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### Sociological Investigation of Youth Role in Ground Water Management

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#### ABSTRACT

*Indus Basin shows a widespread groundwater aquifer casing a gross command area of 16.2 million hectares. Deep tube wells established on Indus basin are bringing huge quantity of salts with pumped groundwater. Areas close to recharging sources are greatly over-exploited to accomplish the demands of irrigation. Developed nations control reckless consumption of natural resources including water through participation of youth. The youth is the most vibrant and dynamic segment that effectively channelized towards a comprehensive and sustainable groundwater management. These future leaders have immense potential to mobilize the masses, the adaptable and a link between the two generations. The study was conducted in district Faisalabad. The survey method was used for data collection. Simple random sampling technique was used for the selection of area. The study was conducted in rural areas of district Faisalabad.*

### Introduction

Groundwater is an abundant resource which we are wasting in the absence of proper laws and operating policy through effective management. The groundwater resources required more administrative legislative and institutional development for better and effective use of water. The Govt. has launched many acts for managing the ground-water resources for accommodating demand of water. In the 1980 permit scheme was launched for fixing of personal tube-wells in water scare regions where ground-water summit was declined, but licensing and permits system failed in Pakistan. Lucid water consumption plans for the growth of outside and under surface water-distribution sources and additional feasible means need to be sustained through synchronized water maintenance as well as depletion reducing actions. Precedence, on the other

hand, has to be related to flood prevention and manage dealings, in the same way manage and reduce, where essential.

Although numerous studies have scrutinized learning results of environmental action incidents for youth, minute is recognized about the endeavours inspiring practitioners to engage youth in action, generation optimistic environmental and social change, nor how practitioners recognize sensation. Around the world millions of young people are becoming concerned close by, countrywide and worldwide through new plans and communications.

Ground-water is a universal asset that is particularly high demand for every living thing. The word 'common property' is the status of ground-water as a source to which all land owners commonly have access. The word is not proposed to mirror that legal status of groundwater as a 'public', 'common' or 'private' source. Many country groundwater has been associated to land ownership. These contradictory positions are protecting in religious principle such in Shari'a (the 'right to thirst' is a basic principle). Rights of access to ground-water have been commonly attached with land possession. This inconsistency is bringing to the forefront by enlarged acknowledgment of the need for water to be used more efficiently. Market method can play an important role in accomplish effectiveness, and more importance is now being given to the nature of water as socio-economic source. On the other hand, water resources, are very 'public' nature, assets, need to some parameter for effective and efficient use through rise awareness among the public. The influence of youth can clutch a transformation by protesting in opposition to pollution scattering industries and altering some policies which can assist government to get some proposal for water management. Healthier consideration is obligatory for water management, from the river basin downward to the field level. The good information is that there is well-built political will in the state to develop water management. Groundwater system divide into two parts in term of quality and quantity: (a) extraction can be continued until further notice (b) water stressed area where balance is impossible, the structure has limited life. Huge groundwater system when have new stability can be reached and in which pumping is a long distance from margins where capture can happen. Large system poses a dispute for water manager, particularly when manger devoted to endeavor to attain a new balance state in which water level can be maintained and stabilized. The manager grant permission for pumping then they not to be managed water and nor provide water security.

Daudu and Okwoche (2009) pointed out that the responsibility of youth in agricultural expansion in Benue State of Nigeria. Data were collected through Interview schedules from 120 selected youth individuals through random sampling technique. The result concluded that that youth play important roles in agriculture because 70% working population engage with agriculture. Involvement of youth in agricultural programmes are poor due to the main troubles that inhibit youth involvement in agricultural activities were lack of commitment and need of land ownership. Promote youth to participation in agriculture through made changes in legislation and execution of policies and providing technical education concerning with new technology, credit facilities, and land ownership and decision empowerment to youths by acknowledged rural youth organizations.

However, growing population, urbanization and industrialization has led to substantial enlarge in claim of water for a variety of reasons, irrigation, domestic desires, industrial supplies etc. This situation pretenses a logic of liability along with the youth in the developed as well as developing country for controlling the water resources towards the goals of sustainability and self-sufficiency. It is significant to assure that the application prepared towards sustainable development with water management prioritize the requirements of communities towards a momentous augmentation.

The quantity of water available is limited. Approximately 97 % water is stored in the shape of sea. The remaining about 2.5% water consist of 69.6 % is enclosed in the polar icecaps and glaciers

while 30.1 percent is contained in groundwater. About 80% of global population is representation to high levels of water security threats, particularly in developing world where 1.1 billion individuals have no access to proper water supply and 2.5 billion people have not safe sanitation. Developed countries use latest equipment to cure the water pressure at their resources (Vorosmarty *et al.*, 2010).

Kumar *et al.* (2011) shows that the evaluation of groundwater over-exploitation based on basic concern of total abstraction and recharge provide highly ambiguous result. The adverse effect of groundwater reckless use on tank irrigation also needs due attention. The paper discuss that the ideas to improve groundwater management like as encouragement of drip irrigation, replacement of paddy by dry land crops, rainwater harvesting, involve community in groundwater resources management. Prepare the community through awareness about their corporeal, socio-economic and institutional parameters that determine the success. Drip irrigation shall change the agriculture water demand often water scared areas, increase production reduce the water shortage. The groundwater exploitation is based on basic concern of annual recharge from different source and abstraction provides misleading outcomes. Groundwater depletion problem are overall more serious than official information. Large number of installing tube-wells and their unlimited capacity of extraction of water is causing the fast drying of shallow wells. Groundwater resources management is require subsidies for the capital equipment's and institutional interventions in the systems through participation of community.

Jarvis (2012) pointed out ground-water is the large abstracted raw material on earth and become challenge due to supervision and control of ground-water resources because conflictive due to its secret nature as well as complexity in placing limitations around the ground-water resources and user domain. Three domains define as primary unit of exploration to comprehensive demographic, societal and fiscal conditions. Rising paradigms for groundwater management to mitigate the incompetence of ownership or use-based scheme of ground-water, distribution of ground-water, theoretical framework, uncertainty as well as missing information, inaccurate data.

International Year of Water Cooperation, a youth declaration was handed out which summarize youth's concern on water and presents procedure they set to attain bigger collaboration and water management. The statement is describing water management as a position of activities for the efficient distribution of water assets involving society, financial system, and environment. This reasonable allocation of reimbursement is central to achieve sustainable improvement. Youth commitment in afforestation and water management is lucid symbol that they are taking accountability for the upcoming of their ancestral domain of community. Their proceedings are vital for maintenance and management of assets of water in society (Jesus, 2013).

Pakistan is the 6<sup>th</sup> biggest country with a projected 200 million people that is predictable to reach 235 million in current growth rate of population. Population growth is claim of water increase for all parts of living. It is expected that farming segment must be compulsory to produce extra 4 percent yearly while water provisions about 10 percent meet the food requirements. Surface water is already gradual decline. Pakistan is a ranked third country that used of groundwater for farming. Ground-water resources have play pivotal role in agricultural production, unhindered pumping of ground-water; have led to numerous negative environmental and financial externalities. Recently, the world's maximum groundwater depletion rates have been recorded in the North-East Pakistan and North-West India of the Indus Basin (UNU, 2014).

Water is pleasant for all living beings. A common purpose is to enhance the possibility that satisfactory provisions of water of high-quality are sustained for the entire masses of the earth, through protecting the hydrological, organic and chemical features of ecological units adjusting

individual actions with the competence confines of nature and hostility compass of many diseases that are result of contaminated water. Modern equipment, together with the upgrading of local technologies, required for entire utilization of inadequate water assets and to preserve those assets from contamination (Lori, 2016). Education and youth empowerment works in association to produce additional dynamic procedures within global bodies, governments, industries and civil society. Thus, sanctuary the development of population liable toward sustainable water management. Development of irrigation has resulted in amplifying agricultural production. It has also rooted unpleasant consequences in the form of water logging leading to soil salinity (Gupta, 2016).

Declining levels of groundwater also increased cost of ground-water machinery, breakdown of borehole supplies and in coastal region to the corrosion of water quality by brackish encroachment. Finally decrease the farming production and over-exploitation groundwater not only impact on environment, but also enlarge into the economic and social factors. Ground-water overexploitation handled by govt. through commandment and funding used as tool to manage abstraction and provide technical resolution such river basin transfers used as try and restore damaged environment (Bromley *et al.*, 2001).

Chebaane *et al.* (2004) noted that the economic, social, and hydrological constraints and measures for organization for sustainable development of groundwater are considerably diverse from those for surface water because these dissimilarities outcome from such things as: 1) groundwater development is not reliant on big scale joint projects, 2) the actions of numerous diverse groups can influence the feature of water, and 3) users of groundwater frequently are not conscious of their co-dependence on the groundwater legacy in which each participates.

Custodio *et al.* (2005) noted that rigorous underground water utilization gave birth to considerable variations on natural aquatic dynamics. While comparing with 'aquifer over-exploitation', severe use of fresh water do not provide on a constructive or destructive suggestion. Simply this indicates a change in stream outlines, the quality of ground water or interrelation with outside water resources. The exercise of ground-water for farming in Pakistan has a long history. In past ground-water extraction was made by open wells with rope and bucket, but passage of time changes made and extraction method change and fast through electric pump and boreholes. Extensive withdrawal of groundwater for farming in the Indus basin happened in 1960s with the induction of Salinity Control and Reclamation Projects (SCARPs). Under this community plan, 16,700 tube wells were installed with a standard capacity of 80 l s<sup>-1</sup> to control salinity problems (Bhutta and Smedema, 2007).

## **Result and Discussion**

The Present research has been planned for finding socio economic characteristics of respondents and also their function in ground-water management activities in rural areas of District Faisalabad. For educational purpose, interrogating performa consisted as a suitable apparatus to gather essential facts which constructed in English form. But during field visit asked queries in local language as per circumstances in demand of getting leading data, yet the conversion made extremely cautiously original sense of inquiry may not become misplaced. Questionnaire comprised of close ended and open-ended queries. While making the tool design, it was kept in mind that it will have the following compensations 8.67 percent respondents, education was primary, 16.7 percent respondent's education was middle, 50.66 percent respondents education was Matric, 12.0 percent respondents education was intermediate, 8.7 percent respondents education was graduation and 3.3 percent respondents education was post-graduation. depicted that 80.67 percent respondents land holding size were 0-5 acres, 12.67 percent respondents land

holding size were 5-12.5 acres, 4 percent respondents had 12.5-25 acres land, 2.0 percent had 25-50 acres land and 0.66% had above 50 acres land. depicted that 24.7 percent respondents used canal water for irrigation, 12.7 percent respondents used tubewell water for irrigation and 62.7 percent respondents used both canal and tubewell for water channel.

## **Policy Measures**

The current situation demands that policies and plans should be developed which enable and motivate rural youth to participate fully in social, agricultural and economic activities. Moreover, their work, labor and potential must be positively recognized and utilized both at local and national level so that this potential manpower may be fully utilized in the building up of nation and the poor population may be taken as an asset for the nation rather than liabilities. Although the government has established various agri-based sectors and still exploring, making developed infrastructure to plug the youth into other field rather than agriculture but same are unproductive by the scarcity and lack of management and prevailing living standards in the remote area which can be cured, healed and better by awarding incentives like subsidies, thus back bone of economy can drip the country through agriculture as well as appropriate environment to encourage rural youth.

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