomadic communities of the desert – primarily the Sama, Laar, Sheikh, Bohar, Panwar, Bhatti, Charhua, Daiha, Baloach, Joiya and Langha tribes⁸⁹ who did not want to change their mode of livelihood and living style abstained from the process of colonisation – suffered by these changes. Shereen Ratnagar laments that “the relative importance of pastoralists must have decreased through time as agriculture was extended with encouragement from states interested in agricultural revenues.” With the introduction of state sponsored irrigation projects and the expansion of agriculture in state-owned areas the grazing space key to pastoralist livelihoods was diminished.⁹⁰

⁸⁶ Ibid., p.14.

⁸⁷ Ibid., pp. 28-40.

⁸⁸ Ali, *Punjab under Imperialism*, p. 62.

⁸⁹ Mumtaz, ‘Habitat and Desert’, p. 19.

⁹⁰ Shereen Ratnagar, ‘Pastoralism as an Issue in Historical Research’, *Studies in History*, 7:181 (1991), pp. 182-186.

In Bahawalpur State colony settlement gave rise to economic disparity within society as those who received agricultural lands – after a few years hard work – became prosperous, while those who refused or were denied lands became relatively poorer.⁹¹ Unfortunately the local *Riyasti* people – who had mostly abstained from the colonisation process and were – according to V. S. Naipaul – “too broken-backed to be interested in this gamble with the desert,”⁹² were left behind by these developments and a notable division within Bahawalpuri society along linguistic lines emerged. In the Punjab canal colony districts – where migration was mostly intra-province – settlement and the allotting of land did not create any such rift among the people, it did however, create socio-economic imbalance between the old, settled and newly created districts. But, in Bahawalpur State the situation was totally different, here large-scale migration brought about fundamental changes in the demography of the region. A heterogeneous society comprising a variety of peoples including Jats, Arrains, Rajputs, Kambohs, Syeds, Balouchs and Pathans, with different languages and cultures, with conflicting economic and political interests emerged, the development of notable socio-economic disparity between groups in the society soon led to ethnic conflict. The *Riyasti* people, who lived in both the settled and nomadic communities, were particularly unhappy with the allotment of state lands to people from outside the state.

The colonisation of state wastelands was significant in the sense that – on one hand – it increased mobility of the agricultural classes and – on the other – that it provided a new basis for class formation and relation within the state. Bahawalpuri society, – as mentioned in chapters one and two of this study – before the implementation of Sutlej Valley Project, was divided into two main groups, sedentary people who lived on permanent settlements in riverine areas and desert dwellers who were predominantly nomadic peoples living in greater Cholistan and spent most of the year wandering in search of forage and water for their animals. The introduction of a network of perennial canals and the associated colony settlement program had extended cultivation beyond the river banks, deep into the desert and created complex

⁹¹ Tahir, *Riyasat Bahawalpur*, p. 338.

⁹² V. S. Naipaul, *Beyond Belief: Islamic Excursions among the Converted People*, (Little, Brown and Company, London, 1998), p. 352.

demographic and ecological issues. The ecological issues and those emerging from rapid increase in population having been outlined above, this chapter will now continue by discussing the societal issue which emerged.

Colony settlement had affected the pastoral nomadic community of the state in both positive and negative ways. The new village and town settlements were introduced in the northern part of the central tract, between the riverine area and the Hakra depression. As this scheme was not implemented in areas which were under their permanent control, it did not affect them too directly, although the area of their free movement was curtailed. Official reports reveal that nomad grazers also became part of the colony settlement as some of them received lands and permanently settled while the remaining moved south into the desert.⁹³

As mentioned above, out of a total area within the state of 17,454 square miles only 6,700 square miles were cultivable or were brought under settlement, and the remaining – little less than two-third of the total area – was still under their control and they could graze their animals freely in these regions. This was the largest area left uninhabited for pastoral communities in the 46 districts and states affiliated with the province of Punjab in 1941. There were only two northern hill states – Bashahar with 70 persons per square mile, and Chamba 54 and one district Dera Ghazi Khan with 66 – with a lower population density than Bahawalpur at 77 persons per square mile.⁹⁴ The nomadic population was not large and the reduction of this area was not significant in terms of resources. According to the official report of 1867-68 the number of people living in desert was 10,000, some 2.75 percent of the total population; this included both the nomadic and the non-nomadic Hindu communities. When colony settlement was introduced some of the nomad graziers permanently settled in colony areas after receiving lands and became part of the new socio-economic order of the colony. The exact figure of the nomad graziers who received lands is not available as records were not maintained separately.⁹⁵ The total population of the Cholistan Desert according to

⁹³ R.A.B.S., 1942, pp. 31-32.

⁹⁴ *Census of India, 1941*, p. 17.

⁹⁵ R.A.B.S., 1942-43, p. 32.

the Census report of 1951 was 14,850 persons out of which 10,080 were living in district Bahawalpur and remaining 4,770 in Rahim Yar Khan District.⁹⁶

So while the colony settlement had reduced the area of free movement it had also provided them with an additional source of forage in the form of crop residue such as stalk and stubble, leaves and seed pods left in the colony fields of wheat, maize, rice, and cotton, once these crops had been harvested. The canals also provided them with a permanent source of water where they could bring their animal during the dry part of the year. With the settlement of colony chaks within nomadic territories, a certain kind of relationship developed, based on mutual cooperation, according to which – at the end of the cropping seasons of *rabi* and *kharif* – nomads would bring their cattle and herds of sheep and goats to peasant's fields for grazing and in return they would provide free manure to fields and cut the cotton plants from the fields. In turn the nomads found a large and ready market for the sale of their milk and milk products. As this arrangement was beneficial to both the communities, it continued for decades, and in places endures to this day.

Unlike the nomads, the arriving *abadkars* presented a serious problem for the Saraiki speaking inhabitants of the sedentary areas. They had reservations and did not welcome these settlers – predominantly the Punjabis. The arrival of *abadkars* was seen as a danger to indigenous social values and a threat to the socio-economic stability of the region. Muhammad Tahir writes that the colony settlement though spurred economic development in the state yet it affected the traditional social values of the region. Evils like bribery and nepotism permeated the social fabric of the Bahawalpuri society as the *abadkars* found these particularly effective for their survival and growth.⁹⁷ The settlement of new colony areas had changed the balance of population between *abadkar* and *Riyasti* population of the state. The areas of Chishtian, Haroonabad, Fort Abbas, Hasilpur, and Yazman in Bahawalpur district became predominantly Punjabi *abadkar* areas, whereas in Sadiqabad, Khanpur, Allahabad, Khanpur and Rahim Yar Khan in Rahim Yar Khan District, the majority of local people reduced considerably. Penderal Moon – the Revenue minister for the state – writes

⁹⁶ *Census of Pakistan, 1951, Bahawalpur District*, pp. 19-21, 80; *Rahim Yar Khan District*, pp. 6-39.

⁹⁷ Tahir, *Riyasat Bahawalpur*, p. 338.

that the “[immigrant] influx had aroused envy and apprehension in the minds of the original inhabitants. They felt that they were outmatched by these thrusting, energetic stocks from the Punjab and would ultimately be outnumbered by them.”⁹⁸

It was the responsibility of the state to settle issues and to allay the fears of the local community in relation to the *abadkars* but it failed to do so. Both communities had concerns; locals felt that arriving of *abadkars* were gaining a monopoly over lands, business and jobs while the *abadkars* felt that they were not welcomed by the local community and were being sidelined. Masood Shahab shows a local bias when he writes that the Punjabi *abadkars* were alien to the local culture and language and so they remained isolated from the local people, which created many misunderstandings between the communities.⁹⁹ Penderel Moon saw things differently and argued that “recent immigrants [...] tended to be more vigorous and enterprising than the indigenous inhabitants and by their drive and energy were bringing the State, which had previously been a rather stagnant backwater, into the full stream of progress.”¹⁰⁰

Living under clouds of doubts both the communities sought to protect their positions. The *abadkar* community of Haroonabad was very active in this regard and founded an organization ‘*Anjuman Nau Abadkaran Riyasat Bahawalpur*’ in September 1929 for the protection of their rights and to create better understanding and loyalty to government. The *Anjuman* was successful in achieving its initial objectives and in 1930, the chief minister of the state made it clear that – in connection to government vacancies – the settlers would have equal rights and would be treated as *Riyasti* people.¹⁰¹

The local *Riyasti* people – especially the students, inspired by the activities of the *Anjuman* – founded their own organization called ‘*Anjuman Rafiqan-i-Tulba*’ in 1934, which soon turned to political activities and launched the movement *Riyasat* for *Riyastis*. They argued against free movement of people; Punjab for Punjabis, Madras for Madrasis, Sind for Sindhis, Kashmir for Kashmiris and Bahawalpur for Bahawalpuris.

⁹⁸ Moon, *Divide and Quit*, p. 98.

⁹⁹ Shahab, *Siyasi Tarikh*, pp. 89-90.

¹⁰⁰ Moon, *Divide and Quit*, p. 98

¹⁰¹ Shahab, *Siyasi Tarikh*, pp. 89-90.

They also demanded that key posts be given to the *Riyasti* officers, and existing *Riyasti* officers participated in this movement for their own interests. The state could not resist this pressure and in 1937 it divided the inhabitants of the state into three categories. Category A or first grade, included the inhabitants of the state before 1880, category B or second grade, were those who came to the state between 1880 and 1926, and category C or third grade, were those who came after 1926.¹⁰²

Under this categorisation, all the immigrants who came under the Sutlej Valley Project were declared third grade citizens of the state; this was the only instance in which the respondents to a colonisation scheme were treated so badly. Following the institution of these categories the government set up a *Riyasti* Board and all the employees of the state were advised that a certificate from the board would be required in order to apply for jobs. The *abadkars* were surprised by what they saw as discriminatory behaviour and they responded by campaigning against this unlawful imposition. They started a state level agitation movement and organised meetings in different towns where they demanded representation in all the local councils and elected bodies and a share in jobs like given to minorities in British India.¹⁰³ The ongoing tussle between the communities was creating a wider rift in society which was good neither for the maintenance of peace or economic development within the state which was heavily trapped in debt.

The economic potential of the *abadkar* community was already proved and they had started producing large harvests [see ch. 5] from their colony lands. The ruler of the state was well aware of the fact that in order to free his state from the clutches of debt, he would require the cooperation of the *abadkars*. So, in order to win over the hearts of the *abadkar* peasants he toured the colony towns of Bahawalnagar, Chishtian and Haroonabad in February-March 1943 – his tour coincided with the launch of the government of India's 'Grow More Foodgrains Campaign' which was a response to the increased value of commodities on the world market due to the continuation of WWII. While addressing peasants he remarked, "I am continually getting requests for the supply of foodgrains and the belief appears to be widespread that the Bahawalpur

¹⁰² Ibid., pp. 91-93.

¹⁰³ Ibid., pp. 94-95.

State is a sort of granary with an unlimited supply. Let us try to make good this reputation and provide the maximum surplus this year and the next for the benefit of the Defence Services and of deficit areas.”¹⁰⁴

As the *Nawab* wanted to please and motivate the *abadkar* community to produce more crops to be used both for the defence services and to service the state debt he made much of his appreciation of their services to the socio-economic development of the state and referred them as “being no longer colonists but Bahawalpuris.”¹⁰⁵ This announcement, by the ruler of the state proved beneficial as it encouraged the *abadkar* community who now felt that they were no longer strangers in the state. It reduced tension, fostering social interaction between the communities and helped to build a new harmonious environment within the state. The *abadkars* became custodians of the state as they brought more areas under cultivation and produced rich harvests. They paid their instalments (the price of land) in advance and so enabled the state to clear its debt in 1949-50, thirty seven years before the scheduled date.¹⁰⁶

In recent years the issue of the creation of a new Saraiki Province or Bahawalpur Province on linguistic basis has been highlighted by Pakistani media and some opportunist politicians in the region which may once again seek to divide society on communal basis.¹⁰⁷ Many years have been passed but the issue is once again in the headlines. Although this issue is outside the scope of this study, it is worth observing that the seeds of this issue may be seen in the Sutlej Valley Project. The colonisation of state wastelands and the creation of a large network of colony chaks and *mandi* towns were significant in that they increased the mobility of agricultural classes and provided a new basis for the changing class relations within the state.

¹⁰⁴ R.A.B.S., 1942-43, Appendix 1, p. 117.

¹⁰⁵ Ibid., 1942-43, p. 7.

¹⁰⁶ R.A.B.S., 1949-50, p. 22.

¹⁰⁷ Muhammad Ali Durrani, ‘Durrani Vows to Campaign for Bahawalpur Province after Eid’, <http://www.pakistantoday.com.pk/2012/08/11/city/lahore/durrani-vows-to-campaign-for-bahawalpur-province-after-eid>, (accessed on 03-08-2016); N.a., ‘Provincial Concerns: Campaign to Restore Bahawalpur Province Launched’, ; <http://tribune.com.pk/story/178909/provincial-concerns-campaign-to-restore-bahawalpur-province-launched>, (accessed on 30-08-2016).

Conclusion

In this chapter I have discussed the impact of colony settlement on the demography, migration and ecology of the state. The chapter reveals that the creation of hundreds of new village and town settlements combined with the extension of modern hydraulic engineering allowing for the reclamation of state wastelands produced dramatic changes in the desert region as hundreds of thousands of immigrant peasants came and settled there. Population, area under cultivation, agricultural produce were dramatically increased while class relations were transformed. The new settlements were provided with a network of railways and roads to link them with main towns of the state and to the commercial centres and port towns of Karachi and Bombay in order to export the surplus agricultural produce of the colony lands to India and abroad.

The chapter argues that as a result of the colony settlement program, the areas surrounding the desert were transformed into lush, green fields and became the granary of the state. Several development works such as medical, education, and sanitation facilities were introduced in the colony areas but the pace and scale of these developments was not related to the production capacity of the areas. Economic returns remained the dominant factor in development and the government was extracting more than it was spending in colony areas. The financial statement of the notified area committees (new town committees) revealed that government collected Rs. 2,262,702 in taxes from committee areas between the years 1941-46 and spent only Rs. 1,344,940 on the provision of public facilities there.¹⁰⁸ As *mandi* towns were vital for the commercial viability of the whole colonisation process, so the development works were mostly confined to the towns while the village areas remained neglected. The condition of linking roads and the provision of medical and education facilities in the rural areas remained inadequate and poor as compared to colony areas of the Punjab, and were even far behind the neighbouring colony areas of Nili Bar which were instituted under the same irrigation project.

¹⁰⁸ R.A.B.S., 1942-43, p. 28; 1943-44, p. 30; 1944-45, p. 29; 1945-46, p. 32.

The chapter argues that large scale colonisation brought some radical changes in the environment of the state. With the arrival of *abadkar* community a heterogeneous society comprised of different people, speaking different languages and having different cultures with conflicting economic and political interests emerged which gave birth to ethnic conflict and divided the society on communal basis. But, fortunately these issues were quickly resolved by the ruler of the state. When the interaction between the local and *abadkar* communities increased a harmonious atmosphere developed in the state and *abadkar* community emerged as a vital and central force.

Chapter Seven: Conclusions

The aim of this study has been to examine the impact of the Sutlej Valley Project on the state, society and environment of the region formerly known and governed under the title of Bahawalpur, in what was then British India. The thesis has discussed in detail the dramatic changes brought about to the ecology of the desert, in terms of the destruction of wild life, flora and fauna, changes in patterns of nomadism and the new institutional arrangements brought by the new canals both at the level of the princely state and the people to manage such a vast project one of the largest in the world. In assessing the impact and importance of the project it has considered issues ranging from colonisation, riparian rights, population dynamics, land tenure, migration, modernisation, and urbanisation to agro-ecologies of crops and soils in a hitherto neglected desert region. The thesis has argued that this was the first time that the issue of riparian rights was debated and negotiated at a multi state level in the South Asian context between Bahawalpur, Bikaner and the British *Raj*.

It is argued that the institution of canal irrigation cannot be seen merely as a technological advancement, nor can its impact be understood only in terms of associated increases in irrigated area and agricultural production, but that socio-economic and political changes are of at least equal importance in appreciating the impact of such a scheme.

The professed goal of irrigation development was the protection of the existing water supplies – which were distributed by a system of inundation canals – by adapting them to function as non-perennial canals, and the extension of the perennial canals into the upland areas of the state. The project was successful as far as the above mentioned objectives were concerned, but – it is argued – the implementation of the project also served more strategic purposes. Through the SVP the state gained control over both the physical environment and its population, and manipulated these in pursuit of its own political and economic interest, as discussed in chapters four, five and six of this study.

The thesis explains how – in order to establish settlements – it was the Daudputras who first exploited the riverine ecology of the desert and established a network of inundation canals fed by the rivers Sutlej, Panjnad and Indus that formed the northern and north-western boundaries of the state, and founded village and town settlements on these canals. The canals became essential to the Daudputras' economic life and allowed them to maintain hegemony at state and societal level. The inundation canals became the lifeblood of the Bahawalpuri society long before their contact with the British rulers of India that officially started in 1833 with the signing of treaties of friendship with the British East India Company. In this era Bahawalpur became a hydraulic society with flourishing agricultural economy that was exporting surpluses of rice, wheat and indigo to the Rajputana states to Kabul and further afield in Central Asia. However, difficulties began in the princely state from the early years of 1880s when with the colonisation of land in the province of the Punjab, the inundation irrigation system of Bahawalpuri canals was badly affected as the British started tapping and utilising the water of Punjab Rivers for the extension of agriculture into the upstream crown wasteland areas of the province.

The thesis further argues that the implementation of the Sutlej Valley Project – like other large-scale projects undertaken by the British – was motivated primarily by promise of commercial gains, to be realised through the extension of cultivation to new upland areas – which had hitherto lay uncultivated due to the lack of irrigation water – as well as by colonial desire to extend control over land and people. As discussed in chapter 3, the initial plan set out by Bahawalpur State was aimed at securing the supply of enough river water to meet the irrigation requirements of the state, but as the British government of the Punjab wanted to utilise this water for the development of its new areas therefore, Bahawalpur also changed its plan and decided to extend the scope of cultivation to its upland areas lying between the riverine tract and the pure-desert. The SVP and its physical implementation show the British policies prompted response from the *Nawab* and the princely state over the whole issue of riparian rights. This is the first such study that does so. Modern environmental historians of the Indus basin like Imran Ali and David Gilmartin who have extensively written on different aspects of the canal colonisation i.e., the socio-political, socio-

economic, and the environment of the province of the Punjab by leaving out the important region of Bahawalpur State have missed the significance of the negotiations over these rights between the *raj* and the princely state.

I have critically analysed the water politics of the period and the debates between the princely state and the British *Raj* in the formulation and implementation of this mega-irrigation scheme and described how British officials both of the government of the Punjab and of India pressurised members of the Council of Regency – that ran the affairs of Bahawalpur State during the youth of the *Nawab* – to accept their preferred scheme by threatening to complete the project without their consultation. The Bahawalpur administration was therefore forced to accept certain conditions in order to safeguard the progress and security of state and society. In this regard the most contentious issue was the British government of India's award of waters from the river Sutlej to Bikaner state – which had no legal claim and was located more than sixty miles away from the riverbank – on the principle of “the greatest good to the greatest number”¹ and despite of the opposition of Bahawalpur State founded on superior riparian rights.

As both the Council of Regency and the British Engineers attached to the state administration had serious concerns over the estimated river supplies and the cost of the project – which they suspected to have been wrongfully calculated – they were reluctant to participate in such a scheme which they saw as running counter to the interests of the state and destined to ruin its economy. They were, however, left with no option but to join the scheme after threats from the British officials. Despite concerns of over-estimation, spoiling of the state economy, awarding of unjust command and control to the British government of India, Bahawalpur State was successful in achieving its goals and objectives in regard to the planning and implementation of this mega-irrigation scheme.

¹ ‘Proceedings of the Conference Convened in Delhi to discuss the Sutlej Valley Canals’, Appendix XXV, p. 132, in *Some further Presentations of the Council of Regency, Bahawalpur State, to the Punjab Government on Sutlej Valley Project of 1917 and Delhi Conference of December 1918*, (Civil and Military Gazette Press, Lahore, 1919), pp. 132-133, B.S.A.

The SVP was one of the largest and most expensive irrigation projects built by the British in India, with a total command area of 9.1 million acres, out of which 5.1 million acres were to receive irrigation annually. It included four headworks and eleven canals out of which three headworks and six canals were located within Bahawalpur State which held a share of irrigated land equal to 2.8 million acres – out of which two million acres would receive perennial irrigation. Bahawalpur State wanted to utilise the waters of the river Sutlej for the perennial irrigation of its lands but had never desired or envisaged a project on such a scale as its limited resources restricted expansion. This thesis argues that a project of such an enormous magnitude should have been more carefully handled, but, unfortunately surveys, estimates, file work – including the agreement itself – were prepared in haste creating significant technical and financial problems during its execution and placing extra pressure on the economy of the state.

The thesis finds that during the construction of the headworks British Engineers carried out experiments which increased the cost of the project to unprecedented levels and the state suffered economically as a result. The technique and design adopted in the construction of the Islam Headworks was not successful and its collapse increased the difficulties faced by Bahawalpur State as the colonisation of lands on Bahawal Canal was delayed for more than two years. It also increased the cost of the project which was expected to cost some fourteen crores of rupees, but which finally cost more than thirty three crores of rupees – and it was the state of Bahawalpur which had to face the economic and political consequences. To finance its part of the project the state had borrowed money from the British Government of India, who, in return took control over key administrative positions including the finance, and revenue and public works departments of the state. This administrative arrangement had a profound effect on the whole organisation of the state and ultimately the position of the *Nawab* became one of only nominal, symbolic and titular leadership – he not only lost his power and wealth in the planning and implementation of the project but also his interest in state affairs and he stayed most of the time in England or elsewhere, leaving the state in the hands of British officials.

However, despite the mistakes and irregularities hampering the realisation of the project it was completed and was successful in opening up new opportunities for both

the state and the peasant farmers. It laid down a vast network of canals in wasteland areas which were then brought under cultivation. In order to capitalise on the potential of the Sutlej Valley Project canals the state launched its colony scheme soon after the opening of the Eastern Sadiqia Canal in 1926. The scope of colony settlement was further extended to the areas on Bahawal and Abbasia Canals when they were opened for irrigation in 1928 and 1932 respectively. As the state ended up owing double what the project had initially been estimated to have cost due to increases in the price of construction, material and labour, special care was taken in the implementation of the colony scheme as it was essential that the scheme would be remunerative and productive with handsome returns every year.

The second half of the thesis carefully and with extensive use of primary sources explores the impact of the SVP for people and the agriculture in the state. For the distribution of land, the state followed the model of the Punjab colony schemes that had already proved its worth and land was allotted preferentially to those hereditary peasant families who had experience of cultivation or to men of resources who could spend generously to ensure the better production of crops. The bulk of colony land (72.35 percent) was allotted under the categories of *abadkari* or peasant grants and sale-auctions (21.30 percent) while the remaining 6.35 percent was distributed under the categories of *lambardari*, military, tree plantation and *kamin* grants. This thesis argues that though the whole process of colony settlement was enacted conscious of the economic, political and social interests of the state, it was economic interests that dominated the planning and execution of the scheme and the best lands were reserved to sell in open market at higher prices. Furthermore, land was mainly allotted to those hereditary agricultural tribes or races whose skill as cultivators had been proven in the Punjab canal colonies and the landless poor communities who did not have the experience of cultivation were altogether ignored in this distribution and allocation process.

The outcome of this land allotment policy was that the Jats and Arrains that hailed from the Punjab emerged as the major recipients and beneficiaries of the settlement scheme, while the local peasantry and nomad graziers could obtain only a very small share of colony land, partly due to their reluctance to invest in this expensive venture

and partly due to the state's lack of desire or effort to motivate them or offer concessionary rates. This thesis argues that the state gave preference to local peasant classes and allotted a fixed quota of land for them in the region of Sukkur Barrage in Sind, where according to Daniel Haines a quarter of the land (350,000 acres) was reserved for the Sindhi cultivators. Similar actions were however not taken in Bahawalpur and it might be argued that the opposition and criticism which the Punjabi *abadkars* faced during and after the colonisation period could have been avoided by increased government focus on the *Riyastis* or inhabitant aspect of the colonisation process.

The implementation of Sutlej Valley Project brought a new dynamism to agriculture within the state, the major factor being the SVP canals themselves which provided regular supplies of water and the arrival of *abadkar* peasants who followed the practices traditional in their home regions in regard to cropping patterns and methods and started cultivating high valued crops, like the American cotton, oilseeds and hybrid varieties of wheat that were in high demand in Great Britain and on European markets. It would not be wrong to say that *abadkars* were compelled to grow those crops by their need to pay the instalments of their land as well as the various associated taxes such as land revenue, *abiana*, *malikana* and cesses.

The colonisation process was envisaged as a commercial enterprise, and a giant network of roads and railways was created across the colony tracts to link agricultural areas to *mandi* towns which were created to provide outlets to peasant farming communities. From these *mandi* towns products and goods were sent to the commercial centres of India or to the ports of Karachi or Bombay (now Mumbai) for export purposes.

High hopes were held for the success of Sutlej Valley Project, evident from the speech of Lord Reading – the Viceroy and Governor General of India – made at Bahawalpur *Darbar* in which he termed the “vast” project “one of the greatest irrigation works that have been undertaken in India, [and one which] promises to place Bahawalpur among

the wealthiest States in India.”² However, the settlement project expanded slowly and fell well short of expectations within the first ten years following the opening of SVP canals, partly due to the failure of the canals to supply expected supplies of water and partly due to the international depression of the 1930s when prices of agricultural products and land slumped dramatically.

This was a period when it was feared that the project might prove another failure like the centrally planned social-engineering projects of twentieth century that are called ‘high modernism’ by James C. Scott in his book, *Seeing like a State*.³ However, WWII and the associated worldwide shortage in agricultural commodities and consequent price hikes came to the project's rescue.

Bahawalpur benefited enormously from the soaring prices of the agricultural products and the enhanced value of colony land which began to change hands with greater pace increasing the income of both the state and of the peasant community. The project which was a manifest failure at the beginning of 1940s turned into an astonishing success within the space of a few years and by the end of year 1945-46 the whole of the available cultivable colony land was disposed of. The rise in cultivated area increased the production of the crops – especially of wheat, grains and cotton – and the state exported its surplus production to food deficient areas of India as well as to the European markets earning substantial revenues which were utilised for the early repayment of the state debt. Peasants utilised their extra money to obtain *haq-e-malkiyat* (property rights) over the land which they were cultivating. Once the economic position of the state stabilised following the windfall of surplus revenues these funds were utilised for the development of colony areas. Revenue collection prior to the middle of 1940s was insignificant, but once the state was well settled, the administration began to encourage new industry which heralded a new era of development in the state.

² Government of Bahawalpur, *Report on the Administration of Bahawalpur State* (hereafter R.A.B.S.) for the year 1923-24, (Government Press, Bahawalpur, 1924), p. 2.

³ James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Conditions have Failed*, (Yale University Press, New Haven, London, 1998), pp. 3-4.

Alongside the Sutlej Valley Project's positive contribution to socio-economic development of the state, this thesis has considered environmental issues and ecological problems associated with its establishment. The thesis argues that a twofold disruption occurred by which new agricultural villages and town centres polluted the pure desert environment by releasing solid waste, sewage, noise and smoke which in turn destabilised the rich flora and fauna of the region. The project also proved disastrous for some of the pre-existing indigenous irrigation systems such as inundation canals, *sailaba* irrigation and *jhalars* and created environmental issues such as waterlogging, high soil-salinity and was linked to malaria outbreaks in drainage areas of the canals.

The thesis also looks at the impact of canal-colonisation on the demography, migration and ecology of the state. It argues that the creation of hundreds of new village and town settlements in the state wasteland areas caused dramatic changes to the desert ecology of the region. Hundreds of thousands the immigrant peasants came and settled in the colony areas increasing the area under cultivation as well as agricultural production. The influx of immigrants created new class tensions and conflicts and the categorisation of land allotment and communities had far reaching effects on Bahawalpuri society creating new societal divisions based on class and races. Bahawalpuri society became split into *abadkar* communities on the one side and *Riyastis* (native of the state) on the other; it also divided *abadkar* communities into two major social groups Jats and Arrains. During the process of settlement the relationship between natives of the state and the *abadkars* reached such a low that the latter were declared third-grade citizens and opportunities for many kinds of employment were closed to them. However, fortunately, all these problems were quickly resolved by the timely interference of the ruler of the state. Greater interaction and cooperation were fostered between the groups creating a prosperous and harmonious atmosphere in the state and the *abadkar* community emerged as the economic backbone of the state of Bahawalpur.

In 1947 then what we can see, was a transformed society in Bahawalpur what I have summarised as a period of 'growth with development' though with ecological costs. Following the independence of the states of India and Pakistan the situation of the

princely states and the Indus basin was to be transformed yet again. As under the partition agreement, the upper course of the rivers Sutlej, and the Ravi and the entire course of the Beas were awarded to India. The Ferozepur headworks on the Sutlej and the Madhupur headworks on the Ravi, both of which served canals leading into Pakistan were also handed over to India which created a chronic shortage of water in the Bahawalpur Canals taking off the Sulemanki and the Islam headworks. Fortunately, an Inter-Dominion Accord of May 4, 1948 was signed between the governments of India and Pakistan and river waters were apportioned between both the countries.⁴ This agreement solved irrigation problem in the state temporarily but for the permanent solution of this menace, especially, in the winter season when the river water would get dry, three reservoirs namely, the Bahawal Canal Reservoir, the Desert Branch Reservoir and the Ladamsar Reservoir were built to store the excess supplies of summer water to be used in winter for the *rabi* crops.⁵

Despite signing the Inter-Dominion Accord of 1948, the water problem continued in the canals taken off from the rivers Ravi and the joint stream of the Beas and the Sutlej as winter supply was not available for the *rabi* crops. Moreover, the fluctuation of supplies, especially in the much needed time of the crop circle, was dangerous for the maturity of the crops. Finally a treaty was signed between the governments of Pakistan and India on 19th September 1960 with the collaboration of 'friendly governments' and the World Bank to solve the issue of water in the Indus basin. Under this treaty, the waters of the three eastern rivers the Sutlej, the Ravi and the Beas were permanently awarded to India while Pakistan received the waters of the western rivers namely, the Indus, the Chenab and the Jhelum. Under this treaty two storage dams, Tarbella and Mangla and several link canals were to be built to divert waters from the western rivers to replace the eastern rivers supply lost by Pakistan. To provide irrigation in the upper and lower Bari *doab* regions and the areas of Bahawalpur State, two link canals, Baloki-Sulemanki Link Canal and Trimmu-Sidhnai-Islam Link Canal taken off respectively from the Ravi and the Chenab, were built in 1960s. The first link canal restored supplies in the canals sourced by the Sulemanki headworks while the

⁴ Aloys Arthur Michel, *The Indus Rivers: A study of the Effects of Partition*, (Yale University Press, New Haven and London, 1967), pp. 7-8.

⁵ *R.A.B.S., 1949-50*, p. 23.

second one provided supplies to the network of canals fed by the Islam headworks.⁶ This new hydraulic arrangement saved the region of Bahawalpur from a big disaster providing new life to the peasantry and agriculture and ensuring that all the hard work and efforts made for the resettlement of areas, natural environment, its people and society under the Sutlej Valley Project did not go to waste. Today, when the Indus basin is under renewed threat from climate change and intensive agriculture, it seems clear that the engineering solutions of the past may no longer suffice to save the Indus river system and to avert what will become a catastrophe for the people of the region.⁷

⁶ Michel, *Indus Rivers*, pp. 195-265.

⁷ N.a., 'The Threat of Climate Change to the Indus', http://wwf.panda.org/about_our_earth/about_freshwater/freshwater_problems/river_decline/10_rivers_risk/indus/indus_threats/, online, (accessed on 29-01-2018).

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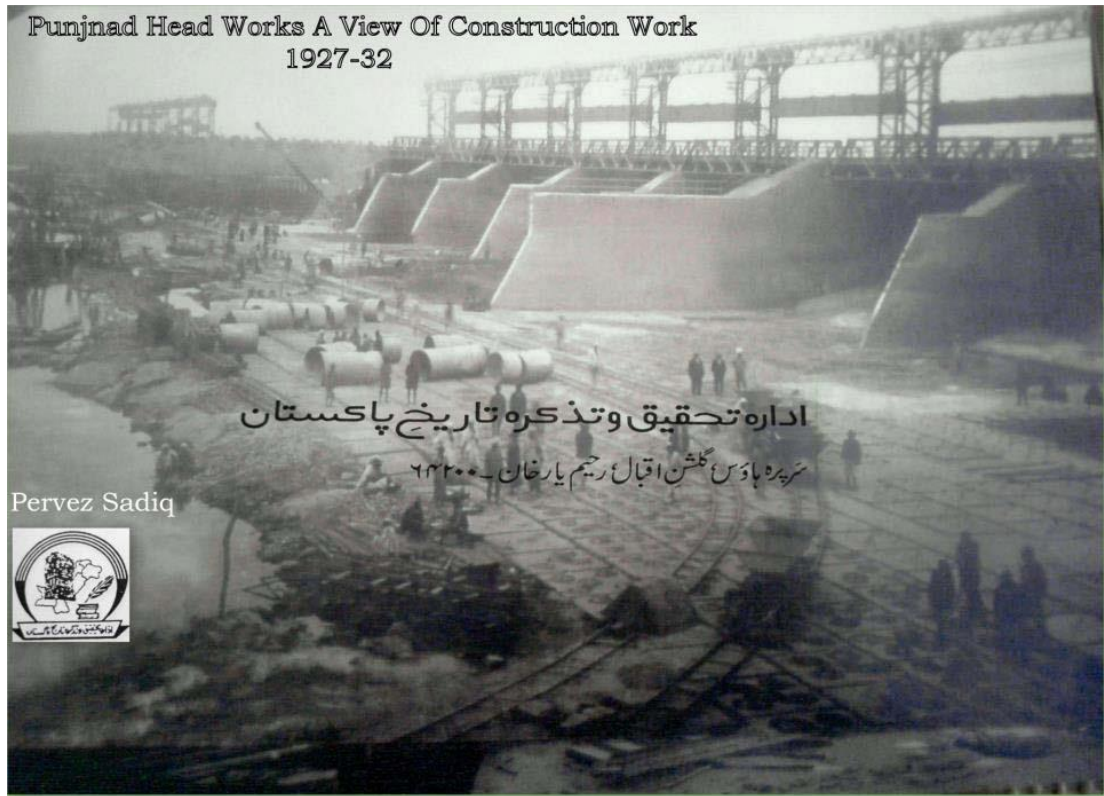
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Appendix: Photographs and Maps

Panjnad Headworks under Construction



Source: Adapted from *Adarah, Tehqeeq- o-Tazkirah Pakistan*, Rahim Yar Khan.

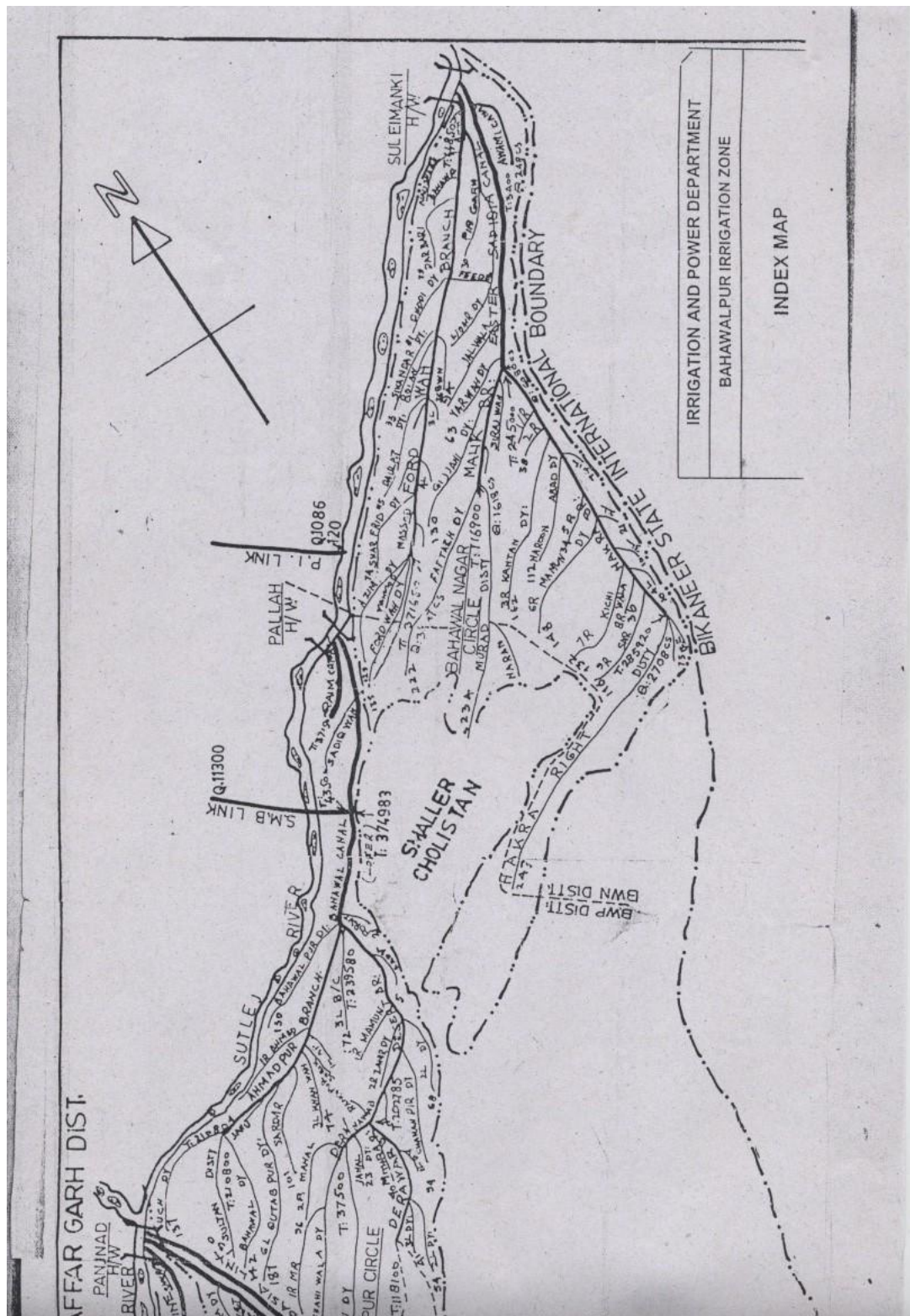
Panjnad Headworks under Construction

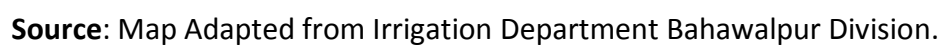


Source: Adapted from *Adarah, Tehqeeq- o-Tazkirah* Pakistan, Rahim Yar Khan.

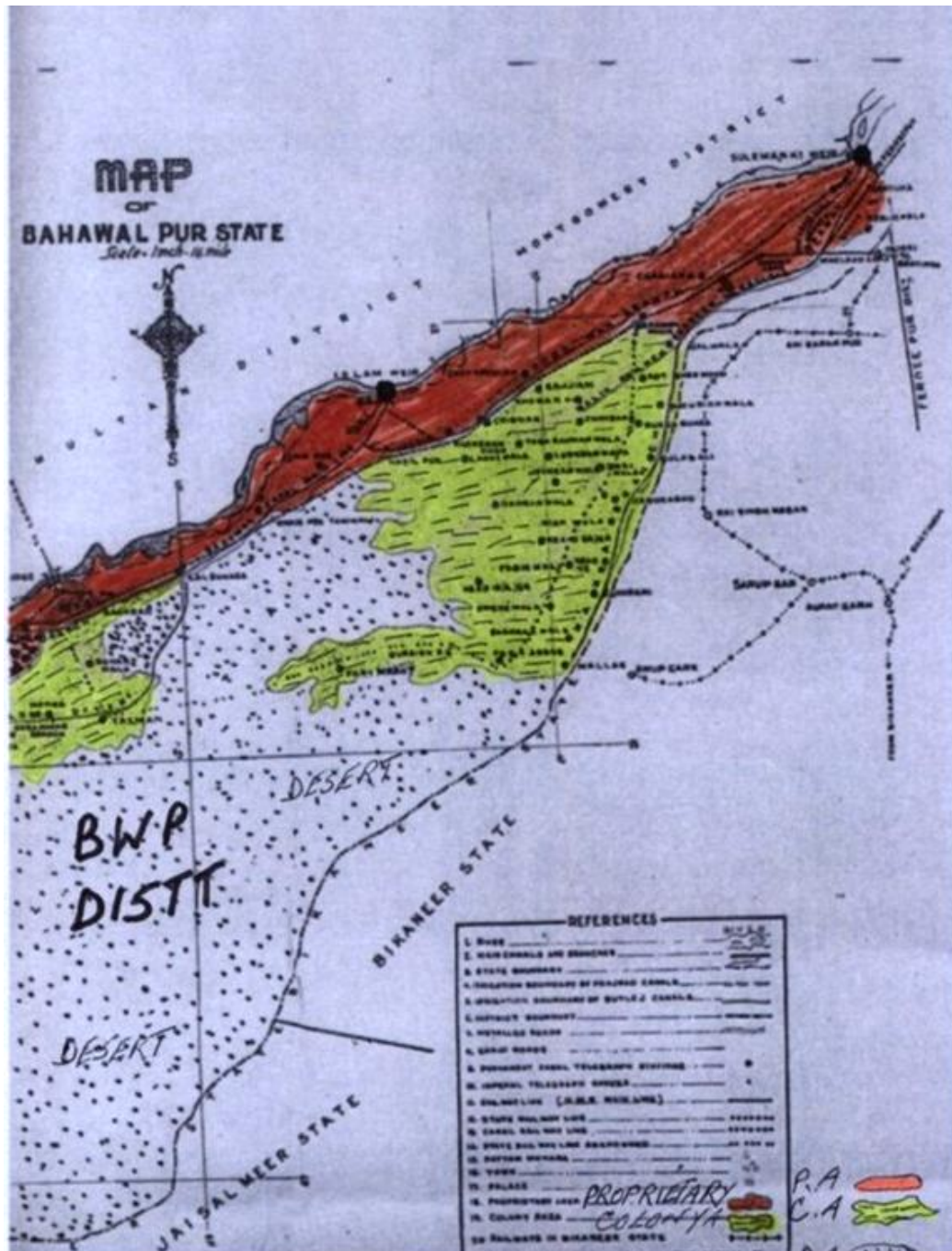
Nawab Sadiq Muhammad Khan V, ruler of the Bahawalpur State at the construction site of Panjnad Headworks with engineers and Officials.

Canal Network of Bahawalpur State Part 1





Colony Map Part I



In Map: P.A., Proprietary Area in Orange colour

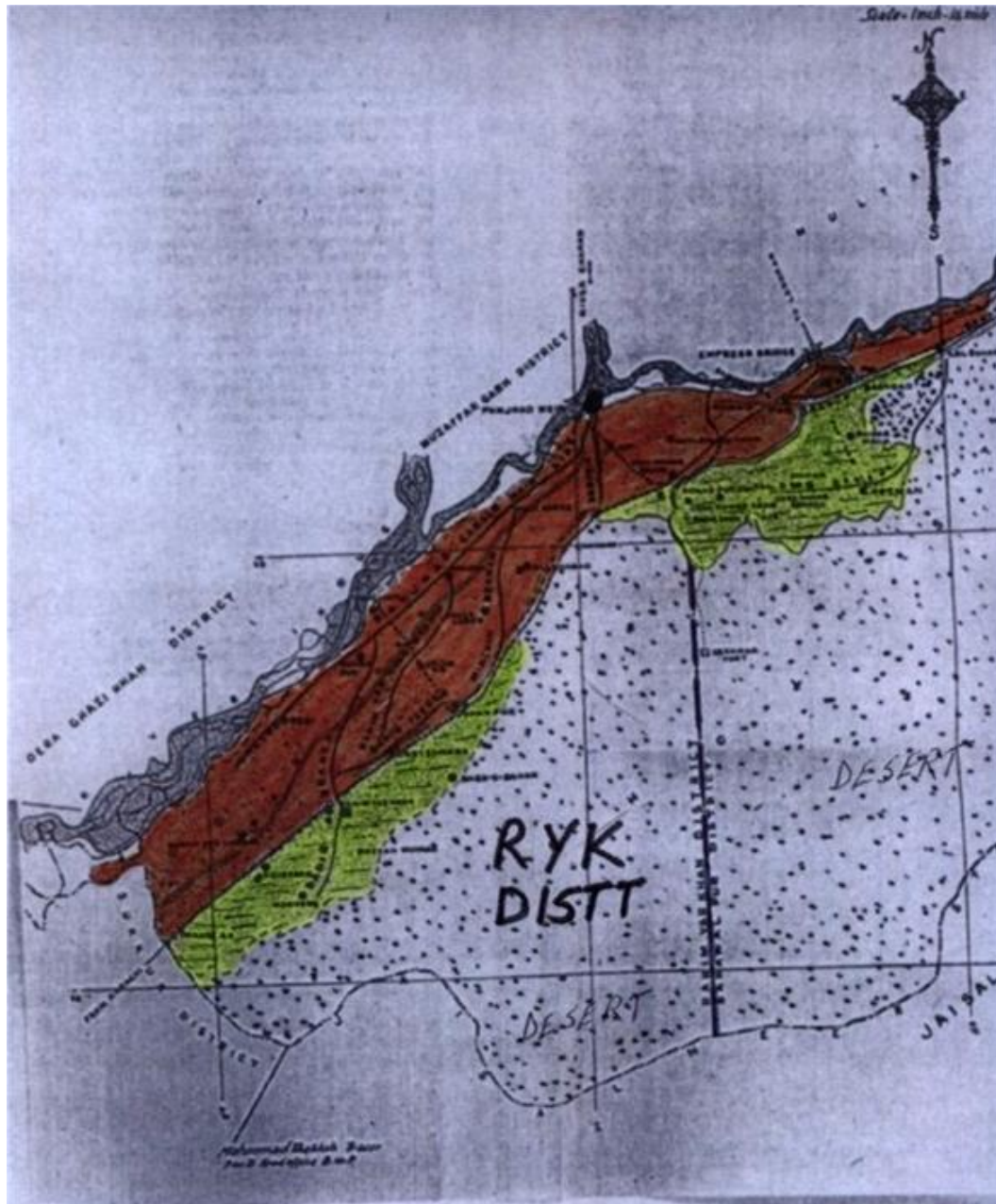
C.A., Colony Area in Green colour

D.A., Desert Area with dots;

B.W.P. DISTT (Bahawalpur District)

R.Y.K. DISTT (Rahim Yar Khan District)

Colony Map Part II



Source: Map Adapted from Administration Report of the Bahawalpur State for the year, 1944-45.