



**Government of Balochistan
Planning and Development Department
And
Public Health Engineering Department**

**Drinking Water Supply Policy/Strategy
2015 - 2025
(Draft 1.0)**

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Foreword by the Minister

Access to safe and improved drinking water has always been a challenge for the people of the province of Balochistan. The geographical terrain and climatic patterns have posed programmatic challenges. However, the Government of Balochistan in its Comprehensive Development Strategy 2013-2020 resolved to ensure provision of improved drinking water to its populace. This document symbolises the determination of the Government of Balochistan to achieve its Millennium Development Goal 7 target for drinking water and incorporates a clearly articulated policy, with well-defined strategies and plan of action.

The provision of safe and improved drinking water is not only a critical developmental priority for the government, but also a fundamental right of the people of the province. Equitable access to improved drinking water is a determinant for human development as it not only enhances the standards of living, but more importantly prevents needless exposure to water-borne diseases that pose serious risks to health and economic productivity. Therefore, by improving the access to safe drinking water, we also improve the health status of the population and as a consequence reduce poverty.

We have attempted to formulate our vision for provision of safe and improved drinking water, but these policies, strategies and actions will remain a distant dream if we do not execute them with determination and in a timely manner. The onus now lies on the duty bearers and other stakeholders to utilise this institutional framework to address the disparities and inequities in the drinking water sector and strive to put our policy and strategies into practice.

Minister for Public Health Engineering
Government of Balochistan

Foreword by Secretary

Safe drinking water is an essential element for the health and well-being of society and a major determinant for gauging progress towards human development. There has been an almost doubling of the population in Balochistan since the last national census of 1998 and this poses increasing challenges to ensure that the population in the province has access to safe drinking water.

The Government of Balochistan realised that status quo was unacceptable and accorded a high priority to provision of safe and improved drinking water in its Comprehensive Development Strategy 2013-2020. To achieve the Millennium Development Goal 7 and targets for safe drinking water, there is a need to intensify current efforts and plan and implement new water supply infrastructure, rehabilitate and expand existing services, and manage resources for drinking water more effectively to increase coverage to vulnerable communities.

This document incorporates a new policy and concrete strategies with short, medium and long term strategic actions that can help meet growing domestic demands over the next decade. It provides a framework for the drinking water sub-sector to function and a roadmap for implementation.

We are confident that the policy strategy provides a practical platform on which systematic, well-structured and sustainable development of the drinking water sub-sector can take place.

We recognise with special gratitude the contributions of all those who participated in the consultative planning process and appreciate all the input provided. We are particularly grateful to UNICEF for facilitating the development process and to Avicenna Consulting Pvt Ltd for the technical assistance provided.

Secretary,
Public Health Engineering
Government of Balochistan

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Acronyms

BMP	Basin Management Plans
CBO	Community Based Organizations
CO	Community Organizations
CSO	Civil Society Organizations
DG	Director General
DS	Deputy Secretary
DSDWC	District Safe Drinking Water Committee
DWUA	Drinking Water User Association
EIA	Environmental Impact Assessment
EPA	Environmental protection Agency
GIS	Geographic Information System
GDP	Gross Domestic Product
HRD	Human Resource Development
IBIS	Indus Basin Irrigation System
IEE	Initial Environmental Evaluation
IMR	Infant Mortality Rate
LG&RD	Local Government and Rural Development
LHV	Lady Health Visitor
LHW	Lady Health Worker
MDGs	Millennium Development Goals
MICS	Multiple Indicator Cluster Survey
MIS	Management Information System
MTDF	Medium term Development Framework
NDWQS	National Drinking Water Quality Standards
NEQS	National Environment Quality Standards
NGO	Non Governmental Organization
O&M	Operation and Maintenance
P&D	Planning and Development
PCRWR	Pakistan Council of Research in Water Resources
PDMA	Provincial Disaster Management Authority
PHED	Public Health Engineering Department
PHIS	Pakistan Household Integrated Surveys
PKR	Pakistani Rupee
PSDP	Public Sector Development Programme
PSDWC	Provincial Safe Drinking Water Committee
PSLM	Pakistan Social and Living Standards Measurement survey
PWB	Provincial Water Board
R&D	Research and Development
SDO	Sub Divisional Office

SDSDWC	Sub Divisional Safe Drinking Water Committee
SOPs	Standard Operating Procedures
U5MR	Under Five-Mortality Rate
UN	United Nations
UNICEF	United Nations International Children's Emergency Fund
VO	Village Organization
WASA	Water and Sanitation Authority
WES	Water Environment & Sanitation
WHO	World Health Organization
WMA	Water Management Association
WSS	Water Supply and Sanitation

1. INTRODUCTION

The importance of water, a basic need for human life and existence, cannot be overemphasised. Its ample availability and scarcity has played a pivotal role in development and destruction of civilizations. In addition to drinking, it is also used for agriculture, industries, household and miscellaneous civic jobs, etc.

The Government of Balochistan in line with the National Drinking Water Policy 2009 recognizes access to safe drinking water as the basic human right of every citizen and it acknowledges responsibility for provision of safe drinking water to every citizen of the Province.

The Government of Balochistan stands committed to its responsibility to ensure the provision of safe drinking water and to create an enabling environment for the drinking water sector to ensure reliable and affordable drinking water to its far-flung rural and urban population.

The Balochistan Drinking Water Policy/Strategy provides strategic direction and a development framework to the stakeholders and addresses the issues and challenges faced by both to its urban and rural populations. It is envisaged that the efforts of all the tiers of the government and the local authorities shall be planned, executed and coordinated accordingly.

In addition to paving way for achieving MDG of providing access to 100% population to safe drinking water up to 2025, the new policy/strategy aims to appropriately respond to the emerging needs of the growing population regarding access to safe drinking water; to identify the sector's constraints and recommend potential way forward; provide a much needed strategic platform for participation of all sector support agencies/players and to help explore/define investment for efficient and sustainable water supply schemes under conditions that are unique to Balochistan.

The new policy/strategy proposes establishment of new drinking water supply systems, rehabilitation of existing systems and up gradation in urban as well as rural areas to ensure sustainable access of drinking water to the entire population of Balochistan.

A baseline has not yet been established for water supply schemes in Balochistan. The new policy/strategy aims to conduct a baseline survey to determine the current status of water supply schemes and formulate priority actions accordingly.

The Balochistan drinking water policy/strategy has been designed to meet the National Policy target of providing access to *safe* and *sustainable* drinking water supply to the entire population by 2025. This policy/strategy is in pursuit of National Drinking Water Supply Policy that directs the

provinces to devise their own strategies, action plans, projects and programmes. The policy/strategy focuses on the supply of drinking water for domestic use of households that includes water for drinking, cooking, hygiene and other domestic uses.

2. STRATEGY DEVELOPMENT PROCESS

In development of drinking water policy/strategy, principles of National Drinking Water Policy have been adopted. This policy cum strategy is aligned with the policy guidelines provided in the National Drinking Water Policy 2009 for achieving national and international obligations.

Process and consultations: The *Drinking Water Policy/Strategy of Balochistan* has been prepared through a consultation process involving a wide stakeholder base including technical experts, government officials, non-government organisations, and UN agencies. The policy/strategy has been prepared for a ten-year period up to 2025. Stakeholder consultations were conducted at provincial and divisional level (Quetta, Khuzdar, Loralai, Nasirabad, Sibi and Turbat). The policy/strategy development consultation process was led by the Public Health Engineering Department. The inputs from Government departments, NGOs, and other stakeholders have been incorporated in this policy/strategy.

3. SITUATION ANALYSIS

3.1 Existing Situation

Balochistan having the geographical area of 347,190 sq. Km. is the largest province of Pakistan constituting more than 43% of the total area of Pakistan. According to the 1998 census, Balochistan had a population of approximately 6.8 million representing approximately 5% of the Pakistani population. Based on NIPS projections, the population in 2010 has increased to 9.771 million. By 2015, it is expected to rise to over 11.257 million¹. There are only 87 females for every 100 males in 2010. The overall literacy rate is 47.7% with marked difference in male and female literacy rates that are 61.5% and 24.2% respectively. The density of the rural population in Balochistan is thin and scattered. The communication infrastructure is not yet well developed, which makes the service delivery a costly affair. The sizes of the communities in general are small and are located at considerable distance from each other. Provision of the public services is time consuming and not always cost-efficient. Balochistan, on average, accommodates 21 persons per sq km and in some districts as low as only 4 persons per sq km. It has 6 administrative Divisions, 32 Districts 46 Urban localities (Municipal Committee, Municipal Corporations and One Metropolitan Corporation, 635 Union Councils and 84 PHED Sub-Division).

Balochistan is a water scarce province with arid to hyper arid climate and low precipitation levels, Agriculture and livestock are the lifelines of large majority of the people as such water shortages in the province determine the productivity and incomes in the province. Despite developments in the water sector, population growth, urbanization, mining sector and industrialization, are posing greater demands on water resources of the province. The expanding imbalance between supply and demand, has led to shortages and unhealthy competition amongst end-users besides causing severe environmental degradation.

The water resources of the province consist of surface water and ground water and their major source is precipitation. There are three major sources of water in Balochistan: the Indus Basin Irrigation System (IBIS) comprising of perennial and non-perennial flows; floodwater Sailaba comprising of run-off; and groundwater includes tube wells; springs; karezes (traditional system of channels which bring water to fields) etc. Low cost water supply schemes in the province are developed and managed by Public Health Engineering and Local Government and Rural Development Departments. There are a number of water supply schemes, which are handed over to the community by the Government with the pledge for providing Safe Drinking Water to its inhabitants and also to bear the O&M charges of the water supply. WASA has the responsibility to provide water to the urban localities of Quetta.

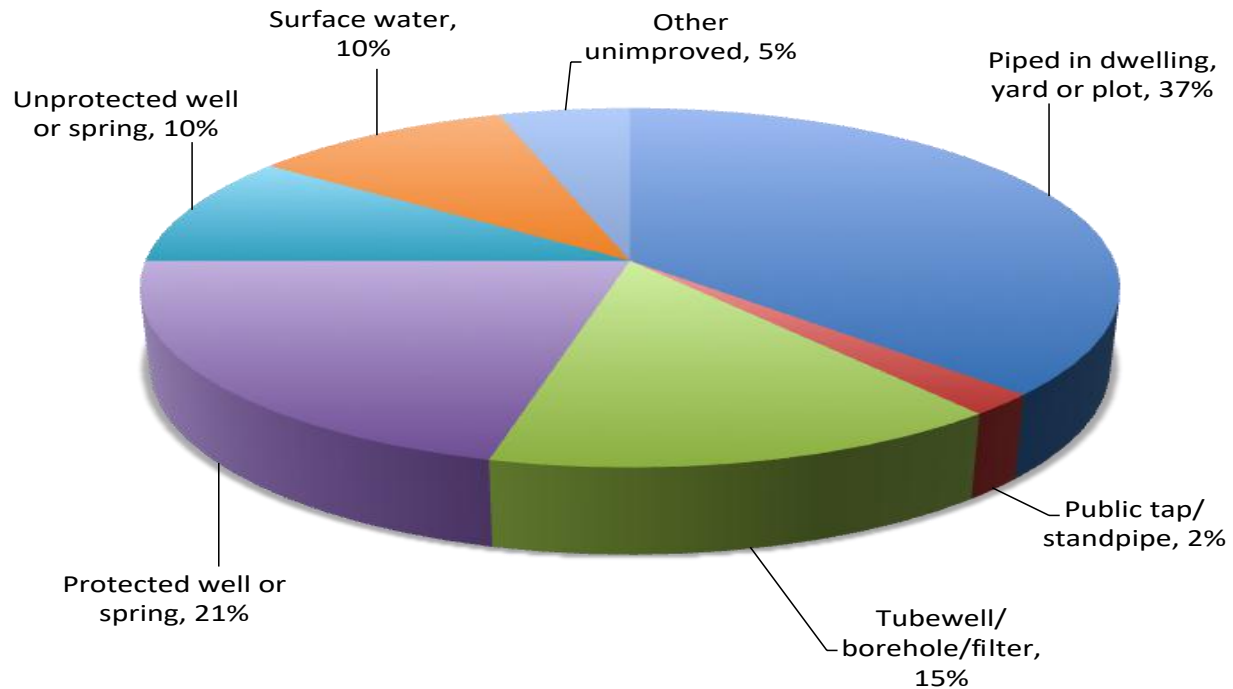
¹ Education for All Plan 2011-2015, Directorate of Education, Education Department, Government of Balochistan

Baluchistan's health sector indicators are very poor and the progress attained in the last decade is painfully slow as well as low. The Infant Mortality Ratio (IMR) and U5MR are also considerably higher than other provinces. The Balochistan MICS 2010 has assessed these to be 72 and 89 per 1000 live births against the MDG targets of 40 and 52 per 1000 live births. Diarrhoea is the 2nd major leading cause of children death in Pakistan after pneumonia, and annually 53,000 children under five die because of diarrhoea which is generally caused by use of poor treated drinking water and unimproved sanitation. In general men, women and children in rural areas of Balochistan have little awareness and comprehensive information about the relationship between use of safe drinking water, safe sanitation, personal hygiene practices and health. The economic cost of poor water and sanitation services is estimated to be around 4% of GDP of Pakistan, and more than 87% of these are health costs.

3.2 Situation Analysis of Drinking Water

Safe drinking water is a basic necessity for leading a healthy life. Unsafe drinking water can be a significant carrier of enteric diseases (including typhoid) and parasites, such as roundworm. Drinking water can also be tainted with other bacteriological, chemical, physical and radiological contaminants with harmful effects on human health. Access to drinking water is also of prime consideration for women and children, particularly in rural areas, because they also bear the responsibility for fetching water, often from long distances. Time saved due to easy access to drinking water can be utilized by them in other less exhaustive and more productive activities. Goal 7 of the MDG (Ensure environmental sustainability) includes "halving, by 2015 the proportion of people without sustainable access to safe (i.e. improved source of) drinking water". In Balochistan 74 percent of the population is using an improved source of drinking water 91 percent in urban areas and 69 percent in rural areas (for details see Annex 1). The current status of access to improved drinking water as found by MICS Balochistan 2010 is shown in Fig 1 below.

Figure 1 – Percentage distribution of household members by source of drinking water



(Source: Balochistan MICS 2010)

Balochistan relies primarily on piped water in the household (37%) and protected well, or spring (21%). Unimproved sources (15%) include unprotected well or spring (10%) and surface water (10%). Tube well /borehole/ filter plant (15%) and Public tap/stand pipe (3%) are other sources.

The “improved source” does not necessarily imply safety. There are chances of potential contamination from pumps and wells, especially outside the household. Even piped water quality can be compromised by leakages and in certain situations, come from suspect sources such as stagnant water. Adequate access implies availability either in the household or within 2 km and/or less than ½ hour away. Again, this does not necessarily imply sufficient amounts of water. Furthermore, 2 km distance or ½ hour time taken in a rough hilly area comparatively needs a lot more energy and effort by the individuals fetching water. Drinking water source is inferred from both the water delivery system and source. “Improved sources” include piped water, public standpipe or tap, hand pump, donkey pump/turbine or protected dug well. “Unimproved sources” include unprotected dug well, pond, river, canal or stream, as well as other less common sources such as vendor provided, tanker truck or bottled/canned water.

3.3 In-house treatment of drinking water

About 86 percent of the households do not use any water treatment methods to make water safe for drinking. Among those who were getting water from any source, only seven percent reported

to have been using appropriate water-treatment methods (boiling water; adding bleach/chlorine; using water filter; and solar disinfection), before use. Among household's members who were receiving drinking water from an improved source, nearly 8 percent were applying water treatment methods while those whose drinking-water source was unimproved less than four percent cared to use a treatment-method for making water safer.

3.4 Existing and required facilities of the Drinking Water

Under the safe drinking water strategy a comprehensive survey was conducted to obtain information on the sources developed by the Authorities, Government Departments and the Non-Governmental Organizations for the water supply schemes in Balochistan.

The PHED has indicated coverage of 70% population of the province. To achieve MDGs, based on recent population estimates of 11.25 million for the province, it is estimated that 482,443 (four lac, eighty two thousands, four hundred forty three) households having a population of 3,377,100 (Three million, three hundred seventy seven thousand and one hundred) has to be provided with the clean drinking water in the next fifteen years. Further, the Government of Balochistan has installed water filtration plants in 417 Union Councils for safe drinking water with an estimated coverage of a population of 2.78 million.

There are 15,719 villages in Balochistan. Base on assumption of 70% coverage done by PHED, 11000 villages have drinking water supply schemes and 4719 villages are required to be provided with clean drinking water schemes under the MDG up to 2025. The 41 towns in Balochistan have partial coverage of water supply. Augmentation of these water supply schemes will be required to completely cover the population.

3.5 Key Issues

The following are the key issues existing in drinking water supply schemes:

- Lowering of water table and mining of groundwater;
- Neglect of Sailaba and Khushkaba farming systems which induce recharge to the groundwater;
- Entry of sewage, agricultural and industrial effluents into freshwater or storm water streams;
- Extension of huge subsidy in electric tariffs for tube wells consumers encouraging excessive mining of groundwater resources;
- Lack of initiative and/or infrastructure to use flood water for direct irrigation and groundwater recharge;
- Lack of effective wastewater treatment facilities resulting in increasing pollution loads in the freshwater streams and;

- Lack of an institutional arrangement for regulation, management and monitoring of water resources.
- Ambiguity around roles and responsibilities of different departments with some overlapping and gaps in the functions particularly around operation and maintenance
- Lack of awareness among the stakeholders about water quality and its implications as well as poor emphasis around developing sustainable water tariff systems

The situation is further compounded by inefficient and ineffective irrigation management in irrigation schemes leading to loss of precious water.

4. OPPORTUNITIES

There are key issues and challenges but at the same time there are various opportunities for improving the current situation. The available opportunities have been summarized in the following;

Potential of surface water resources: The water resources of the province consist of surface water and ground water and their major source is precipitation. Floodwater is the largest resource of water in the province, almost two-third of total available water but a large part of this is underutilized and in contrast the ground water constitutes about 4% and it is over utilized due to lopsided incentive policy regime. According to recent estimates, the surface water resources of the province constitute 96% of the total water resources available per annum, whereas 3% of the surface water is being used for drinking purpose.

Social Transformation: Though Balochistan still holds traditional culture and practices, but it has been progressing ahead with new technological innovation and social transformation. Growing interest for education and emerging opportunities for the new businesses in the areas are paving the ways for a social evolution. The women of the area are lagging behind that of men because of the varied social and cultural contexts of different communities. However, this trend is changing gradually with literacy and growing awareness.

Proactive Stakeholders: There is willingness and awareness among all major stakeholders to improve the current state of drinking water supply in Balochistan province. The Government, NGOs and private sector are proactive in responding to the national and global drinking water commitments. This also provides opportunity to build on the current state of awareness and willingness among all stakeholders to work together to improve the current situation.

Administrative Structure and Organized Communities: In spite of overlapping among different administrative units around water and sanitation, the government functionaries have access to grass roots level through Local Government and Rural Development Department of the province along with Public Health Engineering Department. The communities in the area have been well organized by NGOs like Balochistan Rural Support Programme, National Rural Support Programme, etc. There are districts in the province where the communities have been organized in the form of Village Organizations (VOs) or Community Based Organizations (CBOs). These can be replicated in other parts of the province.

Government's Priority: The Government of Balochistan recognizes that provision of safe drinking water as a fundamental human right as envisaged in the National Drinking Water Policy in 2009. After 18th amendment in 2011, the provinces have been empowered to prepare their respective drinking water policies, strategies and sector plans. The new development strategy of

Government of Balochistan 2013-2020 identified provision of drinking water to the communities as key priority. Federal Government together with bilateral and multilateral donors and NGOs have made commitment to support the WatSan sector in Pakistan. There is willingness amongst these organizations to continuously support the sector, which is an important premise and opportunity to improve the current state of drinking water supply in Balochistan Province.

5. VISION AND POLICY PRINCIPLES

5.1 Vision

We envision to see Healthy, Clean and Disease free Balochistan through sustainable supply of clean drinking water and awareness for Conservation of Drinking Water through Community participation with effective identification, planning, design and implementation while ensuring operation and maintenance of sustainable Water Supply Schemes.

5.2 Mission

We plan, implement and monitor the development of safe drinking water and sewerage projects for all areas of the province. We ensure health of public through supply of safe drinking water, sanitation services and consultations for developing safe healthy practices in daily chores and improving the living environment.

5.3 Policy Principles

The main principles of Balochistan Drinking Water Policy and Strategy are adopted from the National Drinking Water Policy 2009. Therefore, the key Policy/Strategy principles are as following;

- Access to safe drinking water is the basic human right of every citizen and that it is the responsibility of the Government to ensure its provision to all citizens;
- Water allocation for drinking purposes will be given priority over other uses;
- In order to ensure equitable access, special attention will be given to removing the existing disparities in coverage of safe drinking and for addressing the needs of the poor and the vulnerable;
- Being cognizant of the fact that women are the main providers of domestic water supply and maintainers of hygienic household environment, their participation in planning, implementation, monitoring and operation & maintenance of water supply systems will be ensured; and
- Responsibilities and resources will be delegated to local authorities to enable them discharge their assigned functions with regard to provision of safe water supply

6. GOALS AND OBJECTIVES

6.1 Goals and Objectives

Overall Goal: The goal of the Balochistan Drinking Water Policy, Strategy and Action Plan is to improve the quality of life of people of Balochistan by reducing incidence of death and illness caused by water-borne diseases through ensuring provision of adequate quantity of Safe Drinking Water to the entire population at an affordable cost and in an equitable, efficient and sustainable manner. The specific goals and objectives of the Policy/Strategy are as follows;

Goal 1: Strengthen adequate access, appropriate delivery and availability of drinking water

Objectives:

- Formulation of a sustainable mechanism for construction and operation and maintenance of water supply schemes clearly defining the roles of the key managers and service providers i.e. PHED, WASA, LGRD, Local Councils and Community.
- Enhance capacities of line departments, NGOs and communities at all levels; and promote public private partnership for enhancing access to safe drinking water;
- Ensure that all water supplies are designed and constructed inline with the national drinking water quantity standards;
- Ensure that all future drinking water supply schemes are constructed through need based criteria to cover the un-covered and un-served areas;
- Provision of district level drinking water availability plans, both for the urban and rural areas, to ensure adequate access and equity;
- Rehabilitate the non-operational and non functional water supply schemes and reconstruct water supply schemes which have completed the design life;

Goal 2: Improvement in water quality through water treatment and safety mechanisms

Objectives:

- Installation of water treatment plants on existing drinking water supply schemes where needed and provision of treatment facilities in all new drinking water supply schemes;

- Formulation of service delivery models for both urban and rural drinking water supply schemes ensuring standard design features
- Ensure involvement of communities in planning, designing, construction, monitoring and O&M of schemes for sustainability;
- Ensure a proper support mechanism for effective O&M of both urban and rural water supply.
- Ensure compliance of all municipal discharges with National Environment Quality Standards (NEQS);
- Ensure water quality monitoring and surveillance

Goal 3: development, management, protection and conservation of water resources

Objectives:

- Introduce legislative measures/regulations for promoting integrated watershed management.
- All drinking water resources and supply systems are protected with community involvement;
- Promote minimum per capita requirement of 10 Gallon in rural areas and 20 gallons in urban areas for domestic purposes.
- Encourage reuse, recycle and recharge of wastewater for other productive uses.
- Encourage adaptation and disaster risk management to minimize impact of events related to climate change;
- Ensure community's role in household water treatment/ storage, water safety & conservation and safe hygiene practices.

7. MAIN STRATEGIC SOLUTIONS

7.1.0 Reduce water losses and wastage

The monitoring of non-revenue water by virtue of system losses and wastage must be a continuous process. It is a specialised job, needing leakage detection equipment and allocating permanent monitoring points in the system. Water meters need to be installed in the system to monitor the flow in the system in the town and cities. Training to the PHED, WASA and Local Government staff needs to be imparted on the procedure to detect leakages in the system, under O&M training. The provision for the leakage detection equipment and water meters should also be included in any financial plan.

7.2.0 Recycling, Recharging and Reusing water

To strengthen the development, management, conservation and protection of the water resources especially in context of recycling, recharging and reusing, the sewerage system for 46 urban areas of Balochistan needs to be constructed to collect the sewer water of the town so that it does not pollute the ground and surface water resources. The sewerage water should be collected at a wastewater treatment plant. The treated water can then be reused and recharged for agriculture, green belts, parks, lawns, washing of streets, recharging the aquifer etc. The cost of construction of sewerage systems along with the treatment plants should be included in financial planning.

7.3.0 Appropriate Technologies and Standardisation

Cost-effective, environmental friendly and appropriate technological options to suit local conditions and social and cultural practices should be used and developed. Operation and maintenance and availability of spare parts and supplies should also be given due consideration in the selection of the technological options to ensure sustainability. The local universities from Balochistan and other research institutes will be involved in developing the affordable solutions. The PHED and other allied departments need to develop standard operating procedures for planning, designing, construction, monitoring, operations and maintenance of various categories of water supply schemes. This will ensure adherence to the technical standards and specifications and quality construction and sustainable service.

7.4.0 Institutional Framework and Roles

The Public Health Engineering Department (PHED) is mainly responsible for the provision of water supply. The Water Supply Strategy developed by the Government of Balochistan in its Strategic Investment Plan and the Social Action Programme hinges on service delivery to the most poorly served areas, cost recovery mechanisms and where possible community financing of operation and maintenance.

One of the major problems faced by the department is sustainability of rural water supply schemes particularly those which have been handed over to communities. Although there is a well-specified system of scheme identification and selection with the mandate to involve the community and facilitate transfer of schemes, success has been limited. This can be mainly attributed to a centralized decision-making process at the provincial level, which is detached from the ground reality of social dynamics of various communities. Additionally, the community participation approach of the PHED is a partial approach; staff is unable to develop schemes within the institutional confines, even if equipped with appropriate training. Decision-making regarding scheme selection and implementation is also highly centralized. It is also assessed that community participation has not been identified precisely and community tasks have not been realistically identified. Thus the current system appears inadequate in ensuring accountability, transparency and true participation.

The other element that needs to be incorporated in order to ensure that the approach succeeds in terms of scheme identification, planning and more critically, maintenance and sustainability is the creation of an institution at the village level that can be given responsibility in a more formal manner. The decentralization of decision making from provincial to the Sub-Division level, use of an outside catalyst for community organization and changing the current procedures of PHED to fully commit to a decentralized system of selection and implementation. The viability of these schemes in terms of O&M is also cause of a major concern. Unless being thoroughly viable, both in capital and O&M terms, the decentralized schemes may not perform. Thus O&M costs would merit due consideration while designing water supply schemes.

The Local Government and Rural Development is primarily responsible for sanitation and hygiene but has a critical role in low cost water supply schemes especially in rural areas, waste water treatment/recycling and social mobilization of the local communities. As LGRD has access to the communities through its administrative structure of secretaries of Union Councils, it seems more viable that role of LGRD should be enhanced in the operation and maintenance of water supply schemes. The LGRD should be given responsibility to provide leadership in the identification of new and dysfunctional water supply schemes and then ensuring its O&M as given in Local Government Act 2010. The option of adding first year O&M cost in the new development schemes would be explored in addition to formal handing over of the water supply schemes to the LGRD.

As a first step towards the achievement of the objectives set forth in this Policy, Strategy and Action Plan document; an effective Institutional arrangement is required to put the strategies into action. The description below sketches out the layer of Institutional arrangement.

7.4.1 Quetta Water and Sanitation Authority

Balochistan Water & Sanitation Authority (B-WASA) was created in 1989 under act of 1989 that was repealed with promulgation of Q-WASA Act of 2004 and it was further amended in 2010. According to WASA Act 2004, key functions assigned include: Initiate and maintain continuous process of comprehensive development and planning of water supply, sewerage and sanitation in the area; operate and maintain water supply, sewerage and sanitation system within the service area of the Q-WASA; to approve all proposed new extension or rehabilitation works on the water supply, sewerage and sanitation system in the area whether owned and carried out by the authority, Government Departments or development Agencies, private developer or individual consumers. The agency maintains the domestic water distribution and sewerage disposal networks for the Quetta city. The major concern in water supply is wastage of water through valves, connection points and fittings and old rusted pipes in Quetta as evident in other urban centres of Pakistan too. In addition, the current arrangements for wastewater management especially recharging and recycling are very limited in Quetta, which are in need of rehabilitation.

7.4.2 Provincial level arrangement:

The PHEC will be responsible for the execution of the clean drinking water strategy. PHED is headed by the Secretary, it has two chief Engineers, six superintending Engineers, thirty five Executive Engineers, one hundred twenty two Sub Divisional Officers, one hundred seventy sub engineers and twenty five male and female Community Organisers and support staff.

After approval of the Safe Drinking Water Policy, Strategy and Action plan, the provincial Government would form Provincial Safe Drinking Water Committee (PSDWC).

This Committee shall comprise of the following individuals:

- a) Additional Chief Secretary (Dev:) Chair
- b) Secretary PHED Member
- c) Secretary Irrigation and Power Member
- d) Secretary Social Welfare & Women Development Member
- e) Secretary P & D Member
- f) Secretary Finance Member
- g) Secretary LG & RD Member
- h) DG Environment Member
- i) Managing Director WASA Member
- j) UNICEF WASH representative
- k) Donor Representative
- j) Civil Society Member

The PCDWC shall be meeting quarterly to discuss the issues of common interest with following mandate-

- To work as a Secretariat to provide overall leadership to its departments throughout the province.
- To keep a close vigil on the progress besides ensuring the no program/project is launched unless it fully conforms with the guidelines of the Strategy/Action Plan
- To help coordinate among various stakeholders.
- To supervise various programs and planning activities in Safe Drinking Water Supply scheme.
- To devise and disseminate various regulatory frameworks for achievement of Safe Drinking Water objectives.
- To monitor the performance of district level staff of PHE Department and other stakeholders involved in the delivery of drinking water.
- To facilitate the district tiers of the departments in implementation of their Water supply scheme programs.
- To facilitate development of MIS/GIS system containing database of water supply at Provincial level, district and help Sub-Divisional Office to develop MIS/GIS systems at district and town levels by providing them necessary technical and financial support.
- To keep record of overall water supply progress and yearly reporting to all stakeholder

The Committee will also arrange a comprehensive study to be undertaken on the overall water resource situation in Balochistan. The objective of the study is to develop a methodology for identification of potential recharge zones through alternative recharge measures (develop new water sources, watershed management, delay action/storage dams, etc.) in the eighteen basins so that performance and cost effective recharge measures to be adopted in the future development projects can be enhanced. The information is ultimately intended to be used in the preparation of Basin Management Plans (BMPs).

7.4.3 District level arrangement:

The executive engineers of PHED will facilitate the development of district plans and will seek support from LGRD, which has multidisciplinary workforce, at the district level, village level, and even at the union council level. The staff of the PHED and LGRD will be made skilful in mobilization, organisation, implementation and operation and maintenance of any development scheme under taken in a union council. PHED and LGRD can play a very positive role in community organisation, establishment of Water Management Associations and monitoring the operation and maintenance of the scheme by the WMAs. Following the same pattern, District Water Supply committees shall also be formed in each district comprising district representatives of the concerned departments nominated in the DSDWC. These District level committees will further nominate divisional Safe Drinking Water Committee (SDSDWC).

7.4.4 Sub-divisional level arrangement:

In order to strengthen District and Sub-Divisional Office, PSDWC shall not be directly involved in project implementation but it would only serve as an Apex committee assigned with a policy making and steering tasks along with overall monitoring of Sub-Division level performance. All the water supply schemes initiatives shall be undertaken by the Sub-Divisional Office subsequently. The committee shall meet on quarterly basis for the initial two years and bi-annually later on. It should report the status of implementation and future planning to the relevant Provincial Departments. The role of the district level committees will be to keep a check on the pace of the progress, quality assurance, coordination and feedback to the Provincial Safe Drinking Water Committee.

This Drinking Water Policy, Strategy and Action Plan seeks to strongly define the desired water supply 'ends', whilst providing greater freedom for, communities and households to determine the 'means' of water supply service delivery.

In order to implement the Policy guidelines of Provincial Safe Drinking Water Strategy and Action Plan it is the ultimate responsibility of SDOs to design various projects and programs while following the regulatory guidelines of PSDWC and adapting it to the local priorities and available resources. SDOs under the supervision of Executive Engineers will facilitate the development of Water supply implementation plans in close association with LGRD. This shall be based on a local assessment of the water supply status, the resources available and the formation of a plan to meet the sector goals that have been identified and will be evaluated by the PCDWC. The Sub-divisional Office Implementation Plan (with clearly identified priorities) must be built into the Budget Plan for the respective Sub-Division. The Sub-Divisional office Implementation Plans may also prioritize investments to CO's in support of the water supply goals identified above.

The Sub-Divisional office Implementation Plans may incorporate the use of soft and hard, financial and non-financial incentives/disincentives for villages, neighbourhoods and communities that eradicate the unsafe practices.

7.4.5 Environmental Protection Agency (EPA):

It will play its state function to regulate the overall sector activities, prepare legislation, and penalize the offenders through courts as per "polluter-to-pay" rule. EPA will also provide technical support to P&DD and line departments in developing the sector guidelines as per their mandate. The Agency will monitor non-conformities of implementing agencies and regulate them to comply with the national and international obligations. EPA will also be responsible for development of provincial Water Quality Monitoring and Surveillance Protocol in line with National Environmental Quality Standards (NEQS). The EPA will be strengthened and necessary

training and exposure will be provided to the existing staff to fulfil their effective roles and responsibilities such as IEE/EIA and ensuring sectoral guidelines for compliance.

7.4.6 Health Department:

The department will play a key role in raising the awareness and behavioural change about clean water, sanitation and its related hygiene and health among the beneficiary communities, through the paramedical staff and LHVs/LHWs. The department will assist EPA and P&DD to set health standards for quality and quantity of safe drinking water required for human beings.

7.4.7 Education Department:

The education department will play a key role in implementation and integration of safe water awareness and behaviour change communication in schools and coordinate with P&DD, line departments and NGOs to set plans and programmes for safe water supply schemes. The department will ensure implementation of national schools WES standards.

7.4.8 Non Government Sector:

NGOs, Civil Society Organizations (CSOs), and Community Based Organizations (CBOs) are actively undertaking initiatives for safe and healthy physical environment in Balochistan. These NGOs, CSOs, and CBOs will be encouraged to participate in the provision of water supply and sanitation infrastructure in rural as well as urban areas. The NGOs will be encouraged to assist government in mobilizing the communities for water supply schemes related programmes and projects. The NGOs, and CSOs will also provide technical assistance to the district governments and villages/towns/wards/muhallas in planning, and development of community based piloting of technology options and infrastructure development and operation and maintenance of the completed projects.

7.4.9 Private Sector:

Private sector stakeholders within the context of water include contractors responsible for drilling tube wells. In addition there is private sector development of tube-wells particularly within Quetta, for selling out water through tankers and bowsers. Costs vary between PKR 500 to PKR 800 per tanker (4500 litres). Some private housing schemes have also developed their own water supply systems and operate and maintain these through user charges.

7.4.10 Media:

Electronic and print media will be encouraged to spread awareness messages to wider population. The Government and NGOs will assist them to develop educational programmes on water and health related issues and implement such programmes. The water and sanitation messages will be incorporated into a wide range of cultural events and festivals through appropriate media.

Private sector especially soap companies will be involved in promotion and awareness programmes for the women and children.

7.4.11 Religious Leaders

Role of religious leaders and Ulema is very crucial in behaviour change of men, women and children. Therefore, Ulema and Khateebis will be encouraged to spread water and sanitation awareness among broader population through their religious sermons and in their routine preaching to the general public.

7.4.12 Academia and Research Institutes

Role of academia and researchers is pivotal in identifying adaptations and innovations through research and generating evidence. Key academic institutes will be involved in research and evidences development for drinking water especially in identification, development, management and conservation of drinking water sources.

7.5.0 Community Participation

This is by far the most important component for success of the strategy. The policy/strategy is made for the benefit of people at large and, as such, its success cannot be guaranteed unless they are kept actively involved throughout its implementation.

The Safe Drinking Water Policy/Strategy and Action Plan goals and objectives can only be achieved through strong community mobilization. Community mobilization is possible through a well-planned awareness campaign. It is envisaged that the Communities will be involved in the planning, implementation, monitoring and O&M of the water supply schemes. The O&M of the schemes especially in the remote areas/villages should be handed over to the DWUA, which can generate ample revenue by collection of water charges to maintain the water supply schemes.

7.6.0 Public Awareness

Intensive information, education and communication campaigns need to be designed and implemented to promote water safety, water conservation and safe health and hygiene practices. To this effect, a comprehensive programme needs to be formulated which will particularly concentrate on the womenfolk of the area as they are the key players in domestic use of water.

7.7.0 Capacity building of stakeholders:

To effectively and efficiently perform the desired task of providing the Safe Drinking Water to all, it becomes imperative that Institutions directly or indirectly involved shall have the capacity to deliver the desired results.

Building capacity and reorientation of the concerned stakeholders at all the levels from the government to the communities is essential to manage the shift towards an outcome oriented Safe Drinking Water programme. This will require enhanced capacity of elected representatives, government functionaries, private sector, NGOs and local communities to perform the various roles that they have been assigned in Safe Drinking Water Strategy and Action Plan. This will also require an assessment of current level of competence and establishment of a threshold level of skills and competencies required by different players to perform their expected roles. This assessment will be best done at the provincial level through capacity building service providers either in the government or the private sector on competitive basis. Under this strategy a variety of measures of capacity building of elected representatives, functionaries and communities need to be undertaken e.g. exposure visits/ knowledge networks, technical trainings / workshops and manuals/ hand-holding / model contracts.

7.8.0 Financial Arrangements:

Federal Government will make allocations for Safe Drinking Water Supply in the PSDPs. The Provincial PHE Department and District council shall also make similar necessary allocations through their annual development plans for achieving the MGD. Allocations from Federal Government shall be made through Pakistan Poverty Alleviation Funds; various community support programs for drinking water supply specific projects and block performance grants to the Provincial Governments.

Almost two-third programs and funding of water supply Sector are mainly utilized by the Provincial Governments, for undertaking urban infrastructure development programs including water supply in urban and rural areas. Accordingly to the Mid Term Development Framework (MTDF) for Water Supply would be refined keeping in view the specific needs.

7.9.0 Rules for Operation and Maintenance of the System

The rules for operation and maintenance should be formulated by the Department of PHE by taking all the stakeholders on board. The due emphasis would be given to identify innovative approaches like one year O&M support as a part of development schemes, handing over to LGRD institutes, etc.

7.10.0 Public-Private Partnership

Private entrepreneurship and public-private partnerships for enhancing access of Safe Drinking Water, operation & maintenance of water supply systems, resource mobilization and capacity

development would be explored specifically in urban areas. The role of civil society organizations to support the government's efforts in this context should also be encouraged. Policy makers need to be persuaded to provide an enabling environment encouraging the private sector to invest in this area to supplement and complement the government resolve to enhance coverage.

7.11.0 Research and Development

Special efforts need to be undertaken to pilot new approaches and innovative ideas and arrangements in the drinking water sector, especially those which help to improve access, quality, efficiency, effectiveness and sustainability. Where these pilots are successful, they should be widely disseminated and plans made to scale-up and replicate. Strong linkages need to be developed with the organizations/agencies already involved in R&D activities for this purpose.

7.12.0 Disaster Risk Reduction

National, Provincial, District and Sub-Division level risk reduction plans (emergency preparedness and response plans) need to be developed for ensuring provision of Clean Water to the people affected by emergencies such as floods, earthquakes, droughts and conflicts, in line with the Sphere Standards. Water supply systems need to be designed and constructed with due consideration to the natural disasters and emergencies and training programmes on emergency preparedness, mitigation and response need to be arranged for the staff of line agencies, civil society organizations and communities in the light of strategy devised by the PDMA in connection with the PHE department, Local Government and other stakeholders. The guidelines for humanitarian support and long-term rehabilitation after any emergency (like earthquake) should be developed and respective stakeholders should be educated especially in context of WASH.

7.13.0 Coordinated Planning and Implementation

A sector-wide approach should be promoted for water and water supply sector. Existing data collection systems such as Pakistan Social and Living Standards Measurement Survey, Multiple Indicator Cluster Survey, Demographic and Health Survey and Population Census should be streamlined and strengthened to ensure availability of authentic information for assessment of the progress with regard to enhancing access to Clean Water as well as for decision-making purposes. Drinking Water sector management information system should be established at the Provincial, District and Sub-Division levels. In order to ensure effective utilization of resources and to maximize impacts, inter-sectoral approach should be promoted and implementation of the Policy should be coordinated and integrated with relevant National Policies, especially Policies for water supply, water, environment, health education sectors. Adequate allocations should be made for provision of Safe Drinking Water supply facilities in educational institutions and health care facilities under the education and health sector programmes.

7.14.0 Water Related Legislations

There exists a wide range of legislations to regulate, administer and provide guidelines for the functions and authority of institutions directly involved in the water sector. However, the lack of an overall framework or strategy within which legislative controls are to be implemented and the absence of inter-linkages, or synergy between the various Acts and Ordinances has had little impact on management of water resources. An overriding element to the ineffectiveness of legislative controls is the lack of impetus and political will for implementation.

Legislation and/or instrument relevant to groundwater are available in Balochistan, in the form of Ground Water Rights Administration Ordinance of 22 March 1978 (Groundwater Ordinance), which covers the issuance and administration of groundwater rights. The Ordinance is implemented only in part, because the Provincial Water Board (PWB), which was established under its provisions, has not exercised its powers to a full extent. Moreover, there are a number of gaps, particularly with regard to groundwater data management, groundwater resources planning and the control of professional drillers, quality management and the participation of stakeholders in decisions relating to groundwater management. The Act covers the establishment of district water committees for ground water.

Some groundwater quality aspects are dealt with under the Environmental Protection Act, 1997, the implementation of which is also weak. The issues of subsidies and low tariffs, as given to Irrigation tube wells, regarding installation of tube wells for drinking water purposes should be considered in new legislation. Similarly, all new dams constructed for irrigation purposes should be pursued firstly provide drinking water to their local catchment areas.

7.14.1 Integrated Legislations for water users

Institutions are wide, complex and varied. Water management in the developing world is normally a mix of formal and informal institutions at different prefectures and different tiers. The role played by informal mechanisms in water management cannot be overemphasized. Unlike the formal ones, the informal institutions are not purposively designed at one moment.

They range from formal, well-established policies and legislative and organizational set ups that are interwoven from central, basin, catchment to local levels on the one hand, and an elaborate, complex customary institutional mix embedded in local informal relations, which involves customs, traditions, norms, culture and local practices on the other hand. Both formal and informal arms of institutions are important in water management and they are fully interdependent. As such they display a wide array of types of interfaces. Various interfaces of formal and informal institutions have been illustrated above, including the interfaces between centralized and local institutions, formal water rights and customary rights, Water User Associations and informal associations of water, formal and informal power relations, and the complexity of institutional interfacing. As

displayed in these cases, especially at the grassroots level, the formal ones may not be successfully operational without the informal ones, and vice versa.

There are no full-fledged mechanisms as yet to better align the formal and informal. In some cases there is only superficial contact among similar institutions resulting into uncoordinated interventions, bypass and duplication of efforts, while in other cases there are troublesome overlaps resulting into power struggles and collisions in operation mechanisms. This implies a challenge to the bureaucracy in the on-going water reforms that new initiatives may frustrate on-going efforts or may not bring an added value whatsoever.

Formal institutions i.e. policy and legislation on water resources management should assign more room for the other side of the coin - the informal side, as it has a lot to offer for achieving today's water management imperatives. Water managers at different levels should appreciate formal-informal interfaces and encourage the better coexistence of the two arms at various tiers and prefectures of water resources management.

There is a need to build the capacity of water managers, users and other stakeholders on the importance of both formal and informal institutions at the catchment and grassroots level specifically, where the formal-informal linkages are clearer. There is also a need for a comprehensive study to examine the formal-informal institutional linkages and interface mechanisms especially at the grassroots level. The successful cases of the formal-informal institutional interfaces should be encouraged and be emulated for better use elsewhere.

7.15.0 Policy Measures and Implementation Arrangements:

In order to execute the Drinking Water Policy/Strategy in its true spirit, the Provincial government needs to initiate the following measures through an Action plan, along with the indicated time frame for each, to yield maximum output in the water supply context.

8. MONITORING AND EVALUATION

In order to ensure successful implementation of the Strategy, a 'Strategy Implementation Unit' will be established in the PHED under the Secretary PHED and Secretary Local Government. DS (Development) of PHED will be focal person to steer implementation with Section Officer (Dev.) to provide secretarial support. Responsibility of the Plan Implementation Unit will be as follows:

- Coordinate with key stakeholders, including policy and decision makers, to maintain effective level of support.
- Make HR capacity building plan in collaboration with consultants (capacity building specialist)
- Prepare community mobilization plan
- Liaise with Foreign Aid Section of P&DD to seek foreign funding for Strategy
- Have GIS mapping of WSS completed in collaboration with P&DD
- Maintain strategy updates on the website
- Monitor and review progress on implementation of Strategy

8.1.0 Monitoring, Supervision and Evaluation:

A three tier monitoring Approach will be adopted:

8.1.1 *Monitoring at Village/Sub-Division level:*

All projects and programs shall be monitored by staff of PHED to ensure that desired outcomes of any particular interventions are achieved. Inter-alia, the Sub-Division level committees will also facilitate the implementing agencies in proper mobilization and resource accumulation at community level. Any problem/issue arising should properly be addressed immediately to avoid unnecessary delays in the implementation.

8.1.2 *Monitoring at District Level:*

The District level Safe Drinking Water Supply Committees or sub-committees at town and Sub-Divisional level office will monitor the performance of projects based at union council level on the predefined performance indicators. Field staff of Sub-Divisional Offices shall be capacitated to collect information on water supply progress in the respective area. This information should be fed into the database maintained at Sub-Divisional Office level. However, District Water Supply Committees shall verify 15 to 20 % of the data through an independent agency to validate its authenticity. Based on the data each Sub-Divisional Office will generate quarterly reports and share it with all the stakeholders at District and Provincial level. In order to make the database management workable, robust and up to date MIS/GIS system will be developed at Sub-Divisional level office with web based access to the stakeholders.

8.1.3 Monitoring at PSDWC level:

All the Divisional Offices shall be sending their quarterly progress reports to the PSDWC that shall be supported by a dedicated team of professionals at Secretary PHED's office to provide necessary administrative and functional support. Provincial level team shall be responsible for development and operations of MIS/GIS system for data collection and data analysis, maintain liaison with all the stakeholders, consolidate reports of various Divisional and Sub-Divisional Offices and submit it to PSDWC for performance review and resource allocation decisions. It is the PSDWC mandate to have developed a sophisticated hardware and software infrastructure at the Secretary PHED office along with a team of professionals who shall be hired from the open market.

The Provincial Government shall establish and maintain a database for tracking the golden indicators of progress of Divisional Office in regard to those Sub-Divisions that are: (1) Supply of Safe Drinking Water to all, (2) Sustainable use of water resources, (3) Water resource legislation for its various uses; 4) Community participation in planning cycle and O&M of the water supply systems; 5) Water quality monitoring and surveillance with the support of PCRWR to be updated periodically

On need basis, PSDWC shall also identify an external party at the end of every fiscal year to validate the information provided by Sub-Divisional Offices on 05-10% random sample check basis.

Proper data base management at the PSDWC and Sub-Divisional Office level will help provincial government to monitor key performance indicators and effectiveness of the various Sub-Divisional Office and their associated programs.

The management and verification of data is contingent on the existence of a reliable Management Information System (MIS). In order to take the approach to scale, based on the field learning, the Provincial Government might undertake implementation in few districts on pilot basis with the support of implementing line agencies and NGOs.

8.2.0 Developing MIS/GIS for Planning

MIS/GIS system will be developed for the whole of the Province regarding the availability of Safe Drinking Water and its quality. One of the important uses of MIS/GIS is to prevent duplication in the process of development. The following criteria will be adopted for the creation of the MIS/GIS:

- Village wise drinking water supply will be shown as a spot, with the relevant components /data of the schemes linked with the MIS/GIS.

- The drinking water availability and non-availability plans of the towns will be constructed on high-resolution satellite imagery, clearly showing all the streets and the facilities. Streetwise availability plan will be developed.
- Leftover villages would be pointed out.

In coordination with the authorities responsible for the water supply schemes, the services will be hired to develop the MIS/GIS system for the drinking water availability and quality plans for all the villages and the towns in Balochistan. The MIS/GIS will provide the base line information on which further planning will be done and the progress can be monitored regarding the Implementation of the Strategy.

The following staff will be trained under the professional trainers. Staff will regularly examine by the senior staff to ensure that they have understood the system of preparing for monitoring:

- Training for Executive Engineers
- Training for Sub Divisional Officers
- Training for Sub-Engineer
- Training for Draft Man i.e. Autocad
- Training of Computer Operators in MIS
- Training of O&M staff

There have been several arguments about the variety of human recourse development outcomes, ranging from the reconciliation of the many definitions and purposes of HRD to the outputs of training and learning provided to human resources, from individual development to performance and organization development. Furthermore, it is believed that training and development of the individual employee would enhance the work process and organizational performance to achieve organizational effectiveness, if provided with proper working environment. In this context, it is advocated that the ultimate outcome of HRD interventions is performance focused at the levels of individuals and groups, work processes and organizations.

9. THE DRINKING WATER SUPPLY ACTION PLAN

9.1 The Action Plan up to year 2025

The Drinking Water Supply Policy/Strategy of Balochistan has been formulated in the context that water supply schemes executed by Government line departments and NGOs with different methodologies and implementation approaches. The diversity of experiences is providing guidance and opportunity to adopt a proactive strategy for future water supply interventions. The objective of this strategy is to comply with principles laid in the National Drinking Water Supply.

The basic principal of this strategy and action plan is to have safe drinking water for the entire population through sustainable development, demand responsive approach, capacity building of stakeholders and implementation of programmes and projects with community participation, involvement and ownership. During the period 2015 to 2020 (first five years) an action program is suggested to give support to capacity building, organizational and institutional reforms, technical assistance to implement programs and projects, implementation of on-going projects, increase the coverage, in the province. The following Action Plan has therefore been proposed to achieve the safe drinking water for all in Balochistan.

BALOCHISTAN DRINKING WATER SUPPLY ACTION PLAN

OVERALL GOAL: To provide safe drinking water to entire population by 2025

9.1 Short-term and Medium-term Implementation Plan up to year 2020

Outcome	Strategic Objectives/Actions	Indicative Budget (PKR)	Lead Responsibility	Collaborating Agencies	Time Frame
Outcome 1: Increased access to improved drinking water supply					
Action-1	Development and finalization of 10 year water supply programmes	10,000,000	PHED, P&D, Health, LGRD Education	Development partners	2015
Action-2	Initiate baseline study to set the baseline data for future planning of drinking water supply	30,000,000	PHED, P&D, LGRD	Health, Education and Development Partners	2015
Action-3	Establishment of data base for water supply schemes	30,000,000	PHED, P&D, LGRD	Development Partners	2015
Action -4	Conduct a detailed survey of Quetta to establish database of water connections and services	10,000,000	WASA-Q, P&D	Development Partners	2015
Action-5	Establish 600new village water supply schemes annually (Total 4,719 villages)	3,000,000,000	PHED, LGRD	Development Partners	2015-2018
Action-6	Rehabilitate 200 non-functional water supply schemes annually (total non functional 607)	1,000,000,000	PHED, LGRD	Development Partners	2015-2018
Action-7	Upgrade 46 water supply schemes of the townships in phases	500,000,000	PHED, LGRD	Development Partners	2015-2018
Action-8	Complete incomplete water supply schemes	300,000,000	PHED, LGRD	Development Partners	2015-2018
Action -9	Construction of water filtration/reverse osmosis plants in remaining 144 union councils of the province	250,000,000	PHED, LGRD	Development Partners	2015-2018

Outcome	Strategic Objectives/Actions	Indicative Budget (PKR)	Lead Responsibility	Collaborating Agencies	Time Frame
Outcome 2: Protection and Conservation of Water Resources					
Action-1	Adapt NDWQS for classification of water resources on the basis of their uses and assessments.	100,000,000	PHED, LGRD, WASA, Irrigation	Development Partners	2015-2018
Action-2	Promote rain-water-harvesting at household and local levels to augment the municipal water supplies and ground water recharge so as to enhance sustainability of water sources;	500,000,000	PHED, LGRD, WASA-Q	Development Partners	2015-2018
Action-3	Undertake environmental impact assessment for major water sector projects to ensure that they do not adversely impact the environment;	10,000,000	PHED, EPA, P&D, Irrigation	LGRD & Development Partners	2015-2018
Action-4	Implement installation of water metering to check the indiscriminate use of drinking water supplies;	200,000,000	PHED, LGRD, WASA-Q	Development Partners	2015-2018
Action-5	Promote use of water-saving plumbing equipment and water efficient techniques, and appliances.	200,000,000	PHED, LGRD, WASA-Q	Development Partners	2015-2018
Action 06	Conduct study on water resources management and development in Balochistan	30,000,000	PHE, P&D	Development Partners & Academia	2015-2016
Outcome 3: Drinking Water Treatment and Safety					
Action-1	Create measures to prevent contamination of surface as well as ground water to ensure compliance of NEQS	10,000,000	PHED, LGRD, WASA-Q	Development Partners	2015-2018
Action-2	Utilization of waste water after treatment for agriculture and horticulture purposes	200,000,000	PHED, LGRD and WASA-Q	Development Partners	2015-2018
Action-3	Implement and strictly adhere to water quality monitoring and surveillance frameworks	10,000,000	PHED, PCRWR	Development Partners	2015-2018
Action-4	Promote and practice water safety planning	50,000,000	PHED, LGRD and WASA-Q	Development Partners	2015-2018

Outcome	Strategic Objectives/Actions	Indicative Budget (PKR)	Lead Responsibility	Collaborating Agencies	Time Frame
Action-5	Develop Water Testing Facilities at district level	500,000,000	PHED, Irrigation, LGRD	LGRD & Development Partners	2015-2018
Outcome 4: Use of Appropriate Technologies and Standardization					
Action-1	Use cost-effective and appropriate technological options to suit local conditions and social and cultural practices	50,000,000	PHED and Academia	LGRD & Development Partners	2015-2018
Action-2	Government of Balochistan to develop and enforce standard operating procedures (SOPs) for planning, designing, construction, monitoring and operations and maintenance for various categories of water supply schemes	20,000,000	PHED, P&D, LGRD, WASA-Q and Law	Development Partners	2015-2018
Outcome 5: Enhanced Community Participation and Empowerment					
Action-1	Ensure active participation of communities, especially women in planning, implementation, monitoring and operations and maintenance of water supply.	100,000,000	PHED, LGRD and WASA	Development Partners	2015-2018
Action-2	Initiate a special focus on gender training programs.	10,000,000	PHED, LGRD, Health, WASA	Education and Development Partners	2015-2018
Action-3	Recruit and induct women in water supply related institutions and other relevant agencies to ensure that needs of women are adequately addressed in design and operation & maintenance of water supply systems;		PHED, LGRD, NGOs, Health and Education	Development Partners	2015-2018

Outcome	Strategic Objectives/Actions	Indicative Budget (PKR)	Lead Responsibility	Collaborating Agencies	Time Frame
Outcome 6: Increased Public Awareness					
Action-1	Launch a media campaign through local languages to bring about a behavioral change regarding the conservation of water resources, hygiene and benefits of safe drinking water on health.	100,000,000	PHED, LGRD	Development Partners	2015-2018
Action-2	Support CO both male and females to facilitate the communities to understand the importance of health, hygiene and optimum use of water resources. This activity should particularly be focused on women and young girls of the locality		PHED & LGRD	NGOs and Development Partners	2015-2018
Action-3	Erect billboards on the highways near all towns of the Balochistan with messages regarding health, hygiene and conservation of the water resources	10,000,000	PHED& LGRD	Development Partners	2015-2018
Action-4	Distribute leaflets to promote conservation, health and hygiene	10,000,000	PHED, Health	LGRD & Development Partners	2015-2018
Action-5	Introduce environment, conservation of water resources, limitations of the ground water resources, and essentiality of water for proper human functions, health and hygiene in the syllabus of primary and secondary schooling system.	20,000,000	PHED, LGRD, Education and Health	Development Partners	2015-2018

Outcome	Strategic Objectives/Actions	Indicative Budget (PKR)	Lead Responsibility	Collaborating Agencies	Time Frame
Action-6	Design programmes for womenfolk to increase their awareness and understanding through sessions highlighting the importance/need for domestic pre-use treatment of drinking water	20,000,000	PHED, Health	LGRD & Development Partners	2015-2018
Outcome 7: Improved Capacity Development of stakeholders					
Action-1	Arrange exposure visits/ knowledge networks	10,000,000	PHED& LGRD	Development Partners	2015-2018
Action-2	Organize technical trainings / workshops/discussion sessions	30,000,000	PHED& LGRD	Development Partners	2015-2018
Action-3	Prepare/distribute manuals/ hand holding / brochures	20,000,000	PHED& LGRD	Development Partners	2015-2018
Action-4	Establish broad-based and participatory COs and DWUA	50,000,000	PHED& LGRD	Development Partners	2015-2018
Action-5	Train staff and COs in basic Management	10,000,000	PHED & LGRD	Development Partners	2015-2018
Action-6	Train in Role and Responsibilities of COs	20,000,000	PHED & LGRD	Development Partners	2015-2018
Action-7	Train in simple Bookkeeping,	10,000,000	PHED & LGRD	Development Partners	2015-2018
Action-8	Train in the O&M of the water supply schemes	20,000,000	PHED & LGRD	Development Partners	2015-2018
Outcome 8: Formulation of Rules for Operation and Maintenance of the System					
Action-1	Establish a system for collection of cash contribution for the operation and maintenance from individual households for proper operation and maintenance of the scheme and creating sense of ownership	10,000,000	PHED, WASA-Q and LGRD	Development Partners	2015-2018

Outcome	Strategic Objectives/Actions	Indicative Budget (PKR)	Lead Responsibility	Collaborating Agencies	Time Frame
Action-2	Promote and ensure cohesion amongst communities for proper functioning and sustainability of the system	10,000,000	PHED & LGRD	Development Partners	2015-2018
Outcome 9: Foster Public Private Partnerships					
Action-1	Promote private entrepreneurship and public-private partnerships to enhance access of safe drinking water.		PHED & LGRD	Development Partners & Private Investors	2015-2018
Action-2	Promote operation & maintenance of water supply systems, resource mobilization and capacity development	100,000,000	PHED, LGRD and NGOs	Development Partners	2015-2018
Action-3	Encourage the role of civil society organizations to support the government's efforts in improving access to safe drinking water	100,000,000	PHED, LGRD and NGOs	Development Partners	2015-2018
Outcome 10: Research and Development					
Action-1	Pilot new ideas and approaches.	50,000,000	PHED, LGRD, P&D& Academia	Development Partners	2015-2018
Action-2	Improve access, quality, efficiency, effectiveness and sustainability through R&D activities	20,000,000	PHED, LGRD, P&D, WASA	Development Partners	2015-2018
Action-3	Make widely disseminated plans for scaling-up and for replication	10,000,000	PHED & LGRD	Development Partners	2015-2018
Action-4	Develop strong linkages with the organizations/agencies already involved in R&D activities	20,000,000	PHED & LGRD	Development Partners	2015-2018

Outcome	Strategic Objectives/Actions	Indicative Budget (PKR)	Lead Responsibility	Collaborating Agencies	Time Frame
Outcome 11: Disaster Risk Reduction					
Action-1	Develop Provincial, District and Sub-Division level disaster risk reduction plans to ensure provision of Clean Water to the people affected by emergencies such as floods, earthquakes, droughts and conflicts, in line with the PDMA standards chalked out for the sector	20,00,000	PHED & LGRD	Development Partners	2015-2018
Action-2	Design and construct water supply systems with due consideration to the natural disasters and emergencies		PHED & LGRD	Development Partners	2015-2018
Action-3	Arrange training programs on emergency preparedness and response for the staff of line agencies, civil society organizations and communities	10,00,000	PHED & LGRD	Development Partners	2015-2018
Outcome 12: Improved Coordinated Planning and Implementation					
Action-1	Adopt and follow an integrated development approach at the highest level by keeping in view all cross-sector impact considerations	10,000,000	PHED & LGRD	Development Partners	2015-2018
Action-2	Streamline existing data collection systems such as Pakistan Social and Living Standards Measurement Survey, Multiple Indicator Cluster Survey, Demographic, Health Survey and Population Census		PHED & LGRD	Development Partners	2015-2018

Outcome	Strategic Objectives/Actions	Indicative Budget (PKR)	Lead Responsibility	Collaborating Agencies	Time Frame
Action-3	Establish Drinking Water sector management information system at the Provincial, District and Sub-Divisional levels	20,000,000	PHED & LGRD	Development Partners	2015-2018
Action-4	Coordinate and integrate Policy with other relevant Policies, especially policies for water, sanitation, environment, health, education and nutrition sectors.		PHED, LGRD and P&D	Development Partners	2015-2018
Action-5	Make adequate allocations for provision of Safe Drinking Water supply facilities in educational institutions and health care facilities under the education and health sector programmes	100,000,000	Education, Health, P&D	PHED, LGRD and Development Partners	2015-2018
Outcome 13: Strengthen Legislation Framework					
Action-1	Enact a Safe Drinking Water Act to ensure compliance with the National Drinking Water Quality Standards adapted for the province and hold the water supply institutions accountable to the general public;	10,000,000	PHED, LGRD, WASA and P&D	Development Partners	2015-2016
Action-2	Ensure the implementation of drinking Water Quality Standards	5,000,000	PHED, LGRD, WASA-Q and P&D	Development Partners	2015-2016
Action-3	Promulgate the Water Conservation Act and relevant standards and guidelines	1,500,000	PHED, LGRD and P&D	Development Partners	2015-2016
Action-4	Develop standards for water-saving plumbing equipment and appliances; and enact legislation for regulation of groundwater exploitation	1,000,000	PHED, LGRD and P&D	Development Partners	2015-2016
Action 05	Review and revise existing revenue and tariffs structures for drinking water		PHED, LGRD, P&D,	Development Partners	2015-2017

Outcome	Strategic Objectives/Actions	Indicative Budget (PKR)	Lead Responsibility	Collaborating Agencies	Time Frame
Outcome 14: Improved Implementation and Monitoring					
Action-1	Establish provincial, district and sub-divisional Safe Drinking Water Committees	10,000,000	PHED, LGRD, WASA and P&D	Development Partners	2015-2016
Action-2	Develop human resource capacity building and community mobilization plans and oversee their timely implementation to enhance the element of ownership and sustainability	20,000,000	PHED, LGRD, WASA and P&D	Development Partners	2015-2016
Action-3	Liaise with Foreign Donor Agencies through the concerned section of P&DD to mobilize foreign funding so as to launch programmes to achieve the target of expanding access to safe drinking water to 100% within stipulated time period		PHED, LGRD and P&D	Development Partners	2015-2016
Action-4	Introduce a regular reporting system, preferably on monthly basis, which would serve as a permanent record of progress, besides providing information on activities, results, problems encountered and suggestions to overcome them. These reports will also form basis for the prescribed quarterly and other periodic reports	10,000,000	PHED, LGRD and P&D	Development Partners	2015-2016
Action-5	Manage collection of information and prepare data base of all GIS/MIS	10,000,000	PHED, LGRD, WASA and P&D	Development Partners	2015-2016

9.2 Long-term Implementation Plan up to year 2025

Outcome: To provide 100% access to safe drinking water by 2025

Long Term Objectives	Strategy	Action Plan	Responsibility	Time Frame
Provide 100% access to safe drinking water supply facilities	Construct, rehabilitate water supplies in the uncovered areas, water filtration/reverse osmosis, provide awareness and monitoring	Arrange financial resources Ensure implementation of projects as per planned schedule Ensure sustainable operation and maintenance mechanisms of the water projects, Monitoring of the water projects	P&DD, Line Deptts.' NGOs, Communities	2015-2025
Develop mechanism for sustainable conservation and protection of water resources	Build capacities of line departments, ensure laws and regulations and provide awareness to the communities	Ensure compliance of the stakeholders with laws, and provide incentives for compliances and disincentives for non compliances	P&DD, LGRDD, PHED, Health and Education Deptt., NGOs, Communities	2015 -2025
Build capacities of Government, NGOs and Communities	Ensure integration of project staff into mainstream and continue the same functions	Develop PC-4 for the project positions and continue building the capacities of WatSan staff	-ditto-	2015-2025

ANNEXURES

Annex 1: Access to Improved Water

No	Districts/Area	MICS 2004			MICS 2010		
		Improved	On Premises	Access within an hour	Improved	On Premises	Access within an hour
1	Harnai	--	--	--	67.5	58.4	32.8
2	Noshki	--	--	--	89.1	63.5	15.0
3	Washuk	--	--	--	81.8	54.9	30.2
4	Sherani	--	--	--	61.2	55.3	14.1
5	Musakhail	6	4	6	46.4	36.4	25.3
6	Kohlu	11	9	10	76.1	61.5	7.2
7	Barkhan	15	7	12	82.0	45.2	35.8
8	Dera Bugti	23	6	16	82.9	58.3	17.9
9	Ziarat	26	33	26	48.5	41.5	37.2
10	Jhal Magsi	27	13	27	23.5	23.5	38.6
11	Naseerabad	35	29	34	15.9	30.5	53.4
12	Loralai	38	27	35	62.5	52.8	19.2
13	Bolan	41	25	36	44.8	24.6	45.6
14	Jafarabad	42	34	39	57.4	62.3	22.1
15	Kalat	43	18	39	81.9	53.5	16.7
16	Q. Abdullah	44	32	40	99.1	95.8	3.3
17	Q. Saifullah	45	19	34	80.0	49.2	31.6
18	Zhob	46	31	40	69.9	43.4	20.4
19	Mastung	47	39	43	88.5	71.8	9.1
20	Sibi	52	41	48	79.7	71.2	14.4
21	Lasbela	53	20	46	88.8	55.1	14.5
22	Awaran	55	26	53	47.2	42.5	23.2
23	Kharan	55	20	54	87.9	53.6	28.3
24	Panjgar	56	38	54	73.8	65.0	27.3
25	Pishin	57	49	54	89.8	72.8	20.1
26	Khuzdar	58	30	52	73.9	64.8	15.4
27	Kech	63	40	60	88.9	90.7	2.6
28	Gawader	67	52	63	73.4	57.7	22.4
29	Chaghi	74	27	61	66.6	65.5	17.4
30-a	Quetta (Chiltan)	78	78	77	83.4	84.7	6.5
30-b	Quetta (Zarghoon)	98	98	97	91.1	91.7	2.5
Urban		91	82	90	90.6	90.6	3.9
Rural		43	24	39	68.6	53.9	23.7

Annex 2: Capacity Building

Capacity Building Training

To enable them to completely comprehend the process, Department (PHE) needs to organise a series of training for COs capacity building. It is important to note that SDOs must ensure presence of all general body members in this training. At least 40% of the COs general body members and all CO committee members must be present before any training is given. If the required number of COs general body and COs committee is not present then, a new date should be agreed with COs for training sessions. This is an important condition and must be fulfilled; otherwise the whole capacity building exercise will be futile.

The capacity building programmes should basically revolve around the following:

- 1) Arranging exposure visits/ knowledge networks
- 2) Organizing technical trainings / workshops/discussion sessions
- 3) Preparation/distribution of manuals/ hand holdings / brochures
- 4) Establishment of broad-based and participatory COs and DWUA.
- 5) Training in Organisation and Management
- 6) Training in Role and Responsibilities of COs
- 7) Training in simple Bookkeeping,

It is suggested that the following three training should be part of COs capacity building and these must be imparted within three months of COs formation. There needs to be a gap of at least two weeks between two training programmes:

Social Mobilisation at Scheme Identification

Social mobilization should start from location identification of the scheme during reconnaissance survey. At this stage some basic data needs to be collected about scheme community like population, existing practices for drinking water supply, its maintenance arrangements and problems. Basic information about tribal composition of land and water shareholders, level of cooperation and existing disputes should also be collected. Community should be informed that the selection of scheme is based on the selection criteria i.e. the beneficiaries have to participate in scheme development for inception to operation and maintenance. Project approach should be explained in detail to determine community need and willingness.

The scheme awareness campaign should comprise of: (i) understanding scheme development, (ii) level of groundwater awareness, and (iii) a series of meetings with community for detailed explanation of following points:

- a. Willingness of all beneficiaries for scheme development and commitment towards its successful running and maintenance
- b. Establishment of broad-based and participatory COs and DWUA.

Specific Tasks of COs in Scheme Development

- COs will participate in all activities for scheme development. For this purpose COs committee may nominate persons who will represent COs and facilitate the work of project staff in different activities.
- COs will facilitate and assist survey team in carrying out topographic and walk through surveys along the proposed alignment of water supply scheme.
- COs will collect and deposit ½% of cash contributions before the start of scheme implementation, as an evidence of their willingness towards operation & maintenance of the water supply scheme. COs will provide bank deposit slip as proof.
- COs will ensure that all issues regarding right of way and acquisition of land, if required are resolved amicably.
- COs will discuss and agree with the detailed design prepared by the service provider and suggest any improvements, if required.
- COs general body will approve detailed design of the water supply scheme and COs will affix signatures on the detailed design as evidence of its approval.
- COs will keep records of all expenditure and reimbursements with regard to their share in water supply scheme in the form of unskilled labour or supply of material, etc.
- COs will implement groundwater monitoring plans on selected schemes and form committee for groundwater management.
- COs will conduct final inspection of scheme after completion and take over responsibilities for operation and maintenance of scheme.

Formation of Water User Association

Active participation of COs (DWUA) in the scheme development process is a fundamental approach for community development and community ownership of the water supply scheme. CO should be established at the time of scheme identification when the entire beneficiaries have signed tentative agreements as demonstration of their commitment for participation in the development process. The sustainability of the scheme to a large extent depends on the ability of the COs to take over the future operation and maintenance responsibilities after completion of the scheme.

- To ensure effective management of the water supply system developed;
- To ensure the proper water distribution among the beneficiaries;
- For proper operation and maintenance of the scheme and instilling sense of ownership, cash contribution for the operation and maintenance from individual household on monthly basis should be collected;

- For proper functioning and sustainability of the system the cohesion between community members should be ensured;
- The right of each water user should be respected and protected;
- Internal conflicts, if any should be resolved;
- The efficient use and conservation of water should be the guiding principle of all their activities.

Annex 3: List of Participants in Balochistan Technical Group

Name	Designation
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Annex 4: List of Participants in Consultation Workshops

Name	Designation
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Annex 5: Glossary

“Drinking Water” means water used for municipal purposes including drinking, cooking, hygiene and other domestic uses.

“Safe Drinking Water” refers to the water complying with national drinking water quality standards.

“Public sector” refers to all ministries, departments, entities, bodies and local governments at the provincial, federal and local levels

“National Environmental Quality Standards” means the standards issued by the Pakistan Environmental Protection Agency established under the Pakistan Environmental Protection act, 1997.

“Surface Water” means water, which lies above the surface of the ground, is open to the atmosphere and is subject to surface runoff.

“Water Quality” means the quality of water, which conforms to the national drinking water quality standards

“National Drinking Water Quality Standards” means the standards approved the Pakistan Environmental Protection Council in March 2010

The faecal coliform levels in the water usually measure “Bacterial contamination”. Faecal coliform is an **indicator** organism; it is easily measured and can signal the presence of other harmful bacteria in water.

“Chemical contamination” is measured by a test specific to a particular chemical. Chemicals contaminations can naturally occur or can be caused by anthropogenic activities entering from either point sources (such as a specific leak from a pipe or a dumping site) or from non-point sources (such as oil or other gasoline products from large-scale runoff from a highway or parking lot), and are considered to be very harmful.

“Water Coverage” refers to the proportion of the population that has access to safe drinking water.