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WORKING PAPER 50

Pakistan Country Series No. 15

Institutional Constraints to Conjunctive Water Management in the Rechna Doab

*Waqar A. Jehangir
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Working Paper 50

Institutional Constraints to Conjunctive Water Management in the Rechna Doab

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International Water Management Institute

The conjunctive water management project aimed to identify combinations of institutional and technical strategies to manage surface and groundwater at regional scale to promote environmental sustainability and maximize agricultural productivity of water ('crop per drop'). Two major-semi arid irrigated areas, Rechna Doab in Pakistan and Murrumbidgee Region in Australia, were chosen for this study. The project, started in January 1999, will be ending by March 2003. This project was funded by ACIAR, and executed with the technical collaboration of CSIRO, Australia. The local collaborators in Pakistan were Pakistan Council for Research in Water Resources (PCRWR), Soil Salinity Research Institute (SSRI) and Ayub Agricultural Research Institute (AARI).

IWMI's mission is to improve water and land resources management for food, livelihoods and nature. In serving this mission, IWMI concentrates on the integration of policies, technologies and management systems to achieve workable solutions to real problems – practical, relevant results in the field of irrigation and water and land resources.

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Jehangir, W. A.; Horinkova, V. 2002. *Institutional constraints to conjunctive water management in the Rechna Doab*. Working Paper 50. Lahore, Pakistan: International Water Management Institute.

ISBN: 92-9090-497-6

Keywords: Institutional constraints / water management / stream flow / groundwater / irrigation / agriculture / legislation / farmers' associations / on-farm research / conjunctive use / population / rivers / water allocation / land / soil / water distribution / canals / sustainability / Pakistan / Rechna Doab /

The authors sincerely acknowledge the support of Ms. Ayesha Bhatti for editing and Mr. Muhammad Iqbal Khan for formatting the report.

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ACRONYMS

ADBP	=	Agricultural Development Bank of Pakistan
AWB	=	Area Water Board
BRBD	=	Bumbarwala Ravi Baidian Depalpur
CCI	=	Council of Common Interests
CWM	=	Conjunctive Water Management
DWT	=	Depth to Water Table
ECNEC	=	Executive Committee of National Economic Council
GOP	=	Government of Pakistan
FOs	=	Farmers' Organization
IMT	=	Irrigation Management Transfer
IRSA	=	Indus River System Authority
IWRM	=	Irrigation and Water Resources Management
MRL	=	Marala Ravi Link canal
NWC	=	National Water Council
O&M	=	Operation and Maintenance
OFWM	=	On Farm Water Management
PID	=	Provincial Irrigation Department
PIDA	=	Punjab Irrigation and Drainage Authority
PPSGD	=	Punjab Private Sector Groundwater Development
PWC	=	Provincial Water Policy Council
PRC	=	Provincial Regulatory Commission
SCARPs	=	Salinity Control and Reclamation Projects
SMO	=	SCARPs Monitoring Organization
UCC	=	Upper Chenab Canal
WAPDA	=	Water and Power Development Authority
WASID	=	Water and Soil Investigation Directorate
WPC	=	Water Policy Council
WUA	=	Water Users Association

1 INSTITUTIONAL ARRANGEMENTS FOR WATER MANAGEMENT

1.1 Background

With the world population growing and industrialization increasing, areas of irrigated agriculture in many countries including Pakistan have been expanding. Many areas in Pakistan have become double-cropped; some even triple-cropped, therefore, exerting pressure on the water resources base, polluting water sources, and thus affecting the lives of millions of people. Water resources have become scarce and quality of both groundwater and surface water seriously impacted. Competition for water between uses and users has led in some areas of the world to disputes and conflicts, making water a matter of political choices and debates. This is markedly evident in basins concerning trans-boundary waters, where water needs for economic development of each country must be harmonized with the environmental needs of the region or basin.

Water scarcity, either permanent or seasonal, exists when the country's water resources base cannot satisfy the multiple needs of the population for domestic, industrial and agricultural use along with environmental stability. Such a scarcity is caused either by natural phenomena (inadequate rainfall, low snowfall and snowmelt) or induced by human activities and actions resulting from institutional problems and mismanagement. This phenomenon is also evident in Pakistan.

1.2 Conjunctive Water Management

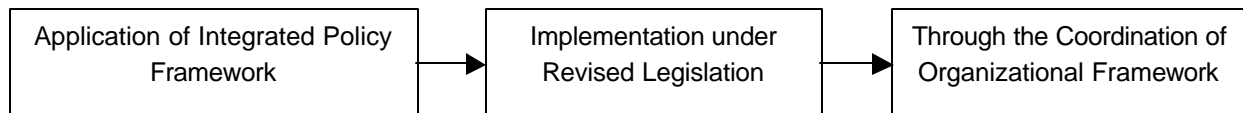
Problems with water quantity and quality have become the key global issues in water management during the last decade, and are expected to continue for decades to come. Countries are finding their own ways of how to cope with the scarcity of water resources, resorting to different strategies for

changes in their water institutions¹, applying innovative technologies and techniques, adopting new laws and regulations, privatizing services and making organizational changes. There are no blue prints for perfect institutional arrangements, but there exists guiding principles that are applicable to make the regulation and operation of the water sector most effective for each particular situation.

One of the best ways to address the needs of the fore mentioned ever-increasing population and associated demand for food is to utilize all available sources that are acceptable in water quality, and practice Conjunctive Water Management² (CWM) for irrigation. The CWM refers to the management of water resources and water sources, generally at the field scale. The water sources may include all types of water sources - rivers, dams, canals, groundwater, surface runoff, agricultural drainage, municipal sewage, and industrial effluent. Naturally, such an approach places high demand on the legal and regulatory framework for water allocation, development of planning and operational policies and design of suitable organizational arrangements. In other words, the CWM or integrated water resources management (IWRM) should support a prudent use of all water sources and water resources to secure food and enhance environmental sustainability. The basic tenet germane to the IWRM or CWM can be described as:

¹By water institutions, in the broad sense, we understand not only organizations, agencies, and entities involved in some way in water resources management, but also formal arrangements and instruments such as laws, rules, regulations, written agreements, as well as informal mechanisms (traditions, religious, ethnic, or community customs), as they all comprehensively contribute to the way water is managed.

²The term conjunctive water management can also be understood in a broader context as integrated or comprehensive water resources management, and in this report it is used interchangeably.



The principle of CWM lies in adopting institutional changes coupled with technical innovations, to minimize the negative impacts (e.g. salinity, waterlogging, aquifer pollution, etc.) by utilizing research methods, new approaches and concepts for management. It can be said that the conjunctive water management is relatively simple in theory but difficult in practice.

1.3 Making Changes in Institutional Arrangements

In any country, even in the developed ones, adjustments in the institutional arrangements and linking better water demands are needed from time to time. Such changes are generally made to provide adequate water for all sectors of economy, but primarily, to make water available for agriculture to produce food for growing population and for sustaining quality environment. The institutional changes in water resources management envisaged need for reform in sectoral allocation of surface and groundwater for IWRM, supported by changes in legal and regulatory framework. Inherent in the changes is redefining or setting up more effective water rights system – to ensure equity and flexibility, encompassing all water sources. Reforms are often needed when the infrastructure is deteriorated and gaps in the organizational aspects for water use planning, delivery, and distribution exist. The problems with infrastructure and water quality and quantity, as well as minimizing negative impacts of soil salinity and waterlogging present enormous challenges for the water users, managers and indirectly for all water stakeholders.

Besides the formal institutional arrangements concerning primarily the legal and regulatory framework and policies, there are informal arrangements that help to accomplish various water management processes; these can be traditions, religious customs and cultural norms – being often a strong catalyst for program implementation. Similar

to the outcome of informal arrangements, the concept of participation of key water stakeholders has been regarded as an effective means for making changes more sustainable. Such a participatory process may take in a variety of forms – meetings, workshops, informal gatherings, committees, and public media. For the best, it should be considered at all levels of the system – local (field), regional (basin), and national (federal).

The integrated framework of policies and legislative instruments need to reflect the growing demand for water, securing water supply from variety of sources, meeting operational demand and the costs of water delivery, distribution and maintenance, and assuring equity in water distribution.

1.4 Pakistani System – The Rechna Doab

Implementation process of the ongoing water reforms in Pakistan confirms the complexity of the Pakistani irrigation system. From the total 16 million ha (Mha) of irrigated land, the Rechna Doab represents about 1/7th with its 2.3 Mha. This area is home to 14 million people, of which, about more than half of the population is living in rural areas. The majority of farmers (about 85%) have relatively (for Pakistan) small land holdings (less than 5 ha). The authority and responsibility for the irrigation water management is fragmented and is distributed amongst different departments and agencies, which is a paradigm that is not easily dealt with. Water supply for irrigation at the federal level rests with the Indus River System Authority (IRSA) and its regulatory arm - Water and Power Development Authority (WAPDA), which has two wings, i.e. power and water. WAPDA is responsible for the construction of large infrastructure and operation of dams, head works, and large primary and link canals. In the Rechna Doab area, WAPDA was also made responsible for the drainage projects and planning and installation of tubewells, drilled under various salinity control and reclamation projects (SCARPs), started in 1960s. These projects

mainly aimed to reduce waterlogging and salinity problems, by engaging vertical drainage and augmenting water supplies with good quality of groundwater through deep tubewells. Some of the SCARPs were successful, but many caused damage to the groundwater and land.

Considering the need of irrigated agriculture within the Indus River Basin, an increase of productivity of land and water is a key issue to be addressed by the combination of technological advances and institutional arrangements. The Rechna Doab area was marked as a suitable study area to identify combinations of technological and institutional strategies to manage conjunctively surface and groundwater at a regional scale and to promote an environmental sustainability, while maximizing the yield per unit of water.

1.5 Highlights of Reforms to Streamline Organization of Water Management

In Pakistan, the land is relatively abundant and water resources are scarce. The irrigated agriculture forms the backbone of the economy. During the 70s and 80s, the Government of Pakistan (GOP) embarked on various reforms in irrigated agriculture (formation of WUAs, etc.), with more reforms following in 1997 as well as in the last few years. The earlier proposed reforms proposed were focused at the provincial level to affect the system at top and bottom. At the higher (federal) level of the system, the changes addressed primarily some legal and regulatory aspects towards streamlining of the irrigation and drainage system and changes in administrative aspects - replacement of the set up and procedures with more transparent arrangements. At the lower (provincial) level, the changes were of operational nature to achieve more economical and effective operation and maintenance of the irrigation and drainage control in the province. These changes also introduced participation of beneficiaries in the operation and management of the systems.

It has been recognized that within the Indus River Basin, apart from the surface irrigation system, a sizeable reservoir of groundwater is formed that can

be used to supplement the canal water. Groundwater of good quality can be found in the upper reaches, and slightly more saline in the center and lower parts of the Doab. Shallow aquifer has generally good water quality because of being recharged by the canal water, but water at depth of more than 30 m is even more saline. Many public and private tubewells had been dug under several Salinity Control and Reclamation Projects (SCARPs) since 1960s. The private tubewells were estimated as over 193,000 in 1997 (Rehman *et al.* 1997). The annual pumping volume was estimated as 1.173 and 0.303 million-hectare-meter (MHM) from the private tubewells and public tubewells, respectively. The use of private tubewells proved to have good results in lowering the water table and reclaiming the land, as well as increasing cropping intensity. Seven SCARP projects were initiated, some of them achieving good results in alleviating or reducing waterlogging and helping to replenish canal water supplies. Others became a failure and caused undesirable effect on groundwater quality and groundwater over-use, resulting in serious environmental problems.

In case of impaired quality of groundwater, the tubewells can only worsen the environmental situation. When the groundwater quality is good, tubewells can indeed help to reduce waterlogging and increase irrigation water supply. However, to maintain good groundwater quality, monitoring and regulation play an important role. Due to lack of control of drilling, licensing, and other aspects of groundwater management, the number of private tubewells increased manifolds and groundwater being mined and over exploited, resulted in up-coning of saline water in many areas. The only law dealing with groundwater stems from 1952 and was intended merely for land reclamation purpose - improvement of waterlogged areas, controlling operation of state tubewells and monitor boring of private tubewells. The Punjab Soil Water Reclamation Board was formed in 1952-53, but dissolved twenty years later to merge with the Provincial Irrigation Department.

1.6 Targeting Groundwater under Irrigation Sector Reforms

The basic and urgent need for improvement of the legal and regulatory framework in Punjab is groundwater management and review of the water use and management in a conjunctive manner. With the introduction of a participatory process into the reform process, the chances increased for improving land and water productivity and preventing soil degradation. The participation of relevant stakeholders is a supporting element for the sustaining of the environment, resulting in better O&M and improvement of rural livelihoods and socio-economic situation. This can further be strengthened by establishing farmers support services such as agricultural and water management extension.

In general, water institutional reforms in agriculture are connected to changes in governance of rural development. The broader framework of integrated policies for planning and management of water resources aims to assure that environmental features do not deteriorate, and integrated surface and groundwater use and management is adopted. This relates to permitting of groundwater withdrawals, licensing of wells and well drillers, and enforcing the rules. Further, monitoring and database development and management also form an integral part of the local and/or basin governance.

Within the context of groundwater development policies, the protection of certain aquifers or prohibition of abstraction associated with organizational powers and legal framework should be addressed. Water rights and regulations for groundwater development and its use must be clear and equitable. Moreover, implementing entities and organizational linkages must be assigned so that decentralization of administration and decision-making processes can offer substitutes for centralized structures. An impact of this kind has been felt in Sindh and in Hakra 4-R in Punjab at the lower level of the system, but referred mainly to surface water management (Shafi and Habib 1996).

1.7 Short-term Prospects for Better Conjunctive Water Management

With regard to control of groundwater for better conjunctive water use, a five-year project called Punjab Private Sector Groundwater Development Project (PPSGDP) began in 1997. The project, covering both fresh and saline groundwater areas, intended to redefine the government's role in groundwater development/use, and provide assistance to facilitate changes, as well as develop regulatory framework to ensure sustainable use of groundwater resources for conjunctive water management.

Additional progress in groundwater management can be expected from the Framework for Action according to the Vision of 2025, derived by the Pakistan Water Partnership. In the least, the action for groundwater calls for the enforcement of legislation at the provincial level, defining rights to groundwater and limiting its extraction, as well as introducing administrative arrangements for effective enforcement of groundwater laws in three years from 2002.

The Framework for Action includes another significant aspect of water management - criteria for allocation of the available water resources for different uses. It can be envisaged that under the relevant studies for the most productive use more studies would be undertaken to evaluate a problem with disposal of drainage and use of the marginal water quality, making it pertinent for adjusting and devising the appropriate infrastructure as well as institutional arrangements. Such a step would further aid in the efforts to adopt Conjunctive Water Management.

1.8 Improvement of Governance for Water Management in Agriculture

To achieve effective O&M of irrigation and drainage systems in all provinces and step up the water management towards more integrated water resources management, the objectives of an institutional development program have to be clearly defined and country's commitment secured.

Full commitment at all levels is of particular importance for improving governance of water-related institutions. It involves the pledge of staff of the implementing body and other relevant agencies and entities. The full commitment to the institutional development is indispensable, behind which, of course, is a host of political and social factors, as well as complex interplay of different political and social elements, that are endemic to each situation.

In countries with successful management of water resources, the guiding element is a National Water Resources Policy that addresses management of fresh and brackish water, applies to surface and groundwater and takes a comprehensive approach of CWM, recognizing the needs of different water uses and various sectors.

The consideration of following factors can guide successfully towards water resources management:

- (i) Ownership (covering surface and groundwater);
- (ii) Sustainable management (covering economic, social, financial, and environmental considerations);
- (iii) Openness and participation;
- (iv) Assurance and flexibility of water allocation (water rights);
- (v) Equitable cost sharing;
- (vi) Sectoral emphasis;
- (vii) Management of information and sharing amongst agencies;
- (viii) Gender (low income and female headed households);and
- (ix) Vulnerability situation at the tail-ends.

1.8.1 Process of Change

The change of water institutional arrangements is a process that needs to be advocated, championed and managed, as well as planned, designed, and implemented. Therefore, leadership and roles of individuals and organizations in such a process need to be assigned and the process monitored. Given that the government is supportive and committed to make the changes happen, an advocate and champion of the reform has to come from the higher

government level. Only then, the agents of the reform process execute activities and implement different tasks at the lower levels of the system. Managing and monitoring of the process is essential. Also, collaborating of all organizations (including scientific and research institutes) having a special interest in water resources management is imperative for any reform to succeed, because it will create and reinforce broad-based partnerships in rural institutional development.

2 INSTITUTIONS FOR WATER MANAGEMENT

Conjunctive water management of multiple water sources is simple in theory, but has not worked well in practice (Vincent and Dempsey 1991). This section discusses the institutional framework for conjunctive water management in the Rechna Doab. In the context of water resources management, the International Water Management Institute (IWMI) interprets irrigation institutions not only as institutions that manage water resources directly, but also the institutional conditions affecting the legal, social, political, and economic environment within irrigation function when the other institutions can have a significant impact on the system performance (Hassan *et al.* 1996). In this report, the irrigation institutions may be regarded as rules, in the form of written laws/norms, conventions and traditional practices accepted by particular communities / organizations involved in the management of irrigation water in the Rechna Doab. According to Bandaragoda and Firdousi (1992) and Cernea (1987), the main irrigation-related institutions include legal, social, political, economic and organizational components and can be divided into three categories, i.e. formal rules, informal rules and organizational structures. In this section, the study will focus on the institutions that influence irrigation management at the primary, secondary, and tertiary levels.

2.1 Formal Laws and Rules

The formal laws and rules are devised to allocate and distribute water on equitable basis to larger areas in the Punjab with minimum maintenance burden. The original irrigation and drainage law (The Canal Irrigation and Drainage Act) was enacted in 1873, and later amended and extended on several occasions to meet the emerging needs. Derived from the provisions of this law, various management

procedures were devised to operate and maintain canals, allocate and distribute water, and resolve the conflicts. According to this law, the provincial government is the owner and manager of the canal water and drainage infrastructure at the primary and secondary level. The farmers are considered as “beneficiaries” and has responsibilities of distributing and using water supplies at the farm level. The management at tertiary level is the responsibility of the farmers, and state can only intervene when requested.

Besides Canal and Drainage Act, additions and extensions of the water law comprised Soil Reclamation Act of 1952, Water Users Association Ordinance of 1981, Punjab Irrigation and Drainage Authority Act of 1997, and the subsequent rules framed under these laws. A brief description of these laws is given below.

2.1.1 *The Canal and Drainage Act, 1873*

It is the main legislation related to the irrigation and drainage system in the Punjab. Under this act, almost the entire irrigation network is entrusted to the provincial government through the officers of the irrigation and revenue departments, and the judicial officers. Several amendments to the 1873 Act have been made to deal with the specific requirements but the Act remained dominating throughout the irrigation history. Subsidiary legislation provided room for various operating rules manuals of procedure and rates. These manuals form the second component of the formal rules. These are several in number and consist of very detailed instructions. Some important laws and manuals of procedure are enlisted in Table 1.

Table 1. Irrigation related laws in the Rechna Doab, Punjab, Pakistan

1.	Canal and Drainage Act (VIII of 1873);
	Canal and Drainage (Amendment) Act (XIV of 1952);
	Canal and Drainage Extension Act (XXIV of 1964);
	Canal and Drainage (West Pakistan Amendment) Ordinance (XXIII of 1965) and Act (VII of 1968);
	Canal and Drainage (West Pakistan Amendment) Ordinance (I of 1970) and (West Pakistan 2nd Amendment) Ordinance (IV of 1970);
	Canal and Drainage (Punjab Amendment) Ordinance (XVIII of 1971) and
	Canal and Drainage (Punjab Amendment) Ordinance (XXXII of 1975).
2.	The Punjab Minor Canal Act (III of 1965)
3.	Rules and rates under the Punjab Minor Canal Act (1906)
4.	Punjab Soil Reclamation Act (XXI of 1952);
	The Punjab Soil Reclamation (West Pakistan Amendment) Ordinance (V of 1964);
	The Soil Reclamation (Punjab Amendment) Ordinance (VI of 1970); and
	The Punjab Soil Reclamation (Amendment) Act (IX of 1977).
5.	The West Pakistan Land and Development Board (Reclamation Fee) Rules 1965
6.	Handbook of Professional Orders for the Guidance of Officers of the Irrigation Department, Punjab and North Western Provinces (1914), 2 nd Edition, 1925
7.	Irrigation Manual of Orders (1912), 2nd Edition 1929, 3rd Edition 1940, 5th Reprints 1964
8.	Manual of Irrigation Practices 1943
9.	Schedule of Rates (1963-64)
	Vol. I, Part I (Specification for material construction)
	Vol. I, Part II (Specification for execution of works)
	Vol. II, Part I (Specification for material construction)
	Vol. II, Part II (Specification for material construction)
	Vol. III, Part 1 (Analysis of material quantities)
	Vol. III, Part II (Analysis of labor)
	Vol. III, Part III (Schedule of composite rates)
10.	The Punjab Water Users Association Ordinance (1981)
11.	The Punjab Irrigation and Drainage Authority Act (1997)

The salient features of the Canal and Drainage Act 1873 are given below:

- 1) The 1873 Act covers important policy issues of irrigation, such as the acquisition of water for public use, fixing water rates, appointing canal officers/committees and framing rules, entrusted to the Punjab Government.
- 2) Operational functions are entrusted to the canal officers. The primary role is played by the Divisional Canal Officer (DCO), with some control

exercised by the Superintending Canal Officer (SCO). The DCO is responsible for sanctioning the new watercourses providing water from existing watercourses. He is also entrusted to adjust claims between persons jointly sharing the watercourses, stopping of water supply, levying fines and penalties for unauthorized usage of water or wastage of water, certifying the dues recoverable and deciding appeals against some orders of Sub-Divisional Canal Officer.

- 3) The Sub-Divisional Canal Officer (SDCO) is responsible for operation and maintenance (O & M) of primary and secondary canals, allocating water to users, and resolution of disputes, which arise from the implementation of the warabandi. He is also responsible for implementing the orders of DCO regarding new sanctioned watercourses and to adjust the claims from the joint users.
- 4) In the field, the Zilledar and the Canal Patwari are responsible to carry out the fieldwork for irrigation booking, water allocation, and overseeing the misuse of water. Canal Patwari is responsible to measure the irrigated land and assess water rates for individual owners. Zilledar supervises the work of the Patwari.
- 5) The revenue administration headed by the Collector (Deputy Commissioner) is entrusted to provide assistance to the irrigation department on the acquisition of land, determination of compensation, collection of water dues, and hearing of appeals against the canal officers.
- 6) Offenses under Canal and Drainage Act can be taken up to the magistrates.
- 7) Disputes among water users can be taken up to the civil courts that have the jurisdiction to set aside or modify the decisions of the canal officers.
- 8) Water users are responsible for repair, maintenance, cleaning and improvement of watercourses and providing crosses.
- 9) Irrigation committees, consisting of three or more local cultivators, can also be constituted by the government to assist the canal officers in dealing with offenses under the Canal and Drainage Act. However, this provision was never practiced.

The main problem in applying this law has been that its essence is very colonial. The management of the system is very centralized, and users have no role in it. The multiplicity and complexity of the procedures make their implementation in the field very difficult and practically impossible. For example, the maintenance of the watercourse is entrusted to the users, but in effect, is not taking place. The system of detailed record keeping gives several opportunities to the lower staff to indulge in corrupt practices. The system of authority, control and accountability is top-down. Therefore, the law has lost most of its

relevance under the changed socio-political conditions.

2.1.2 The Punjab Soil Reclamation Act, 1952

This is the only law that deals with groundwater management. The objective of the law is speedy reclamation and improvement of waterlogged and saline areas and prevention of damage to maximize agricultural production. In more details, the objectives of the law are:

- Control operation of state tubewells
- Regulation of groundwater supplies
- Control and record of boring of private tubewells
- Increase of revenues

The law maintains the approach that the groundwater and surface water can effectively be used in a conjunctive manner by installing tubewells at watercourse heads to reclaim and increase water supplies; this is seen as a source of increased production.

In conjunction with the law, the Punjab Soil Reclamation Board was formed in 1952, but it dissolved in 1973 and merged with Provincial Irrigation Department (PID). Under the concept, the Secretary from Irrigation Department was declared as the administrator of the board, with all powers transferred to him. The functions and powers of the board entailed all elements needed to manage groundwater. However, there was a strong influence of the provincial government, which could reject board's proposals. The following functions and powers of the board and/or its administration are specifically defined.

- Appoint staff and consultants and carry out digging;
- Scrutinize other agencies' reclamation activities;
- Prepare schemes for reclamation;
- Acquire land, provide irrigation and drainage facilities, install, operate and manage tubewells;
- Undertake tasks promoting health, well being of residents of local area, preventing pollution of water supply sources;
- Compensate for land/ damage;

- Launch crop and livestock insurance schemes for the local area;
- Sign and carry out contractual work with different departments;
- Replace canal water supply with tubewell or open well in part or as a whole;
- Conduct research;
- Line channels;
- Look after all the other matters related to reclamation with the approval of the government;
- Interfere in irrigation management through:
 - Changing water allowance temporarily or permanently, possibly cancel water allowance;
 - Altering, amending, or canceling orders for matters pertaining to watercourse;
 - Banning certain types of crops;
 - Modifying schemes during implementation;
- Transfer schemes after construction/ completion, including SCARP tubewells, to owners for O&M (the owners cannot refuse to takeover);
- Control over groundwater in notified scheme/ local areas except for domestic and livestock uses;
- Impose penalties for not having license;
- Set out rules for licensing procedures with approval of the government. Board can withdraw approval for installing a well or order for a temporary closure. However, the board has to provide alternate source of water or some compensation;
- Suspend the private rights in local area to undertake any work and restrict land related activities;
- Levy reclamation fee in scheme areas, if the value of land is expected to increase as a result of the scheme; rules are framed by the government; and
- Impose land improvement tax on scheme areas with prior approval of the government. It can also exempt persons from paying tax;
 - The board is a financially autonomous entity with the government liable for default of the board finances. The government may also impose additional taxes on reclaimed areas;
 - The board is obliged to maintain Board Funds comprising governmental and municipality grants, taxes, fees, borrowing as

a local authority. Water charges are not part of the fund;

- The collector on board's behalf has to notify people about registering all existing pumping appliances except domestic and livestock with collector or DCO within 3 months of notice; and the new installers should first apply for license;
- The board is not obliged to compensate loss or damage caused by its actions.
- Further, the board or its administrator was allowed to impose taxes, fees, occupier rates (but not on a flat rate); however, this was practically abolished in 1980 after Ushar Zakat Ordinance. The government can formulate rules and the board can prepare by-laws with the approval of the government who has authority to cancel the by laws. The courts cannot take any action against any offense unless advised by the board. Additionally, the board has an authority to recover defaulted amounts as arrears of land revenue.

With the liquidation of the board and appointment of administrator instead, the rules established by the board have since been disbanded and absorbed in other sister departments including PID; therefore, the rules have become redundant for the present situation.

The limitations of the Act are:

- The provisions were very authoritative and strong. The provincial government had to formulate a number of rules. Many rules were not formulated (including licensing and registration). The board lacked implementation staff and capacity. That is why the rules have not been properly implemented;
- The law applies only to electric or thermal power operated wells. Tractor, diesel, petrol operated small pumps were excluded, which form a sizeable number of the groundwater extraction machinery;
- Secretary PID represents the government, and is the administrator of the board. His accountability is not defined;

- Administrator needs to notify all his staff (DCOs, SDCOs) for undertaking functions for this Act; and
- Information dissemination about the scheme areas and other details is through gazette and newspapers, DC, police station, and union councils. Villagers have no access to papers/ gazette and police station. Many times union councils are not functional.

2.1.3 The Punjab Water Users Association Ordinance (1981)

The On Farm Water Management (OFWM) and Water Users Association Ordinance (1981) provide room for the involvement of irrigators in water management at watercourse level through the Water Users Association (WUA)³. Under this law, the Field Officer (Director OFWM) has substantial control over the WUAs. He has the authority to register or refuse registration of the WUA. Under this Ordinance, more than 50 percent of the water users of a watercourse may form an association and apply to the field officer for registration. The WUA does not have any management powers related to canal water. The field officer may entrust the maintenance of a watercourse to the association but this must be carried out to the satisfaction of the field officer.

The major weakness in the Ordinance is that the WUAs are oriented, i.e. getting subsidies for watercourse improvements. There is no provision for continuous maintenance and resolution of disputes since the Field Officer is given the power to sanction WUA for lack of maintenance. The farms are too small and the area serviced by watercourses is also small (average about 250 ha)⁴. The WUA members cannot materialize the essence of collective action for water management. As a result, most WUAs formed are defunct now.

³ WUA Ordinance in Punjab was issued in 1981, however, providing only opportunity to farmers to join into a WUA, with no powers to the organization itself.

⁴ The literature and experience tells us that only WUAs large enough, approximately 2000 ha and larger can be sustained as farmers' organizations.

2.1.4 The Punjab Irrigation and Drainage Authority Act (1997)

The Government of Pakistan is in the process of implementing institutional reforms in the country's irrigation and drainage sector. The provincial assemblies passed the Provincial Irrigation and Drainage Authority (PIDA) bills in all the provinces. The reforms are focused on the decentralization of the irrigation system through public and private partnership, farmers' participation and resource governance. The new institutional framework consists of three entities with restructured roles: Provincial Irrigation and Drainage Authority (PIDA), Area Water Boards (AWBs) at the canal command level, and Farmers' Organizations (FOs) at the distributary level. In Punjab, this framework is initially being tested in one pilot distributary command (H-4-R). PIDA has already defined the functions of the AWB and FOs; though these are only meant for managing surface water. The rules, which regulate formation and functioning of the FOs, are listed below.

- Punjab Irrigation and Drainage Authority Pilot Farmers' Organizations Rules, 1999;
- Punjab Irrigation and Drainage Authority Farmers' Organizations Registration Regulation 1999;
- Punjab Irrigation and Drainage Authority Pilot Farmers' Organizations Election Regulations 1999;
- Punjab Irrigation and Drainage Authority Pilot Farmers' Organizations Financial Regulations;
- Farmers' Organizations Conduct of Business Regulation 1999;
- Irrigation Management Transfer Agreement; and
- Scheme for Transfer of Irrigation Management: Farmers' Organizations in Punjab.

2.2 Informal Rules

In the Rechna Doab, the informal norms, values and practices form a strong institutional basis for organizational and social behavior at the grassroots level. The caste and kinship systems (baradari), landholding and farm sizes, and tenancy, determine the rural power structures, which influence water management at tertiary level. Occasionally, these

variables are able to interfere in the management of canals at secondary level also. The level of collective action for effective water management depends on the relative power structure and the caste considerations.

The informal rules of the society and the irrigation management go hand in hand with terms of various forms of Warabandi⁵ at the tertiary level of the irrigation system in the Rechna Doab. The various forms of water distribution with the common understanding of the irrigators, as practiced about a century ago, have evolved in today's Warabandi System.

2.2.1 Evolution of Warabandi

Water distribution at the tertiary canal level of the irrigation system of Pakistan was primarily the responsibility of the farmers benefiting from these watercourses. As a result, irrigation communities themselves established their own water distribution involving their members. Water distribution took place through an irrigation roster, or warabandi, which was primarily determined by the amount of irrigated land owned by each member. The farmer-managed warabandi was called *kachcha* (flexible, informal) warabandi. Later, the government intervened when day-to-day application of water distribution resulted in dispute, or farmers requesting additional water for increased cropping intensities, particularly to irrigate their fruit orchards in arable land.

State intervention also increased when farmers were introduced to new opportunities of acquiring more water. Earlier, special allowances for orchards and other non-traditional needs were often misused. Sometimes, when a special allowance was sanctioned, farmers would exceed the limitation several times over to get more water. At other times,

farmers obtained special allowances without actually owning an orchard. This flexibility was often the result of an alliance between lower cadre staff of the Irrigation Department and more influential farmers. Invariably, such instances were unacceptable to the other, less privileged water users. Disgruntled farmers either approached higher officials for some redress, or sought mitigation of these disputes through the judicial system. Successful settlement of disputes through this process encouraged more farmers to lodge complaints with the authorities.

Apart from these allocation-related disputes, farmer-managed water distribution at the watercourse level also generated conflicts among farmers, which sometimes culminated in violence. Mainly, origins of such disputes were two inter-related social factors. The first was the existence of a number of heterogeneous groups in terms of caste, *baradari*, or kinship and political affiliation, etc. along the same watercourse command. The coalition and conflict of interest of various sub-groups in the community easily fostered inequity and free riding in water distribution. The second was the *kachcha*, or flexible, *warabandi* practice, which became prone to manipulation by the more influential water users.

Confronted with growing problems of inequity in water distribution caused by *kachcha warabandi*, some aggrieved water users expressed their preference for a fixed irrigation roster. Leading petitioners in such cases were mostly from the tail or middle reaches of the watercourses (Mirza 1975), who were more affected by the upstream disturbances. Other affected water users would usually agree to sign the petition to formalize the irrigation roster.

In the Punjab province of Pakistan, the Irrigation Department's interventions in water distribution, by fixing formal water schedules (*pakka warabandi*), started somewhere during the 1960s. A *pakka warabandi* generally follows a cycle of one week, or ten-and-a-half days. Furthermore, the 12-hour *pakka warabandi* rotation is alternated every year, generally after the annual canal closure in December-January, so that farmers who had been irrigating at night during the previous year would irrigate in daytime

⁵ The term warabandi is derived from two local words *wahr* and *bandi*, meaning "turn" and "fixed", respectively. It refers to the irrigation roster, a system of fixed water turns proportionate to the area of each user. For a comprehensive account, see Bandaragoda and Rehman (1995) and Bandaragoda (1998).

hours during the next year. This warabandi is sanctioned by respective Irrigation Department Executive Engineers, and also serves as proof of water rights for shareholders along the watercourse (Bandaragoda and Rehman 1995; Singh 1981, and Malhotra 1982). By now, most of the watercourses in the area have switched over to *pakka warabandi*, and have discarded the flexible form of *kachcha warabandi*. This widespread phenomenon of switching over from the *kachcha* to *pakka warabandi* reflects the limited formation of social capital among the farming communities in Pakistan.

2.2.2 Differences between Kachcha and Pakka Warabandi

These two warabandi systems contrast sharply with each other in several respects. Differences between *kachcha* and *pakka warabandi* systems range from the way the irrigation roster is devised to the manner it is used in conflict resolution. A brief account of major conceptual differences is given below.

a) Irrigation Roster: In the case of *pakka warabandi*, the roster is formulated by the Irrigation Department's Executive Engineer on the basis of field information collected by his staff in consultation with the shareholders. This includes information on area owned by each of the shareholders, location of the farm on the watercourse, etc. He uses the established principles to fix *khal bhrai* (time required to fill a unit length of an empty watercourse), *nikal* (flow time of water left in a watercourse at the end of a turn, or upon completion of *warabandi*), and additional allowances required for orchards, etc. (Nasir 1993). Under the *kachcha warabandi*, the shareholders prepare the roster themselves, sometimes in consultation with a local water allocation expert.

b) Cycle of Irrigation Turns: The cycle of irrigation turns is fixed in the case of *pakka warabandi*. This may span over a period of one week, or ten-and-a-half days. For *kachcha warabandi*, however, the cycle of the turn is fixed for supplies under normal conditions, but it may not necessarily be similar to that of *pakka warabandi*, since it depends on the

variability of irrigation water supplied to the watercourse.

c) Continuity of the Turns during Canal Closures:

The irrigation roster for *pakka warabandi* is continuous, moving even if there is no canal water. In the case of *kachcha warabandi*, the roster stops at the last farm receiving water at the time of supply disconnection, then starts from the same farm when the supply starts again.

d) Flexibility in Water Turn Duration: The duration of the *pakka warabandi* is similar for all flow levels of the parent distributary / minor channel, but flexible in the case of *kachcha warabandi*. A farmer irrigating at any flow less than that of the canal's full supply is granted additional time for his irrigation turn to compensate for the loss caused by a decreased flow.

e) Equitable Distribution of Gains and Losses:

Under *pakka warabandi*, gains and losses may not be equitably shared due to flow variability at the distributary and outlet heads. *Kachcha warabandi* accommodates adjustments in water turns, and thus, farmers can share gains and losses equitably.

f) Dispute Resolution: Water-related canal officers settle disputes among shareholders along the same watercourse, if reported to him. If irrigation offenses (*wara shikni*) are reported to department officials, inquiries are conducted, and sanctions imposed. Farmers spend interminable years commuting to and from irrigation courts, arbitrators and judicial courts before disputes are resolved. In contrast, *kachcha warabandi* water users resolve disputes by consensus and take punitive action against the violators. This seems more efficient than the formal legal arrangements under *pakka warabandi*.

2.3 Water Management Organizations

There are several agencies involved in managing the irrigation supplies and drainage in the Rechna Doab. These organizations comprise Water and Power Development Authority (WAPDA), Punjab Irrigation Department (PID), On Farm Water Management Directorate (OFWMD), Salinity Control and

Reclamation Projects (SCARPs), Punjab Private Sector Groundwater Project (PPSGWP), and Agricultural Development Bank Project (ADBP), etc.

2.3.1 Water And Power Development Authority (WAPDA)

WAPDA, linked with the Federal Ministry of Water and Power, was created in 1958 as an autonomous agency to supervise the construction of large-scale infrastructure in the Indus Basin Project. It remains an agency responsible for the dams and inter-provincial link canals, and operates these facilities with the consultation of Provincial Irrigation Departments according to water rights and the seasonal allocation of the provinces. In the Rechna Doab, WAPDA is responsible for the planning and installation of tubewells for the Salinity Control and the Reclamation Projects and for the drainage projects.

2.3.2 Punjab Irrigation and Drainage Authority (PIDA)

PIDA, transformed from the Provincial Irrigation Department, is an autonomous body responsible for policy formulation, legal enactment and supervision of the overall management of the irrigation and drainage systems in the province. PIDA is responsible for the operation and maintenance of the irrigation system from the head-works to the main canals, distributaries, and to the outlets in the watercourses in the Rechna Doab. The role of PIDA is defined in the mentioned acts, rules and manuals.

Presently, PIDA is in a transition stage, and ultimately will be financially autonomous body with independent revenue collection and purchasing authority with proper accountability. Below PIDA in each province are financially self-sufficient Area Water Boards (AWB) that are to be created on experimental basis around the canal commands. And below AWB, farmers' organizations (FOs) will be formed again on pilot basis along the distribution channels (secondary level). The AWB receives water from PIDA and delivers it to FOs, and the FOs operate and maintain the irrigation distribution channel with financial autonomy and management. The FO is formed and owned by the farmers of the command area. One

representative from each watercourse constituent form the FOs at the distributary level.

PIDA manages primary and secondary network of canals, drains, and public tubewells through its irrigation circles, divisions and sub-divisions. Main responsibility for O&M of this network lies with the Executive Engineers, Sub-Divisional Officers, and the Sub-Engineers. Most of the maintenance is undertaken through contracts. The revenue assessment is carried out through *Patwaris* and *Zilledars*. The collection is the responsibility of the revenue department, which collects the water charges through village-based *Lumberdard*. The revenue and spending on irrigation and drainage are not linked to each other.

2.3.3 Area Water Board (AWB)

The pilot AWB in Punjab is established within the Rechna Doab on the Lower Chenab Canal (LCC) East. This AWB covers about 0.4 million hectares. The LCC AWB is responsible for the irrigation and drainage management of the primary level and water supplies services to 100 distributaries approximately where FOs are in the process of establishment. There are 43 canal commands in Pakistan, and the plan is to establish 43 AWBs. Each AWB will have a function similar to a utility company. It will comprise the representatives of farmers' organizations, PIDA, Agriculture Department, and some technical members, responsible for a particular area. The AWBs will operate through their management board. The canals, where AWBs have yet to be formed, are being managed through irrigation and drainage circles, divisions and sub-divisions. PIDAs' responsibilities in such areas extend up to the head of the watercourses. It covers the dispute resolution within watercourses and revenue assessment.

2.3.4 Farmers' Organizations (FOs)

The FOs are being established at the distributary canal command. They will receive water from the AWBs to distribute among various watercourse farmers and other users. The FOs will operate and maintain distributary canals and assess and collect

the revenues. Approximately 40 percent of the collected revenue is being given to FOs for O&M of the distributaries. The FOs have to sign an Irrigation Management Transfer (IMT) Agreement with PIDA to takeover management. So, far 20 FOs have been established but the management is yet to be transferred. However, in the southern Punjab, IMT has taken place between FO and the PIDA. The bylaws of FO formation and the financial regulations for the pilot FO are given in Annex 1 and 2.

2.3.5 On Farm Water Management (OFWM)

The On Farm Water Management (OFWM) program, implemented in 1976, has 26 years of experience. The Agriculture Department is in-charge of the program. Primarily, tertiary level construction works, such as land leveling and watercourse lining, have been undertaken through this program. Farmers' participation is an important element of the program, since farmers gain a sense of ownership and deliver better quality work. The staff of OFWM first organizes the water users into Water Users Associations (WUAs), registers them and undertakes the work. The OFWM program involves farmers by 50 percent of cost in terms of their own resources such as physical and financial contributions. The department provides subsidy and training to farmers in technical aspects of the OFWM. To ensure farmers' participation, the department assists in organizing farmers' groups, Water Users Associations (WUAs). The WUA Act was enacted in 1981 after informal activities of WUAs, from 1976 to 1981, becoming a formal group. Most of these WUAs could not become functional after completion of the construction work. Now, the OFWM is trying to introduce the water conservation technologies through laser land leveling, bed and furrow planting and zero tillage in the Rechna Doab.

2.4 Regulation and Scheduling of Water Deliveries in the Rechna Doab

The regulation and scheduling of water deliveries in the main canals and secondary canals is the responsibility of the Punjab Irrigation and Drainage Authority (PIDA). This regulation is planned for each

cropping season (Kharif and Rabi). The PIDA staff schedules water for a particular subdivision, (based on the culturable command area) and is responsible for delivering the scheduled water to the main and secondary canals in that subdivision, subject to availability of water in the upstream system. The upstream supplies depend on the release of water from the storage reservoirs by WAPDA. Due to shortage of water and poor maintenance of canals, many main canals cannot draw their capacity discharges. Under such circumstances, the Executive Engineer of the Irrigation Division has devised a rotational program of water distribution, whereby one-third of the channels are closed each week to run the other channels on full supply. Due to rotation, the water supply becomes erratic and unreliable for many farmers.

At the tertiary level, the farmers manage the distribution of water through the weekly *warabandi* system. Water users are also responsible for the maintenance of the watercourse and implementation of *warabandi* but if there is a dispute, PIDA can intervene at farmer's request to resolve the problem.

2.5 Resolution of Water Disputes

As already mentioned, under the Canal and Drainage Act (1873) there is a provision to resolve the disputes, which may arise among the irrigators. The Sub-Divisional Canal Officer (SDCO) is responsible for allocating the water turn (*warabandi*) and to resolve the disputes, which arise from the implementation of the *warabandi*. He is also responsible for implementing the orders of Divisional Canal Officer regarding new sanctioned watercourses and to adjust the claims from the joint users. Under PIDA Act (1997), there is a built-in mechanism to resolve the disputes. The responsibility to resolve disputes regarding the formation of association, election of office bearers, framing of bylaws, etc. is entrusted to the FOs. In case of any dispute of this kind, an appeal can be made against the decision to the "Appellate Board" of the WUA. In case of disputes relating to the operational aspects of irrigation, it is referred to the AWB and PIDA and is settled under the laws relating to the irrigation.

2.6 Performance of Institutions

In the Rechna Doab, the irrigation institutions performed very well under different irrigation rules till two decades ago. Increase in the demand for grains and the population pressure forced the cropping intensity to increase three folds than the intensity on which this system was designed. It resulted in a situation where inequities appeared in the system. The farmers began to face the problems of acute shortage of irrigation supplies on one hand, and experienced problem of waterlogging and salinity on the other. Waterlogging originated due to seepage from the irrigated canals and lack of drainage infrastructure to drain out the water seeping from the irrigation canals.

To rescue the farmers from waterlogging problem, the government introduced the SCARP project in early 1960s. The SCARP dealt with the waterlogging

successfully but it led to the problem of secondary salinization due to poor quality water of deep tubewells installed under the SCARP project. At few places, sodicity also posed a major threat to the irrigated agriculture in the Rechna Doab. The farmers at the tail-end of the watercourse suffered a lot due to the exploitation by the head-reach farmers. The huge SCARPs investments also taxed the budget of O&M for the canal system. Most of the maintenance budget now is directed to SCARPs, impinging the physical health of the canal system.

Farmers complain about the delays in operation and maintenance (O&M) of the system and Punjab Irrigation Department complains about the scarcity of funds required to undertake the necessary O&M in the irrigation structures. To improve the situation, the Provincial Government has passed the PIDA Act (1997), which may help to improve the situation in the Rechna Doab.

3 INSTITUTIONAL CONSTRAINTS FOR CONJUNCTIVE WATER MANAGEMENT IN THE RECHNA DOAB

This chapter deals with the institutional constraints for effective conjunctive water management in the Rechna Doab, and proposes a regulatory framework for achieving effective conjunctive water management.

3.1 Institutional Constraints

In micro-economic theory, an externality occurs when the activities of one economic agent affect the activities of another agent in ways that are not taken into account by the market operations. In case of physical externality, it affects the cost function of individual farms as the agricultural output changes. In this case, the interaction between agricultural output and farm costs is solely through changes in the input prices. The interdependence among farmers through water supply is a classic example of physical externality. For example, the farmers who depend on a common aquifer have related costs. If some farmers pump their tubewells sufficiently to lower the water table in the vicinity of their neighbors' wells, the increase lift with the increased energy cost will raise the average and marginal costs of production of the neighboring farmers. If the draw down is sufficient to put the wells out of service, the required investment in deeper wells will further increase costs. Thus, over-pumping by few of the farmers imposes a physical external diseconomy on the neighboring farmers. Conversely, if a situation of positive recharge leads to waterlogging and salinization of soils, over-pumping by some farmers may lower their neighbors' costs through increased yields (for given variable inputs) that come with the improvement of soil productivity, which a lower water table brings. In this case, the over-pumping of the aquifer will lead to external economies for the neighboring farmers. Since physical externalities represent the sources of social gains or losses that are not reflected in the market signals to the private agents, the response to these externalities varies from farm to farm and agent to agent.

Institutional designs and strategies always aim at minimizing externalities. However, the institutional innovations or changes end up bringing new externalities and alter the incidence and impact of transaction costs for different stakeholders. An ideal institutional arrangement would, therefore, be one, which minimizes externalities and transaction costs for various stakeholders. The institutional arrangements for conjunctive water management involve externalities and transaction costs, and therefore, demand institutional changes. The institutional constraints refer to constraints in policy, law, organizations, socio-political setting, and the overall environment. A brief account of the institutional constraints is given below.

3.1.1 Legal Constraints

The legal framework for irrigation and drainage suffers from a number of limitations that hamper effective conjunctive water management. There are separate laws regulating surface and groundwater, which do not necessarily provide enough integration of management of the two sources. While the surface water law (Canal and Drainage Act, 1873) applies to the entire province, the groundwater law (Soil Reclamation Act, 1952) only applies to the notified scheme areas of SCARPs. Primarily, the groundwater law was to ensure proper functioning of the public tubewells installed during various SCARPs schemes. The new water law (Punjab Irrigation and Drainage Authority Act, 1997) and its subsequent legislation intended to integrate the functions of the two laws and decentralize the management through geographical units compatible with the system hardware.

So far, the legislation for groundwater regulation is not a part of the reform process. All the rules and regulations apply to surface water only. Following are the major legal constraints:

- The functions and powers of the board under soil reclamation act are vested with the Secretary of Punjab Irrigation Department. Who represents both the government and the board. Therefore, his accountability remains undefined. He cannot delegate certain functions related to conjunctive water management to his subordinate offices.
- The functions of the AWBs and FOs regarding groundwater management are not defined as yet.
- There are provisions in the law for registration and licensing of the groundwater extraction in the Soil Reclamation Act of 1952. However, the staff lacks procedures, expertise, and necessary resources to do that. This has resulted in an unregulated mushroom growth of the tubewells in the fresh groundwater, which threatens the sustainability of the aquifer in certain parts.
- Two separate laws regulate the functioning of the secondary and tertiary level organizations, making integration of management and use impossible, as the major conjunctive water management and use takes place at the tertiary level.
- The Irrigation Management Transfer (IMT) Agreements make the FOs accountable to AWBs but do not provide any assurance to the FOs about quality service. If Fos, and therefore the farmers, know when they receive water and how much, it is easier for them to plan conjunctive surface and groundwater management. In an unreliable water supply situation, the exploitation of the groundwater remains need-based and chaotic.
- The membership of the FOs is limited to landowners, thus excluding the tenants' participation in FO affairs. The tenants form a sizeable proportion of the actual water users.
- The non-irrigation users, especially women, who are users of both surface and groundwater, are not represented in the FOs. Their water use has implications for conjunctive water management.
- Many municipalities extract groundwater for supplying it to their populations, but the law does not require municipal use to be regulated, which may lead to aquifer depletion close to such municipalities.
- The FO members are elected by the watercourse shareholders. However, the FOs may want to assign certain tasks to the FO members, such as overseeing groundwater use, supervision of the water charge assessment, dispute resolution, ensuring better maintenance of the tertiary units, etc. Since the FO members are not accountable to the FO, they may refuse to undertake such responsibilities without compensation.
- The FO rules provide, for the first time, the election of the FO members from watercourses and FO management committee. In case of death, resignation or removal of the FO members, no arrangements exist for the re-election of FO members.
- The FOs like to perform various tasks in their own way. However, the legal framework disallows the FOs to form their own bylaws for functioning; rather it requires strict follow up of complicated rules and procedures. This may prove counter productive as the focus of the FOs will be on following procedures rather than on improving water management performance (Muhammad 1998).

3.1.2 Organizational Constraints

Since there are separate laws for surface and groundwater, there is, at present, a functional dichotomy for conjunctive water management. Planning and construction of new water infrastructure is vested with federal agency (WAPDA), which creates co-ordination problems between PIDA and WAPDA. Likewise, groundwater monitoring is the responsibility of SMO rather than PIDA. Within PIDA, there are separate Irrigation and Drainage Divisions and Sub-divisions, which perform in isolation from each other. There is hardly any co-ordination between the two wings. This dichotomy induces separation between the surface and groundwater management and makes effective conjunctive water management quite impossible.

Though legal provisions exist, the staff responsible for groundwater lacks necessary facilities, procedures and skills to regulate groundwater exploitation. As a matter of fact, the importance accorded to the conjunctive water management is too low. Most of the focus is on maintaining the existing groundwater facilities and promotion of private sector in groundwater without any consideration to optimal safe yields, and regulating the number and size of pumping wells. Besides, there is no capacity within PIDA to monitor and analyze groundwater quality and quantity. The SCARPs Monitoring Organization (SMO) records the groundwater data, but hardly

analyzes it. There is no mechanism for PIDA to make well-informed decisions about conjunctive water management.

At the secondary level of irrigation system, lack of operational funds to maintain the O&M of canals and the shortages of finances are two constraints, which hamper adequate investments in the system. The enactment of PIDA may help to improve the situation in this regard. At the tertiary level, the OFWM tried to maintain watercourses through organizing the farmers at the watercourse level in WUAs. There were problems in the sustainability of the WUAs. From the government side, the OFWM program needs the farmers as workers and does not pay much attention to the sustainability of the WUAs. From the farmers' side, the WUA is necessary only to obtain the subsidy and to complete the structural works, indicating that the formation of farmer's group is motivated by a project and subsidy, and not by irrigation management activities necessary after the project. The WUAs law needs modification and integration in PIDA Act to make the WUA more effective and sustainable, particularly in the organizational and financial aspects.

3.1.3 Financial Constraints

PIDA in principal has to be financially self-sufficient and autonomous entity. This means that PIDA has to set water-charging policies and procedures, which allow for adequate financing. However, the current arrangement is that the parliamentary committee on water charges gets proposals from PIDA and revises the water charge rates. Since most members of such committees are also politicians and big farmers, they may not agree to the level and structure of water charges proposed to finance optimal O&M of the irrigation and drainage facilities. Since 1970s, when the provincial assembly took charge of water pricing, the water rates have not been revised frequently due to political sensitivity to all the governments. This is an important reason for under-financing of the O&M of irrigation and drainage facilities in the province. At present, PIDA wants to adopt a flat rate water charging policy due to the benefits associated with it,

but is unable to decide for itself, and has to get the consent of the provincial Governor.

Likewise, the AWBs and the FOs are not financially independent and have to assess and collect water charges in line with the water pricing policy set by the provincial legislation instead of basing water charges on their O&M costs. Since the level of water charges is too low, the funds raised from such arrangements are not enough for the appropriate O&M and management of the systems. Besides, the collection, revenue apportionment mechanisms, and sharing arrangements seriously impinge upon the financial autonomy of both the AWBs and FOs. The FOs' financial performance, which forms the basis of O&M financing, can only improve if FOs assess and collect money in their own way, and thus, devising simple procedures rather than relying on old bureaucratic procedures.

The pilot FOs, which have taken charge of the distributary O&M, are facing problems in financing O&M due to inappropriate procedures, and therefore, are unable to pay their staff in time. Due to financial constraints, the mobility and communication of FO leaders and their staff is hampered, which affects their performance.

3.1.4 Capacity Constraints

There are certain capacity constraints both with PIDA and the FOs. Among the constraints that PIDA faces, the chief is the level of awareness about the reforms among its staff. The most prevalent perception among the PIDA's lower staff is that the reforms are the World Banks' agenda pushed onto the PIDA without their consent. Since the field staff is rarely involved in policy level planning or feedback chain, they are concerned about their jobs and spread rumors about the reforms. There are no attempts from the higher ups of PIDA to clear these confusions. Besides, there are no incentives for the staff to promote reforms, as the transaction costs for the staff will be high And they will lose their informal incomes.

The property rights in water sector have so far either remained with state or with individual farmers. Due to this farmers have hardly had any experience of managing canals on their own. Neither the know much about the formal business organizations. They need to be organized and trained for managing canals and tubewells. For this, considerable social mobilization efforts are needed. Practices of social mobilization are inadequate as they lack adoption of well-tested methodology. The agencies, which are undertaking social mobilization, are not part of the irrigation reforms, and have their own mandates. As a matter of fact, PIDA should make permanent arrangements for uniform social mobilization methodologies, which are consistent with the reform objectives.

According to the legal framework, the PIDA staff is responsible for monitoring the FO performance. However, the performance indicators are not well-suited; they are procedure oriented, rather than performance oriented. Besides, the PIDA staff has no training in performance monitoring.

For the sustainability of the FOs, certain services from outside are required. At the moment, there are no support systems. As mentioned earlier, the FOs lack experience with formal organizations and performs most tasks informally, whereas the legal framework requires them to follow complicated procedures strictly. The amount of record which they are supposed to maintain is enormous, especially in the situation where they have poor access to record. The PIDA staff's attitude is not welcoming in provision of records. Also the FOs are constrained by resources, as they have to obtain their finances from PIDA. Since the number of farmers is enormous, information sharing with grassroots is constrained due to finances.

PIDA has assumed the responsibility of building FOs capacity, but its staff is neither capable of, nor willing to do so.

3.1.5 Socio-political Constraints

PIDA has not fixed any time frame for transfer of record. Information sharing with farmers has never been designed into the organizational procedures. The FOs are facing problems in obtaining the necessary record, which is required to manage the surface water. Due to apprehensions, the PIDA staff is using delaying tactics to discourage the FOs from managing distributary canals.

The actual water users are landowners and tenants. Reforms provide medium-to long-term solutions to the problems farmers face. However, the tenants are not interested in long-term solutions, and therefore, are reluctant to participate in collective management initiatives. Besides, the complications in the legal framework prohibit tenants from being part of the FOs. Also, there are power distortions between landowners and tenants. Since most tenants are poor farmers, their ability to access surface and groundwater in appropriate proportions is limited. Some farmers, especially the bigger ones, are benefiting from the status quo and do not want a change in the management. Therefore, there is an internal opposition from big farmers in implementation of the reforms. This is further aggravated by the rumors spread by PIDA staff about the negative impacts of the reforms.

Due to fear of growing opposition, the FOs do not prefer to serve written warnings and notices to free riders or water thieves. If these practices continue, it is feared that farmers may face anarchic behavior from their members, which will seriously impinge upon the rule bound behavior and efficient, equitable and reliable service delivery.

Due to multiplicity of teething problems at the initial stages, the FO leaders have to spend a great deal of time in resolving problems. This obviously has resulted in high transaction costs for the leadership. If the situation does not improve soon, even the motivated leadership of FOs might be discouraged due to high transaction costs, and the reform process would further slow down.

3.2 Proposed Regulatory Framework for Conjunctive Water Management in the Rechna Doab

With the promulgation of Punjab Irrigation and Drainage Authority (PIDA) Act (1997), the surface and groundwater management has been vested with the PIDA. It controls and manages surface and groundwater resources of the province in the 23 canal commands, where farmers use water to grow crops. Self-accounting Area Water Boards (AWBs) will be set up gradually for management of water resources at each canal command, and at the secondary level of the canal irrigation system (distributaries and minors), FOs will be established to manage them. Initially, a pilot AWB and FOs are being established in the Lower Chenab Canal (LCC) east, which falls in the Rechna Doab.

So far, the institutional reforms have only focused on the surface water. The anticipation is that with the new institutional arrangements, the irrigation systems will become more efficient in delivering water and recovering finances for O&M. If the AWBs become performance-oriented, the water availability for FOs will become more reliable and equitable. Reliability of surface water availability has important implications for groundwater use as well. Theoretically, if a farmer knows when he will get surface water and how much, he will practice more planned use of groundwater. An unchecked groundwater use will cause problems for the aquifer, which is threatened. Therefore, groundwater needs to be regulated for both fresh and saline groundwater zones. The needs for appropriate restructuring of the policy, legal and regulatory institutions are highlighted.

3.2.1 National Water Council (NWC)

Water resource planning and management are both federal and provincial subjects. The Council of Common Interests (CCI), a very high level council comprising the President of Pakistan and the Chief Minister of the all four provinces, decides the most important policy matters like the reforms, water allocation to provinces, etc. A regulatory body called Indus River System Authority (IRSA) comprising

members from WAPDA and the four PIDAs oversees the implementation of the water apportionment accord and resolves conflicts among provinces over water distribution. WAPDA undertakes major infrastructure developments, and is also responsible for inter-provincial water distribution. Executive Committee of National Economic Council (ECNEC) sanctions major investments in sectoral development projects, including water. The fragmented arrangement leads to lack of integration in policy and planning.

It is proposed that at the national level, a National Water Council (NWC) should be formed at the highest level merging the functions of ECNEC and CCI. It should address policy and legal spheres of water management at the highest level and provide support to implementation efforts. It should evolve a comprehensive national water law making integrate water resource management possible.

The regulatory functions must remain with IRSA, which should have its own information collection network. IRSA should oversee PIDA and WAPDA functions, advise them on policy implementation and resolve conflicts.

3.2.2 Provincial Water Policy Councils (PWCs) and Provincial Regulatory Commissions (PRCs)

Currently, PIDA at the provincial level is responsible for policy formulation and implementation. However, the policy function needs to be separated from implementation. Provincial Water Policy Council is proposed which should address all policy issues including development, conservation, management and pricing of water. This council needs to be drawn from the political and professional fields. Stakeholders should be represented at this level. A regulatory commission is required to monitor PIDA performance and resolve conflicts among key stakeholders. These should have committees on surface and groundwater and necessary facilities to monitor PIDA's performance.

3.2.3 *The Provincial Irrigation and Drainage Authority (PIDAs)*

PIDAs have already been established in each province. The legal and policy responsibilities need to be detached from PIDAs and given to PWCs and PRCs. PIDAs should arrange for a review of Canal and Drainage Act, Soil Reclamation Act, PIDA Act, and WUA Act to evolve a comprehensive provincial water law. The law should deal with water management in an integrated manner. The multiplicity of laws should be avoided.

3.2.4 *Area Water Boards (AWBs) and FOs*

Since water management at the canal commands is the responsibility of area water boards (AWBs), the regulatory arrangements should be available at the AWBs. There needs to be an independent conflict resolution mechanism, such as irrigation tribunal sitting outside the AWB, as many conflicts will emerge between Fos, or between an FO and AWB. The AWBs need to be equipped with necessary technical knowledge about the groundwater aquifers, their characteristics, safe yields, water quality, flow, recharge, etc. An assessment of the existing exploitation, and number and size of the tubewell is also required to be undertaken. Assuming that this knowledge exists, following functions at the AWB level (Canal Circles, where AWBs do not exist) are proposed to regulate groundwater, and promote effective conjunctive water management:

- Assessment of characteristics of the surface water supplies, aquifer, temporal and spatial changes in groundwater levels and quality, interaction among sources of discharge and recharge, existing number, size and volume of exploitation facilities, and additional safe yields of groundwater, and determination of water rights at distributary command level.
- Registration of existing tubewell units and other discharge facilities, with all characteristics.
- Licensing all kinds of new extraction facilities.
- Definition of the total balance exploitable discharge should be defined for each distributary and sharing with the FOs, which will process and recommend new installations. Minimum spacing should be defined by the AWBs and adhered to by the FOs while recommending the new facilities.
- Installation of appropriate vibration meters on the delivery pipes of all kinds of extraction facilities. Tampering of the vibration meters should be considered a serious offense leading to disconnection and heavy penalties.
- Employing staff to monitor monthly readings of the meters, as well as observation wells installed at appropriate intervals. The information from both sources should be used to verify each other.
- The functions currently vested with SMO should be transferred to the AWB and monitoring should be more intense. The groundwater quality monitoring should be more frequent and the data should be analyzed and presented to the AWBs and FOs.
- The AWBs should abolish illegal installations.
- Monetary incentives (licensing fee, extraction fee, subsidies on installation in saline groundwater zone) should be devised in such a way that (dis)incentives for over or under exploitation promote optimum conjunctive water management. The surface water should be operated to encourage effective conjunctive water management. This includes transfer of surface water rights to saline groundwater zones.
- The surface irrigation network should be operated in such a way that making water availability as much reliable as possible.
- The surface and groundwater data should be used by AWBs as well as by the FOs to prepare annual water accounts. This should be made mandatory in the FO rules.
- The groundwater extraction for municipal purposes is currently out of the jurisdiction of PIDA/AWB. This should also be regulated.

4 SUMMARY AND CONCLUSIONS

There is possibility to exploit the potential of land through horizontal and vertical expansion in the area and productivity of crops in the Rechna Doab by making institutional arrangements for practicing conjunctive water management at the public level. The development and rehabilitation of irrigation and drainage infrastructure and various water conservation schemes in the Doab have increased the annual cropping intensities in good proportion over the period of time. The farmers in the Rechna Doab are facing technical constraints of surface water availability. Capacity of surface water distribution, water rights, pumping capacity, groundwater levels, water quality and water demands need to be addressed for effective conjunctive water management. Under the reforms and hierarchy for operation and maintenance (O&M), some responsibilities can be passed on to farmers organized into Water Users Associations (WUAs) at the water course level and Farmers' Organizations (FOs). These would include the O & M of the minor canals and distributaries at the level of minors and distributaries.

Since the development of WUAs carried on by the OFWM has not taken root very well, perhaps because the farms are too small and the area serviced by a watercourse is also small (average about 250 ha), the OFWM program is correctly focused now more on creating FOs. The establishment of FOs has progressed relatively well so far, taking into account that it is a lengthy process requiring many meetings and consultations with farmers. The size covered by an FO can range from 5,000 to 20,000 ha.

Additionally, under the reform, specific arrangements were made to create Area Water Boards (AWB), receiving water from PIDA as an intermediate level entity. In Punjab, a pilot AWB has been established covering about 400, 000 ha, and supplying about 100 distributaries where FOs are in the process of creation. The AWB should operate through management board, which should include Farmers Participation. This process of

developing AWBs, however, seems to be stagnating, and therefore, can be rated only as being in its infancy needing reinforcement and stronger government commitment and support.

During the late 90s the Punjab PIDA enacted different acts addressing various rules and regulations concerning PIDA farmers' organizations, in terms of organization, elections, registration, financial regulation, conduct of business, and transfer of irrigation schemes. Apart from these legislative instruments, a few administrative instruments have been prepared. These relate to notification of AWB and agreements between PIDA and Revenue Department for Collection of the revenues as well as PIDA and Punjab Irrigation Department (PID) for O&M of the infrastructure. Additional administrative instruments include guidelines and standards for the FOs and procedure for collecting water charges. For the purpose of Irrigation Management Transfer (IMT), the FOs must sign an agreement with the PIDA.

The arrangements for water management and O&M in the provinces, and therefore, also in the Rechna Doab, are still somewhat fragmented and do not respond to the needs required for utilization of surface and groundwater and other sources with more marginal water quality to fully institutionalize the CWM. Typically, the technical solutions call for evolution of the institutions and dictate the needs for the adjustments and changes in scope of the managing entities, as well as the devising of new legal and supporting regulatory framework.

The basic and urgent need for improvement of the legal and regulatory framework in the Punjab is groundwater management. The only law that dealt with groundwater is of 1952 which was intended merely for land reclamation purpose - improvement of waterlogged areas, controlling operation of state tubewells and monitor boring of private tubewells. When the Punjab Soil Water Reclamation Board merged with the Provincial Irrigation Department,

some of the functions became complicated and cumbersome to execute; also the powers seemed to be ambiguous.

The only regular management task that pertains to groundwater so far is monitoring the levels and quality of groundwater.

- The financial, managerial and productivity reasons have caused institutional reforms in the irrigation management, which are being piloted in the Rechna Doab. Like the past, these reforms so far keep a strict compartmentalization in management and dichotomy in management functions of surface and groundwater.
- The reformed legal instruments are not fully compatible with the reform objectives.
- PIDAs, AWBs, and FOs are constrained to make most efficient use of scarce water resources without improved conjunctive water management.
- Appropriate changes are required in the policy and legal framework for preparation and implementation of a comprehensive regulatory framework for effective conjunctive water management.
- Such policies need to target the governance level, planning, and management to assure acceptable water quality for a particular use, and therefore, prevent degradation of the environment and associated values. The framework would include licensing, monitoring, enforcement, as well as database development and its management, information system set up and research development and its management.
- Regarding groundwater utilization, the policies would guard against aquifer depletion and design a complementary network of organizations responsible at the appropriate levels.

4.1 Improvement of Governance for Water Management in Agriculture

To achieve effective O&M of irrigation and drainage systems in all provinces and step up the water management towards more integrated and conjunctive water resources management, the objectives of an institutional development program

have to be clearly defined and country's commitment secured.

Particularly important in the context of improving governance of water and institutions is the time dimension. It involves the staff at all levels of the implementing body as well as staff of the other relevant agencies and entities. Therefore, full commitment to the institutional development is necessary, behind which, of course is a host of political and social factors, as well as complex interplay of different political and social elements, that are endemic to each situation. The institutional development and government support has to be in all aspects: water use and management planning, using multiple sources and resources, optimizing the resources accordingly with water quality, minimizing negative aspects and engaging key stakeholders.

In countries with successful management of water resources, the guiding element is a National Water Resources Policy that addresses management of fresh and brackish water, applies to surface and groundwater and takes a comprehensive approach - CWM, recognizing the needs of different water uses as well as different sectors' needs.

The following factors can guide successfully water resource management:

- (i) Ownership (covering surface and groundwater);
- (ii) Sustainable management (covering economic, social, financial, and environmental considerations);
- (iii) Openness and participation;
- (iv) Assurance and flexibility of water allocation (water rights);
- (v) Equitable cost sharing;
- (vi) Sectoral emphasis;
- (vii) Management of information and sharing amongst agencies;
- (viii) Gender (low income, female headed households) and

(ix) Vulnerability situation at the Tail-ends.

4.2 Proposed Institutional Changes

It is proposed that a high level body (National Water Council) shall be formed to address the formulation and changes in policies and legal framework (comprehensive national water law) and provide support for their implementation. It is also proposed that IRSA retains its functions but establishes its own information collection network. Further, IRSA, overseeing PIDA and WAPDA activities, would advise them on resolving any disputes.

Currently, the PIDAs are responsible for policy formulation and its implementation at the provincial level. A new body, such as Water Policy Council (WPC) could address policy issues, demand management, development of all (surface and groundwater) water resources, as well as pricing - all at the province level, with stakeholders being represented as Council members. The WPC would be involved in making the policy and recommendations for amendments to legal instruments. An independent review of the existing laws and provincial Acts would give a basis for formulating the specifics of the provincial amendments to the national water law. The existing Regulatory Commission that is required to monitor PIDAs functions would consider the monitoring of PIDAs activities jointly for surface water and groundwater issues.

At the lower levels of the system - AWBs and FOs, appropriate mechanisms for conflict resolution would be adopted, in accordance with the culture and traditions of the provinces.

4.3 The Process of Change towards CWM

For a reform to succeed the government must show interest and commitment, and provide an uninterrupted support. Such a support needs to be demonstrated in the planning of the reform, its design, as well as implementation and management of the entire process, with roles assigned to organizations and/or individuals,

clarifying responsibilities, co-ordination and leadership. In another words, the willingness and support/ commitment must be demonstrated by assigning the institutional roles in the process – roles of an advocate, champion and agents of the change. Also, collaboration of all key stakeholders is a necessary and nourishing aspect of the reform.

5 PROPOSED RESEARCH

The effective conjunctive water use may help the farmers to increase the area under crops in the Rechna Doab. It is recommended that the technical conjunctive water use strategies may be identified that help farmers to increase their income whilst

promoting sustainable conjunctive use and management of surface and groundwater. Careful monitoring of institutional reforms is required to assess the adequacy of reform, the impacts of new arrangements on water resource infrastructure, productivity, and the environment.

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ANNEXURE I: PILOT FARMERS' ORGANIZATIONS

PUNJAB IRRIGATION AND DRAINAGE AUTHORITY

Annex 1.1: Bylaws of Farmers' Organizations

1. General

- (1) Name The name of the Farmers' Organization shall be _____
- (2) Area The Farmers' Organization shall cover the following area

- (3) Registered .. The registered office of the Farmers' Organization is situated at Office

- Phone: _____

2. Membership

The Farmers' Organizations shall be constituted by the Farmers and Drainage Beneficiaries of the area falling within its jurisdiction, without any discrimination as to sex, caste, and religion, etc.

3. Rights of the Farmers

A Farmer or a Drainage Beneficiary operating within the limits of a Farmers' Organization shall have the right to

- (1) equitable share of water as per distribution criteria;
- (2) contest elections as per Rules/Regulations, etc.;
- (3) elect the representative(s) of the Water Course/Drainage Beneficiaries Association;
- (4) have access to all the records of the Farmers' Organization;
- (5) have access to all the services provided by Farmers' Organization if he is eligible for such services; and
- (6) make representations and complaints, which shall be promptly attended to by the Management Committee.

4. Obligations of Farmers, etc.:

A Farmer or a Drainage Beneficiary shall

- (1) pay all water rates, charges and other dues as determined under the law;
- (2) provide his contribution for the maintenance or improvement of the water channels or drains;
- (3) participate in the activities of the Farmers' Organization;
- (4) obey and observe all the provisions of the Act, Rules, Regulations and these Bylaws;

- (5) inform the Managing Committee about the damage to the water channel, violations of water schedule, incorrect assessment, water thefts etc;
- (6) allow inspection of his land, crops, irrigation system etc;
- (7) maintain his water channel so as to ensure the proper supply of water to other water users; and
- (8) obey and observe the lawful decisions of the Farmers' Organization.

5. Duties and Responsibilities of the Farmers' Organizations:

A Farmers' Organization shall:

- (1) faithfully observe and implement the provisions of the Act, Rules, Regulations and its Bylaws;
- (2) perform the functions assigned to it under law in good faith, and diligently, efficiently and to promote the public interest; and
- (3) ensure that all Farmers get due share of water and make timely payments of their dues.

6. Meetings of the General Body

(1) General Meetings

- (a) The over all authority of the Farmers' Organization shall be vested in the General Body of the Farmers' Organization, which shall meet at least twice a year, once during each major crop season, at the registered office of the Farmers' Organization or any other place within the area of Farmers' Organization.
- (b) A notice of 15 days shall be given by general proclamation specifying the date, time and place of meeting.

(2) Special Meetings

- (a) One-third of the members of a Farmers' Organization may make a request in writing to the Chairman to call a Special Meeting of the General Body to consider the matter or matters specified in the requisition.
- (b) On receiving the requisition under clause (i) above, the President shall convene a Special Meeting of the General Body within seven days of the receipt of the requisition. A notice specifying the purpose for calling such meeting shall be given in the manner provided in clause (1) above.

7. Functions and Powers of the General Body

Subject to the Act, Rules, Regulations and Bylaws, the General body in its meeting shall have the power to:

- (1) elect the Office Bearers and Executive Members of Management Committee;
- (2) pass vote of no confidence against an Office Bearer or Executive Member of the Management Committee;
- (3) approve the policy and periodic plans of operation, maintenance or improvement of the irrigation and drainage system;

- (4) approve the overall demand of all charges other than water rates;
- (5) approve the annual budget of the Farmers' Organization;
- (6) consider the Audit Report of the Farmers' Organization;
- (7) make recommendations to AWB/Authority for the improvement of the irrigation and drainage system and working of the Farmers' Organizations, AWB and Authority;
- (8) approve the agreements relating to acquisition and disposal of the property;
- (9) approve the schedule of fines and penalties proposed by the Management Committee;
- (10) approve the water distribution schedule (warabandi);
- (11) appoint Standing Committees to supervise or deal with specified matters relating to the affairs of the Farmers' Organizations;
- (12) appoint Special Committees for consideration of any matter relating to the Farmers' Organization;
- (13) determine the terms and conditions of persons to be employed by the Farmers' Organization; and
- (14) suggest to the Authority necessary and suitable amendments in the Bylaws of the Farmers' Organization along with the statement of objects and reasons.

8. Quorum, etc.

1. The quorum for the General Meeting and Special Meeting shall be 50% of the total membership.
2. All decisions shall be by simple majority of those present except as otherwise provided.

9. Constitution of the Management Committee

- (1) The Management Committee of a Farmers' Organization shall be headed by a President and such Office Bearers and Executive Members not exceeding nine as may be determined by the General Body.
- (2) The Management Committee shall, generally, consist of the following Office Bearers and members:
 - a) President
 - b) Vice-President
 - c) Secretary
 - d) Joint Secretary
 - e) Treasurer
 - f) Executive Members (3)
 - g) Resident Representative/Technical Member

- (3) The Management Committee shall as far as possible include:
 - a) at least two members from the tail-reaches of the concerned channel, and
 - b) one woman, if there is an eligible woman member of Farmers' Organization.
- (4) The Office Bearers and Executive Members at (2) above, except Resident Representative, shall be elected by secret ballot by the members of the General Body of the Farmers' Organization held under the supervision of the Authority/Chief Election Officer.
- (5) Any dispute relating to election of the Office Bearers shall be decided by the concerned Irrigation Tribunal.

10. Termination, Removal and Resignation, etc.

- (1) Any Office Bearer or Executive Member of the Management Committee shall cease to hold office on the termination of his membership of the Farmers' Organization.
- (2) An Office Bearer and Executive Member of the Management Committee may be removed from, office by a vote of no confidence passed by majority of the total members of the General Body in a Special Meeting held for this purpose for which a seven days notice stating the reason for the removal must be given to the said Office Bearer and the members of the Farmers' Organization.
- (3) An Office Bearer and Executive Member of the Management Committee may relinquish his office by tendering his resignation at any time in writing, which is duly signed by him.
- (4) In case of any vacancy in the Management Committee, it shall be filled for the remaining period by the Committee by co-option for the unexpired period. The Committee shall report the case in the next meeting of the General Body for approval. The General Body may approve the co-option or elect another member for the vacant position.
- (5) The provisions of this Bylaw (No. 11) shall not apply to the Resident Representative/Technical Member.

11. Meetings of Management Committee

- (1) The Management Committee shall meet at least once in every calendar month and there shall not be an interval of more than 40 days between two meetings.
- (2) When 50% of the total members of the Management Committee make a requisition for holding the meeting of the Management Committee, the Chairman shall convene a meeting within seven days of such requisition.
- (3) When the majority of members at a General Body Meeting resolve to direct the President to convene a meeting of the Management Committee, the Chairman shall convene such a meeting within seven days of such notice.

12. Order of Business of General Meetings

The orders of Business at all General Meetings of the Farmers' Organization shall be as follows:

- (i) Recitation from Holy Quran
- (ii) Attendance of all members present

- (iii) Reading out the minutes of the preceding meeting and their ratification/correction
- (iv) Report, if any, of committees set up
- (v) Unfinished business, if any, from the previous meeting
- (vi) New business as per agenda and passing resolution(s)
- (vii) Election of the Committee(s), etc., if any

13. Functions of the Management Committee

- (1) Subject to the Act, Rules, Regulations, these Bylaws and the control and supervision of the General Body, the Management Committee of a Farmers' Organization shall perform all functions and exercise all the powers of the Farmers' Organization which are entrusted to the said Farmers' Organization except such functions and powers which are exercisable by the General Body under these Bylaws.
- (2) Without prejudice to the generality of the provisions of (1) above, the Management Committee of a Farmers' Organization shall perform the following functions, that is
 - (a) operate, manage, maintain and improve the irrigation and drainage infrastructure of the Farmers' Organization;
 - (b) manage the activities of a Farmers' Organization in delivery of water;
 - (c) assess and collect water charges and drainage cess;
 - (d) levy assess and collect other charges;
 - (e) develop policy and periodic plans of operations, maintenance and improvement and present them to the General Body;
 - (f) supervise the maintenance and improvement activities of the water channel/drains;
 - (g) maintain the financial and other records of the Farmers' Organization;
 - (h) call the General Meetings and Special Meetings of the Farmers' Organization;
 - (i) prepare the budget of the Farmers' Organization;
 - (j) enter into agreements with the approval of the General Body; and
 - (k) appoint experts, advisors, servants and agents.

14. Standing Committees

- (1) The General Body of the Farmers' Organization may constitute one or more of the following Committees
 - (a) Operations (including water schedule) Committee;
 - (b) Maintenance Committee;
 - (c) Finance Committee;

- (d) Jury/(Panchayat); and
 - (e) Drainage Committee.
- (2) The Management Committee or the General Body may refer any case to the concerned Standing Committee.
 - (3) A Standing Committee shall assist the Management Committee in the performance of its duties relating to the work of the Standing Committee.

15. Duties and Powers of the Office Bearers

(1) President

The President shall have the following powers and functions, :

- (a) exercise general supervision over the affairs of the Farmers' Organization;
- (b) ensure the proper implementation of the decisions of the Management Committee and General Body;
- (c) preside over the meetings of the Management Committee and General body;
- (d) represent the Farmers' Organization in its dealings with Area Water Board, Authority and other public or private entities;
- (e) convene the Meetings of the General body and the Management Committee; and
- (f) exercise such other powers and perform such other functions as the Management Committee may from time to time assign to him with his consent.

(2) Vice-President

- (a) The Vice-President shall assist the President in the performance of his duties.
- (b) The Vice-President shall perform the functions and exercise the powers of the President in his absence or in case of his inability to perform his functions, etc.
- (c) He shall perform such other functions not inconsistent with these Bylaws, which the Management Committee may from time to time assign to him with his consent.

(3) Secretary

The Secretary of a Farmers' Organizations shall have the following functions and powers, that is:

- (a) serve as the custodian of all the records of the Farmers' Organization;
- (b) keep minutes of the meetings of the General Body and that of the Management Committee,
- (c) send notices for the meetings of the General Body and that of the Management Committee.
- (d) keep an up to date list of the members of the Farmers' Organization along with their addresses;

- (e) receive the complaints of the members;
- (f) receive all correspondence of the Farmers' Organization;
- (g) send all communications to the concerned persons or entities;
- (h) issue necessary certificates and copies of the record;

(4) **Joint Secretary**

The Joint Secretary shall

- (a) assist the Secretary in the performance of his duties;
- (b) perform the functions of the Secretary in his absence or his inability to work.
- (c) perform such other functions as the Managing Committee may from time to time assign to him with his consent.

(5) **Treasurer**

The Treasurer shall

- (a) operate the Farmers' Organization Fund under the directions of the President and supervision of the Management;
- (b) sign the cheques jointly with the President;
- (c) maintain all financial records, cash books, inventory and other necessary and relevant records;
- (d) make payments on behalf of the Farmers' Organization;
- (e) present the Annual Audit Report to the General Body;
- (f) represent the Farmers' Organization in all financial transactions under the direction of the President.
- (g) collect the membership dues and maintain their record; and
- (h) furnish all information necessary for the preparation of Annual Budget.

16. The Farmers' Organization shall maintain the following registers:

- a. Daily Cash Transaction Account Register
- b. Receipt Register
- c. Members and Non-members Register
- d. Irrigation Schedule Register
- e. Water Demand Register
- f. Minutes Register

- g. Monthly Cash Transactions Register
- h. Permanent Term Deposit Register.
- i. Assets Register
- j. Bank Accounts Register
- k. Complaint Register

17. Copy of Bylaws

A copy of the Bylaws in Urdu shall be held by the Management Committee and shall be available to members on demand.

Annex 1.2: Farmers' Organizations Conduct of Business Regulations 1999

In the exercise of the powers vested in it under Section 14 and 17 of the Punjab Irrigation and Drainage Authority Act, 1997, the authority has resolved to make and promulgate the following Regulations.

General

1. Title, Extent and Commencement

- i. These Regulations may be called Farmers' Organizations (Conduct of Business) Regulations, 1999.
- ii. These shall come into force at once.
- iii. These shall apply to all areas where Farmers' Organizations have been established.

2. Name, Area and Registered Office

- i. Each Farmers' Organization shall have its local distinct name as determined by the Chief Executive of the Area Water Board or the Superintending Engineer of the Area.
- ii. The Farmers' Organization shall cover the gross area of the Distributary concerned.
- iii. The registered office of the Farmers' Organization shall be situated at a convenient place within its area.

3. Rights of the Farmers

A Farmer operating within the limits of a Farmers' Organization shall have the right to

- i. equitable share of water as per distribution criteria;
- ii. contest elections as per Rules/Regulations, etc.
- iii. elect the representative of the Watercourse;
- iv. have access to all the records of the Farmers' Organization
- v. have access to all the services provided by the Farmers' Organization if he is entitled to such services;
- vi. make representations and complaints which shall be promptly attended to by the Management Committee.

4. Obligations of Farmers, etc.

A Farmer shall

- i. pay all water rates, charges and other dues as determined under the law;
- ii. provide his contribution for the maintenance or improvement of the water channels or drains;
- iii. participate in the activities of the Farmers' Organization;

- iv. obey and observe all the provisions of the Act, Rules and Regulations;
- v. inform the Managing Committee about the damage to the water channel, violations of water schedule, incorrect assessment, water thefts, etc;
- vi. allow inspection of his land, crops and irrigation system;
- vii. maintain his water channel so as to ensure the proper supply of water to other water users; and
- viii. obey and observe the lawful decisions of the Farmers' Organization.

5. Duties and Responsibilities of the Farmers' Organizations:

A Farmers' Organization shall

- i. faithfully observe and implement the provisions of the Act, Rules, Regulations and its Bylaws;
- ii. perform the functions assigned to it in good faith, and diligently, efficiently and to promote the public interest;
- iii. ensure that all farmers get due share of water and make timely payments of their dues.

6. Maintenance of Registers

The Management Committee shall maintain the following registers:

- i. Daily Cash Transaction Account Register
- ii. Receipt Register
- iii. Members Register
- iv. Irrigation Schedule Register
- v. Water Demand Register
- vi. Minutes Register
- vii. Monthly Cash Transactions Register
- viii. Permanent Term Deposit Register
- ix. Assets Register
- x. Bank Accounts Register
- XI. Complaint Register

General Body

7. Functions and Powers of the General Body:

Subject to the Act, Rules and Regulations, the General body in its meeting shall have the power to:

- (1) elect the Office Bearers of the Management Committee;

- (2) pass vote of no confidence against an Office Bearer of the Management Committee;
- (3) approve the policy and periodic plans of operation, maintenance or improvement of the irrigation system;
- (4) approve the overall demand of all charges other than water rates;
- (5) approve the annual budget of the Farmers' Organization;
- (6) consider the Audit Report of the Farmers' Organization;
- (7) make recommendations to AWB/Authority for the improvement of the irrigation system and working of the Farmers' Organizations, AWB and Authority;
- (8) approve the agreements relating to acquisition and disposal of the property;
- (9) approve the schedule of fines and penalties proposed by the Management Committee;
- (10) approve the water distribution schedule;
- (11) appoint Nehri Punchayat according to the Rules;
- (12) appoint Standing Committees to supervise or deal with specified matter relating to the affairs of the Farmers' Organization;
- (13) appoint Special Committees for consideration of any matter relating to the Farmers' Organization; and
- (14) determine the terms and conditions of persons to be employed by the Farmers' Organizations.

8. Meetings of the General Body

(1) General Meetings

- (a) The General Body of the Farmers' Organization shall meet at least twice a year, once during each major crop season, at the registered office of the Farmers' Organization or any other place within the area of Farmers' Organization.
- (b) A notice of 15 days shall be given specifying the date, time and place of meeting.

(2) Special Meeting

- (a) One-third of the members of a Farmers' Organization may make a request in writing, to the Chairman to call a Special Meeting of the General Body to consider the matter or matters specified in the requisition.
- (b) On receiving the requisition under clause (a) above, the President shall convene a Special Meeting of the General Body within seven days of the receipt of the requisition. A notice specifying the purpose for calling such meeting shall be given to all the members of the General Body.

9. Quorum, etc.

- (1) The quorum for the General Meeting and Special Meeting shall be 50% of the total membership.

- (2) Except is otherwise provided in Rules and Regulations, all decisions shall be taken by simple majority of those present.

10. Order of Business of Meetings:

The orders of business at the Ordinary Meetings of the General Body shall be as follows:

- i. Recitation from Holy Quran
- ii. Attendance of all members present
- iii. Reading out the minutes of the preceding meeting and their ratification/correction
- iv. Report of the committees
- v. Unfinished business, if any, from the previous meeting
- vi. New business as per agenda and passing resolution(s)
- vii. Election of the Committee(s), etc., if any

Management Committee & Special Committees

11. Constitution of the Management Committee

- (1) The Management Committee of a Farmers' Organization shall be headed by the President and shall comprise Office Bearers not exceeding nine as may be determined by the General Body.
- (2) The Management Committee shall, generally, consist of the following Office Bearers.
 - a) President
 - b) Vice-President
 - c) Secretary
 - d) Treasurer
 - e) Executive Members (5) including 3 from the tail area of the distributary
- (3) The Office Bearers at (2) above shall be elected by secret ballot by the members of the General Body of the Farmers' Organization held under the supervision of the Authority/ Election Officers.

12. Termination, Removal and Resignation, etc.

- (1) Any Office Bearer of the Management Committee shall cease to hold office on the termination of his membership of the Farmers' Organization.
- (2) An Office Bearer of the Management Committee may be removed by a vote of no confidence passed by majority of the total members of the General Body in a Special Meeting held for this purpose for which a seven days notice stating the reason for the removal must be given to the said Office Bearer and the members of the Farmers' Organization.
- (3) An Office Bearer of the Management Committee may relinquish his office by tendering his resignation at any time in writing which is duly signed by him.

- (4) In case of any vacancy in the Management Committee, it shall be filled by the Management Committee by co-option for the unexpired period. The Committee shall report the case in the next meeting of the General Body for approval. The General Body may approve the co-option or elect another member for the vacant position.

13. Meetings of Management Committee

- (1) The Management Committee shall meet at least once in every calendar month and there shall not be an interval of more than 40 days between two meetings. The meeting shall be convened by the President of the Farmers' Organization.
- (2) When 50% of the total members of the Management Committee make a requisition for holding the meeting of the Management Committee, the President shall convene such meeting within seven days of such requisition.
- (3) When the majority of members at a General Body Meeting resolve to convene a meeting of the Management Committee, the President shall convene such a meeting within seven days of such notice.
- (4) The order of the Business for the meetings of the Management Committee shall be the same, which is provided for the meetings of the General Body under Regulation (10) above.

14. Functions of the Management Committee:

- (1) Subject to the Act, Rules, Regulations, and the control and supervision of the General Body, the Management Committee of a Farmers' Organization shall perform all functions and exercise all the powers of the Farmers' Organization which are entrusted to the said Farmers' Organization except such functions and powers which are exercisable by the General Body.
- (2) Without prejudice to the generality of the provisions of (1) above, the Management Committee of a Farmers' Organization shall perform the following functions, that is
 - (a) operate, manage, maintain and improve the irrigation infrastructure of the Farmers' Organization;
 - (b) manage the activities of a Farmers' Organization in the delivery of water;
 - (c) assess and collect water rates;
 - (d) assess and collect other charges;
 - (e) develop policy and periodic plans of operations, maintenance and improvement and present them to the General Body
 - (f) supervise the maintenance and improvement activities of the water channel;
 - (g) maintain such financial and other records of the Farmers-Organization as may be prescribed by the Authority;
 - (h) prepare the budget of the Farmers' Organization;
 - (i) enter into agreements with the approval of the General Body; and
 - (j) appoint experts, advisers, servants and agents.

15. Standing Committee

- (1) The General Body of the Farmers' Organization may constitute one or more of the following Standing Committees:
 - (a) Operations (including water schedule) Committee
 - (b) Maintenance Committee
 - (c) Finance Committee
- (2) The Management Committee or the General Body may refer any case to the concerned Standing Committee.
- (3) A Standing Committee shall assist the Management Committee in the performance of its duties relating to the work of the Standing Committee.

Duties and Powers of the Office Bearers

16. President

The President shall

- (a) exercise general Supervision over the affairs of the Farmers' Organization;
- (b) ensure the proper implementation of the decisions of the Management Committee and General Body;
- (c) preside over the meetings of the Management Committee and General Body;
- (d) represent the Farmers' Organization in its dealings with Area Water Board, Authority and other public or private entities;
- (e) convene the Meetings of the General body and the Management Committee; and
- (f) exercise such other powers and perform such other functions as the Management Committee may from time to time assign to him with his consent.

17. Vice-President

The Vice-President shall

- (a) assist the President in the performance of his duties;
- (b) perform the functions and exercise the powers of the President in his absence or in case of his inability to perform his functions, etc.; and
- (c) perform such other functions the Management Committee may from time to time assign to him with his consent.

18. Secretary

The Secretary shall

- (a) serve as the custodian of all the records of the Farmers' Organization;

- (b) keep minutes of the meetings of the General Body and that of the Management Committee;
- (c) send notices for the meetings of the General Body and that of the Management Committee;
- (d) keep an up-to-date list of the members of the Farmers' Organization along with their addresses;
- (e) receive the complaints of the members;
- (f) receive all correspondence of the Farmers' Organization;
- (g) send all communications to the concerned persons or entities; and
- (h) issue necessary certificates and copies of the record.

19. Treasurer

The Treasurer shall

- (a) operate the Farmers' Organization Fund under the directions of the President and supervision of the Management Committee;
- (b) sign the cheques jointly with the President;
- (c) maintain all financial records, cash books, inventories and other necessary and relevant records;
- (d) make payments on behalf of the Farmers' Organization;
- (e) present the Annual Audit Report to the General Body;
- (f) represent the Farmers' Organization in all financial transactions under the directions of the President; and
- (g) furnish all information necessary for the preparation of Annual Budget.

20. Executive Members

- (a) The Executive Members shall assist the President, Vice-President, Secretary and Treasurer in the performance of their duties as directed by the General Body.
- (b) The Chairman of the Standing Committees shall be appointed from amongst the Executive Members.

Dated 14th September 1999

NOTIFICATION

The Punjab Irrigation and Drainage Authority

(Pilot Farmers' Organizations) Rules, 1999

NO. OSD/L&WD/7/97 - In exercise of the powers conferred upon him under Section 16 of the Punjab Irrigation and Drainage Authority Act, 1997, the Governor of the Punjab is pleased to make the following Rules.

1. Short title and commencement

- (1) These Rules may be called the Punjab Irrigation and Drainage Authority (Pilot Farmers' Organizations) Rules, 1999.
- (2) These shall come into force at once.

2. Definitions:

In these Rules, unless there is anything repugnant in the subject or context,

- (1) "**Act**" means the Punjab Irrigation and Drainage Authority Act, 1997.
- (2) "**Area Water Board**" means an Area Water Board established under Section 14 of the Punjab Irrigation and Drainage Authority Act, 1997.
- (3) "**Authority**" means the Punjab Irrigation and Drainage Authority established under the Punjab Irrigation and Drainage Authority Act, 1997.
- (4) "**Bylaws**" mean Bylaws framed by the Punjab Irrigation and Drainage Authority under Section 14 of the Act.
- (5) "**Farmer**" means a person who is directly engaged in agriculture and is paying Occupier's rate under the Canal & Drainage Act, 1873.
- (6) "**Farmers' Organization**" means a Farmers' Organization established under Section 14 of the Punjab Irrigation and Drainage Authority Act, 1997.
- (7) "**Government**" means Government of the Punjab.
- (8) "**Irrigation Tribunal**" means a Tribunal established under Rule 16 (1).
- (9) "**Irrigation Appellate Tribunal**" means the Tribunal established under Rule 16(2).
- (10) "**Regulations**" means the Regulations framed by the Punjab Irrigation and Drainage Authority under the Act.
- (11) "**Water Charges**" mean all water rates leviable under Canal & Drainage Act, 1873, and any other law for the time being in force, but do not include fines imposed under Section 70 of the Canal & Drainage Act, 1873.

3. Farmers' Organizations

- (1) A Farmers' Organization may be formed on a distributary or a dam

Provided that, in special cases, a Farmers' Organization may be formed with the approval of the Authority on a part of a distributary

- (2) A Farmers' Organization may form Sub-Farmers' Organizations on a part of a distributary, a minor, a sub-minor, a group of water-courses or direct outlets within the area of a Farmers' Organization established under sub rule (1)
- (3) The Authority shall, as soon as may be, take steps for the formation of Farmers' Organizations in such areas where an Area Water Board has been established

Provided that Farmers' Organizations may be formed, with the approval of the Authority, in such areas where no Area Water Board has been established.

- (4) In the exercise of powers under this Rule, due regard shall be had to all factors relevant to the formation of Farmers' Organization, such as topography, water demand, socio-economic aspects, technical feasibility and size of the irrigation system.

4. Membership

- (1) The membership of a Farmers' Organization shall be available to all Farmers without any discrimination on the basis of sex, caste, religion and place of birth.
- (2) A Farmers' Organization shall comprise members equal to number of watercourses in the area constituting the Farmers' Organization. The Farmers of each watercourse shall elect one such member from amongst themselves.
- (3) If a question arises as to the eligibility of a person to become a member of a Farmers' Organization, it shall be decided by the Authority or a person authorized by the Authority.

5. Constitution of Farmers' Organization

- (1) A Farmers' Organization shall comprise a 'General Body' and a 'Management Committee'.
- (2) The General Body of a Farmers' Organization shall comprise the members of the Farmers' Organization mentioned in sub rule (2) of Rule 4 above.
- (3) The Management Committee, of a Farmers' Organization shall comprise such Office Bearers of the Farmers' Organization as may be prescribed by the Authority.
- (4) The Management Committee shall perform the functions and exercise the powers of a Farmers' Organization except such functions and powers as are exercisable by the General Body of the Farmers' Organization.
- (5) The Management Committee shall be elected for a period of three years by the General Body of the Farmers' Organization in accordance with Regulations.
- (6) A person shall be disqualified to be elected as an Office Bearer of the Management Committee if he:
 - (i) is below the age of 18 years till the date of his nomination;

- (ii) has not paid his Water Charges within the period of three months after these charges become due for payment;
- (iii) has been declared insolvent;
- (iv) has ceased to be a member of the Farmers' Organization;
- (v) is of unsound mind;
- (vi) has been convicted of an offence which involves moral aptitude unless a period of 3 years has elapsed from the date of his conviction; or
- (vii) has been dismissed or removed from any public service unless a period of three years has elapsed since the said dismissal or removal.

6. Territorial Jurisdiction

The jurisdiction of a Farmers' Organization shall extend to the gross area falling within the boundaries of the irrigation system for which it has been established.

7. Registration

- 1) The Authority shall appoint a Registrar for an Area Water Board and a Registrar at its Head Office who shall perform all functions relating to the registration of the Farmers' Organizations

Provided that, until a Registrar for an Area Water Board is appointed, the Chief Executive of the Area Water Board shall be deemed to be the Registrar.

- (2) No Farmers' Organization shall be entitled to the rights, privileges, or powers of a Farmers' Organization unless it is duly registered under these Rules.
- (3) A Farmers' Organization shall be registered with the Registrar concerned.
- (4) An application for registration shall be made to the Registrar of the Area Water Board by the Management Committee of the Farmers' Organization and shall be presented by the Chairman or Secretary of the Farmers' Organization

Provided that the application shall be made to the Registrar at the Head Office of the Authority if no Area Water Board has been established in the said area.

- (5) A Farmers' Organization may be registered if
 - (a) the General Body of the Farmers' Organization has been formed under these Rules;
 - (b) the resolution to form the Farmers' Organization has been passed by the majority of the total members of the General Body;
 - (c) the Management Committee of the Farmers' Organization has been duly elected; and
 - (d) the application is made by the Management Committee of the said Farmers' Organization and is accompanied by the prescribed fee.
- (6) An appeal against the decision relating to the registration of a Farmers' Organization shall be made before the Authority.

8. Cancellation of Registration

- (1) The Registrar concerned, after due notice to the Management Committee, may cancel the registration of a Farmers' Organization if the Farmers' Organization has failed to pay its dues to the Area Water Board or the Authority.
- (2) The order of the Registrar under clause (1) of this Rule shall be subject to confirmation by the Authority. The Authority, after due notice to the Management Committee of the Farmers' Organization and after such inquiry as may be necessary in the case, may pass such orders as it may deem fit.
- (3) The Authority may, on the application of an aggrieved person, cancel the registration of a Farmers' Organization if the Registrar fails to take appropriate action under Sub-rule (1).
- (4) Where the registration of any Farmers' Organization is cancelled under these Rules, the Authority may make such consequential arrangements, which it may deem fit to protect the public interest.
- (5) The Farmers' Organization may apply for restoration of registration and if the Registrar concerned or, as the case may be, the Authority is satisfied that it has paid all its outstanding dues, he or it may restore the registration on such terms and conditions as he or it may deem fit.

Provided that the decision of the Registrar under this clause shall be subject to confirmation by the Authority.

9. Suspension

- (1) The Authority on its own motion, or on the application of all aggrieved person, may after due notice to the Farmers' Organization, suspend the working of a Farmers' Organization if the Authority is satisfied that the Farmers' Organization is working against the public interest.
- (2) The order of the suspension shall remain in force for a period of six months unless earlier withdrawn. Where the working of a Farmers' Organization is suspended, the Authority shall make necessary consequential arrangements to protect the public interest.

10. Dissolution

- (1) The Authority, on its own motion, or on the application of an aggrieved person, may after due notice to the Management Committee of the Farmers' Organization commence proceedings for the dissolution of a Farmers' Organization.
- (2) The Authority may suspend the working of a Farmers' Organization after commencing the proceedings for dissolution.

Provided that such period of suspension shall not exceed six months.

- (3) The Authority shall issue a notice to the Management Committee of the concerned Farmers' Organization and shall fix a place for, and a date of hearing, which shall not be earlier than 15 days and later than 30 days after the issue of notice, and on the said date of hearing of any other date to which the case is adjourned, it shall hear the parties and after such inquiry as is necessary in the circumstances may order the dissolution of a Farmers' Organization if it is satisfied that the Farmers' Organization is guilty of
 - (a) serious violation of the Act, Rules, Regulation or Bylaws;

- (b) patent misuse of power;
 - (c) gross neglect of duty;
 - (d) embezzlement of funds or resources; or
 - (e) mismanagement or inefficiency due to which its continuance is not in public interest.
- (4) Where a Farmers' Organization is dissolved under these Rules, the Authority shall make appropriate consequential arrangements and pass necessary orders for that purpose.
 - (5) Any person aggrieved by the decision of the Authority under this Rule may appeal to the Government.

11. Directions, Reports and Inquiries

- (1) The Authority may
 - (a) give such directions to the Farmers' Organization which it may deem appropriate in public interest;
 - (b) call for any report from a Farmers' Organization on any matter relating to the affairs of the said Farmers' Organization; or
 - (c) order for an inquiry into the affairs of a Farmers' Organization and, on the basis of the result of the inquiry, may take such action as it may deem necessary in public interest.
- (2) Where a Farmers' Organization substantially fails to follow the directions or fails to submit a fairly accurate report, the Authority may take such action and may pass such orders as may be necessary to protect the public interest.

12. Elections

- (1) Elections under these Rules shall be held by the Authority.
- (2) The Authority shall appoint Election Officers and such other persons as may be necessary for the conduct of elections.
- (3) The Irrigation Tribunal concerned shall decide disputes relating to the election of the Farmers' Organizations.
- (4) A person aggrieved by the order of the Irrigation Tribunal may appeal to the Irrigation Appellate Tribunal, within a period of 15 days, in accordance with such procedure as may be prescribed by the Authority.
- (5) Notwithstanding anything contained in these Rules, the Authority may in the first instance, form the General Body of the Farmers' Organizations without recourse to election, comprising such suitable Farmers who in its opinion are acceptable to their electorates.

13. Functions of Farmers' Organization

Subject to the overall control of the Authority and, where an Area Water Board has been established, the Authority and the Area Water Board, a Farmers' Organization formed and registered under these Rules may perform all or any of the following functions:

- (1) Manage, operate, and maintain the irrigation infrastructure including any hydraulic structures located on it, for which it has been established.
- (2) Obtain irrigation water supplies from the Authority or concerned Area Water Board at its head regulator, and pay the agreed amount to the Area Water Board concerned or the Authority in the manner agreed between the Farmers' Organization and the Area Water Board concerned, or between the Farmers' Organization concerned and the Authority.
- (3) Supply the irrigation water equitably and efficiently to the Farmers and other water users within its area.
- (4) Assess the water rates and other irrigation related charges to be collected from the water users.
- (5) Collect the water rates and other dues, fees and charges from the persons liable to pay them.
- (6) Levy and collect charges for additional services rendered by the Farmers' Organization.
- (7) Collect surcharge from water users and drainage beneficiaries in case of default in payment of their dues.
- (8) Settle water disputes relating to the Farmers or other water users of the area.
- (9) Any other duty, function or responsibility, which is incidental to or implied in the duties, functions, and responsibilities of the Farmers' Organization.

14 Transitional

- (1) The Authority shall ensure that the functions and duties are transferred to the Farmers' Organizations in an orderly manner after due consultation with the Farmers' Organization.
- (2) The Authority shall ensure that the duties and functions are entrusted to the Farmers' Organizations under a scheme which provides that the Farmers' Organizations become fully operative as self-supporting and self-sustaining entities to the extent of recovering O & M cost of canals, etc. within a period of seven years.
- (3) The Authority may enter into an agreement with a Farmers' Organization to implement the said Scheme.

Provided that the ownership of any property of the Authority is not transferred to the Farmers' Organization.

15 Powers of Farmers' Organizations

- (1) Subject to Rules 13 and 14, a Farmers' Organization may exercise all powers, which may be necessary and proper for the performance of functions entrusted to it.
- (2) Without prejudice to the generality of the provisions of Sub-rule (1), a Farmers' Organization may exercise the powers and authority of a Divisional Canal Officer (under the Canal and Drainage Act 1873) and any officer subordinate to him.
- (3) In the performance of its duties and functions entrusted to it under Rule 13 and Rule 14, a Farmers' Organization may

- (a) acquire, hold or dispose off movable property which is reasonably required for the carrying out of its functions;
 - (b) enter into contracts in all matters relevant to its functions, duties and responsibilities; and
 - (c) engage, hire or employ such experts, advisors, consultants and other personnel, as may be necessary for the performance of its functions.
- (4) The Authority shall include in the Scheme mentioned in Sub-rule (2) of Rule 14, the frictions entrusted to the Farmers' Organizations under Rules 13 and 14.

16. Tribunals

- (1) The Authority shall, for the purpose of dealing with cases and appeals under these Rules, constitute an Irrigation Tribunal for the area covered by an Area Water Board
- Provided** that where no Area Water Board has been constituted the Authority may authorize Canal Officer, above the rank of a Divisional Canal Officer, to act as Irrigation Tribunal.
- (2) The Authority may establish an Irrigation Appellate Tribunal, which shall decide appeals under these Rules. The Tribunal shall comprise a Judge of the High Court or a Judicial Officer who is qualified to be a Judge of the High Court.

17. Disputes Among Farmers

- (1) The General Body of a Farmers' Organization shall constitute a Nehri Panchayat comprising 3 or 5 members of the Farmers' Organization's other persons, which shall deal with the dispute under this rule.
- (2) All disputes arising among the Farmers or other water users shall be resolved preferably through mediation by the Nehri Panchayat of the Farmers concerned.
- (3) Where the Nehri Panchayat is unable to settle the dispute through mediation, it shall proceed to decide the case and, after such inquiry, which it may deem necessary, give its decision.
- (4) The decision of the Nehri Panchayat, shall be by majority of the members present and voting. In case of a tie, the case shall be referred to the President of the Farmers' Organization.
- (5) A person aggrieved by the decision of the Nehri Panchayat under this Rule may appeal to the Irrigation Tribunal of the said area. The appeal shall be available in such matters in which an appeal has been provided under the Canal & Drainage Act 1873 and Rules framed under it.

18. Dispute Involving Farmers' Organization, etc.

- (1) Any dispute involving a Farmers' Organization shall be decided by the Irrigation Tribunal.
- (2) A person aggrieved by the decision, under Sub-rule (1), may appeal to the Irrigation Appellate Tribunal within 30 days of the decision.
- (3) The Irrigation Appellate may call for the record of a case decided under Sub-rule (1), if no appeal has been filed against that Order under this Rule and may pass such order as it may deem fit.

- (4) Subject to Rule 17 (5), a person aggrieved by the decision of a Farmers' Organization under these Rules may appeal to the Irrigation Tribunal.

19 Financial Resources & Expenditures

- (1) Every Farmers' Organization shall establish a Fund to which shall be credited all sums received by the Farmers' Organization.
- (2) Subject to the financial procedure prescribed or directions given by the Authority, the funds of the Farmers' Organization shall be employed for:
 - (a) meeting its operating and services costs;
 - (b) servicing its debt obligations;
 - (c) meeting its capital replacement and improvements charges; and
 - (d) constitution of reserves.
- (3) The annual budget shall be prepared by the Management Committee and presented to the General Body for approval.

20. Accounts, Statements and Audit

- (1) A Farmers' Organization shall maintain proper books of accounts and financial records on a commercial basis, and shall prepare the following financial statements as per the standards of the Pakistan Institute of Chartered Accounts:
 - (a) the profit and loss accounts;
 - (b) the receipts and expenditure of the previous years; and
 - (c) a summary of the property and assets and liabilities giving such particulars as will disclose the general nature of the liabilities and assets and how the value of fixed assets has been arrived at.
- (2) A Farmers' Organization shall, not later than four months from the close of the relevant financial year, cause its accounts to be audited by commercial auditors according to the standards prescribed by the Pakistan Institute of Chartered Accountants.
- (3) The audited financial statements shall be approved by the General Meeting, and submitted to Authority at a date not later than 6 months from the close of the financial year.
- (4) A Farmers' Organization shall provide to the Authority detailed information and explanation regarding any observation, reservation, qualification or adverse remarks contained in the auditor's report.
- (5) A Farmers' Organization shall cause to be conducted by external auditors such periodic or special audits of maintenance or construction works, which is necessary to ensure that its financial resources have been properly utilized.
- (6) A copy of the last financial statement and of the report of the Auditors, if any, shall be kept in a conspicuous place in the office of the Farmers' Organization and shall be available for inspection by members.

SULEMAN GHANI
Secretary to Government of the Punjab
Irrigation and Power Department Lahore

Even No. & Date

A copy is forwarded to Superintendent, Government Printing Press Lahore for arranging publication of the Rules in the official Gazette and supplying 200 copies thereof to this Department at the earliest.

USMAN AKRAM
Addl. Secretary (Tech)

Even No. & Date

A copy is forwarded to:

1. Chairman, Punjab Irrigation & Drainage Authority (PIDA) Lahore (Ministry for Irrigation and Power)
2. Chairman, Planning and Development Board, Punjab Lahore.
3. Secretary to Government of the Punjab, Finance Department, Lahore.
4. Secretary to Government of the Punjab, Agriculture Department, Lahore.
5. Managing Director PIDA, 32-A, Faisal Town, Lahore.
6. General Manager (Transition Management) PIDA 32-A, Faisal Town, Lahore.
7. Provincial Coordinator NDP, Punjab Irrigation Department, House No. 7-B, Block-F, Gulberg-II, Lahore.
8. General Manager N.D.P., WAPDA Sunny View Estate, Empress Road, Lahore.
9. Mr. Ahmad Ali Aulakh, MPA, (Member Farmer, PIDA), P.O. Karor, District Layyah.
10. Mr. Saeed Ahmad Chaudhry, MPA, (Member Farmer, PIDA), Chak No.96, 112-L Tehsil Chichawatni, District Sahiwal.
11. Naeem Ullah Shahani, MPA, (Member Farmer, PIDA), Shahani House, Distt. Bhakkar.
12. Mr. Farhat Ullah Khan (Member Farmer, PIDA), 555/C, Faisal Town, Lahore.
13. Mr. Muhammad Arshad, (Member Farmer, PIDA), 324 Model Town, Khanpur, District Rahimyar Khan.
14. Munawar Ahmad, (Member Farmer PIDA), Village Gojra, Tehsil Daska, District Sialkot.
15. Chief Engineers, Irrigation:

i. Lahore	ii. Faisalabad	iii. Sargodha	iv. Multan
v. Bahawalpur	vi. D. G. Khan	vii. Drainage and Flood	
viii. Development	ix. Research	x. Planning & Review	
25. Superintending Engineer, Irrigation LCC (East), Faisalabad.
26. Superintending Engineer, Drainage Circle, Faisalabad.
27. Superintending Engineer, Irrigation L. B. D. C. Circle, Sahiwal.
28. All Farmer Members of Pilot Area Water Board (LCC East Circle Faisalabad)
 - i. Dr. Waqar Haider Shah S/O Syed Ashfaq Hussain Shah, Chak No.239/GB, Thesil Jaranwala
 - ii. Haji Din Muhammad S/O Muhammad Hassan (Khajoor Marka Soap Wala), Mamun Kanjan
 - iii. Haji Muhammad Yaqub S/O Muhammad Shafi, Chak No. 480/GB, Tehsil Samundri
 - iv. Mr. Muhammad Safdar Ali S/O Karam Bukhsh, Chak No. 327/GB, Tehsil Toba Tek Singh
 - v. Haji Mushtaq Ahmad S/O Ch. Ghulam Muhammad, Kamalia Distt. Toba Tek Singh
 - vi) Mr. Muhammad Ashraf S/O Ghulam Muhammad, Chak No.323/GB, Tehsil Toba Tek Singh
 - vii) Mr. Ghulam Mohy-ud-Din S/O Nabi Buklish, Chak No. 175/RB, Walipur Bura, Tehsil Sheikhpura
 - viii) Mr. Nazir Hussain Muhammad, Caste Dogar, Village Mouza Khalra Kalan, Tehsil Nankana

USMAN AKRAM
Addl. Secretary (Tech)

Dated Lahore 6th December, 1999

NOTIFICATION

No-OSD/L&WD/6/98. In exercise of powers conferred upon him under Section 14 of the Punjab Irrigation and Drainage Authority Act 1997, the Governor of the Punjab is pleased to assign the following functions in the interim phase to the Pilot Area Water Board already established in the Lower Chenab Canal (East) Circle, Faisalabad and notified vide Government of the Punjab, Irrigation and Power Department's notification of Even No. dated August 2, 1999:

- i) Monitor the O&M work plan;
 - ii) Recommend development schemes for the Development Program and review progress on such Programs;
 - iii) Approve regulation/rotational program of water distribution in Pilot AWB;
 - iv) Monitor the operation of Canal/Branch systems in various divisions and review the water account;
 - v) Plan/implement measures for checking water theft and other offences under irrigation laws to ensure equitable distribution of canal water and to address tail shortages;
 - vi) Review/supervise assessment of water rates;
 - vii) Review/monitor expenditure vis-a-vis budget allocations;
 - viii) Encourage participation of the water users in the irrigation management;
 - ix) Assist the Authority and Government in the formation, promotion and development of the Farmers' Organizations; and
 - x) Monitor the working of the Farmers' Organizations.
2. The functions of the Pilot Area Water Board and the Chief Executive shall be subject to the Rules framed by the Government from time to time under the Act. The Chief Executive of the Pilot Area Water Board, who is also Superintending Engineer LCC (East) Circle, will continue to perform the functions and exercise the powers of Superintending Engineer under the present legal, administrative, accounting and financial arrangements during the interim phase till such time appropriate frame-work is evolved and approved by the Government.

SULEMAN GHANI
SECRETARY

Even No & Date

Copy is forwarded to:

- I Chairman, Planning and Development Board, Government of the Punjab, Lahore.
2. Secretary, Finance Department, Government of the Punjab, Lahore.
3. Secretary, Agriculture Department, Government of the Punjab, Lahore.
4. Provincial Coordinator, NDP, Punjab Irrigation Department, House No.7-B, Block-F, Gulberg-II, Lahore.
5. General Manager (NDP), WAPDA, Sunny View Estate, Empress Road, Lahore.
6. All Official Members of Area Water Board.
7. All Farmer Members of Area Water Board.
8. P.S. to Secretary, Irrigation and Power Department, Government of the Punjab, Lahore.
9. Managing Director PIDA, 32-A, Faisal Town, Lahore.
10. General Manager (TM) PIDA, 32-A Faisal Town, Lahore.
11. Secretary to Governor Punjab, Lahore.

(USMAN AKRAM)

Additional Secretary (Tech)

Dated:

Farmers' Organizations (Registration) Regulations (1999)

In the exercise of the powers vested in it under Sections 14 and 17 of the Punjab Irrigation and Drainage Authority Act, 1997, the Authority has resolved to make and promulgate the following Regulations:

1. Title, Extent and Commencement
 - (i) These Regulations may be called Farmers' Organizations (Registration) Regulations, 1999.
 - (ii) They shall come into force at once.
 - (iii) They shall extend to all areas of the Province.
2. A Farmers' Organization may be registered by the Registrar in accordance with the procedure provided in these Regulations.
3. The application for registration shall be made by the Management Committee through the President or Secretary on the prescribed form given in Annexure 'A'. Application shall be accompanied by a fee of Rs.1000/- in the form of a Bank Draft in favor of Managing Director, PIDA/Chief Executive of the Area Water Board.
4. The application shall be filed in the office of the Registrar by delivering it in the said office or sending it through registered mail.
5. The application shall be accompanied by the following:
 - (a) Notification regarding the formation of General Body
 - (b) Notification regarding the election of the Management Committee
 - (c) A copy of the Agreement made between the Farmers' Organization and the Authority regarding transfer of functions and powers to Farmers' Organization and matters ancillary thereto.
 - (d) A certificate regarding the opening of account in a Schedule Bank located in the neighborhood.
6. The Registrar shall examine the application and related information. If the application is not made according to these Regulations or is not accompanied by the Registration Fee or any other requisite information or document, the Registrar shall return the application stating his reasons for doing so and also give a reasonable time within which the application may be submitted again.
7. The Registrar shall register the Farmers' Organization if he is satisfied and all the requirements of registration have been fulfilled as provided under the Rules and Regulations.
8. The Registrar shall issue, under his hand and seal, a Certificate of Registration in the form given in Annexure 'B'.
9. The Certificate of Registration issued by the Registrar shall be an official instrument of the Authority and full faith and credit shall be given to it by all concerned persons and officers.

10. An appeal against the final decision of the Registrar shall be presented before the Authority within one month of the order of the Registrar

Provided that the Authority may be, for valid reasons, entertaining an appeal beyond this period.

(MUHAMMAD WAQAR KHAN)
SECRETARY, PIDA

Dated:

In the exercise of the powers vested in it under Sections 14 and 17 of the Punjab Irrigation and Drainage Authority Act, 1997, the Authority has resolved to make and promulgate the following Regulations:

1. Title, Extent and Commencement

- i These Regulations may be called Farmers' Organizations (Elections) Regulations, 1999.
- ii They shall come into force at once.
- iii They shall extend to all areas of the Province.

2. Election Officers and Election Schedule

- (1) Elections shall be conducted under these Regulations by the Senior Election Officer and Election Officers. The Executive Engineer shall be the Senior Election Officer for Farmers' Organizations of the distributaries within his Division. The Election Officers shall be appointed by the Chief Executive of Area Water Board/Superintending Engineer of the Circle.
- (2) Chief Executive of Area Water Board/Superintending Engineer may, with the approval of the Managing Director, notify that elections for the formation of the Farmers' Organization of a distributary within his canal command will be held within next three months of the said notification. He shall conspicuously display a notice to that effect in his office and other public offices and places.

3. Elections of the Representative of a Watercourse

- (1) The Senior Election Officer shall publish a Preliminary List of the Farmers eligible to participate in the election as voters of each watercourse and display it at his office and other irrigation offices in the area. He shall also send a copy of the said list to all the Lumbardars of the area who shall inform the Farmers of each watercourse of his area.
- (2) A Farmer of the concerned watercourse may make an objection against the Preliminary Voters List to the Senior Election Officer within 3 days of the publication of the said List.
- (3) The Senior Election Officer shall decide all such cases within 2 days thereafter and publish a Final List of voters for each watercourse and display it accordingly.
- (4) The election for the representative of a watercourse shall be held in a Meeting of the Farmers of the said watercourse whose names appear in the Final Voters List.
- (5) The Election Officer shall fix the date, time and a convenient place for the Election Meeting within, or in the vicinity of, the command area of the watercourse and take reasonable steps to inform the electorate. The Election Meeting shall not be held before expiry of three days from the publication of the Final Voters List.
- (6) The Election Meeting, shall, as far as possible, be held at the said date, time and place. However, the Senior Election Officer may, for valid reasons, make any change in them if he is satisfied that the turn of the voters is likely to be poor.

- (7) The Election Meeting shall be presided by the Election Officer who shall be assisted by the staff assigned to him for this purpose. The meeting shall not be, attended by any person other than a voter or a person on election duty or an officer of the Authority authorized in that behalf.
- (8) The Election Officer shall take the attendance of each voter present in the meeting after satisfying himself as to his identity. He shall entertain and dispose off any objection raised against the identity of any voter. He shall also explain to the voters the procedure for the conduct of the election and satisfy himself that they have understood the procedure.
- (9) The Election Officer shall, then, proceed to conduct the election for the representative of the watercourse. He shall ask for the nomination of the candidates. A Farmer whose name is listed in the voters' list may nominate any such Farmer as a candidate. If the proposal is seconded by another Farmer and accepted by the candidate, the Election Officer shall declare him to be a candidate for the election. The Election Officer shall entertain and decide upon objections, if any, made against such nomination.
- (10) If there is only one valid nomination, the Election Officer shall declare the said person to have been elected as representative of the said watercourse. In case there are more than one candidates contesting for the election, the Election Officer shall proceed to elect the said representative by 'show of hand' in the same meeting. He shall count the votes, cast in favor of each candidate and declare the person securing the highest number of votes as representative of the said watercourse. In case two or more candidates secure equal number of votes, the Election Officer shall decide the matter by drawing of lots.
- (11) The Election Officer shall notify the election of the representative of the watercourse and communicate it to the person elected as representative, the Senior Election Officer and the Head Office of the Authority.
- (12) Notwithstanding the provisions of this Regulation, where a Farmers' Organization has been established under a project by a Government Agency or an International Organization, the existing representative of the watercourses of that distributary chosen through election arranged by that Agency or Organization shall be deemed to be elected representatives of the watercourse under these Regulations.

Provided that this clause shall be applicable only for the first raising of the Farmers' Organization.

4. Election of the Management Committee

- (1) The General Body of the Farmers' Organization shall elect the Management Committee comprising the following Office Bearers:
 - (a) President
 - (b) Vice-President
 - (c) Secretary
 - (d) Treasurer
 - (e) Three Executive Members from the tail reaches of the distributary
 - (f) One Executive Member, each from the middle and head reaches of the distributary

Provided that if the members of the General Body of a Farmers' Organization are less than 15, the Chief Executive of Area Water Board, or as the case may be, Superintending Engineer of the Circle, with the approval of the Managing Director of the Authority, may reduce the number of the Office Bearers of the Management Committee of that Farmers' Organization.

- (2) The Senior Election Officer shall, under the control and guidance of the Authority, conduct the election of the Management Committee of a distributary within his area. He shall notify the detailed Election Schedule for the election of the Management Committee of the said Farmers'

Organizations in accordance with provision of these Regulations. He shall also notify the place of election.

- (3) Along with the notification of the Election Schedule, the Senior Election Officer shall publish the Preliminary Voters List comprising the members of the General Body of the Farmers' Organization.
- (4) A person aggrieved by the order of the Senior Election Officer, under clause (3) above, may make an objection in writing, within a period of seven days of the publication of the Preliminary Voters List, in the office of the Senior Election Officer. The said Officer shall, within one day thereafter, pass such orders, which he deems appropriate and shall, publish the Final Voters List.
- (5) The nominations for the Office Bearers shall be filed within next two days of the publication of Final Voters List. Any Member of the General Body whose name appears on the Final Voters List may propose in writing another member as a candidate for any position in the Management Committee. The proposal shall be seconded by another such Member and accepted by the candidate.
- (6) The Senior Election Officer shall, on the day next after the date fixed for filing the nomination papers under clause (5) above, scrutinize the nomination papers of the candidates and publish a preliminary list of candidates and display it at his office.
- (7) A candidate may file an objection against the order of the Senior Election Officer under clause (6) above within one day of the publication of the Preliminary List of Candidates. The objection shall be filed in the office of the Senior Election Officer who, after such inquiry as he may deem fit, pass necessary orders on that objection on the next day.
- (8) The Senior Election Officer shall publish the Revised List of Candidates on the next day and display it at his office and shall provide a copy to any voter on demand.
- (9) Any candidate may withdraw his candidature within two days of the publication of the Revised List of Candidates. The withdrawal shall be in writing and signed by the candidate.
- (10) The Senior Election Officer shall, on the next day, publish the Final List of Candidates and display it at his office and provide a copy on demand to any candidate.
- (11) If there is only one eligible candidate for Office in Management Committee (except those mentioned in clause (1) (e) of this Regulation), such candidate shall be declared elected. If there are not more than three eligible candidates for the position of the Executive Members given in clause (1) (e) of this Regulation, such candidate or candidates shall be declared elected.
- (12) The Senior Election Officer shall, if necessary, make all necessary arrangements for the conduct of elections, which shall be held within 3-5 days through secret ballot. The said Officer shall provide ballot papers, ballot box, stationery and other material necessary for the conduct of election. A candidate or his duly authorized agent shall be allowed to be present at the place of holding the election.
- (13) The Senior Election Officer may allot election symbols to the candidates, if in his opinion, it is necessary to do so.
- (14) The Senior Election Officer shall issue a ballot paper to a voter whose name appears on the Voters List, after satisfying himself about the identity of the said voter. The voters shall secretly mark the ballot papers and drop them into the ballot box provided for that purpose.
- (15) At the end of the time specified for the polling, the Senior Election Officer shall count the ballot papers. He shall cancel any ballot paper, which is
 - (a) not properly marked; or

- (b) marked for more than three candidates for Executive Members from tail reaches; or
 - (c) marked for more than one candidate for any other office; or
 - (d) substantially damaged/mutilated; or
 - (e) bearing any mark of identification.
- (16) The Senior Election Officer shall exclude the cancelled ballot papers and count the valid votes received by each candidate. A candidate or his authorized agent shall be allowed to be present at the time of counting the ballot papers.
- (17) A candidate, who obtains the highest number of votes for a particular office, shall be declared elected to that office, provided, that the three candidates getting highest number of votes for the positions of the Executive Members from tail reaches shall be declared elected as Executive Members. In case two more candidates get the highest number of votes, the Senior Election Officer shall decide the matter by drawing of lots. He shall announce the result at the end of counting.
- (18) The Senior Election Officer shall, on the next day, notify the result of the election of the Management Committee and send a copy of the result to the Authority and Area Water Board/Superintending Engineer of the circle, and also provide a copy to any candidate on demand.

5. Election Disputes

- (1) A candidate or a voter aggrieved by the decision of the Senior Election Officer under clause (18) of Regulation 4 above or that of the Election Officer under clause (11) of Regulation 3 above, may file an Election Petition before the Irrigation Tribunal of the area concerned, within seven days of the notification of the result, in such form as may be prescribed from time to time

Provided that the Irrigation Tribunal may, for valid reasons and after hearing all the parties concerned entertain a petition after the said period.

- (2) The Irrigation Tribunal shall, after such inquiry as it deems necessary, give its decision on the Election Petition and pass such consequential orders which it may deem appropriate in that particular case. The Tribunal shall record its decision along with reasons for the said decision and furnish a copy of it to the petitioner and respondent.
- (3) An appeal against, the decision of the Irrigation Tribunal may be filed before the Irrigation Appellate Tribunal within 15 days of the decision of the Irrigation Tribunal

Provided that the Irrigation Appellate Tribunal may, for valid reasons and after hearing all the parties concerned, entertain an appeal after the said period.

(MUHAMMAD WAQAR KHAN)
SECRETARY, PIDA

**ANNEXURE II: FINANCIAL REGULATIONS FOR FARMERS' ORGANIZATION
UNDER PIDA**

PUNJAB IRRIGATION AND DRAINAGE AUTHORITY

Annex 2.1: Establishment of Farmers' Organization Fund

(A Resolution to be adopted by the Management Committee of Farmers' Organization)

WHEREAS Farmers' Organization of ----- (name of distributary/minor) has been established under the Punjab Irrigation & Drainage Authority Act 1997, and has been registered with the Punjab Irrigation & Drainage Authority to perform functions as a Farmers' Organization envisaged in the Punjab Farmers' Organization Rules 1999.

WHEREAS Under the said Rules it is the responsibility of the Farmers' Organization to establish a Fund to which shall be credited all sums received by the Organization and which shall be utilized to meet the operating costs and other obligations as laid down in Rule 19 of the said Rules.

NOW, therefore, it is hereby resolved that:

The Farmers' Organization Fund of ----- (name of minor/minor) is hereby established, which will be vested in the Farmers' Organization to which shall be credited all sums received by the Organization and out of which shall be disbursed amounts necessary to defray all kind of expenditure whether it is capital or revenue, incurred on account of and in connection with the due performance of the various functions of the Organization under the Rules; and

The Organization shall take all the necessary steps to ensure that the Farmers' Organization Fund is maintained, operated and utilized in accordance with the Regulations framed by the Punjab Irrigation & Drainage Authority from time to time.

FARMERS' ORGANIZATIONS FINANCIAL

REGULATIONS

The Punjab Irrigation & Drainage Authority, in exercise of the powers vested in it under the Punjab Irrigation & Drainage Authority Act 1997, is pleased to frame and promulgate the following Regulations:

1. Short Title, Extent and Commencement

(1) These Regulations may be called the Pilot Farmers' Organizations Financial Regulations, 2000.

(2) These Regulations shall be applicable to such Farmers' Organizations, which are registered with the AWB/Authority under Pilot Farmers' Organizations (Registration) Regulations, 1999.

(3) These Regulations shall come into force at once.

2. Definitions

In these Regulations, unless there is any thing repugnant in the subject or context;

(1) "Act" means Punjab Irrigation and Drainage Authority Act 1997;

(2) "AWB" means Area Water Board constituted under the Act;

(3) "Authority" or "PIDA" means Punjab Irrigation and Drainage Authority established under Section-2 of the Act;

(4) "Committee" means the Management Committee of the Farmers' Organizations;

(5) "Competitive Bidding" means sale/purchase of any item or leasing of land/property through

(i) open auction; or

(ii) calling of tenders/quotations; or

(iii) sealed bids

for which a notice of at least 14 days has been given through press or on the Farmers' Organization's notice board as may be determined by the Committee;

(6) "Fund" means Farmers' Organization Fund established under the Rules;

(7) "Fund Account" means the main bank account of the Farmers' Organization for receipts and disbursements opened and operated in accordance with these Regulations;

(8) "General Body" means General Body of the Farmers' Organization formed pursuant to the Rules;

(9) "Farmer" means a person who is directly engaged in agriculture and is paying occupier's rate under Canal and Drainage Act 1873.

- (10) "Member" means Member of the General Body as defined in Rules.
- (11) "Farmers' Organization" means a Farmers' Organization registered with the AWB/Authority under Pilot Farmers' Organizations (Registration) Regulations 1999;
- (12) "Owner" means owner of agricultural land within the jurisdiction of the Farmers' Organization;
- (13) "Rules" means Pilot Farmers' Organization Rules 1999; and
- (14) "Water Rates" or "Abiana" means all water rates leviable under Canal and Drainage Act 1873 and any other law for the time being in force.

3. Establishment of the Fund

- (1) The Committee shall pass a resolution for the establishment of the Fund as required under the Rules soon after its registration.
- (2) The Fund shall be vested in the Farmers' Organization.
- (3) The Fund shall be irrevocable and non-lapsable
- (4) All sums received by the Farmers' Organization under the Rules shall be credited to the Fund which shall be utilized to incur any duly authorized expenditure with regards to meeting O&M costs; undertaking any work; acquiring by purchase or lease any land, property, machinery/equipment and stores; and paying for expenses incurred on account of and in connection with due performance of various functions of the Farmers' Organization under the Rules.

4. Composition of the Fund

The Fund shall comprise all receipts and money belonging to the Farmers' Organization, which shall include, but not limited to, the following:

- (1) All sums received by or due to the Farmers' Organization in respect of water rate, drainage access, etc.
- (2) Contributions and fees subscribed by the owners.
- (3) Grants made by the Federal or Provincial Government or from the Authority.
- (4) Loans, advances or any short term running finance obtained by the Farmers' Organization with the approval of the Authority.
- (5) Foreign assistance/grants or bans obtained with the sanction of and on such terms and conditions as may be approved by the Government in consultation with the Authority/Area Water Board.
- (6) Profits on investments in bank deposits and securities.

- (7) Proceeds from the sale of store, equipment or any other assets of the Farmers' Organization.
- (8) Proceeds from leasing of land/property.
- (9) All other sums receivable by the Farmers' Organization under the Rules.

5. Management and Control

The Management Committee shall be responsible for the control, maintenance, operation and accounting of the Fund.

6. Fund Account

- (1) For the purposes of the operation of the Fund, bank account to be known as the "Farmers' Organization Fund Account --- (Name of the minor/minor)" shall be opened and operated in accordance with these Regulations.
- (2) Surplus funds may be invested in bank deposits or securities in accordance with these Regulations.
- (3) The aggregate amount of bank balances and amounts invested in bank deposits and securities and outstanding at any given time shall be treated as part of the Fund.

7. Farmers' Organizational Set-up for Financial Function

- 7.1 The Treasurer will be Financial Officer of the Farmers' Organization who shall report to the President. The Treasurer shall have the overall responsibility for the financial functions and assessment/collection work. He will be assisted in his work by the FO Assistant/Revenue Assistant.
- 7.2 FO Assistant shall be taken on deputation from the Authority on full time or part time basis depending upon the size of the Farmers' Organization. He will liaison between the Farmers' Organization and the Authority. FO Assistant shall be under the administrative control of the Farmers' Organization and shall perform following functions:
 - (i) To act as cashier;
 - (ii) To write, maintain and keep books;
 - (iii) To prepare periodical/annual financial statements and the annual budget;
 - (iv) To transmit to AWB/Authority periodical/annual financial and budget utilization statements and any other information required;
 - (v) To implement the decision/directions given by AWB/Authority regarding financial and administrative matters; and
 - (vi) To perform the function of Revenue Assistant where no such assistant has been hired in case of small Farmers' Organization.

- 7.3 Revenue Assistant may be appointed having qualification and experience of Ziladar responsible for assessment/collection work pertaining to water rates and allied charges. He shall (i) maintain assessment/collection record; (ii) carry out/supervise the survey of the crops for assessment; (iii) compile assessment lists/summaries of Farmers and reconcile with the total holding; (iv) prepare bills to be issued to the Farmers; and (v) make/coordinate efforts for realization of dues.
- 7.4 Manager Technical shall report to the President with functional relationship with the Treasurer. He shall prepare estimates for new projects/works and supervise their execution. He shall also look after the operation and maintenance of the system and shall also be in charge of the stores.

8. Water Rates Assessment and Collection

Procedure pertaining to assessment and collection is given in Attachment, 'A' which shall form an integral part of these Regulations.

9. Other Income

- 9.1 Other income may comprise the following:
- (i) Profit on investments, saving accounts and bank deposits.
 - (ii) Profit on sale of fixed assets.
 - (iii) Lease/rental income of land/property.
 - (iv) Miscellaneous income.
- 9.2 A separate register will be maintained for all types of other income.
- 9.3 Profit received on investments, etc. shall be checked with reference to agreed rate of profit/interest, period of investment and the principal amount. It shall be ensured that profit is received regularly and on the due date.
- 9.4 Sale of fixed assets shall be made with the approval of the competent authority through competitive bidding to the highest bidder. Mode/terms of sale shall be determined by the Committee. Items sold shall be delivered against cash payment for which receipt shall be issued.
- 9.5 Land/property belonging to the Authority/Farmers' Organization held within the Farmers' Organization may be leased out through competitive bidding to the highest bidder on such terms and conditions as may be approved by the Committee. In case of lease of agricultural land/orchards, proper lease agreements shall be drawn up with provision of adequate guarantees/advance payment to ensure due performance of the lease terms by the lessee. Buildings shall be let out at a reasonable rent receivable in advance. Rooms in Rest Houses may be rented out for short or long-term duration at a daily rent to be notified by the Committee. A proper record of occupation of rooms shall be maintained, which shall be checked by the Treasurer periodically to ensure that rent is duly accounted for.

10. Advances, Loans and Deposits

- 10.1 Advances to suppliers/contractors may be made for purchase of material and for construction work as per the terms of the Purchase Order. The amount advanced shall be deducted from the value of goods/services supplied/rendered before the payment is made. All advances shall be reviewed periodically and amounts long outstanding shall be investigated.
- 10.2 Advance salary to staff for expenses may be given for traveling on official duties as well as for specific expenses, which shall be required to clear within a week's time or within three days after the specific purpose for which the money was advanced has been completed. Advance must be accounted for in full against duly approved expenditure report. Fresh advance shall not be given unless all previous amounts have been cleared except in exceptional circumstances and that too with the approval of the Treasurer. Advances shall be regularly scrutinized and steps should be taken for speedy recovery/adjustment.
- 10.3 The Farmers' Organization may hire/acquire building for its use and pay rent in advance up to a maximum period of twelve (12) months against a written lease agreement which should provide for termination of agreement at a reasonable notice.
- 10.4 Loans to staff may be given for their personal needs, which shall be repayable in specific fixed equal monthly installments. The loan shall be repaid through payroll deductions, starting from the month following the month in which loan was taken. Loans shall be granted with the sanction of the Committee in deserving cases up to a maximum of six months' pay repayable in not more than 12 months. The loaner must have a minimum of three years continuous service with the Farmers' Organization and shall be required to furnish a personal guarantee of a resident of that area acceptable to the Committee. No loans shall be granted to the office bearers of the Farmers' Organization.
- 10.5 Deposits may be given as security for telephone/electricity connections, etc. Consideration should be given to lodging Government interest bearing securities instead of cash deposit. Deposits may also be given for equipment rented for use.

11. FIXED ASSETS

- 11.1 Inventory of fixed assets taken over from PID/PIDA on lease shall be taken jointly and memorandum record in respect thereof shall be maintained. The inventory shall be signed by the authorized representatives of the Farmers' Organization and PIDA and a copy shall be provided to PIDA. Such assets shall not be taken on charge in the financial books, as they are the property of PIDA.
- 11.2 Fixed assets may be classified into the following categories:
 - (i) Land
 - (ii) Buildings
 - (iii) Civil works (Roads, Irrigation Channels, etc.)
 - (iv) Hydraulic Structures

(v) Tools & Plants

- 11.3 Subsidiary record shall be maintained for each item of the above category of fixed asset for both cost and accumulated depreciation.
- 11.4 The Committee may ask the Treasurer to prepare "Capital Expenditure Approval Request" if it is necessary for the purpose of safe, efficient and cost effective, operations and maintenance to (i) purchase vehicles/equipment/machinery; (ii) to acquire land; (iii) to construct/modify civil/hydraulic structure; (iv) to undertake major rehabilitation work; and (v) to lay additional or modify existing irrigation and drainage system. The said request based on estimates prepared by Technical Assistant shall be submitted to AWB/Authority for approval.
- 11.5 Depreciation on fixed assets shall be calculated on straight-line basis on all assets, other than on land until the asset is fully depreciated subject to retention of a notional value, say 1% of the original cost. Rates of depreciation shall be determined by the Committee keeping in view the useful life of the asset.
- 11.6 Fixed assets may be disposed off either by sale or by scrapping them, and in both cases, consent of the competent authority shall be obtained. The proceeds on the sale of asset or scrap as the case may, be shall be accounted for in cashbook through a receipt issued to the purchaser. Delivery of items sold shall be given against full payment.
- 11.7 For financial prudence, amount equal to the annual depreciation expense each year shall be invested in government securities and earmarked to be utilized for replacement of assets which become outdated, obsolete or irreparable. Income earned thereon shall also be invested in such securities to cover inflation.

12. SALARIES AND WAGES

- 12.1 All initial or subsequent appointments of staff (full/part-time) with the exception of the FO Assistant shall be made by the Farmers' Organization in accordance with the staffing plans previously agreed in writing with the AWB/Authority. Labour shall be hired according to budget allocation for the relevant works/project with the approval of the competent authority. A copy of the appointment letter shall be provided to the FO Assistant. A personal file shall be opened for each staff member, and appointment letter and other papers pertaining to his appointment (increment, leave, termination, etc.) shall be placed in his file.
- 12.2 Increments and changes in allowances and benefits may either be according to terms of appointment or special. All increments and salary changes shall be approved by the competent authority and a copy of the advice shall be provided to FO Assistant.
- 12.3 Attendance sheets shall be prepared by the Technical Assistant for the labour hired on permanent basis or for specific purposes. Attendance sheets duly signed shall be provided to the FO Assistant within three days after the end of the month, who shall check the attendance sheets for presence and absence and calculate the amount payable thereon.

- 12.4 The FO Assistant shall prepare the salary sheets of staff and labour with reference to attendance sheets, appointment letters and subsequent pay change advices. Salary of the FO Assistant shall be paid by the Farmers' Organization.
- 12.5 Total earnings for the current month shall be reconciled with that of the previous month by accounting for changes in salary and/or personnel during the intervening period. The salary sheets shall be approved by the Treasurer.
- 12.6 Salaries shall be disbursed by the FO Assistant against the acknowledgement on the salary sheet. Payment of salaries shall be completed latest by 7th of the following month.
- 12.7 Services of an employee may be terminated by the competent authority in accordance with the local practice and relevant laws and an advice shall be sent to the FO Assistant who shall calculate the amount payable and make payment accordingly.

13. Receipts and Disbursements

13.1 Fund Account

- 13.1.1 A bank account shall be opened in the name of the Farmers' Organization. If chequing facilities are permitted and there are no restrictions on withdrawals, saving account should be opened rather than current account.
- 13.1.2 The bank account and financial instruments shall be operated/executed jointly by the Treasurer with the President or as may from time to time be specified by the Committee with the permission of the AWB/Authority in case the cheque signatories are proposed to be other than those mentioned above. However, the bank account/financial instruments shall in no way be operated by a single signatory. FO Assistant shall have the authority to give instructions to the bank to cease/reopen the account operations as directed by AWB/Authority.
- 13.1.3 A bank cash book shall be maintained to record transactions of all receipts and disbursements. Entries in the cashbook shall be made through receipts and disbursements vouchers.
- 13.1.4 The FO Assistant shall act as cashier and shall be made responsible for petty cash imprest; cheque book; investment documents; preparation of receipts and disbursement vouchers and banking of all cash/cheque collections.
- 13.1.5 The bank cashbook shall be balanced monthly and the FO Assistant shall be responsible for checking and preparing bank reconciliation statement at least once a month. If volume of transaction is significantly large, then the bank statement shall be obtained and reconciled weekly and also at the month end. The bank reconciliation statement shall be reviewed by the Treasurer who shall sign the bank cashbook and the reconciliation statement.
- 13.1.6 Balance in the bank account not immediately required for the purposes of operations may be invested in short term securities or bank deposits, with Government owned banks/savings schemes, and on such terms and conditions as the Committee may determine and such securities/deposits may be realized by the Committee when deemed necessary for credit to the Farmers' Organization's bank account together with the accrued profit/interest thereon. The

securities/deposits shall be in the name of the Farmers' Organization and in no way, the money shall be invested in bearer securities. The financial instruments shall be kept under lock and key with the Treasurer.

13.2 Receipts

- 13.2.1 Pre-numbered receipt books shall be maintained. Receipts shall be issued by the cashier for all collections and shall be countersigned by the Treasurer.
- 13.2.2 Receipt shall be prepared in duplicate. Original shall be given to the depositor whereas the carbon copy shall be retained in the book for record. Spoilt receipts shall be cancelled and both copies shall be retained in the book for audit.
- 13.2.3 All collections shall be kept under lock and key and will be deposited into the bank intact at least once during a week. Collections shall not be utilized for payment.

13.3 Disbursements - general provisions

- 13.3.1 For sound accounting control, wherever practical, all payments should be made by cross cheques with the exception for petty cash, salary disbursements and in special circumstances. In such a case, cash cheque should be made out in the name of the cashier or any other specific person designated for the purpose of dealing with the bank.
- 13.3.2 Spoilt cheques should be cancelled and retained for audit.
- 13.3.3 For all cheque payments, disbursement vouchers shall be prepared by the cashier. Payments shall be processed only for duly approved expenditure subject to the budgetary allocation for each item. All supporting documents such as purchase order, invoice, material receipt note, etc. shall be attached to the disbursement voucher and presented to the Treasurer together with the cheque drawn in the name of the payee. The Treasurer, after verification, shall approve the voucher and the cheque shall be signed.
- 13.3.4 The voucher shall contain particulars as to amount payable, invoice/purchase order references and details of deductions/adjustments on account of withholding tax, retention money, advance, excess/short billing, etc., if any.

13.4 Payment for Works, Materials/Stores and Expenses

- 13.4.1 Purchase orders on the basis of competitive bidding shall be issued to the lowest bidders by the Treasurer to the suppliers for the supply of asset/material costing more than Rs.1000 and to the contractor for construction work. Works, which are estimated to cost less than Rs.5,000, may be undertaken by the Farmers' Organization employing labour on work charge basis. Purchase order shall be made in duplicate, original to be given to the supplier/contract and the copy of the purchase order shall be provided to the FO Assistant. Upon the receipt of the goods, Technical Assistant shall check that they are in order and issue "Material Receipt Note". FO Assistant shall (i) match the purchase order, receipt note and the supplier's invoice, (ii) check calculations, and (iii) prepare disbursement voucher for payment. Inventory for materials/stores shall be maintained by or under the supervision of the Technical Assistant.

- 13.4.2 In case of the construction work, progress payments may be made as per the terms of purchase order on the basis of the bill, verified by the Technical Assistant with the entries in the Measurement Book. On completion of the contract, the completion note shall be made by the Technical Assistant. The said note shall contain Technical Assistant's certification that the work has been carried out in accordance with the prescribed standards, and after President's approval the note shall be given to the FO Assistant and the payment shall be made as described above. Retention monies as per the agreed terms, advances and applicable withholding taxes shall be deducted from each payment.
- 13.4.3 Payments for entertainment, traveling, medical and other such expenses originating internally shall be checked with the supporting documentation, authorization and internal regulations for correctness and propriety of the expenditure.
- 13.4.4 Payments for withholding taxes, retention money, etc. shall be checked with relevant documents and accounting records to ensure that the basis of computation is correct and the amount is due for payment. Payment for withholding taxes shall be made into the Government Treasury. Retention money shall be released after the expiry of the free maintenance period upon certification by the Technical Assistant.
- 13.4.5 Payments for utilities and telephone/fax bills shall be checked as far as possible with reference to the meter readings and tariffs. If practical, register of outstation telephone calls should be maintained to exercise control over usage and billing.
- 13.4.6 A register of outgoing mail should also be maintained for record and verification for postage expenses. Reimbursement of postage shall be through petty cash.
- 13.4.7 Payment for rent and services (fees for lawyers, doctors, accountants, etc.) should be verified with the lease or service agreements and invoice.

13.5 Petty Cash

- 13.5.1 Petty cash shall be kept by the Cashier on imprest basis. An initial imprest shall be established with Rs.10, 000/- that may from time to time be revised by the Committee keeping in view the volume of payments. Petty cash shall be used for making payments to employees or for petty expenses.
- 13.5.2 Petty cash voucher shall be made for each payment. The "payee" shall sign the voucher as token of receipt when the payment is made to him. Amount paid shall be entered in the petty cash book maintained by the cashier.
- 13.5.3 Periodically, when about 1/3 of the balance is left in the imprest and at the month end, the cashier shall total the petty cash book showing total expenditure and the balance in hand and prepare the disbursement voucher and cheque. The Treasurer after verification shall sign the petty cash book and authorize the payment. No other receipts or collections shall be entered in the petty cash book.

14. BUDGETING AND MONITORING BUDGET UTILIZATION

- 14.1 The annual budget document shall be prepared by the FO Assistant, which shall comprise the following:
- (i) O & M budget
 - (ii) Capital expenditure budget including projects
 - (iii) Financing plan
- 14.2 The budget would be drawn up in such a way to make the Farmers' Organization financially self-sustaining and should also demonstrate the Farmers' Organization's capacity to generate (i) sufficient income from all sources and beneficiaries/members to meet its O&M costs, depreciation of assets and debt service payments; and (ii) sufficient funds from its own resources and/or through borrowings/grants/members' contributions to meet its capital expenditure requirements.
- 14.3 Annual Budget shall be prepared latest by 30th April for the ensuing fiscal year. After verification by the Treasurer and President, the budget shall be presented to the Committee for approval in May/June. The budget shall be amended as directed by the Committee. Efforts shall be made to obtain final approval from the General Body before the beginning of the year for which the budget has been prepared. Copy of the approved budget shall be provided to the AWB/Authority.
- 14.4 O & M budget will include all costs proposed to be incurred on maintenance, salaries, depreciation, interest cost, traveling, communication, utilities, office expenses, law and professional fees and all other expenditures related with the working of the Farmers' Organization. Budget shall be based on factors such as expenditure for the previous period, general inflation rate and projected activities for the future. Yardstick for R & M expenditure for irrigation drainage channels/structures shall be regularly updated by the Committee.
- 14.5 Budget for capital assets and projects under ADP and other sources shall be prepared on the basis of duly approved "Capital Expenditure Approve Request". An advance copy of the budget for ADP shall be forwarded to the AWB/Authority by 30th April for approval and provision of the matching grant. Efforts shall be made to obtain the grant for ADP in the beginning of July.
- 14.6 Financing plan shall include inter alia, expected loans/grants/contributions, realization of investments and investment income, debt servicing, abiana collection and other income. Estimates for abiana and other revenue shall be prepared keeping in view the past experience, area under cultivation and tariff approved for the next year. An advance copy of the plan shall be provided by 30th April to the AWB/Authority for their own budget preparations.
- 14.7 Budget utilization record shall be maintained by the FO Assistant for O & M expenditure and projects. The said record shall be updated at quarterly intervals.
- 14.8 If the expenditure on any item of expense or capital asset or project exceeds the budgetary allocation up to 10%, the excess shall be approved by the Committee, otherwise, the matter shall be referred to the General Body together with explanation of variances for their consideration and approval.

15. BORROWING

- 15.1 The Farmers' Organization for capital assets/projects may obtain long-term loans or short-term running finances (bank overdraft).
- 15.2 Long-term loans may be obtained from the Government, Authority, Area Water Board or financial institutions with or without interest. Overdraft may be permitted by the bank on current account up to an approved limit.
- 15.3 No short/long term loans or advances shall be obtained from bank or any other institution, and likewise, no collateral shall be provided to secure any liability without specific written approval of the AWB/Authority.

16. Reserve Fund

- 16.1 Reserve Fund may comprise the following:
 - (i) Excess of income over expenditure.
 - (ii) Grant from Government/PIDA/AWB for ADP Projects and under the World Bank covenants.
 - (iii) Any other source.
- 16.2 Grants or contributions received should be placed in short-term bank deposits and be encashed as and when funds are required for the projects. Such funds shall only be utilized for works/projects for which they are made available and no part thereof shall be spent on O&M expenditure.

17. Accounts

- 17.1 Double entry financial accounting system shall be followed by the Farmers' Organization. The record and accounts of the Farmers' Organization shall be maintained as specified in the Regulation and amended from time to time to reflect, in accordance with generally accepted accounting principles, true financial position and operational income/expenditure of the Farmers' Organization.
- 17.2 The financial year of the Farmers' Organization shall cover the 12-month period from 1st July to the following 30th of June to coincide with the accounting year of senior organizations such as AWB and the Authority. For the purposes of management accounting, the financial year shall be divided into four quarterly periods. At the end of each accounting period, a statement of financial position (balance sheet) and an income and expenditure account shall be drawn up with figures cumulative from the commencement of the financial year to the date of the accounts. Cumulative figures for the previous year's corresponding period shall also be shown on the financial statements.
- 17.3 Books of accounts shall always be kept up to date. Transactions shall be recorded on daily basis. Bank reconciliation shall be prepared soon after the week/month end as the case may be. Financial record shall be available for inspection to AVVB/Authority if so required.

- 17.4 Quarterly statements of financial position (i.e. balance sheet) and income and expenditure shall be prepared and presented to the Committee for its information and consideration latest by the end of the month following the end of the quarter to which they relate. The above-referred statements shall be supported by the relevant schedules relating particularly to receivables, payables and budget utilization.
- 17.5 The Farmers' Organization shall not later than three months from the close of relevant financial year cause its financial statements be prepared and approved by the Committee and be made available to the auditors.
- 17.6 The annual financial statements shall comprise (i) balance sheet, (ii) income and expenditure statement, (iii) funds flow statement and (iv) statement of significant accounting policies. The financial statements shall be accompanied by the necessary supporting schedules.
- 17.7 Quarterly and annual financial statements referred to above shall be authenticated by the President and the Treasurer.
- 17.8 For the guidance of and to ensure uniformity in accounting and financial reporting by the Farmers' Organization, the Authority shall issue an Accounting Manual which shall contain chart of accounts, accounting procedure and specimen of (i) accounting documents, (ii) reporting formats of financial statements, and (iii) supporting schedules to the financial statements.

18. Audit

- 18.1 The records and accounts of the Farmers' Organization for each financial year shall be audited, in accordance with the appropriate auditing standards, by a firm Chartered Accountants appointed by the Authority. Though it is the responsibility of the Farmers' Organization to bear the cost of audit but the Authority shall pay the audit fee for the initial period until such time the number of registered Farmers' Organizations becomes large enough to make it economical for them to engage the services of auditors on sharing basis. The Authority may take a decision in this regard at the appropriate time.
- 18.2 The audit of the accounts shall be completed by 31st October each year, and thereafter, shall be presented to the General Body for approval, which must be obtained by 31st December. The copies of the approved audited accounts shall be sent to AWB/Authority.
- 18.3 It shall be the responsibility of the Farmers' Organization to provide the auditors with complete financial statements for each fiscal year to 30th June together with necessary supporting schedules and relating accounting records latest by 30th September of the same calendar year.
- 18.4 In addition to the Annual Audit Report prepared in accordance with the standards prescribed by the Institute of Chartered Accountants of Pakistan, auditors shall be required to submit a Management Letter for each fiscal year which shall (i) report on the Farmers' Organization's adherence to the approved budget, (ii) contain comments on the accounting records and financial system, (iii) identify weaknesses in the areas of systems and controls, and (iv) make recommendations for improvement.

18.5 The auditors shall address and submit all reports including the management letter to the Authority with a copy to the President of the concerned Farmers' Organization.

19. Transition

In case of registration of a Farmers' Organization during the year, necessary funds shall be provided to the Farmers' Organization to meet expenses for the remaining part of the year out of M and R budget of the concerned division. Such Farmers' Organization will undertake assessment and collection of abiana for the crop season following next after its registration.

20. Removal of Difficulties

For the purpose of removal of difficulties or to give desired effect to the provisions of these Regulations, Managing Director of the Authority may at any time issue necessary directions.

Annex 2.2: Water Rates Assessment and Collection

1. Assessment

- 1.1 Owners Register(s) shall be maintained by the Revenue Assistant. The register shall be updated regularly to reflect changes in holdings, ownership, cultivator, etc. The entries in the Owner's Register shall be compiled from the record of Revenue Department. Any subsequent changes shall be notified by the Member. Separate Owner's Register shall be maintained for each outlet. Separate page shall be used for each owner with alphanumerical folio reference. An index in alpha numerical sequence shall also be maintained. Specimen of Owners' Register is enclosed as Annexure-III. Any corrections in the Register(s) shall be duly initialed. Aggregate holding of all owners shall always be in agreement with the total command area of the Farmers' Organization. In case of substantial changes in an owner's record, new page shall be prepared and old page shall be filed. The Revenue Assistant shall provide every Member with a copy of the relevant pages of the Owner's Register pertaining to his outlet for the latter's record and assessment work.
- 1.2 For each Kharif and Rabi season, the Member and/or a nominee of the FO shall carry out the survey of the crops nearing maturity in his area of jurisdiction and the assessment list (Annexure-IV) shall be completed and totaled up to and including the column "Area under cultivation". Land not cultivated/irrigated shall also be shown on the assessment lists and the area of complete crop failure apparent at the time of survey shall also be given. The Revenue Assistant shall then fill in the remaining columns of the assessment list, and thereafter, shall prepare an assessment summary for each Outlet in the following manner:

ASSESSMENT SUMMARY

Rabi/Kharif _____ **(year)Outlet RD** _____

Area	Crop	Tariff	Amount Assessed (Current Demand)	Arrears	Total Demand

The totals under the columns "Area" and "Amount Assessed" shall be agreed with the totals on the assessment lists from where the summary has been prepared.

- 1.3 The Treasurer shall check the lists and the summary compiled by the Revenue Assistant with the registers and physically on test check basis. The Treasurer shall sign each list and the summaries. Then, these assessment lists shall be taken as final and ready for billing. A master summary shall be prepared by the Revenue Assistant in the same format as above from the individual summaries and the same shall be approved by the Treasurer. Total area shall be reconciled with the total Distributary/Minor Command Area.

2. Billing

- 2.1 Bills shall be prepared by the Revenue Assistant in triplicate in the name of the Farmer. A specimen of bill is enclosed as Annexure 2.5. Two copies shall be given to the Farmers for payment against acknowledgement on the third copy, which shall be retained by the Revenue Assistant. Bills shall be serially numbered with a pre-fix for the crop/year of issue. Bill number shall be entered on the assessment list. A copy of the list along with summaries shall be given to the FO Assistant who shall enter the amounts due from each Farmer in "Water Rates Receivable Ledger" directly from the assessment lists. The ledger folios of farmers' accounts shall bear alphanumerical reference with cross-reference to the Owner Register and an index of the same shall be maintained in alphanumerical sequence.
- 2.2 Assessment shall be completed strictly in accordance with tariff notified by the Authority. Any complaint against the billing or any request for relief due to full or partial crop failure, received by the Farmers' Organization, shall be examined by the President. Mistakes in billing shall be rectified but any concession/remission shall be granted with approval of the Committee after due verification in such manner as Committee may determine.
- 2.3 In case of widespread crop damage due to natural calamity, the matter shall be referred to the AWB/Authority who shall arrange for necessary government declaration and compensation for the loss of revenue to the Farmers' Organization.
- 2.4 In case an adjustment is required in billing for any reason, a revised bill shall be prepared and entered in the Revised Assessment List. The same procedure with regards to billing and preparation of summaries shall be followed as described above. The revised list referred to above shall contain the following particulars:

REVISED ASSESSMENT LIST

Rabi/Kharif _____ (year) Outlet RD Village _____

Sr. No	Farmer	Area	Crop	Applicable Tariff	Amount Assessed (Revised)	Arrears	Total Demand	Bill No.	Previous Demand	Previous Bill No.

Revised bills shall bear the serial number continuing after the last number in the original assessment list. Revised bill shall be for the total holding of a farmer even though partial corrections may be required. Revised assessment list reference shall be given in the original assessment list against the relevant name. The difference between the previous and the revised current demands shall represent the remission (Kharaba) allowed.

- 2.5 After the billing process for a season is complete, original as well as revised assessment lists along with the summaries shall be preserved in the form of a bound register for future reference and audit.
- 2.6 In case a bill is lost, destroyed or defaced, a duplicate may be issued at the request of the farmer without any charge.
- 2.7 Soon after completion of the assessment process for each Kharif/Rabi season, the Treasurer shall submit to the Committee a brief report comprising crop wise breakup of amount assessed, Kharaba allowed, comparison of assessment with the corresponding figure of the previous year and reasons for any shortfall. A copy of the report shall be sent to the AWB/Authority with the Committee's observations.

3. Collections

- 3.1 The amounts due in respect of water rates shall be deposited by the farmers with the Farmers' Organization in the following manner:
- The money shall be tendered with the FO assistant along with the bill of water rates (in duplicate) issued by the Farmers' Organization.
 - The bill shall be deposited in full amount as shown thereon and the FO Assistant shall not be allowed to accept partial payment. Payment shall not be accepted after the date as determined by the Committee for cut off purposes to work out arrears for the next billing.
 - FO Assistant shall (i) return one copy of the bill to the depositor duly receipted, and (ii) retain one copy thereof for its own records.
- 3.2 The Farmers' Organization shall be responsible to keep record of the collections and shall ensure that the weekly collections are promptly deposited into the Government's Account.
- 3.3 The FO Assistant shall enter the collections in a Collection Register in the order in which the payments are received. The Collection Register shall contain the following particulars:

COLLECTION REGISTER

Sr. No	Date	Name	Bill No.	Total Amount Received	Surcharge Received	Receive ledger A/c No.	Outlet RD

The Collection Register shall be totaled weekly and the weekly collections received up to 7th, 15th, 22nd and 30th/31st of the month shall be deposited promptly into the designated Provincial Government Account on the prescribed form.

- 3.4 Billings and collections shall be entered in the individual account of the Farmer in "Water Rates Receivable Ledger". Separate ledger shall be maintained for each outlet. Receivables ledger shall be balanced quarterly particularly after the expiry of the due date and a listing shall be prepared with the age analysis and total thereof shall be reconciled with the general ledger account. The listing of the balances of each register shall be provided to the concerned Member for recovery purposes.
- 3.5 Assessment, collection and maintenance of farmers' account shall be the entire responsibility of the Farmers' Organization and bad debts shall be to its account. Therefore, control over receivables of water rates is the most important function of the Farmers' Organization in so far as the strict control helps in alleviating shortages of working capital and in minimizing losses arising from defaults in payments. The quarterly/yearly trial balance of receivables shall show the age analysis of individual accounts. All out efforts shall be made to recover the outstanding through personal contacts, penalties, etc.
- 3.6 All bills shall be distributed through the concerned Member who shall also be provided with the listing of billed amount for each farmer. Members shall be expected to advise and induce the farmers to make prompt payment of water rates, and in this regard, assist them with the deposit of money with the FO Assistant. However, the responsibility for payment shall remain with the farmer and the Farmers' Organization shall not accept any responsibility for the loss of money in transit.

4. Sharing of Water Rates Collection with PIDA

- 4.1 A Demand Note along with summarized weekly collection data and copies of the receipted chalans evidencing deposit into the Government account shall be sent to the Authority within 10 days after each calendar quarter for the Farmers' Organization's agreed share of Water Rates based on quarterly collections. The amount shall be due for payment on the 14th day or earlier after the issuance of the Demand Note by the Farmers' Organization.
- 4.2 Receipt shall be issued to the Authority for the amount received and entry shall be made in the cashbook. Interest shall be charged at the prevailing mark-up rate charged by the banks, on the amounts remaining un-paid for the period from the due date to the actual date of receipt by the Farmers' Organization.

5. Time Frame

Following timetable shall be followed with regards to billing, etc.

- 5.1 Billing process must be completed and bills must be issued at least one month prior to the commencement of the respective harvesting season. Last date for issuance of the bills shall be determined by the Committee and notified accordingly.
- 5.2 Complaints with regard to billing and requests for concession/remission must be lodged in writing with the Member within 10 days from the date of the issuance of the bill. Complaint/request shall be lodged in duplicate. Acknowledgement shall be given on the copy, which must be retained by the farmer(s). The date may be extended or delay may be condoned by the President for a maximum period of 7 days. However, no complaint/request shall be entertained after the expiry of the last

- date or the harvesting has been initiated by the farmer(s). Harvesting shall not be undertaken by the farmer(s) during the period the complaint/request is under process.
- 5.3 All complaints/requests, received, shall be presented to the President who will depute official(s) for investigation. The complaint/request shall be investigated into, reported upon and decided by the Committee within 10 days after the receipt of the complaint/request.
- 5.4 The bill shall be due for payment on or before the expiry of two months after the commencement of the harvesting season. The due date shall be determined by the Committee and notified accordingly. The due date shall be indicated on the bill. A surcharge on the current demand not paid within the due date shall be levied at a rate as notified by the Committee.

Annex 2.3: Owners Register

Name of Farmers' Organization (Distributary)**OWNERS REGISTER**

Outlet RD _____ Folio Ref: _____

Name: _____ Cast: _____

Father's/Husband's Name: _____ NIC No: _____

Date of Birth: _____ Guardian _____

(for minor)

Total Holding _____A _____K _____M

Address: _____

Area under self-cultivation		Area under cultivation by tenant/contractor etc...		
Khasra No.	Area	Name/Father's name	Khasra No.	Area
	A K M			A K M

Prepared by
(Revenue Assistant)

Authenticated by
(Treasurer)

Date:

Annex 2.4: Assessment List

Kharif/Rabi _____ Outlet RD _____ Mouza _____

(To be completed by the Member/FO Nominee)**PART-I**

Sr. No	Owner Folio	Owner's Name	Total Holding	Name of Farmer	* - Area Cultivated		
					Crop	Khasra No.	Area

Member's/FO Nominee's name and signature**(To be completed by Revenue Assistant)****PART-II**

Water Tariff	Amount Assessed (Current Demand)	Arrears	Total Demand	Bill No.	Receivables ledger A/c No.

Revenue Assistant_____
**Checked by
(Treasurer)**

NOTE: Total of area cultivated, area not cultivated and Kharaba area shall be equal to total of holding area.

Annex 2.5: Bill for Water Charges**KHARIF/RABI 200****Due Date:****INSTRUCTIONS
FOR
DEPOSITORS**

1. Bill to be paid in full to the FO Assistant on or before due date.
2. Both copies of the bill are to be presented intact to the said official along with the money.
3. Receipted bill must be preserved as proof of payment.
4. Payment of this bill shall not be accepted after the date determined by the Committee.

NAME: Address:		Bill serial No. K/R 00/ -----	
Outlet RD _____ Owner Register Folio _____		Date of issue	
Holding	Tariff Rate per Acre	Amount Rs. Ps.	
		Current Bill	
		Arrears with surcharge	
		Total Bill	

Amount payable within Due Date Rs. _____ after Due Date Rs. _____

Revenue Assistant

Treasurer

FOR USE BY THE FARMERS' ORGANIZATION

Received payment of Rs.

Date

Receiving Official

**IWMI Regional Office for Pakistan,
Central Asia & Middle East**

12-Km, Multan Road
Chowk Thokar Niaz Baig
Lahore 53700
Pakistan

Postal Address

P O Box 2075
Colombo
Sri Lanka

Location

127, Sunil Mawatha
Pelawatta
Battaramulla
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