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Drinking Water Scarcity in Rural Communities of Salt Mines Region of Pakistan & Its Influence on Socio-Economic Status of Local Deprived People

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ABSTRACT

This study was carried out to know about the drinking water and sanitation challenges, its possible influence on socio-economic status of local communities and Government's intervention to provide WASH services in the rural communities of salt mines region of Punjab Pakistan. Baseline survey was conducted in January 2014. Seven villages were selected as a targeted population and structured interview schedule, focus group discussion & personal observation approaches were used for data collection. 560 household head were interviewed in which 80 from each village with 50% women sample population. Data was organized & analyzed using Statistical Packages for Social Science (SPSS) and interpretation given on the bases of public opinion, information, knowledge & personal observation extracted from the local communities. There are limited water sources and which are not able to fulfil daily household needs. Local communities of salt mines region had been facing drinking water and sanitation poverty while government department develop rural water supply schemes to provide drinking water in rural communities but more than 80% rural water supply schemes had dysfunctional due to less interest and monitoring channel of Community Based Organization (CBOs). WASH poverty in these rural areas put very negative impacts on socio-economic, health and environment of local community.

KEY WORDS: Salt Mines Range Areas, Rural Communities, Government Intervention, Drinking Water Quality & Quantity, Sanitation Poverty, Environmental & Health Hazardous

1. INTRODUCTION

Access to safe drinking water and adequate sanitation is the basic human right. Almost 2.5 billion people do not have access to adequate sanitation, and 768 million people do not have access to safe water in the world almost 1 billion (15%) of the world still practicing open defecation (WHO / UNICEF, 2013).Due to poor water, sanitation and hygienic condition the disease rate in children less than five is much high & Less than five mortality rate is reported 85.9 per 1000 live birth. Equal access to sufficient safe drinking water & sanitation considered a basic human need and right without any discriminating based on rural urban (World Water, 2009). Low income communities had to face very critical time to achieve the basic needs in developing countries (WHO & UNICEF, 2010). These people spend more of their time in fetching water to meet domestic needs (Cairneross et al, 2005). Women have to perform their duties in managing water and secure it from contamination at household (DeNormandle & Sunita , 2002). Women assumed a key factor of social change in all the sectors of development (Robert et al., 1989). But at the same time there found a huge level of gender based discrimination even in enjoying basic needs (Fahim & Javed , 2011).

International development community striving best to achieve MDGs in given time frame but there is a big gap to win it in developing nations (UN Water, 2011). Pakistan is facing low institutional capacity and political instability which are playing very negative role in provision of WASH services in local communities (WWF, 2011). Sanitation poverty and unhygienic condition play their vital role in prevalence of communication diseases and environmental hazardous at high level in the poor local communities of developing countries (Dilwara, 2002). Water supply & sanitation's Project developed with local community engagement secure its sustainability and reduced water related vector born disease and improve environmental condition (Bilqis et al., 2002). Community driven approach of WASH development always reported in cost effective and long term running with sustainability aspect as community considered it their own property which develop local communal project ownership. Community ownership of infrastructure ensures Sustainability, affordability and accessibility of WASH services (Waterkeyn & Caimcross, 2005).

Total population of Pakistan is almost 17.8 Million and 34.7% live in urban and 65.3% live in rural areas. Only 54% have access to drinking water and 78% have access to basic sanitation (WHO, 2012). Almost 20% of total population is children under age five in which 33.1% of total number of child take birth is underweight due to

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malnutrition and food insecurity while almost 9.5% of total population is unemployment (GOP, 2013). AIDs is also emerging disease and almost 130000 people are living with AIDs (UNICEF/WHO, 2012). Contaminated drinking water put severe effects on child & old age and almost 4.1% of total population is above 65 year age whereas population under 15 year is almost 33.4% of total. Inhaling the contaminated water effect human health and consume 2.5 % of the GDP in term of treatment the diseases associated with drinking water (World Bank, 2013).

In Pakistan population is growing with the rate of 2.1 annually (Brooker et al., 2004). Every year 2.2 million people die due to diarrheal disease which directly related to inadequate drinking water and poor sanitation especially in developing countries (Koola & Zwane, 2014). About one billion people suffered hunger and malnutrition in 2009 due to food insecurity especially lack of drinking water and poor hygienic conditions which is great hindrance in the way to meet Millennium Development Goal (MDGs) target of halving hunger by 2015 (Tirado et al., 2010).

1.2. Background of Study

Pakistan is a developing country and God Almighty had blessed it with unlimited natural resources. It has a large scale mines range filled with many natural resources like salt, coal, gold, gases, platinum and diamond. Pakistan is a big exporter of salts in the world and earns a huge amount from salt trade. At the same time provision of safe drinking water & sanitation situation of Pakistan is not good and lagging far from achieving MDGs 7 target 9-10 envisaged by UNs 2000. Rural communities of Pakistan are facing very critical situation in term of accessing safe WASH services than urban localities. In the areas of salt mines range of Pakistan rural communities are facing drinking water & sanitation poverty due to less political well, stability, limited resource allocations, limited local sources of income, high temperature, environmental stress, arid agricultural land and limited ground/ surface water sources. Kheyora Salt Mines is very popular in the world about its affluent characteristics of salt types, colours, taste, and production that is situated at Pind Dadan Khan of District Jehlum Punjab-Pakistan. Local communities surrounding its jurisdiction have very deep water table that is very brackish and not fit for drinking purpose. People of local area depend on the water of River Jehlum that is just one major surface water source for the people of these communities. In some areas there are few natural springs emerged from the rocks in which some have potable but many have saline water. Underground water table total depend on the river water surface and quantity but hence it found vary in its depth from 150-350 feet but in more than 80% areas ground water is salty and unfit for quenching thirst.

Public- Health Engineering Department (PHED) Punjab had developed almost 13 rural drinking water supply schemes in Pind Dadan Khan for provision of safe drinking water to its people but almost 10 schemes had dysfunctional and just 3 schemes are functioning which are meeting the daily water consumption of its proposed areas. People of these communities had to face very critical time in fetching drinking water from protected & unprotected springs which are far from residence areas. Women always remained busy in managing water at household for the family and do travel daily from 6-10 KM for collect water from drinking source which t put severe threat to their health, security, dignity, life and matrimonial aspects. Mostly area of Pind Dadan Khan is arid and very high temperature in the summer season. Very limited area is used for cultivation where salts are not much in soil and mostly salt resistance crops used to cultivate in these areas. People have very limited sources of income, low education and hygiene knowledge which is also a sever challenge for the human life in the areas of salt mines range of Pakistan.

1.3. Objectives of Study

Major objectives & Goals of this study were

- To determine possible sources of drinking water in local areas
- To identify existing drinking water & sanitation situation in the salt range areas
- To examine the influence of water scarcity on socio-economic status of local communities
- To determine the Government intervention in provision of WASH service to local area

2. METHODS & METHODOLOGY

All the communities of salt mines ranges of Pind Dadan Khan District Jehlum was the universe while 13 local rural communities in which Public-Health Engineering Department (PHED) had developed rural water supply schemes was the total population and 7 communities out of these 13 were the targeted population in which Ghreeb Wale, Syed Wale, Chack Hamid, Dharyala Jalap, Shadi Pur, Pinan Wale and Thill Ghora villages are very considerable. Structured interview schedule, focus group discussion (FDG) and personal observation approaches were practiced for the collection of both qualitative & quantitative data. 560 households were conducted interviewed as a Sample size on probability random sampling technique. 80 households interviewed from each communities with 50% women sampling population. Total 70 Focus Group Discussion (FDG) session conducted in which 10 sessions held in each village of target population. Personal observation practiced throughout the field visits and key information/ observation recorded in comprehensive manners. Government

institutions responsible for providing WASH services also visited, reports & publication also collected and reviewed. Official of Public-Health Engineering Department (PHED) of Pind Dadan Khan Office also interviewed about the rural water supply schemes developed in the local communities and public behaviour & water demand situation from Government. Data was organized & analyzed using Statistical Packages for Social Sciences (SPSS) and interpreted on the bases of public opinion's frequency distribution and percentages in a detailed form.

3. RESULTS & DISCUSSION

Rural communities of Pind Dadan khan have very limited sources of income and mostly people living their life in much miserable condition. People were engaged in different works for earning their livelihood and more than 85% population were associated in Mining, salts transportation, Gypsum, cement factories, coals and stone crushing. They earn very minute amount and spending their life hands to mouth. They were reported to unable for disease treatment as they had not enough money to even fulfil their bread needs. Almost 74% population denoted to unable bearing the expenditure of their children education expenditures. Community members have very low education level and almost 42% population expressed never go to school for getting education while 10% population determine draw out from school before primary level education and just 15% population expressed graduation rest proportion fall under completion of secondary level education.18% and 15% of total population were children and old age respectively while 30% of total population were youngster both male & female.

3.1 Drinking Water Situation in Study Area

Drinking water and sanitation conditions of local communities were very critical. Underground water table was very deep and due to salt range it was highly saline (Brine) water which was totally unable even to quench the thirst and use for domestic purposes. According to local community people more than 79% land is arid and not fit for agricultural activities due to excessive salts in the soil, water scarcity, high temperature and low economic status of local communities. People have live stocks at household but have not enough means to feed them and totally depend on the grazing openly in the land. Most of the time local people have to face water stress & starvation which leads to dehydration and skin disease in the area. People use to save rain water in the constructed ponds near each village and use it for domestic needs. In hot season of summer people of these areas use to migrate near to river Jehlum. Community peoples were not much satisfied with drinking water quality in all villages. There were different sources of drinking water in these communities in Ground water, Surface water; Natural springs and Constructed community Ponds are significantly considerable. Almost 48% population of all communities depend on the ground water, 22% rely on Surface Water and take it from river Jehlum almost 17% depend on Natural springs water and use to fetch water from these springs for daily life activities.

Hence in some communities local people had constructed ponds which vary in depth & storage capacity where these people use to store rain water and use it for domestic purposes. Almost 13% of total population depend on Constructed Local Ponds in the village but some people had constructed their ponds at household level in which they use to store water and use it for their livestock and other daily activities.

People of each hamlet also vary in using different sources of water for their daily needs. Almost 49% population of Ghreeb Wale, 50% of Syed Wale,65% of Chack Hamid, 40% of Dharyala Jalap, 55% of Shadi Pur, 33% of Pinan Wale and 44% population of Thill Ghora use and depend on the Ground water excavating from motor pumps, tube wells and hand pumps. River Jehlum was a major source of water for the local communities of Pind Dadan Khan and almost 31% population of Ghreeb Wale, 27% of Syed Wale, 19% of Chack Hamid, 20% of Dharyala Jalap, 15% of Shadi Pur, 35% of Pinan Wale and 11% population of Thill Ghora depend on Surface water source and mostly river Jehlum was performing a key role in this manner.

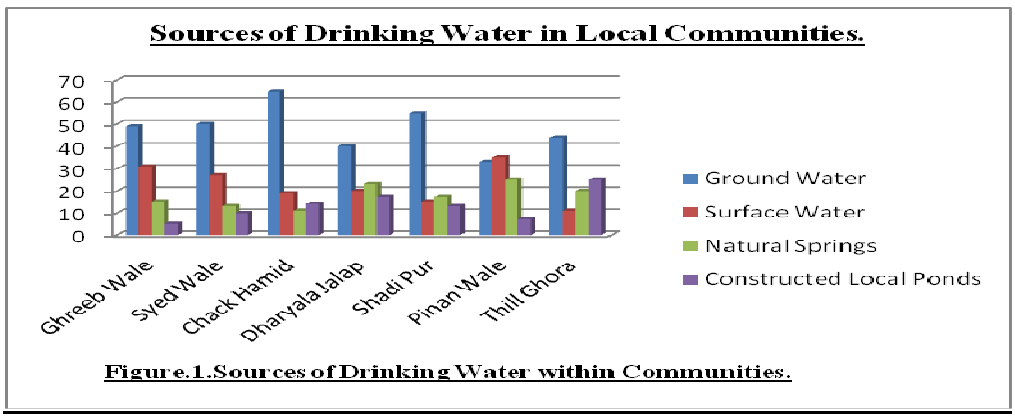

Figure .1. Showing Different Sources of Water in Different Villages

There were some natural springs in the area which was the sign of life for local communities to provide them with sufficient drinking water. According to local communities there were large springs in the area having 16 inches & 4.5 cusec with gravity flow in the Pind Dadan Khan which water is potable. This spring is considered a biggest gravity flow source of drinking water in Punjab. 15% population of Ghreeb Wale, 13% of Syed Wale, 11% of Chack Hamid, 23% of Dharyala Jalap, 17% of Shadi Pur, 25% of Pinan Wale and 20% population of Thill Ghora depend and use Natural Spring's water for their daily needs. Construction of local household & community based Ponds for storage of rain water and use it in daily life's activities was a common habit. Almost all the local villages have constructed Pond in which they store water both from rain & tube well and use it for meeting daily needs like bathing, washing, livestock and kitchen gardening. Storage capacity of pond mostly depend on the land slop and soil profile of the village but mostly villages have 10-15 inches (Depth) water storage capacity and 12-18 feet dia (Width) of ponds.

In the local communities of Pind Dadan Khan People use to dug well varying in depth & width integrated with locally constructed Ponds for storing water and use it for domestic purposes. Rain water stored in the ponds and when precipitation rate found very low then it filled it with tube well water. Here a long time give to water for retention and sedimentation of excessive salts. After a long detention time period this stored water used to cult the daily household activities. Almost 5 % population of Ghreeb Wale, 10% of Syed Wale, 14% of Chack Hamid, 17% of Dharyala Jalap, 13% of Shadi Pur , 7% of Pinan Wale and 25% of Ghora Thill village use and depend on the locally constructed ponds for storing water to use it in daily activities.

Thill Ghora village is at top end of Jurisdiction of Pind Dadan Khan and have very limited access to drinking water as compare to other communities so people of this village use to collect water from rains, tube wells and other sources for fulfilling the needs of their animals and kitchen gardening including their self. In the village Thill Ghora local community had dug a 40 feet deep well which was integrated with a pond to store water and use it for domestic needs. But it had dried due to unavailability of ground water and less precipitation rates. People of this community live very close to the Hilly station of salt mines. Underground water is very brackish and unable to use for drinking, washing, bathing purposes. They have a one common water source that is less salty carried by a pipeline which collect water far 5KM from this community and attached with a natural springs that is at very height and water supplied with gravity flow. Water scarcity, sanitation poverty, unhygienic condition, limited resources and source of income, low level of education system, arid and uncultivated lands put very sever negative effects on the health of this community.

3.2. Drinking Water Quality Pind Dadan Khan

Mostly ground water of these communities of Pind Dadan Khan is very brackish and not fit for the drinking purpose. People of local areas have very limited access to safe drinking water and use different sources of water to meet daily activities & sustain life in smooth way. Ground water found highly saline due to excessive amount of naturally occurrence salts in the soil which contaminates both soil & soil water. Mostly people did not agree & satisfied with its quality and almost 86% population of these communities expressed their dissatisfaction with its quality and consider it a major disease spreading agent in the local area.

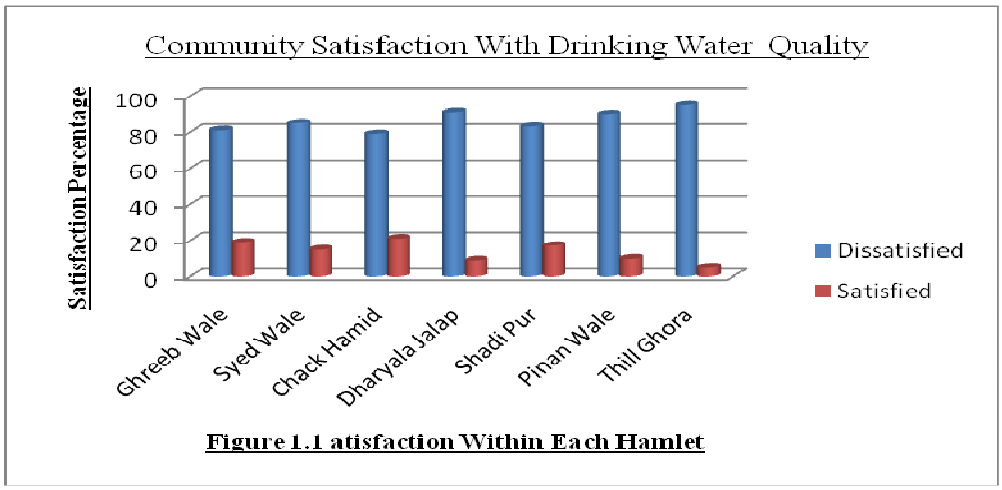

Figure 1.1 Local Communities' Satisfaction with Drinking Water Quality

Dissatisfaction level varies on the village to village drinking water sources, its qualities, education, knowledge & information about Drinking water, gender, age and sex groups. Almost 81% population of Ghreeb Wale, 85% of Syed Wale, 79% of Chack Hamid, 91% of Dharyala Jalap, 83% of Shadi Pur, 90% of Pinan Wale

and 95% population of Thill Ghora village expressed their highly dissatisfaction level with the drinking water quality both ground & surface water sources.

3.3. Water Quantity Issues in Study Area

Rural communities of Salt mines ranges have not only water quality problems but they are also facing water quantity issues. There are very limited water sources in which river Jehlum, some natural springs, constructed dug well integrated with ponds and ground water. Underground water is totally brackish and not fit for drinking purpose. As these villages situated in the rocky area so spring water & dug well approaches not much suitable and sustainable for meeting the daily domestic needs while due to high temperature in summer and low precipitation rate ponds dried and community members had to travel a lot for fetching water far from their house door.

Figure.1.2 Showing Women Stress in Fetching Water in local communities

People of these communities had to face starvation due to insufficient availability quantity of drinking water and almost 78% population of these villages found highly dissatisfied with drinking water quantity while just 22% population was satisfied with an adequate amount of water available to them for drinking purpose.

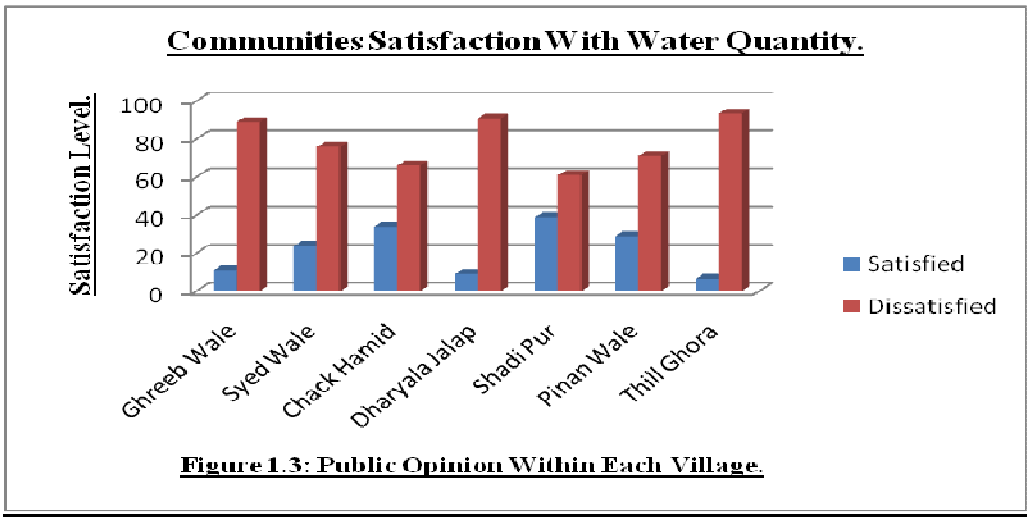

Figure 1.3: Communities Satisfaction with Sufficient (Availability) Quantity Water

Unavailability of good amount of drinking water put very serious threat to human and animal life in these areas. More of the time human and animals had to share a common source of drinking water in summer like ponds. People use to take bath, wash their cloth in these ponds while animals also use this water for quenching thirst and taking a bath in the hot season of summer whereas sometimes animals, dogs, human found in same ponds at same time for bathing in these areas as water quantity problem are very high. Satisfaction level with adequate drinking water quantity vary from village to village mostly depend on the population of area, source of water, water management at household and rationalization about water conservations. High proportion of population of Ghreeb Wale, Syed Wale, Dharyala Jalap & Thill Ghora villages expressed their dissatisfaction with drinking water quantity while more about one third population of the Syed Wale, Chack Hamid, Shadi Pur & Pinan Wale village showed their satisfaction opinion with drinking water quantity as compare to other villages.

Women of local communities had to face a very serious time and critical situation in collection drinking water for their families and meet daily life activities. In these villages community ladies have to travel almost 5-10KM daily for fetching water two times from nearby suitable water source that put very negative impacts on the socio-economic and health status of local women. Women are not just responsible for fetching drinking water but they had to work at household for serving their family members in term of cooking, cleanliness, cloth washing, caring of children & old age which add work load on the local ladies and compel them to work all the time for their family that assumed gender discrimination in the world. Women have limited chances & timing for relax and serve them for their self respect & dignity.

These villages were associated in the middle & close to river Jehlum and Natural Springs which provide them a little bit sufficient water for their daily needs. Almost 89% population of Ghreeb Wale, 76% of Syed Wale, 66% of Chack Hamid, 91% of Dharyala Jalap, 61% of Shadi Pur, 71% of Pinan Wale and 93.5% population of Village Thill Ghora found dissatisfied while 11% of Ghreeb Wale, 24% of Syed Wale, 34% of Chack Hamid, 9% of Dharyala Jalap , 39% of Shadi Pur, 29% of Pinan Wale and 6.5% population of Thill Ghora showed their satisfaction with the sufficient amount of drinking water available all the time for their daily needs.

In some areas of Pind Dadan Khan Public-Health Engineering Department (PHED) and Pakistan Public Work & Building Department launched rural drinking water supply schemes but more than 80% of these schemes are not running successfully. The infrastructure of all the water supply schemes, their machinery, rising main, piping networks, over head reservoir (OHR) , household water connection , revenue reports, recovery rates records indicated that these rural water supply schemes are developed very long period before and mostly found in dysfunctional form. Some schemes were supplying water but its quality & quantity was not much considerable and community members noticed in complaining the smell, colour, turbidity and very limited amount of water that was totally unable to meet daily household needs. These schemes were developed on the philosophy of local communal participation. Community Based Organizations (CBOs) developed in each village where water supply scheme launched and all the infrastructure of the concerning scheme use to hand over to local CBOs. Mostly CBOs also found dysfunctional and members of these organization was not more available to run these schemes successfully as some of them die, some migrated, some separate from board due to conflict emerged within the communities.

According to local people these water supply schemes were running successfully in the starting time period but after handing over to local CBOs these become dysfunctional as latter on members of CBOs loss their interest and took very less care of these schemes. Nobody monitor & evaluate working of CBOs nor asked them about the revenue, billing system, theft of its infrastructure, problem of Overhead Reservoir, rising main and piping networks in the result these schemes become dysfunctional and a huge amount of Government invest but not reasonable outcomes in the return.

3.4. Sanitation Approaches in the Salt Mines Range of Punjab (Pakistan)

Provision of safe sanitation service is prime objective & target of state as envisaged and declared in the National Sanitation Policy of Pakistan. But unfortunately Pakistan is lagging far behind in the field of winning sanitation target within due time framework. People of rural communities of salt mines region of Punjab facing very critical situation about sanitation services and many villages are facing sanitation poverty even at this time. There is not any suitable safe sanitation system developed for the rural communities of Pind Dadan Khan.

More than one third population of rural communities of Pind Dadan Khan practicing open defecation and use to do it in open fields, bushes which show their poor socio-economic status and limited knowledge about safe sanitation. Almost 25.5% of total population construct septic tank at household level for the collection of black water (Feaces & urine). People have to pay for digging these septic tank and also emptying them at the time of its filling which increase economic burden on household and also played it's an active role in contamination of ground water at high level.

Almost 23.5% population practicing flush & forget in which they just flush the toilet water but not know about its destination while 17% population had approaches of flush & discharge in which they flush their toilet water and lead it toward a locally mini drain line and collect it outside of concerning villages. In the village of Dharyala Jalap people construct a big pond on the land of graveyard for collection of domestic sewage water and mostly people were not satisfied with this unethical behaviour as they consider it against their religious aspects.

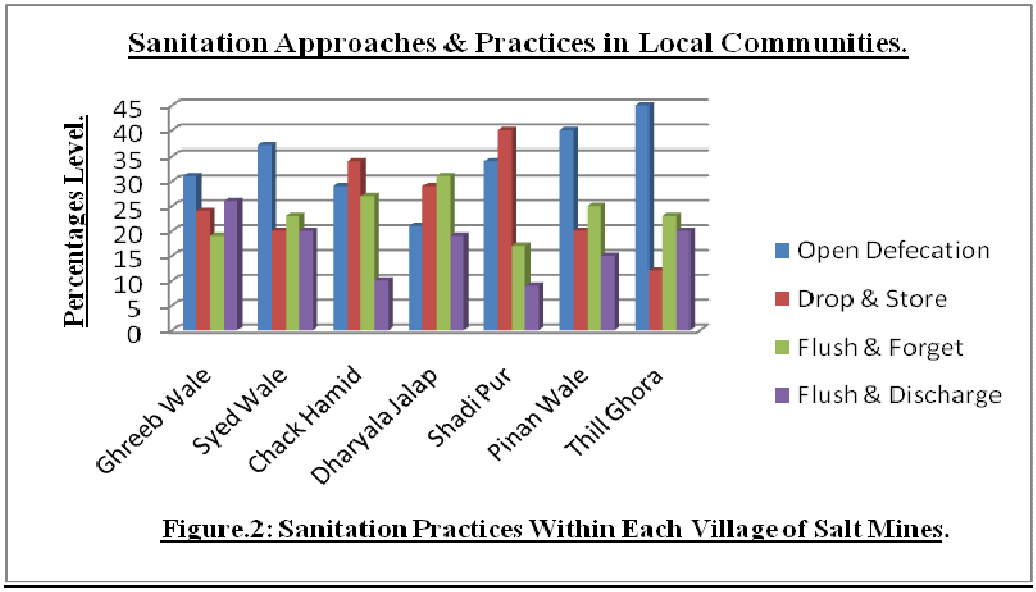

Figure 2: Sanitation Approaches & Practices in Local Villages

Sanitation approaches & practices vary in all the local communities based on their socio-economic status, education, employment and source of water. Almost 31% population of Ghreeb Wale practiced open defecation while 24%, 19% and 26% population of had been practicing Drop & Store, Flush & Forget and Flush & Discharge approaches respectively. In Syed Wale 37 %, 20%, 23% and 20 % population of total had been using Open Defecation, Drop & Store, Flush & Forget and Flush & Discharge approaches respectively. In Chack Hamid 29 %, 34%, 27% & 10% of total population practicing Open Defecation, Drop & Store, Flush & Forget and Flush & Discharge approaches respectively.

In Dharyala Jalap 21%, 29%, 31% & 19% population of total had been using Open Defecation, Drop & Store, Flush & Forget and Flush & Discharge approaches correspondingly. In the village of Shadi Pur 34%, 40%, 17% & 9% population of total had been using Open Defecation, Drop & Store, Flush & Forget and Flush & Discharge approaches in that order. In the rural community of Pinan Wale Village 40%, 20%, 25% & 15% population of total had been using Open Defecation, Drop & Store, Flush & Forget and Flush & Discharge approaches respectively while in the Thill Ghora 45%, 12%, 23% & 20% population of total had been using Open Defecation , Drop & Store, Flush & Forget and Flush & Discharge approaches respectively. Open defecation practicing was very high in the village community of Thill Ghora due to very poor socio-economic condition and very limited water sources around the community.

Drop & Store sanitation approach was very high in the village of Shadi Pur while Flush & forget sanitation approach was more high & common in Dharyala Jalap. In the village of Ghareeb Wale flush & Discharge sanitation approach found at high level as compare to other village. These sanitation approaches & practices put very serious bad impacts on the socio-economic, human health and environment of local community. Almost 81% population of these rural communities dissatisfied with the existing sanitation services in the local areas but they had to bear it due to unavailability of sufficient economic power to develop it separately while just 19% population expressed their satisfaction with the existing sanitation service in rural areas of salt mines region of Punjab.

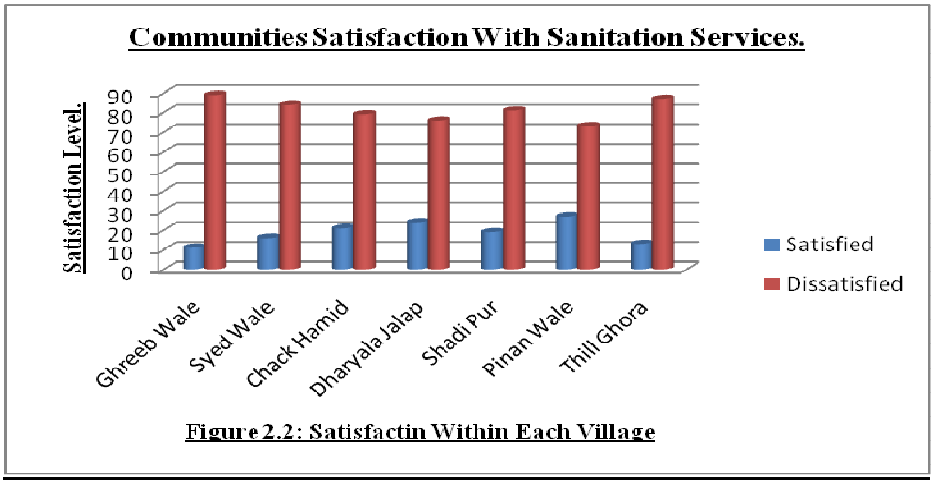

Figure.2.2. Communities Satisfaction with Sanitation Services

Satisfaction & Dissatisfaction level vary in different villages based on the education, age, gender, economic and hygienic information. Almost 89% population of Ghreeb Wale dissatisfied with the sanitation practices currently being done in this community while 84% population of Syed wale, 79% of Chack Hamid & 76% population of Dharyala Jalap expressed their dissatisfaction level with the existing sanitation approaches available in the areas hence at the same time 81%, 73% & 87% population of Shadi Pur, Pinan Wale and Thill Ghora dissatisfied with the sanitation practices which were in common use of local peoples.

3.5. Socio-Economic Aspects of Drinking Water Poverty in Salt Mines Range

The Local communities of Pind Dadan Khan District Jehlum are facing very critical situation about Drinking water. There are very limited sources of water which contains severe quality problems as underground water is brackish and not fit for the drinking purpose.

People have to pay a lot in term of spending time, money in fetching water far from household door. There are very limited sources of income and employment opportunities for the local people in these areas. Almost more than 60% population earn their livelihood from daily wages and have to work in different locally factories of salt, cement while 10% of total population employees in different Governments departments. Mostly people belong to poor class and almost 27% of total population did not earn even 1.5 US dollar daily and living under poverty line.

People of these villages segregated & divided into different social groups based on economic, caste and class. There is great conflict in these areas but strong cohesion within the groups and they remain ready to help each other all the time in every aspect. People of these communities are not much educated so they always exploited by local Political leaders. People have to suck water electric motor pumps, tube well from very deep aquifer which consume high amount of power and put extra economic burden on local peoples.

Women always considered responsible to manage water at household for the family members but here in these areas as mostly communities have not a suitable water source surrounding local communities so women have to travel a lot for fetching water to meet household need which put negative effects on their social & personal life. It put a sever challenge to dignity , privacy and personal security of women.

Water related vector born disease profile was very high due to inadequate drinking water & poor sanitation. Mostly people reported Diarrhoea, gastro, Hepatitis, abdominal pain, skin and hair fall disease at high rate in the rural communities of salt mines region of Punjab. Open defecation practices were common and more than one third population found doing practicing open defecation in the fields which increase the contamination of available water source in faecal- oral route. In some areas where water supply schemes had developed sewage water use to mix with the drinking water as water supply pipeline passed through from the sewerage drainage courses. Due to unethical behaviour of sanitation and poor drinking water quality local communities have to pay much in the treatment of emerging disease mostly associated with water & sanitation. It put very negative impacts on the economic life of local communities.

There was not any safe sanitation approach established for the rural communities of Pind Dadan Khan. Open Defecation, Drop & Store, Flush & Forget and Flush & Discharge are common sanitation practices and there was not any suitable sanitation system for the treating domestic sewerage water to protect other water bodies and sources from contamination. According to local communities water holding capacity of local soil was not much high so fluid use to flow but not observed by saturation zone of soil while soil is enriched with natural occurrence salt which effect soil water quality. Poor sanitation practices & approaches put very negative impact on the environment of local communities. Street condition was not so good and solid waste management

condition was also very poor which were severing threat to environmental sustainability, human health and socio-economic status of local people.

4. Conclusion

Drinking water and sanitation condition are much worst in the rural communities of salt mines range District Jehlum of Punjab. Underground water is very deep & totally brackish which cannot be use for quenching thirst and meeting household needs. Land of mostly villages is arid where agricultural activities unable to do as highly salts in the soil. Local Soil have very minute water holding capacity which increase water percolation into soil and contaminate it when drop & store sanitation practices carried in the local communities. Local communities had to face severe problem about drinking water quantity & quality. Mostly rural people have a habit to do open defecation in the fields as much of them have not enough sources to construct toilets at household due to very low socio-economic status. Flush & forget, flush & discharge sanitation approaches were also being practiced which effect both surface and ground water quality and create environmental hazardous. WATSAN poverty influence on socio-economic, human health and environment drastically which increase extra economic burden on household expenditure.

There were some limited sources of water for the local communities. River Jehlum is a big water source for Pind Dadan khan but much closed communities just can take benefits from it and all the communities which were far from this source still face very tough condition about carrying water for domestic purposes. More than one third population rely on the spring water which not protected from external contamination but people use it for daily needs at household level. In some communities villagers had dug well and integrate it with the locally constructed pond to store rain water or tube well water and use it for the washing, bathing. They use it for their animals and kitchen gardening at small level.

Public Health Engineering (PHED) & Pakistan Public works and infrastructure development department launched their rural water supply schemes in some of these communities to provide safe drinking water for local people. These schemes were handed over to Community Based Organization (CBOs) for running successfully but more than 80% of these schemes become dysfunctional due to lack of interest of CBOs, clashes & conflicts arising among different village and within members of CBOs. There was very weak monitoring mechanism of Government on CBOs which lead people to loss interest and care of infrastructure resultantly schemes become dysfunctional. Some schemes were running and providing drinking water at doors step of people but most of the time complaint noticed about colour, taste, turbidity which was very repulsive stuff for the local communities. At the village of Dharyala Jalap water supply was done just 45 minute in every week and people have to store water at household level for domestic uses which enhance extra economic burden on community in term of arranging household water reservoir. Women have to travel a lot for fetching water far from house door step usually they had to cover almost 5-10 KM every day in term of collection water for family members. It was a serious challenge to women dignity, privacy, security and health at the same time.

People of these communities divided into many different social groups based on political affiliation, economic class, caste and education but were strongly closed and loveable for the people of same group. There was high rate of inequality & discrimination in access to drinking water sources and many time conflicts arise within communities on access to drinking water as communities situated on slop. People of high elevation used to store & stop water for their communities and people of low elevation use to struggle hard for getting equal access on water sources. People of these areas have very limited source of income and living hands to mouth. They had even not enough to fulfil their daily needs hence were not able to maintain their private water source. Sanitation poverty and drinking water scarcity put very negative impacts on life style local communities and contributed a lot in destruction of socio-economic, political, human health and environmental stuff of these communities.

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