IN THE SUPREME COURT OF PAKISTAN

(Original Jurisdiction)

CMA No. ..... /2018

IN

Human Rights Case No. 49912-/2018 (in the matter regarding pricing mechanisms and management of the usage of water)

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Certified that the paper book as bound is complete and correct

Date 12-11-2018

Secretary
Law and Justice Commission of Pakistan

IN THE SUPREME COURT OF PAKISTAN

(Original Jurisdiction)

CMA No. ..... /2018

IN

Human Rights Case No. 49912-/2018 (in the matter regarding pricing mechanisms and management of the usage of water)

COMPLIANCE REPORT

At the hearing on 14 September 2018, the Hon'ble Supreme Court of Pakistan was pleased to pass following Order:

> "Pursuant to our earlier order, Mr. Makhdoom Ali Khan, Sr. ASC and Salman Aslam Butt, Learned ASC have filed their respective reports which are handed over to Mr. Mehr Ali Shah, Commissioner for Indus Water for his independent comments. Besides the Secretary, Law & Justice Commission of Pakistan is directed to convene a Workshop to discuss the issue of management and usage of water and its rating/pricing. To this end, notices be issued to all the Provincial Secretaries, Irrigation and the terms of reference for such workshop shall be prepared by Mr. Mehr Ali Shah. Mr. Kaleem Ahmed Khurshid, Learned ASC, President Supreme Court Bar Association of Pakistan shall also attend the workshop."

2. In compliance with the directions, the Secretariat of the Law and Justice Commission of Pakistan convened a National Workshop to discuss the issue of management and usage of water and its rating/pricing on 30th October 2018 at Islamabad. The Workshop was attended by the representatives of all the stakeholders. After discussion, the house formulated its recommendations. The report of the Workshop is attached herewith as **Annexure-A**.
3. Pursuant to the directions of the Hon'ble Supreme Court of Pakistan, an amount of Rs. 50,000/- has been deposited in Dam Fund, receipt whereof is attached as **Annexure-B**.

Dr. Muhammad Raheem Awan
Secretary,
Law and Justice Commission of Pakistan

Dated: 12 November, 2018

REPORT ON THE WORKSHOP ORGANISED BY THE LAW AND JUSTICE COMMISSION OF PAKISTAN TO DISCUSS THE ISSUE OF MANAGEMENT AND USAGE OF WATER AND ITS TARIFF (RATING/PRICING) (30th OCTOBER 2018)

LAW AND JUSTICE COMMISSION OF PAKISTAN
ISLAMABAD

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REPORT ON THE WORKSHOP ORGANISED BY THE LAW AND JUSTICE COMMISSION OF PAKISTAN TO DISCUSS THE ISSUE OF MANAGEMENT AND USAGE OF WATER AND ITS TARIFF (RATING/PRICING) HELD ON 30TH OCTOBER 2018, ISLAMABAD

A. INTRODUCTION:

1.01. The Hon'ble Supreme Court of Pakistan vide its Order dated 14th September 2018 in Human Rights Case No.49912/2018 directed the Secretary Law and Justice Commission of Pakistan (LJCP) to convene a Workshop to discuss the issue of management and usage of water and its rating/pricing. Syed Mehar Ali Shah Pakistan Commissioner for Indus Water (PCIW), Ministry of Water Resources was directed to prepare Terms of References (TORs) **(Annexure-1)**.

1.02. Accordingly, relevant stakeholders including provincial Irrigation, Agriculture, Local Government, Public Health Engineering Departments and Chief Commissioner Islamabad were asked to share draft TORs for the proposed Workshop. Responses received from the relevant authorities were compiled and shared with Syed Muhammad Mehar Ali Shah, PCIW for finalization.

1.03. After examination of the inputs received from the stakeholders, the PCIW finlaised following TORs for holding a national workshop on water pricing:

a. Identification of sectoral water use at national, provincial and sub-provincial levels defining percentage of use of water vis-à-vis the available water.

b. Introduction and analysis of existing water pricing mechanism, including, but not limited to:

i. The existing mechanism/formula for pricing for various sectors using water;

ii. Legal status of existing water pricing regime in vogue at various national, provincial and sub-provincial levels;

iii. The principles on which pricing mechanism has been based vis. fixed, variable, combination of both, or any other;

iv. Relevance of existing pricing mechanism with the present conditions relating to water availability and demand;

v. Adequateness of pricing regime to cover operation and maintenance and recovery of investment on infrastructure;

vi. Rate of recovery of the water charge in present conditions; and

vii. Shortcomings in the existing pricing mechanism.

c. Comparative study of Pakistani water pricing regime with the regional countries including, China, India and the modern world including USA, Australia.

d. Specific improvements required in the existing water pricing regime for various sectors in Pakistan using water, including agriculture, domestic, hydropower, commercial, industrial, recreational, environmental, etc.

e. Steps to be taken including – but not limited to – legislation, regulation, enforcement to set a right pricing regime for water use and its implementation.

1.04. After finalization of TORs, provinces and ICT Administration were requested to furnish their views/comments for discussion in the Workshop. The comments offered by the provinces are attached as **Annex 2, 3, 4 & 5**, copy of the TORs is at **Annex 6** while list of participants of the workshop is at **Annex 7.**

B. PROCEEDINGS:

2.01. The proceedings of the workshop started by defining the perspective and the objective concerning the water pricing.

2.02. Dr. Muhammad Raheem Awan, Secretary LJCP briefed the participants about the background of the Workshop and its urgency. He also explained the TORs and the expected outcome from the Workshop. He informed the participants that on 19, 20 October, 2018 the LJCP had organized an International Symposium on "Creating a Water Secure Pakistan "that was attended by the experts from all over the world. The participants, Inter alia, discussed the topic of water pricing under the Conference Theme of "Water Recharge & Water Pricing and Water Resources Governance & Management".

2.03. The recommendations firmed up after the afore mentioned International Symposium have already been referred to the relevant authorities for implementation. He further informed that the Supreme Court of Pakistan and particularly the Hon'ble Chief Justice of Pakistan is keenly persuading the Government to take measure to secure this precious asset through better management for future generations.

2.04. Dr. Pervaiz Amir, renowned water expert & economist facilitated the Secretariat in moderating the Session. To generate debate, Dr. Pervaiz Amir informed the house that Pakistan has 137-MAF (Million Acre Feet) of surface water whereas the annual use from groundwater is about 50-55 MAF, most of which is part of surface water

seeped down into the groundwater aquifer. More than 90% of total fresh and renewable water available in the country is used in agriculture, 2% for domestic water usage and another 2% for industrial usage and remaining flows are used in maintaining river health and cater the needs of Indus Delta. A recent study conducted by Oxford Policy Management has projected demand for new emerging sectors that includes environmental flows, China Pakistan Economic Corridor (CPEC) related development, afforestation needs and social developments. Unfortunately, water demand for these new sectors has neither foreseen nor taken care of in future planning.

2.05. Pakistan faces challenges of water scarcity which appear to become worsened due to mismanagement and increase in demand due to rapid rise in human population and urbanization. This situation needs immediate realization and remedial action to ensure water security and long term sustainability through infrastructural developments and better management. The use of groundwater resource is of the order of 50-55-MAF, however, the quality is extremely variable. Certain portions of upper Indus Basin including Punjab generally have better quality of groundwater than its lower reaches including Sindh and the Indus Delta. Generally, groundwater quality in the Punjab is better than found in Sindh which is highly saline and in some areas brackish. The sweet groundwater in Sindh is available along both the banks of River Indus.

2.06. Pakistan's surface water resources heavily depend upon snowmelt (22%), glacier melt (41%) and rainfall (27%). Almost 80% of rainfall is received over 100 days during monsoon moths. Winters receive less than 20% rainfall. The mountainous regions of Karakorum, Himalaya and HinduKush are the store houses of water for the country and its strategic assets. Besides, Pakistan has an unlimited supply of sea water available through its 1046kmof coastal belt in Sindh and Balochistan. Pakistan has been unable to utilize this resource potential mainly due to high cost of desalinisation and historical adequacy of fresh water mainly available from the Indus Basin until early 90s. Despite the fact that many countries including Jordan and Israel have shown exceptional agriculture outputs along sea coasts given the fact that availability of fresh water was negligible. In addition, according to rough estimates, almost 10-12MAF fresh water is also available in Balochistan outside the Indus Basin, however, no significant efforts are made in past to harness its optimal utilization.

2.07. Citizens of Pakistan seriously lack sensitivity towards water conservation and its harvesting for domestic needs which are resultantly met through municipal tap water, wells and canals. Free provision of water, being an essential good for all forms of life, has put this precious resource to extensive wastage, misuse, unregulated use in watering large lawns, golf courses, car washes and play grounds as well as more importantly in the industries particularly those which have extensive requirements of water use like cement industry etc.

2.08. Internationally, comparative study on water pricing shows that water is priced at the rate of US $ 0.3 to US $ 2 per cubic meter, however, in Pakistan, there is no consolidated mechanism or legal framework to regulate water pricing in the country resulting in often inequitable and unreasonable water pricing amongst various usage sectors.

C. OBSERVATIONS/ COMMENTS:

3.01. Based on deliberations and documents/ information shared by the participants, the observations and recommendations of the house are as under:

a. Water Usage:

i. Pakistan needs to rationalize its water usage in line with its aspirations and economic growth strategies e.g. vision 2030, SDG 6 commitments by 2030.

ii. Re-allocation of part of surface water from irrigation to drinking to meet the drinking needs of population of those areas where groundwater is either not available or its quality has been deteriorated. An overall rethinking to revise conventional water use priorities for agriculture on the basis of economic returns, like fixing priority for use of water for those sectors which are commercially and financially more viable compared to agriculture sector.

iii. Two well-known tools for water management include its pricing and infrastructure development, both require critical appraisal and fast tracked actions in the case of Pakistan.

iv. The present groundwater abstraction has already exhausted the shallow aquifer and further subtractions are being made out of the fossils sub-soil water by puncturing the permanent strata underneath. The impact of this exercise is detrimental in terms of sustainability of sweet groundwater because of uncertain and variable quality of fossils water which requires to regulate the shallow aquifer by ensuring that the groundwater abstraction shall not in any

event surfaces the natural rectangle for the rainfall and rainfall generated run off.

v. Recharge of groundwater is also facing major challenges due to unsustainable usage/practices and reduction in precipitation. The new solar and wind technology is playing havoc in some areas where people resort to unlimited water pumping without any regulation. This problem is likely to turn into a full blown crisis. The government must implement an effective mechanism to regulate the installation and use of solar pumps/tube wells and wind mills to check the misuse of technology.

b. **Water Management:**

i. To-date, none of the governments have taken a scientific approach for demand management and still historical rights and entitlements are considered sole criteria for distribution of water.

ii. Pakistan has roughly a 1 trillion Dollars' worth of investment in its irrigation and domestic water usage infrastructure. This investment is made over a long period of time. At present many aspects of this infrastructure are in need of repair, maintenance and up-gradation along with new investments in line with its ambitious development agenda.

iii. The health and integrity of Indus Basin requires institutionalized modern Basin Management System on pattern of modern basin management frameworks in vogue, internationally.

iv. Present institutional arrangement/mechanism to manage water resources are deficient, therefore, keeping in view the emerging challenges, the mandate, scope and functions of the regulatory bodies need to be revisited and reformed.

v. Challenges including global warming and climate change require immediate attention to review cropping patterns, crop rotations, cropping intensity and regulation of water to ensure storage of surplus water during periods of abundance like monsoon, snow melt in dams and reservoirs that will secure availability of water for lean periods and during extreme shortages like droughts. Ensuring such water security is equivalent to national security.

vi. Reforms in water management through rationalization of cropping pattern, cropping rotation and cropping intensity and promoting conservation technologies such as sprinkler, bubbler, drip, furrow-bed, laser-levelling minimum tillage, precision agriculture can help save valuable water in agriculture.

vii. Investment in highly professional trained water managers can have a high pay off in improving the present water situation in the country. Such training must include diverse disciplines. Such human capital investment should be taken keeping in mind short, medium and long term requirements.

viii. Pakistan's present Irrigation system is essentially a supply based system and at times farmers are given water when they do not need it or want it. Many other international models like Murray Darling Basin (Australia), Colorado Basin, Tennessee Valley Authority are demand based systems where water is provided when a user demands it or diverted to uses that need it the most with strong economic considerations.

ix. In addition to surface water, groundwater is an extremely valuable source of water, however, due to its mismanagement and absence of an effective regulatory regime, in certain cases over mining is resulting in depletion of vital aquifer. In many areas of Punjab, it is going down by 8 to 10 feet per annum while in Baluchistan it has gone down to the alarming level i.e. 600 to 1200 feet and in some areas land is being abandoned.

x. Water usage related to high delta crops like sugar cane, cotton; rice needs to be taken up as a high priority task. Without rapidly promoting water saving agronomic practices in sugarcane, cotton and rice, Pakistan will continue to face severe shortages of water. Savings can be realized at farm level and programmed for new crops and optimal use. Cropped area under these crops must go down while yield gaps need to be bridged.

xi. Failure to recognize the importance of maintaining water quality has resulted in wastage of potentially re-usable water, soil deterioration and chronic shortages that otherwise could be avoided. Singapore recycles almost 90% of its water to highest international quality standards. Quality of its tap water is equivalent to mineral water sold in markets. In many instances contaminating water is left untreated causing huge economic loss and becomes a major

capacity and to this end the present crowd funding scheme shall be promoted and remaining required resources also be mobilized on fast track basis.

ii. Mass media campaigns and advocacy can help to create a culture of water saving for domestic uses.

D. RECOMMENDATIONS:

4.01. Based on deliberation and discussions of the house, it was resolved that the following recommendations be taken up on high priority basis:

1) All national resources should be mobilized on exigency basis for enhancing Pakistan's meager water storage capacity and to this end the present funding scheme shall be promoted and remaining required resources be made available on fast track to avoid any cost escalations or delays.

2) In addition, where feasible, small dams may be constructed by provincial governments.

3) Agriculture in Pakistan may be run on modern lines of Agri-business and marketing with close attention to production advantage and domestic resource costs (DRC) analysis. Proposals may be entertained to convert present 50 billion dollar economy to its potential contribution of US 250 billion in 10 years.

4) The respective governments should ensure through incentivizing that the true income from water is generated by following those agricultural enterprising that generate the highest returns with lowest water usage.

5) Over-pumping of aquifer is major concern of almost all the cities, in some cases water is now pumped from depths of up to 800 to 1000 feet resulting in escalation in cost of providing water and increase in Operational & Management (O&M) costs. The existing prescribed water rates are comparatively very low and even do not set off the O&M costs of relevant authorities. The relevant government should take the issue water pricing seriously.

6) The Provincial Irrigation Departments shall prepare a coordinated programme to carryout groundwater assessment by installing a dense network of observation wells in the whole Indus Basin and the areas outside Indus Basin

where groundwater is being pumped like in Quetta and other parts of Balochistan.

7) Besides, the Provincial Irrigation Departments shall develop mathematical simulation models duly incorporating the aquifer physical properties, water quality data and calibrate these models with the historic observations of groundwater fluctuation at least for last 30 years. These calibrated models shall be used to simulate future pattern of water availability and quality of groundwater using projected recharge and discharge. The results of such modeling exercise shall compulsorily be used for regulating the groundwater abstraction. It will be the responsibility of the Provincial Irrigation Departments to update the mathematical simulation models annually. The proposal of carrying out the groundwater modeling shall be submitted to the Hon'ble Court within 30 days by the Provincial Irrigation Departments.

8) The provincial governments need to formulate and implement policies for cost recovery by gradual reduction in subsidies, recovery O&M cost from water users, rationalization of Abiana rates on basis of crop type (high-delta crops such as rice and sugarcane and cotton) and improvement in Abiana assessment and collection processes.

9) For financial sustainability of irrigation infrastructure, all the four provinces need to develop an Asset Management Plan within 30 days for levying water charges systematically to recover the actually needed O&M cost for provision of agreed level of water service to farmers (reliable, flexible, and sufficient).

10) Use of Remote-sensing and GIS technology for measuring the Evapotranspiration from basin, sub-basin, administrative units and agro-climatic zones) in agriculture sector to determine actual crop water consumption and water productivity (production and income per unit of water consumed). Provincial Agriculture and Irrigation Departments shall jointly establish GIS based Management Information System. This technical outfit in collaboration with SUPARCO will obtain satellite imageries of the cropped area on monthly basis in their respective provinces to determine the nature and quality of crops for calculating the water use charge to the farmers proportionate to the cropped area, crop type and its physical health. In order to calculate farmer-wise water use charge, the satellite imageries shall be

superimposed on the GIS layers of 'land ownership' in collaboration with the provincial Revenue Departments to establish transparent pricing mechanism. The provincial Agriculture and Irrigation Departments shall furnish in 30 days a complete proposal duly supported with the costs to implement the above scientific system of calculating crop based water charge.

11) Balochistan has been facing groundwater stress for decades as groundwater levels continue to decline due to decreasing rainfall, increasing temperatures, prolonged droughts and more importantly over abstraction through a growing number of tube wells. To address the problem of water scarcity in Balochistan efficient and sustainable use of water requires reduction in tube wells in water stressed areas and rehabilitation of abandoned or damaged Karezes. The Government of Balochistan may consider to purchase the water rights of all the tube wells from the private owners initially for five years by injecting one-time financial equity to operate these tube wells strongly to stop further depletion of the groundwater. The Government of Balochistan shall submit its report on this aspect or suggest any other proposal to curb over abstraction of groundwater. The proposal must be submitted to the Hon'ble Court within 30 days of issuance of the orders of the Hon'ble Court on the recommendations of this national workshop on water pricing.

12) Water conservation techniques such as trickle/drip sprinkle, bubbler irrigation, furrow bed irrigation, laser-levelling etc. should be adopted in addition to establishment of system checks and balances to monitor groundwater. All the Provincial Agriculture Departments shall submit their proposal within 30 days to the Hon'ble Court duly provided with the quantifiable outcomes in terms of net saving in water consumption.

13) Advanced technologies such as helicopter-borne groundwater investigations for deep aquifer water mapping on the pattern of neighboring countries be initiated immediately and given top priority. Start should be made from all border areas, hotspots and lands showing extreme water stress.

14) The municipal, commercial and industrial water use must also be charged for which the Provincial Departments of Industries, Local Government and WASAs shall submit a rational pricing mechanism duly incorporating the following, but not limited to, basic parameters:

a. The assessment of existing groundwater resource of the quality fit for drinking

b. Present demand of groundwater for municipal, commercial and industrial sectors

c. Next 30 and 60 years' projection of demand vis-à-vis the sustainability of groundwater resource duly assessed on scientific basis and not using the primitive, rough and empirical techniques, let alone the guess work

d. A rational pricing formula comprising following components:

   i. fixed charge per connection of tube well of one cusec capacity determined on the basis of budgeted cost of the water utility responsible for operation and maintenance of the facility

   ii. variable charge calculated on the basis of the volume/quantum of water uses by the consumer in view of its value for the consumer. The poor factions of the society using water for domestic needs may be exempted whereas the middle to high income groups may be charged on no profit no loss basis while ensuring that the tariff is adequate to recover the capital investment made on the existing infrastructure, covers its maintenance cost as well as also addresses the cost of future extensions/modernisation of the water supply facilities.

   iii. With regard to commercial and industrial consumers the variable charge component of the tariff may be based on above factors explained for the domestic consumer with an additionality of exponential increase in the tariff with the increase in water consumption to discourage the over abstraction and extravagant and wasteful use of water

15) All legislative instruments such as Canal Act and Revenue Act are outdated and need to be reviewed in the light of present circumstances. Punjab has already started working on comprehensive water laws that meet present day requirements. All other provinces should benefit from this initiative and reform accordingly.

16) Pakistan should try to take emergency measures to save water by discouraging flood water irrigation reducing such practice by 50% over next 10 years and take-up water technologies in cropping. It should target other water conservation technologies to realize a minimum of 8-10% adoption. Farmer education and policy reforms in this direction may be taken at a priority basis.

17) Commit to reduction in sugarcane, cotton and rice acreage by 10-15 percent with massive campaigns to improve per acre yield of these crops but a target of 15 % saving through widespread incentives and regulations with aim of saving water.

18) It is also recommended that the investment be taken up urgently to resolve the water crisis in Tharparker District, Sindh by making improvement in Hakra River by supporting Sindh Government with a potential Rs. 15 billion cost. This should be taken up on urgent basis.

19) It is also recommended that Section-III of Rainee Canal should be taken up on priority basis instead of Section-II which can be deferred for the time being.

20) Digging of recharge wells near the charged tube wells should be made mandatory at village level. In order to cater to the rapid rising in global warming witnessed in all major cities and Peri-urban centres should ensure single or dual canal system run through the cities to adequately recharge the groundwater and provide a public area during the periods of heat waves and distress. Similarly village ponds should be encouraged by reclaiming Shamilat (commons) lands designated for this purpose.

21) Rainwater harvesting technologies and practice applications may be promoted on priority basis with full participation of the private sectors. In this regard international expertise and experiences be studied and brought to public attention.

22) The present day system of WARABANDI may be revisited to explore efficiency and reformed in the light of prevailing water scarcity. Similar archaic practice may be replaced with best practices based on international experience.

23) Pakistan should further expand its earlier crop zoning undertaken through UN's Food and Agriculture Organization during 1980's in the light of recent

changes in cropping pattern, cropping rotations, enterprise mixes and cropping intensity.

24) Agro ecology mapping be used for improvement in the water pricing.

25) There is a need to revitalize the dismembered Prices Commission of Pakistan which was merged into the Agricultural Policy Unit that is poorly organized to meet national requirements and needs a modernization plan.

26) Pakistan needs to support its agriculture through cogent pricing policies, data analysis reflective of the cost and production, and the international supply demand trends. New agricultural products and high value enterprises should be introduced that assure adequate economic returns to the growers and take advantage of our precious fresh water resources.

27) It is important to rationalize and spell out the use of water in different industrial usage e.g. cement, sugarcane, textile power generation etc. The pricing must be based on groundwater and surface water used in line with value of water and its economic/social value in that particular sector.

28) Pakistan should immediately institute an Indus River Basin System Authority that plans, models and oversees all aspects of the Indus River Basin for better management and governance of water resources. Institutions like IRSA, Pakistan Commission for Indus Waters etc. can be brought under the umbrella of this National Authority or the existing WAPDA be revitalised by introducing amendments in WAPDA Act to extend its scope from development of water resources to all-encompassing authority dealing with independent country wide surface, groundwater and environmental data collection, analysis based research, research based planning, integrated planning based development and monitoring and evaluation of the development to improve the future development.

29) All waste water should be managed in a scientific manner and industry regulated to internalize the cost of waste water by appropriate water treatment plants and water units. Polluter Pays principle should be enforced in letter and spirit.

30) The Environmental Protection authorities may be strengthened and their roles and jurisdictions be expanded to the district and union councils.

31) All efforts should be made to provide low cost or near free water to the masses including provision of quality drinking water from all different sources.

32) Mass media, colleges, universities should all be sensitized to highly water saving at each and every level of the water generation. All religious worship places to educate masses on importance of water conservation according to scriptures.

33) It shall be made mandatory for media house to air water saving content as a part of their regular programming and public service messages.

34) Provision of safe drinking municipal water is an essential human right that should be respected at all levels and at all costs. To this end projects be initiated that ensure adequate provision of low to no cost drinking water. However, all other domestic water usage be priced and fare cost recoveries at all levels assured to ensure sustainability.

35) Uses such as car wash, golf courses, play grounds, water parks, canal swimming pools etc. should all be priced and brought under ambit of fair valuable recovery with immediate effect.

36) Provision of low cost water testing kits throughout markets to enable checking essential water quality for safe drinking water.

37) Complete ban of agriculture production from Sewerage water with strong enforcement.

38) Pakistan to make strong case for resource mobilization for water Management under Green Climate Adaptation Fund.

E. WAY FORWARD

5.01. For implementation, the subject recommendations can broadly be categorized in following three sets:

i. First category includes the recommendations regarding the on-going activities like conservation of existing water resource (surface and groundwater) by improving governance, following conservation techniques and changing cropping trends and strengthening oversight mechanism.

ii. Next are those recommendations which relate to water pricing, rationalization of Abiana rates and improvement in its assessment and collection processes, gradual reduction in subsidies, recovery of O&M cost from water users. All

these activities are within the mandate and competence of relevant federal and provincial agencies and can be implemented within the exiting legal and administrative framework.

iii. The third category includes recommendations regarding new ideas like helicopter-borne groundwater investigations for deep aquifer water mapping on the pattern of neighboring countries, rain harvesting and dual canal system in Peri-urban centers to ensure recharge of ground water etc. need to be considered for their objective evaluations and implementation.

5.02. All our legislative instruments such as Canal and Drainage Act and Revenue Laws are outdated and need to be reviewed in the light of present circumstances. Last but not the least, there is dire need to sensitize the whole nation about sensible use of water and its conservation for future generation.

F. CONCLUDING REMARKS:

6.01. The above recommendations are directed at improving the management and governance of water resources by making necessary legislative and administrative measures. As stated at the very outset that water is a precious commodity and lifeline of the country's economy and development. All over the world, water is considered national property and governments are keen to preserve this resource for coming generations through better planning and using modern techniques. Therefore, the participants of the Workshop were unanimous that the relevant governments should take emergency measures to save water by discouraging its waste.

6.02. Before concluding, the LJCP Secretariat appreciates the relevant authorities who on short notice attended the workshop and contributed in formulation of recommendations. The Secretariat also acknowledges the role of Dr. Pervaiz Amir and Mr. Nasrullah Khan, Joint Secretary, LJCP who exhibited a commendable professionalism in compiling this report.

Dr. Muhammad Raheem Awan
Secretary
Law and Justice Commission of Pakistan

Dated: The 30th Day of October 2018

Annexure-1

IN THE SUPREME COURT OF PAKISTAN, ISLAMABAD
(Original Jurisdiction)

To

1. Syed Nayyar Abbas Rizvi, Addl. A.G. for Pakistan, Islamabad.
2. The Advocate General, Islamabad.
3. The Advocate General, Punjab at Islamabad.
4. The Pakistan Commissioner for Indus Water through Secretary, Ministry of Water Resources, Government of Pakistan, Islamabad.
5. The Secretary, Law & Justice Commission of Pakistan, Islamabad.
6. The Secretary, Irrigation Department, Punjab C/o DR(Lahore).
7. The Secretary, Irrigation Department, Sindh C/o AR(Karachi)
8. The Secretary, Irrigation Department, KPK C/o AR(Peshawar)
9. The Secretary, Irrigation Department, Balochistan C/o O/I(Quetta)
10. Mr. Makhdoom Ali Khan, Sr. ASC C/o AR(Karachi)
11. Mr. Salman Aslam Butt, Sr. ASC thr; Syed Rifaqat Hussain, AOR
12. Syed M. Kaleem Ahmed Khursheed, Sr. ASC/President Supreme Court Bar Association of Pakistan, Islamabad.

SUBJECT: HUMAN RIGHTS CASE No. 49912-/2018
In the matter regarding pricing mechanisms and management of the usage of water.

Take notice that above noted case came up for hearing before the Court on **14.09.2018** when the following order was passed:-

> **"Pursuant to our earlier order, Mr. Makhdoom Ali Khan, Sr. ASC and Salman Aslam Butt, learned ASC have filed their respective reports which are handed over to Mr. Mehr Ali Shah, Commissioner for Indus Water for his independent comments. Besides the Secretary, Law & Justice Commission of Pakistan is directed to convene a Workshop to discuss the issue of management and usage of water and its rating/pricing. To this end, notices be issued to all the Provincial Secretaries, Irrigation and the terms of reference for such workshop shall be prepared by Mr. Mehr Ali Shah. Mr. Kaleem Ahmed Khurshid, Learned ASC, President Supreme Court Bar Association of Pakistan Shall also attend the workshop."**

Take notice that above noted Human Rights Case stands fixed for next hearing before the Court on **23.10.2018,** at 9.00 a.m. or soon thereafter as may be convenient to the Court in the Court House at Islamabad. You are, therefore, required to ensure compliance on your part of the above reproduced Court Order in letter & spirit and also to appear before the Court on the date and time fixed accordingly.

Islamabad: 26th September, 2018.

(Sr. Court Associate)
(Human Rights Cell)
Phone: 051-9203557
Fax:-051-9219516

17

RECOMMENDATIONS FOR HUMAN RIGHTS CASE NO. 49912/2018 (IN THE MATTER REGARDING PRICING MECHANISM AND MANAGEMENT OF THE USAGE WATER)

WATER CONSERVATION

- Effective implementation of Groundwater Ordinance
- Except for drinking water supply schemes and emergency the further extraction of ground water should be stopped henceforth.
- Ban on agriculture tube well is unavoidable
- Conservation in application and use of water.
- Restriction on Water use for agriculture around Urban Area.
- Recycling, and reuse will help alleviating pressure on groundwater basins
- Promote rain water harvesting
- Adoption of Integrated water source management around Urban Area.

ESTABLISHMENT OF BALOCHISTA WATER RESOURCE MANAGEMENT AUTHORITY

- Study to determine Groundwater data/Groundwater Resources to effectively plan and control the Groundwater table.
- Promote integrated water resource management (All dams constructed for Irrigation should provide drinking water to the local catchment
- Policy, regulation, coordination and planning for integrated projects
- Focus on utilization of surface water resources – river basin level – establish basin water boards and regulation of groundwater
- Priority be given to Integrated Watershed Management works
- Develop strategy for regulation of surface and groundwater resources on sustainable basis.
- setting goals for water use, protection & conservation, groundwater regulation, licensing , allocation and institutions
- Water laws and regulations be enforced to achieve policies and goals

PRICING ON EXTRACTION OF GROUNDWATER FOR COMMERCIAL USE

- The existing water tariff for the domestic and commercial consumers as per Notification issued during March 2010 may be revisited from the existing Rs. 75/125 per month in all 32 districts and Quetta and after justified working new rates may be notified.

- Regarding extraction of groundwater by the commercial consumers specifically bottled water manufacturers and private tube wells, it is proposed that the following actions may be initiated.

    a. To immediately issue notices to all such agencies and private tube well owners abstracting groundwater, that henceforth extraction charges shall be imposed in accordance with the chapter iii, Section 12(e&h) of WASA Act 2004.

    b. For the fixing of rates and mechanism of charges a Committee comprising members from PHED, WASA, Irrigation, Finance, Municipal Corporation may be

notified, so that after going through the records/present practices rates could be finalized. The following two proposals could be considered

Proposal-I (for bottled water)

- To levy groundwater resource extraction charges on the basis of number of bottles produced per day.

Proposal-II (for other private tube well holders and agencies)

- On the basis of volume of water extracted per day (in this method the monitoring will be required)

DAMS/SURFACE WATER FOR DRINKING WATER

- Shift from the existing trend. Instead of over exploitation of groundwater resources, the development and management of surface water resources through flood conservation schemes including inter alia, dams, flood diversion schemes etc may be adopted.
- Promote substitute surface water for use by construction of Dams on water potential zones
- Minimize dependence on ground water and switching over to surface water through construction of new dams.
- Construction of , Halak, Burj Aziz, Kuchani Darra Dam and timely completion of Mangi and Wali Tangi Dam should be ensured

DRINKING WATER POLICY

- Drinking Water Policy, Strategy and Action Plan reflecting the principles of sustainable management setting goals for water use, protection & conservation, groundwater regulation, licensing, allocation and institutions needs to be implemented.
- Balochistan Water Council be established – chaired jointly by Chief Minister and Governor and generate resources and support implementation of sustainable plans for managing and regulating scarce water resources of Balochistan
- Legislation for use of graded water other then drinking purpose.
- Improvement in Water Management Laws, Rules and Writ of the System.

SOCIAL MOBILIZATION AND AWARENESS

- Consider Water as a social and economic good and for Waste Water Management a Cost-effective approach for treatment of sewage and commercial/industrial effluents.
- Demand management – using water more efficiently.
- Social change instruments – encouraging a water-oriented civil society
- Awareness Campaign on Scarcity of Water.

Shahzada Khan
Focal Person
PHE Department
Government of Balochistan

WATER PRICING – PROPOSAL FOR REVISION OF OCCUPIER'S RATE (ABIANA)

The history of water rates dates back to 1873, when Canal and Drainage Act was enacted. The first schedule of water charges notified in 1891 for Upper Bari Doab Canal. Water rates, known as abiana are charged by the Provincial Government for canal water supplied to irrigators. This is not a tax, but a service charge recovered from the farmers

Section 36 of the Canal and Drainage; Act VIII of 1873 States that: The rates to be charged for canal water supplied for purposes of irrigation to the occupiers of land shall be determined by the rules to be made by the Provincial Government and such occupiers as accept the water shall pay for it accordingly. A rate so charged shall be called "OCCUPIERS RATE"

APPROACHES FOR SETTING WATER RATES

- Revenue needs of the system
- The cost of providing irrigation water
- The benefits derived from irrigation
- Beneficiaries ability to pay water rates

SUCCESSIVE INCREASES IN WATER CHARGES OF MAJOR CROPS IN PUNJAB

YEAR	INCREASE IN ABIANA
1977-78	25 %
1980-81	25 %
1981-82	25 %
1993	25 %
1994	10 %
1995	10 %
1996	37.5 %
1997	10 %
1998	10 %
2003	Flat Rate System

FLAT RATE ABIANA IN PUNJAB

The traditional system of assessment was based on matured crop area. However, it was deemed that crop based assessment was complex and non-transparent due to discretionary powers of the revenue staff. Accordingly, cabinet approved introduction of flat rate abiana in its meeting held on June 10, 2003, which is as under;

- Rs. 85/- per acre of CCA Kharif Crop
- Rs. 50/- per acre of CCA for Rabi Crop
- Rs. 250/- per acre of sanctioned orchards

Punjab Irrigation Department makes assessment of abiana, however, collection of abiana will continue to be made through revenue administration.

O&M COST AND ABIANA

Initially, abiana used to recover full O&M cost and even part of development costs. Over time, water rates could not keep pace with rising inflation. Now abiana finances only 10-12% of O&M costs in Punjab. It is critical, but low-priced input in the agriculture sector. Full O&M cost was recovered till 1970's. However, gap increased due to:

- Gradual increase in O&M cost
- Flood works
- Establishment cost
- Stagnation of water rates
- Declining collection
- Last revision of rates in 2003 (Kharif Rs. 85/- & Rabi Rs. 50/- per acre)

PROPOSED INCREASE IN ABIANA – THE PROPOSAL

Adequate pricing of water is considered desirable in a general economic sense to help in the efficient allocation of water, and also in a financial sense in order to ensure the financial sustainability of the water supply systems. Low pricing of water can result in misallocation of water, waste of water resources, fiscal deficit for the agencies charged with water management responsibilities and poor service delivery to the users.

Following proposals for enhancement of Water rates to cover O & M cost are being considered;

1. Proposal to increase Abiana to cover full O & M cost.
2. Proposal for 30 % increase in Abiana rate.
3. Proposal for 10 % increase per year since 2003.

PROPOSAL NO 1: O&M COST OF IRRIGATION INFRASTRUCTURE FOR THE YEAR 2017-18 WAS RS. 18582 MILLION KEEPING IN THE VIEW CCA IN PUNJAB 20. 78 MILLION ACRES

OPERATIONAL COST COMES TO RS. 900/- PER ACRE

Sr. No.	Total area into CCA. (Million acres)	Existing Rates per acre. (In Rs.)	Proposed Rates per acre (In Rs.)	Net Financial Impact
1	20.78	Kharif=85	Kharif =566	Rs.18,702 Million
2		Rabi =50	Rabi=334	
Total		Rs. 135	Rs. 900	

PROPOSAL NO 2 FOR REVISION OF SCHEDULE OF OCCUPIER'S RATES (ABIANA)

WITH 30% INCREASE FOLLOWING WILL BE NEW RATES

Sr. No.	Description	Current Rates	Purposed Rates with 30% Increase	Net Financial Impact
1	Kharif	Rs.85/-	Rs.110/-	Rs. 600 Million
2	Rabi	Rs.50/-	Rs.65/-	

PROPOSAL NO 3 FOR REVISION OF SCHEDULE OF OCCUPIER'S RATES (ABIANA) WITH 10 % INCREASE PER YEAR SINCE 2003

SR. No.	Existing abiana rates per acre	Proposed rates with 10 % increase per year since 2003 per acre	Financial Impact
1	Kharif = Rs. 85	Rs. =323	9.17 Billion
2	Rabi = Rs. 50	Rs. =190	

Annexure-5

From: Jamal Mustafa [jmshah200@gmail.com]
Sent: Thursday, October 25, 2018 12:54 PM
To: nasrullah@ljcp.gov.pk; syedmeharali@gmail.com
Subject: HRC No: 49912 -/ 2018 - TORs
Attachments: TORs.docx

Dear sir,
Please find enclosed the attached TORs.
Regards!
Jamal Mustafa Syed
Secretary Irrigation Department
Government of Sindh

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HRC No: 49912 -/ 2018

Subject: In the matter regarding pricing mechanisms and management of usage of water.

Incompliance to instructions of the honorable supreme court of Pakistan, during hearing of the subject case on 23rd October 2018, and subsequent meeting at office of secretary Law and Justice Commission, the input for formulation of TORS for proposed work shop on 30th October, on behalf of Sindh Irrigation Dept. are offered as under:

1. Domain of Participants:

i. Agriculture Dept.
ii. Local Govt Dept and associated Local bodies
iii. Industries Dept.
iv. Revenue Dept.
v. Sindh Revenue Board.
vi. Sindh Chamber of Industries.
vii. Sindh Chamber of Agriculture.
viii. Sindh Abadgar Board.

2. Water Pricing:

i. Pricing formula and Tariff for diversified utilization.
ii. Scientific survey and Assessment.
iii. Recovery Mechanisms.
iv. Govt controls for recovery.
v. Measurement and Control for ground water extraction.
vi. Industrial water resources and Pricing.
vii. Elimination of commercialism from drinking/domestic consumption.

3. Water Management:

i. Equitable Distribution of surface water and strict penal action for over withdrawal.
ii. True Implementation of water Apportionment Accord by IRSA.
iii. Minimizing Conveyance/System losses.
iv. Minimizing on farm losses.
v. Crop zoning to obtain maximum benefit per unit of quantum of water.
vi. Updationof cropping pattern considering water as an agricultural input.
vii. High efficiency Irrigation System in Arid zones.
viii. Rain water Harvesting
ix. Ground water mapping and recharging.
x. Construction of dams, advantages and its effects on lower riparians, delta and sea intrusion.

4. Water Usage:

i. Priorities in usage for Agriculture, Industrial, domestic and other consumption.
ii. Aqua culture and Controls of sources of supply, especially from Irrigation systems.
iii. Saline agriculture and zoning.
iv. Isolated Collection and Consumption of water from precipitation.

National Workshop
Water Management and Pricing on Water Usage

Terms of Reference

1. Following Terms of Reference are proposed for holding the National Workshop on water management, pricing and water use by various sectors:

   a. Identification of sectoral water use at national, provincial and sub-provincial levels defining percentage of use of water vis-à-vis the available water

   b. Introduction and analysis of existing water pricing mechanism, including, but not limited to:

      (i) The existing mechanism/formula for pricing for various sectors using water
      (ii) Legal status of existing water pricing regime in vogue at various national, provincial and sub-provincial levels
      (iii) The principles on which pricing mechanism has been based vis. fixed, variable, combination of both, or any other
      (iv) Relevance of existing pricing mechanism with the present conditions relating to water availability and demand
      (v) Adequateness of pricing regime to cover operation and maintenance and recovery of investment on infrastructure
      (vi) Rate of recovery of the water charge in present conditions
      (vii) Shortcomings in the existing pricing mechanism

   c. Comparative study of Pakistani water pricing regime with the regional countries including, China, India and the modern world including USA, Australia

   d. Specific improvements required in the existing water pricing regime for various sectors in Pakistan using water, including agriculture, domestic, hydropower, commercial, industrial, recreational, environmental, etc.

   e. Steps to be taken including -- but not limited to -- legislation, regulation, enforcement to set a right pricing regime for water use and its implementation

LIST OF THE PARTICIPANTS OF THE WORKSHOP TO DISCUSS THE ISSUE OF MANAGEMENT AND USAGE OF WATER AND ITS RATING/PRICING HELD ON 30-10-2018 AT 10:00 AM

Annexure-7

S. No.	Name
1.	Mr. Muhammad Amir Khan Chief Strategic Planning and Reform Unit, Government of Punjab, Lahore 0300-9691577 Lahore 042-99212117-118 Fax: 042-99212116 Mob: 0304-0920033
2.	The Secretary Local Government, Government of Punjab, Lahore Ph: 042-99210013 Fax: 042-99210015 Mob: 0304-0920036
3.	Malik Muhammad Akram Director General Water Management, Government of Punjab, Lahore Ph: 042-99210130-042-99210499 Fax: 042-99211796 Mob: 0304-0920009
4.	Mr. Ijaz Sheikh, Advisor Water Distribution, Government of Sindh, Karachi Ph: 021-99211445 -99211451 Fax: 021-99211447 Mob:0321-5121299 0300-8909927 Zahid PS
5.	Mr. Khalid Haider Shah, Secretary Local Government, Government of Sindh, Karachi Ph: 021-99211536 Fax: 021-99212977 Mob:0300-3189395 0300-3895554 PS
6.	Sheikh Shakil, Special Secretary Technical, Government of Sindh, Karachi Ph: 021-99211462 Mob: 0300-25556680300-2906634 PS Email: mnaeem72@hotmail.com

7.	Syed Zahid Abbas, Chief Engineer, Government of KPK, Peshawar Ph: 091-9210845 Fax: 091-9210874 Mob:0333-9107765
8.	Mr. Fakhar Alam, Additional Secretary, Local Government Department, Government of KPK, Peshawar Ph: 091-9210026 Fax: 091-9210323 Mob:0300-8590591
9.	Mr. Khursheed Khan Afridi, Director General, Water Management, Agriculture Department, Government of KPK, Peshawar Ph: 091-9210025 Fax: 091-9210033 Mob:0345-3228222
10.	Mr. Muhammad Saleem Awan, Secretary Irrigation, Government of Balochistan, Quetta Ph: 081-9201074 Fax: 081-9202157 Mob:0333-7717413
11.	Mr. Shehik Baloch, Deputy Secretary Local Government, Government of Balochistan, Quetta Ph: 081-9201277 Fax: 081-9201710 Mob:03332-7830910
12.	Mr. Abdul Fateh, Secretary, Public Health Engineering, Government of Balochistan, Quetta.Ph: 081-9201160 Fax: 081- 9201566, Mob: 0333-7814010
13.	Mr. Salman Aslam Butt, Senior Advocate Supreme Court of Pakistan, Former Attorney General for Pakistan, Islamabad. Email: salman.butt@clm.com.pk

14.	The Mayor Islamabad, Islamabad Capital Territory, Islamabad.
15.	The Chairman, Capital Development Authority, Islamabad.
16.	The Chief Commissioner, Islamabad Capital Territory, Islamabad.

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Annexure-B

Receipt for Donations/ Contributions to

THE SUPREME COURT OF PAKISTAN AND THE PRIME MINISTER OF PAKISTAN DIAMER-BHASHA AND MOHMAND DAMS FUND

Bank: HBL – Habib Bank Ltd.

Branch: Supreme Court Branch,

Address: Islamabad.

Date: 12-11-2018

Receipt #: 03138550044

Donor/ Contributor 1982003

Contact No. _____

(Mandatory) Applicable for individual donors/ contributors only

IBAN: PK69 HABB 0007 8655 5555 6603

Same Branch Cash Deposit
Branch: 1982-ISLAMABAD-SUPREME CO
Account: SCP PMP BHASHA Date 2018-11-12
IBAN PK69HABB0007865555596603 Account Title: SCP PMP Diamer Bhasha Mohd Dam Fund
Amount **********50,000.00 PKR
Charges **********.00

Name and Address of Donor/ Contributor	Mode of Payment (Cash, Cheque, Pay Order, Demand Draft, Banker's Cheque etc)	Amount * (in Rupees)
Dr. Muhammad Raheem Awan, Secretary Law and Justice Commission of Pakistan, Islamabad	Cash	Rs-50,000/- Rs. 50,000/-

Total Amount in Words (Fifty Thousand) only

Depositor's Signature

HABIB BANK LTD. Supreme Court Br. Islamabad

Signature of Authorized Office

Donations Contributions received abroad shall be indicated in the currency of relevant Donations/Contributions

Note: Copies of these receipts in sufficient number shall be made available in all branches.

IN THE SUPREME COURT OF PAKISTAN
(Original Jurisdiction)

CMA No. ..... /2018
IN
Human Rights Case No. 49912-/2018 (in the matter regarding pricing mechanisms and management of the usage of water)

AFFIDAVIT OF THE FACTS

I, Dr. Muhammad Raheem Awan, Secretary Law and Justice Commission of Pakistan take oath and state that the facts as stated in the report are true and correct to the best of my knowledge and belief.

Sworn at Islamabad on the 12th day of November 2018.

Deponent