

SOCIAL ASSESSMENT REPORT

Rural Water Supply & Environmental Sanitation Sector Program, State Of Uttarakhand



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State Water and Sanitation Mission
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ABBREVIATIONS	
ADO	Assistant Development Officer
ANM	Auxiliary Nursing Midwife
ARWSP	Accelerated Rural Water Supply Program
BDO	Block Development Officer
CAA	Constitutional Amendment Act
CBO	Community Based Organization
CCDU	Communication and Capacity Development Unit
CEO	Chief Executive Officer
CHC	Community Health Centers
CPR	Common Property Resources
CWR	Clear Water Reservoir
DC	District Collector
DDPN	District Division Peyjal Nigam
DDJS	District Division Jal Sansthan
DPMU	District Program Management Unit
DWSM	District Water and Sanitation Mission
FC	Fully Covered
FMS	Financial Management system
FY	Financial Year
GO	Government Order
GOI	Government of India
GoUA	Government of Uttarakhand
GP	Gram Panchayat
HH	Household
HP	Hand pump
IDD	Iodine Deficiency Disorder
IMR	Infant mortality Rate
IWDP	Integrated Watershed Development Project
JN	Jal Nigam
JS	Jal Sansthan
KP	Kshetra Panchayat
M & E	Monitoring & Evaluation
MLA	Member of Legislative Assembly
MP	Member of Parliament
NC	No Covered
NGO	Non Government Organization
O & M	Operation and Maintenance
OHT	Over Head Tank
PC	Partially Covered
PHC	Primary Health Center
PHED	Public Health Engineering Department
PM	Project Manager

ABBREVIATIONS	
PMU	Program Management Unit
PN	Peyjal Nigam
PRI	Panchyati Raj Institution
PSP	Public Stand Post
R&D	Research and Design
RGNDWM	Rajiv Gandhi National Drinking Water Mission
RWSES	Rural Water Supply and Environmental Sanitation
SC	Schedule Cast
SHG	Self Help Groups
ST	Schedule Tribe
SVS	Single Village Scheme
SWAp	Sector Wide Approach
SWOT	Strengths, Weaknesses, Opportunities & Threats
SWSM	State Water and Sanitation Mission
UJN	Uttarakhand Jal Nigam
UJS	Uttarakhand Jal Sansthan
UP	Uttar Pradesh
UPN	Uttarakhand Peyjal Nigam
UWSSC	User Water Supply and Sanitation Sub-Committee
VMW	Village Maintenance Worker
VWSC	Village Water Sanitation Committee
ZP	Zilla Panchayat

Section-I: Introduction

In the State of Uttarakhand, Rural Water Supply and Environmental Sanitation Project, popularly known as the Swajal Project was implemented from 1996 to 2003, with the assistance of the World Bank. The basic tenets of the project were demand driven approach, community participation, capital cost sharing and total operation & maintenance by the communities. The project was implemented in 857 villages spread across 12 districts of the State. The communities were empowered to participate in the project through different capacity building and awareness programs. The Government of Uttarakhand (GoUA) has now prioritized Rural Water Supply and Environmental Sanitation (RWSES) Sector as a key area of its development agenda in the 10th Five Plan period (2002-07). Currently, it is seeking World Bank's assistance for Follow-on of the Swajal Project, in program mode, to be implemented on Sector-Wide Approach (SWAp) basis.

Sector Wide Approach (SWAp)

The "Sector-Wide Approach" essentially represents an approach wherein under government leadership, most significant public funding for the sector, supports a single sector policy and expenditure program, relying on government procedures to disburse and account for all public expenditure, however funded. To put it explicitly, it means a state investment program to achieve the vision goals for RWSES that follows a uniform policy framework as well as operational rules for the proposed program. The main development objectives for the proposed SWAp Program are to scale up reforms and improve access to sustainable RWSES services. In particular, the project aims to (i) implement appropriate sector policy and institutional reforms involving the Panchyati Raj Institutions and local communities, (ii) increase coverage and improve quality of sustainable RWSES service delivery & (iii) demonstrate sustainable modalities of multi-village schemes.

The GoUA is committed to implementing these sector reforms principles. It feels that the sector reform in the State has to come surely, steadily but slowly. This is due to the fact that the institutional capacity building at the PRIs level and other changes would take time to be firmly embedded in the entire process of the sector management. Therefore, keeping in view the current sector status, PRIs institutional capacity vis-à-vis the delegated management responsibilities for 14 departments, it has decided to adopt SWAp in a phased manner, starting initially with the single village rural water supply schemes (SVS) & environmental sanitation programs. While for multi village schemes, SWAp will be applied in a gradual manner, keeping in view the technical and functional complexities. Community participation principles will also be applicable to this. The decisions regarding planning and technical options will be taken up jointly by the user groups, UWSSCs & Panchyati Raj Institutions (PRIs) with the assistance of sector institutions. The construction of MVS will continue to be done by the sector institutions. The operation & maintenance of bulk water supply schemes upto the entry point of the villages will be done by the sector institutions while the O&M of the intra-village water supply will be done by UWSSCs and GP. Accordingly, all the funds from the GOI, State Government, World Bank and other sources, would be pooled together and follow a uniform policy framework as well as operational rules.

Program's Reform Agenda

GOUA has taken a policy decision to decentralize rural water service delivery responsibility from the Sector Institutions to the Panchyati Raj Institutions. In line with this policy, the program will introduce a new service delivery mechanism for the RWSES sector in the state through a partnership among 4 key actors: (i) Zilla Panchayat, district level local self government; (ii) Block Panchayat, middle level local self government (iii) GPs, the lowest tier of rural local self government; and (iv) Village Water Supply and Sanitation Sub-Committee (UWSSC) of the user's group. Essentials of reform comprise, inculcating a sense of ownership and responsibility among the user groups and thus enable sustainability of investments. This is planned to be achieved through: (i) community's participation in all the activities like planning, construction, operation and maintenance; (ii) community contribution to capital cost; and (iii) O&M through self management and meeting the expenditures exclusively through user charges. The reform agenda, eventually, is expected to be adopted throughout the state in phased manner for all the single and multi-village schemes.

Social Assessment Study

Since the GoUA is committed to implementing the sector reform principles including SWAp in RWSES sector, the proposed program will be covering the entire State. The initial inquiries have revealed that the beneficiary profile are not homogeneous rather quite diverse, comprising a number of sub-groups identifiable on the basis of their differential endowment, gender, ethnicity and other regional features. Besides this, the habitations are

scattered and population density is relatively low. The challenge lies in addressing the requirements of all the sub-groups, with special attention towards the rural poor especially women & other socially excluded sub-groups including the tribal community. Besides this, there are large number of stakeholders with varying degrees of influence on program activities and its success. This made necessary to provide a framework for participation by all key stakeholders and enable them for their contribution in program design and delivery mechanisms. Hence as a part of the program preparations, the SWSM conducted a study on Social Assessment through an external consulting company.

The main objective of the study was to conduct a social assessment in the context of governments plan for designing a statewide rural water supply and environmental sanitation program. This assessment broadly includes beneficiary assessment, stakeholder analysis, social impacts, design for the proposed program and risk analysis. The specific tasks carried out under the study were (i) Beneficiary Assessment, which aimed at developing socio-economic profiles at state, district and village levels; assessment of living standards, poverty status, beneficiaries assessment of the current status of water supply and environmental sanitation services, linkages with governance mechanisms and PRI functioning. It also looked at the differential positioning of men and women within socio-economic processes as well as their roles and responsibilities. The settlement patterns have also been assessed along with its features like population density, caste, literacy and the like (ii) Stakeholder Analysis, which includes identification of stakeholders at GP, Block, District and State levels & mapping their key expectations as well as issues & concerns with special reference to water supply and sanitation services. The stakeholders have been grouped in four categories (a) direct beneficiaries, (b) Indirect beneficiaries, (c) threatened groups and (d) pressure Groups. The gender dynamics has also been considered. The program concept and components were shared and efforts have been made to understand, document and suggest ways to incorporate their views and concerns into program design and delivery (iii) Social Impact Assessment that focused on assessment and visualization of positive as well as negative social impacts likely to occur on different sub-groups/ beneficiaries, as a result of program interventions and suggest measures to minimize negative impacts and derive the maximum from the positive ones (iv) The Risks Analysis has provided an insight into the major social risks and management measures to address them. This has been supplemented with the issues encountered during implementation of the Swajal Project. (v) Program arrangements to suggest measures for working out possible alternative institutional and fund flow arrangements & program design features, in consultation with stakeholders to work effectively for program sustainability (vi) Rules for land availability, which the program would require for the construction of water supply schemes and drainage system. Modalities have been defined to procure land on voluntary or purchase (negotiable rate) basis. This study reflects the social assessment for building the elements of sustainable, decentralized RWSES service delivery.

The findings are based on (a) social assessment study; (b) tribal study (c) study on capacity building strategy and implementation plan for RWSES sector institutions and PRIs; (d) roles and responsibilities of sector institutions & PRIs study (d) environmental assessment study and (e) field visits as well as several stakeholder workshops at state and district levels. These studies covered nearly all the districts of the State. These areas are situated in different geographical regions i.e. plains & foothills, mid-hills and high-hills. Equal representation was given to GPs with altitude upto 500 meters, 501 – 1000 meters, and 1001-1500 meters and beyond 1500 meters. These areas have different climatic conditions, communities and culture. Some of them have been covered under Swajal Project. Interview schedules including household questionnaires were used for collecting the information from the respondents. Focus group discussion, group interview and PRA exercise were conducted to get the collective views on various aspects relating to RWSES Sector. The detail of the area surveyed during social assessment study is given. **(Table 1)**

Social Assessment Report

The findings of the social assessment study have been presented in seven sections. Section I serves as an introduction, explaining SWAp, programs reform agenda and the social assessment study. Section II gives the beneficiary assessment, presenting the characteristics of the prospective benefiting community and user groups; Section III covers the identification of stakeholders, their perceptions/ expectations about/ from the program, potential benefits/ risks/ impacts and conflicts of interests (if any) in respect of each of the sub-groups. Major issues confronted while implementing the previous project are discussed in Section IV. Social impact

assessment has been dealt in Section V. Design features of the proposed program addressing the issues and concerns are presented in Section VI, while rules for land availability for the construction of water supply schemes and safeguards measures have been presented in Section VII.

Section-II: Beneficiary Assessment

Socio-economic profile at State, District and Village Level:

Uttarakhand is the 27th state of the Union of India created on 9th November 2000, covering an area of 53,484 sq. km out of which 64.81% is the forest area. The state has a population of 8.49 million people grouped into 1.6 million families. Rural & urban distribution of the population is given (Table 2). Most of them (49.5%) live in clusters of small population less than 200 persons per village (Table 3). Schedule caste and Schedule tribe population accounts for 18% and 3% respectively. The district-wise distribution of SC & STs is given (Table 4). The population growth in 1991-2001 decade was 19.2%. The rural population of the state is 74.3%. The traditional tribes of the state are Jaunsaris, Bhotias, Tharus, Rajis and Bukshas. In Uttarakhand 71.6% of population is literate, but rural female literacy rate is only 54.7%. The urban illiterate comprises of 29.3%, while rural illiterate population is 43.5 % of total rural population, indicating that majority of illiterates resides in rural areas (Table 5). The population density is 158.58 per sq. km as against 324 per sq. km, for the country. The tourist influx is about 50% more than the permanent residents. The state already has a good road network, having 4.8 m/ha. motor roads. The cattle population of the state is 4.61 million (cattle census 1998), which require nearly 59% additional water, over human needs.

The State can be broadly divided into four physio-geographical regions; (i) Garhwal hills, (ii) Garhwal foothills (iii) Kumaon hills & (iv) Kumaon foothills. Uttarakhand is primarily a mountainous State, having high altitude mountains. Out of the 13 districts, only Dehradun, Haridwar and Udham Singh Nagar are in plains comprising of only 7.4% of the total geographical area. Agriculture, Livestock and tourism are the major sources of livelihood while tourism is seasonal in nature. The large proportion of the male population migrates to other cities for employment, while the family stays in the village. Women are mainly managing the household affairs.

The key development characteristic indicators like Literacy Rate, Fertility rates, work participation rate and amenities in rural area etc. depict the socio-economic status. These statistics have been compared with state like Kerala (which is progressive state and their development indicators can be motivating factor for Uttarakhand) and with that of the country. The comparative chart is as below:-

Key Development Indicators

S.No.	Indicator	Uttarakhand	Kerala	India
1	Literacy rate	72.8	90.92	64.8
2	BPL %	36.5	12.72	41
3	Per capita Income (in Rs)	13,000	25,764	12,085
4	Decadal population growth	19.20	9.42	21.34
5	Pop. density (persons/ sq.km)	159	819	324
6	Sex-ratio (Fem./1000 males)	964	1058	933
7	Birth Rate	17	17.9	25
8	Death Rate	6.4	6.2	8.9
9	Infant Mortality Rate	44	42	72
10	Work Participation Rate			
	(a) Manufacturing in HH Industries	2.4	2.6	4.2
	(b) Manufacturing in non HH Industries	5.3	11.6	-
	(c) Other Services	10	15.2	37.6
11	Amenities in rural area (%)			
	(a) Drinking water within premises	32.7	69.1	33.5
	(b) Toilets	6.4	44.0	21.9
	(d) Electricity	50.3	65.5	43.5

(Census 2001)

The major indicators for health status show that the state is in better position compared to other States. The Crude Birth Rate (1.7%) is significantly lower than the country's average (2.5%). Similarly the Crude Death Rate stands at 0.64% against the all India average of 0.81%. The Infant mortality rate (IMR) stands at 4.4% live births, while in rural areas it is 6.6%. The life expectancy at birth is 62 years as compared to 61 years for the country. The state has an extensive network of Government Health institutions. Apart from district hospitals there are 26 Community Health Centres (CHCs), 257 PHCs, 1609 Sub-Centers and 389 Ayurvedic dispensaries, which provide medical services to the far flung rural population. The details of access to health service delivery point in Uttarakhand have been compiled (**Table 6**).

There are not many options in the State for earning livelihood. Since the terrain is tough there are few factories and productions units, which are mostly situated in foothills. The plain area of Dehradun, Haridwar and Udham Singh Nagar only present other options. About 70%-80% of rural populations are marginal farmers having less than 1 Ha of agricultural land. Besides practicing agriculture and livestock, the rural population has the option for tourism-based activities. As per the 1997 BPL survey and census data, the number of rural households below poverty line was 376502 (36%). Further analysis across districts has revealed that the districts of Uttarkashi, Tehri and Chamoli have maximum number of BPL families ranging from 50% to 65%, while Haridwar has the least (17.5%). For break-up of BPL households **Table 7** can be referred. In Uttarakhand 63.1% of total population is unemployed and 9.6% is marginally employed. Paying capacity of the rural community for facilities like drinking water and toilets are very low, when they can get these for free and adopting open-field defecation. The per capita income in Uttarakhand is Rs.13000.00 as compared to the Rs.15000.00 in neighboring state of Himachal Pradesh. This fact may be taken into account for program design.

Agriculture and related activities

Agriculture (including animal husbandry and fishing) form 67% of commodity sector activity, followed by Forestry which is 9%, manufacturing 20%, mining and quarrying is 4%. The net sown area of the state is 14.2% out of which only 44% is irrigated. The analysis of the land-use in the state has been done (**Table 8**). The State has more than 80,000 minor-irrigation schemes out of which 65% are of shallow tube wells. These also provide water for animals, besides irrigation. They also augment the RWSES sector. The land holdings are very small and fragmented. Foothills of the state are very fertile and highly productive. Average fertilizer use is 40 kg/ha, which is low. The use of agro-chemicals is also low. Thus their impact on water contamination is generally insignificant except in certain locations, mostly in foothills. Average productivity of fruits in the state is 1921 kg/ha and of vegetables is 9388 kg/ha.

Livestock

The state has a cattle population of 4.6 million animals with decadal growth rate of 1.84%. The details are given in **Table 9a & 9b**. Average cattle population per village is nearly 315 cattle units/village or an average of 4.19 cattle units per household (HH). Livestock is a source of income for the rural households followed by agriculture. Therefore, it is an integral part of their livelihood system. At present, the state has 2.4 million cattle more than the fodder supply capacity of the forests in the State, if all animals are fed from the forests. The fodder requirements for the livestock are essentially collected from the catchments, which are already degraded. In case, the requirement of water for animals, if taken care off, then on an average 59% more water per village will have to be provided based on cattle requirement for 30 liters per day/cattle unit. Together with this, cattle generate dung @ 1600kg/day/village which is significant regarding waste management.

Forests

Uttarakhand Forest Dept. records that 64.81% area under forests, whereas the satellite imagery showed only 44.76%. Nearly 80% of this is dense and 20% open forest. The average productivity from these forests is only 10% of its potential, indicating the quality of forests. The major Forest damages are transfer of forestland (28480 ha.), encroachment (10266 ha.), Illicit felling (3225 m³/y) and forest fires (555 sq. km. /year). Fuel wood need of the people is nearly 48 times the recorded production. They are fulfilling major portion of their need by clandestine measures. Fodder dependency on to forest is to the level of 53% in hills and 3% in plains (**Table 10**). The low dependency in plains is due to absence of ground water and forests around them.

This intensity of over-felling is destroying the environment and its capacity to retain and absorb water. It reduces the perennality and sustainability of springs and streams. Soil erosion and net water availability is highly dependent on the land use. Different types of soil cover affect both water quality and quantity. Erosion rate under Forest covers is 5.2 ton/year/ha, under shrubs is 17.5 tones / year/ ha; under non-irrigated is 17.4 tones/year/ha; and under grazing land it is 30.2 tones/ha/year, indicating least erosion under the forest cover area

Districts Profile

The State is divided into Garhwal and Kumaon regions having distinct characteristic in terms of customs, language, and source of income. It has 13 districts, split into two distinct regions, Kumaon and Garhwal. Except for two, other 11 districts are hill districts situated on, low to high hills. These districts comprise of 95 Blocks, 7562 GPs and 15632 inhabited revenue villages. As per the RGNDWM survey there are 39967 habitations (**Table 11**). Garhwal has the major religious places of Uttarakhand and the economy rotates around religious tourism. Kumaon has scenic places and depends upon normal tourists.

Village Profile

Both in Garhwal and Kumaon regions, the family size is small. Majority of families (>49%) have two children and average family size is 5. Few families (6%) have more than 5 children. This reveals that the family planning practices have penetrated within the socio- economic framework. During the village level inquiry 37% respondents, frankly admitted of having adopted family planning measures, the prevalence of this being more in hills as compared to foothills. Literacy levels are almost similar in both regions. There are 11525 junior basic, 2480 senior basic and 1456 higher secondary schools in Uttarakhand (**Table 12**). Hills and foothills share almost equal literacy rate but the female literacy rate is better in hills where almost 43% households have at least one literate female member. The male children going to school are more than the number of females, who are mostly engaged in the domestic works like cooking, collection of fuel wood, fetching water for drinking. There are instances where even male children are not being sent to school (19%) due to poor economic condition, involvements in agriculture and other income based activities. Majority of rural families are dependent on agriculture for their livelihood (**Table 13**). The foothills have better irrigation facilities but due to unequal distribution of land, the numbers of landless are more. These people have to opt for other source of income. They are heavily dependent on labor-oriented works. In hilly regions, most people have agriculture land though small-sized and un-irrigated. They get low returns as compare to the people of foothills. Nearly 92% families in foothills and 58% in hills, have annual income between Rs.10,000 and Rs.12000 per annum (Field Survey Estimates). The income level is lower in hills as compared to foothills. Due to these reasons the community in the hills, mostly practice Rabi cultivation, which is used for household consumption. Survey also indicates that foothills have better irrigation facilities due to favorable geographical conditions. The rural families maintain nearly 3-4 cattle per family. The cattle may be cows and buffaloes for milk yielding or a bullock for working in the field. The practice of maintaining bullocks has reduced due to mechanized farming. Some families keep goats and sheep, which are not good for the ecology due to grazing habits. Agriculture waste and forests are the two major source of fodder for the cattle. Forest department has provided rights for fodder. More than 85% households in the hills are obtaining fodder from forests (as per survey). Since majority of families are agriculture based, the availability of fodder from agriculture waste is present. As per the survey nearly 56.86% households practice stall-feeding, which needs to be propagated. It has been observed that households getting financial return from cattle, adopted stall-feeding practice. Families having goats and sheep leave them in forest areas for grazing. Only 10.22% families have pasture land facility, which is a matter of concern.

The association of the rural families with financial institutions has also been studied. It was found that only 18%HH approach bank for loans, 43 % borrowed money from friends or relatives and 37 % borrowed from moneylenders where interest rate is very high (**Table 14**). Majority of household have an emergency requirement up to Rs.2000 only. These small requirements are regarding school fee, festivals, medical expenses, etc. Such small amounts are easy to return and maintain trust on each other. Larger amounts are borrowed for marriage and agricultural proposes. Almost negligible proportions of household have been associated with self-help group and that too mostly in hills (**Table 15**).

Current Status of Water Supply and Sanitation Services

In Uttarakhand, 51% habitations are fully covered with water supply schemes. The Government of Uttarakhand following the GoI guidelines, is making efforts for providing at least 40-lpcd service level to all the rural

habitations.. As per RGNDWM Survey, the status of water supply schemes in the State has been categorized as Fully Covered, Partially Covered and Not Covered. There are 20355 (51%) fully covered, 13091(35%) partially covered and 4734 (12%) not covered habitations (**Table 16**). However, the term coverage only refers to presence, absence and availability of water in water supply schemes. The data does not reveal information regarding the parameters like quality, reliability, sustainability & accessibility, which are significant for program design. These factors have been studied during the field survey. The main drinking water sources in the hills are; (i) springs (ii) streams and (iii) water supply schemes by Sector Institutions.

Water Quantity

The State gets annual precipitation of about 3410 million cubic meter and nearly half of this goes directly as downstream runoff. The water balance of the state is 1400 million cubic meter /year. Springs are major source of drinking water. There are 3-4 springs around each village in the hilly regions. Even in hills ground water (hand pumps or tube wells) can be a good source of drinking water at geologically suitable places.

Availability of Drinking Water

In the hilly regions, the most common sources of drinking water are: Springs, Streams (local name *Gadhera*) and piped water supply from spring or river. Hand pumps are also present in some areas. Springs and streams are seasonal in nature which usually dries up during summers. The community level enquiry has further revealed that almost 71% households use tap water for drinking purpose including stand post. At the same time, other sources like spring source are also used. It has been found that dependency on spring for drinking water purpose is high in hills (27.6%) as compare to foothills (16.2%). Nearly 28.45% households have access to hand pumps. Villagers depend upon alternate sources, during this period. In rainy season, soluble impurities in spring and stream increase many folds, thus making it non-potable, even for cattle. The plain and hill areas differ in terms of source of drinking water within the house premise (51.7% HH in plains & 4.7% in hills). Almost one-third of the populations have access to a safe drinking source within 50 meters. The distance in hills is more compared to plains. About 10% HH have to travel more than 200 meters to fetch drinking water. It was found that about 42.7 % population in hills change drinking water source according to the seasons, while in plains it is 4.5% only.

Recently the new norms approved by the Government of India envisage a provision of 55 liters per capita per day for rural habitations as against the present norm of 40lpcd. The norms for distance of the source have also been relaxed to 500 meters instead of 1.6 km in the plains and 50 meters elevation instead of 100 meters elevation in hills. The availability of water is declining across all regions. Reduced forests cover and gradual reduction in the rainfall have been perceived as the main reasons. During the field survey, it has been found that nearly 33% population does not get adequate drinking water. For those living in plains and using hand-pumps, quantity of water was enough (97.8 %), while more than half (52 %) living in hilly regions, feels shortage throughout the year (**Table 17**). It was also found that the communities in hilly regions change the drinking water sources with seasons due to non-availability (42.7%), bad taste (5.6%), polluted water (5.6%) and depletion in ground water level.

Water Quality

Water quality data of different catchments for springs have been recorded. Water quality of most of rural springs, is within the safe drinking water norms. In general the water sources of the State are suitable for drinking purposes according to Water Quality Index Analysis, except for bacteriological contamination at places where water from surface sources is tapped. Rural spring water is generally within prescribed safe limits for drinking while the streams may require some treatment in monsoon periods. The status of water quality testing is below 4%.

As per the survey, almost 98% households feel that the available drinking water is safe. People are aware of the consequences of drinking contaminated water (53%). The diseases are mainly confined to general body disorders such as stomach-ache, fever, diarrhoea etc. Cases of jaundice are more in plains compared to hills. Nearly 10% people are unaware of the consequences of drinking polluted water. In general they do not take any measures for purifying drinking water at household level.

Rural water supply coverage

The existing water schemes are nearly 29% spring and 68% stream based. Out of these 59% schemes have discharge reduction up to 40%. Nearly 51% of habitations are fully covered by drinking water schemes while only 2% are not covered. Rest of schemes, fall under the category of partially covered. Nearly 45% of Govt. hospitals and 40% schools have water supply facilities in their campus. **(Table 18)**. The water supply facility in the schools is a priority area of the Gram Panchayats. Only 29% water requirement of animals is fulfilled. Provisions of drinking water supply for animals would require an additional supply of nearly 49% per village.

Rural Sanitation Coverage

Since the proposed program intends to take into account the environmental sanitation aspects, attempt has been made to understand and analyze the parameters depicting the environmental status. The parameters include (i) Latrine Coverage (ii) Latrine Usage (iii) Compost Pits & (iv) Garbage Pits. The data of the habitation survey conducted by RGNDWM has been analyzed. The data indicates that 24 blocks have less than 10% HH having toilets and 32 blocks have only 10-20% HH having toilets. In nutshell, less than 21% households and 50% schools have toilets and personal sanitation level in rural areas is poor **(Table 19a & 19b)**.

Open defecation is a common practice which is due to habit of defecating in open, lack of resources and non-availability of space, particularly in hills. Together with this, it is not considered the source for contamination of drinking water sources. Nearly 58% HH use forests or surrounding fields for defecation. Children defecated where the parents instructed them. It has been found that majority of households who constructed latrines are self-motivated. They have been motivated by the idea of their convenience as well as for better hygienic condition of the community. NGOs have also contributed in positive manner. Nearly 4% households are motivated by their family members, which where mainly school going children. The willingness for construction of latrine is present. Field survey indicates that more awareness generation and some financial assistance would be required for their motivation and initiation. Schools and NGOs can act as two major partners in the program's attempt for environmental sanitation. But along with construction of latrines, the households need motivation for its use and maintenance. Even those houses that have latrines, majority (63%) are not cleaning them regularly. This practice may be due to lack of water availability. Latrine construction is just a status symbol in many cases. The sanitation coverage in schools is also not up-to-the-mark; it is only 48% in primary schools and 49% in Junior High Schools. However, the field investigations reveal that the children are quick learners and can easily pick up sanitary habits. The requirement is only to provide them with facilities, which ultimately comes in their habit which in term can motivate their family members to use toilet. This can create a chain reaction for betterment.

Health, Hygiene & Waste Management

Health, Hygiene and Sanitation is a wider issue covering personal hygiene, environmental sanitation, and proper waste management. The district level information for compost and garbage pits based on the habitation survey by RGNDWM reveals that garbage pits and compost pits are almost 1 to 2 % in both Garhwal and Kumaon regions **(Table 20)**.

The place for disposable depends upon the availability of space in the surroundings. Disposal in the backyard is more common in foothills as compared to hills where people generally throw the waste, down the hill slope **(Table 21a, 21b & 21c)**. The rural communities are neither aware nor concerned about better health and hygiene status of the community. Only 32% HH have drain within their residential premise. Even where there are drains, almost 40% do not regularly clean them.

Diarrhea is a good indicator of water contamination status in rural area. Its incidence in Children less than 5 yrs. of age is 6.5%. Diarrhea severity is about 4.8 loose motions/ day. Iodine deficiency disorders (IDD) have affected about 2.5% of population. In the year 2004 more than 1934 cases of Gastro entitis were reported with over 39 deaths. There were more than 397 cases of Typhoid and 407 cases of Hepatitis. The health Dept. has distributed nearly 0.5 million chlorine tablets and over 47 thousand ORS packets in the year 2004.

Perception of the Community

The spring water in hills is perceived as safe while the water from stream (Gadhera) is perceived as polluted because it is used by animals and also by the community for washing clothes. The water through piped water supply and hand pumps are considered safe for drinking. However, water from shallow hand pumps, to some extent is perceived as unsafe in the plain areas.

Majority of households (62%) have admitted of utilizing approximately 26 to 50 liters of water per capita per day for drinking and kitchen purposes. Water consumption in hills for drinking and other purposes is comparatively less compared to plains. This may be due to the climatic conditions, family size and awareness regarding hardships faced in fetching water. The consumption is more during the summers. The water needs for the cattle are similar to the water needs for the family. Nearly 60-70% of the households get water within a range of 150 meters and 15-20% within 01 km range. Only 10%-15% of the families have to fetch water from a distance of more than 01 km (**Table 22**). The time required to fetch water has also been analyzed. It has been found that nearly 1-3 hrs are required to fetch water for drinking and other uses. On an average the women folk have to make 2-3 trips to fetch water which takes 1-2 hour per trip. A lot of time is wasted waiting in queue, especially during summers. (**Table 23**). Mainly women (96%) and female child (40%) heavily own the responsibility of fetching water. Females get support from male members mostly during periods of water crisis or health problems (**Table 24**).

Key Social Characteristics as well as Issues Identified as a result of Beneficiary Assessment

- i. Uttarakhand is primarily a mountainous State, having high altitude mountains and different micro-climatic zones which significantly affect the nature dependent water supply schemes.
- ii. Rural population of the state is 74.3% out of which 49.5% live in small clusters of 200 persons per village.
- iii. Rural illiterate population is 43.5 % of total rural population, indicating that majority of illiterates resides in rural areas.
- iv. The tourist influx is about 50% more than the permanent residents.
- v. The cattle population of the state is 4.61 million requiring nearly 59% additional water.
- vi. There are not many options for earning livelihood in the State. Agriculture, Livestock and tourism are the major sources. The large proportion of male population migrates for employment leaving women to manage the household affairs. Hence women are the real water managers.
- vii. Agriculture (including animal husbandry) form 67% of commodity sector activity in the State. The net sown area of the state is 14.2% out of which only 44% is only irrigated. The land holdings are very small and fragmented. About 70%-80% of rural populations are marginal farmers having less than 1 Ha of agricultural land.
- viii. Analysis across districts has revealed that hilly districts of Uttarkashi, Tehri and Chamoli have maximum number of BPL families ranging from 50% to 65%. Nearly 63.1% of total population is unemployed while 9.6% is marginally employed. Paying capacity of the rural community for facilities like drinking water and toilets is very low as the per capita income is around Rs.13000 per annum.
- ix. Livestock is a source of income for the rural households followed by agriculture. Therefore, it is an integral part of their livelihood system. Average cattle population per village is nearly 315 cattle units/village or an average of 4.19 cattle units per household (HH). At present, the state has 2.4 million cattle more than the fodder supply capacity of the forests. and on an average 59% more water per village will have to be provided based on cattle requirement for 30 liters per day/cattle unit. Together with this, cattle generate dung @ 1600kg/day/village which is significant regarding waste management.
- x. Fuel wood need of the people is nearly 48 times the recorded production. They are fulfilling major portion of their need by clandestine measures. Fodder dependency on to forest is to the level of 53% in hills and 3% in plains. More than 85% households in the hills are obtaining fodder from forests (as per survey). The average productivity from these forests is only 10% of its potential, indicating the quality of forests and high erosion rate which is least under the forest covered area.
- xi. The association of the rural families with financial institutions reveals that only 18% HH approach bank for loans while 37 % borrowed from moneylenders where interest rate is very high. Very few households have been associated with self-help group and that too mostly in hills.
- xii. Regarding water supply schemes, there are only 51% fully covered habitations while 33% population does not get adequate drinking water and more than 50% living in hilly regions, feel shortage

throughout the year. About 42.7 % population in hills have to change drinking water source according to the season. One- third of the population has access to a safe drinking source within 50 meters while 10% HH have to travel more than 200 meters to fetch drinking water. The distance in hills is more compared to plains. Only 29% water requirement of animals is fulfilled and an additional supply of nearly 49% per village is required to meet the cattle demand.

- xiii. In general they do not take any measures for purifying drinking water at household level though people are aware of the consequences of drinking contaminated water (53%) and only 10% are unaware.
- xiv. The existing water schemes (59%) have discharge reduction up to 40%.
- xv. Nearly 21% households have toilets and personal sanitation facilities in rural areas. The sanitation coverage in schools is also not up-to-the-mark as it is only 48% in primary and 49% in Junior High Schools.
- xvi. The district level information revealing environmental status reveals that they are only 1%- 2 % compost and garbage pits in rural areas.
- xvii. Regarding rural health status, diarrhea severity is about 4.8 loose motions/ day. Iodine deficiency disorder (IDD) has affected about 2.5% of population. In the year 2004 more than 1934 cases of gastro-entitis, 397 cases of typhoid and 407 cases of hepatitis were reported.
- xviii. Majority of households (62%) get 26 to 50 liters of water per capita per day for drinking and kitchen purposes. The consumption is more during summers. The water needs for the cattle are similar to the water needs for the family. Nearly 60-70% of the households get water within a range of 150 meters and 15-20% within 01 km range.
- xix. On an average, 1-3 hrs are required to fetch water for drinking and other uses. The women folk have to make 2-3 trips to fetch water which takes 1-2 hour per trip. Mainly women (96%) and female child (40%) heavily own the responsibility of fetching water.

Section-III: Stakeholders Analysis

Stakeholders have been identified based upon the institutional arrangements for the proposed RWSES program. They can be classified into four levels which are (i) Grass roots Level, (ii) Intermediary Level, (iii) Strategic Level & (iv) Apex Level. The successful implementation of the program would involve contribution of these stakeholders which comprises of different agencies, organizations and individuals. The stakeholders under different levels are (i) Grass roots Level: The beneficiaries of the program at the grass root level would be covered under this category. Thus, the User Water and Sanitation Sub-Committees (UWSSCs), community groups and the community at large would be grouped under this category, (ii) Intermediary Level mainly the training institutions for developing and delivering the capacity building program and training of trainers at the State & district levels and Support Organisations, for delivering the capacity building inputs at the village levels would be covered under this category (iii) Strategic Level: Institutions involved in executing and implementing the sector program would be covered under this category. Thus, this category would include sector institutions, namely Uttarakhand Sansadhan Vikas Evam Peyjal Nirman Nigam (Pey Jal Nigam) and Uttarakhand Jal Sansthan (Jal Sansthan), Program Monitoring Unit at the State Level and District Program Monitoring Units at district levels. In addition three tiers of Panchayati Raj Institutions, namely Zila Panchayats, Kshetra Panchayats and GPs would also be covered under this category & (iv) Apex Level: The institutions at the highest level responsible for developing, managing and monitoring the sector program and formulation of policies, etc. would be covered under this category. These would include State Water and Sanitation Mission at the State level & District Water and Sanitation Missions at the district levels. **These different stakeholders have been identified on the basis prevailing situation in the State, proposed institutional arrangements and Swajal Project experiences.** The list of stakeholders has been presented in the following matrix given below:-

List of Stakeholders for the RWSES Program

Levels	Sub-Level	Stakeholders
Grass Root Level	UWSSCs & GP	Gram Pradhan, Panchayat & UWSSC Members, Panchayat Secretary, School Teachers & Anganwadi Worker, ANMs etc.
	Village Community	Men, Women & Children, CBOs, Village Maintenance Worker like Masons, etc.
Intermediate Level	District Level and Block Level	Zilla Panchayat, Block Panchayat, District Program Management Unit, District Level NGO, Training Institutions & Individual Consultants
Strategic Level	State Water & Sanitation Mission	Program Management Unit, DPMU
	Sector Institutions	Uttarakhand Jal Nigam & Uttarakhand Jal Sansthan
	Other Departments	Panchyati Raj Department, Rural Development, Health, Forest, Watershed Management Department etc.
Policy Makers	Government of India	Ministry of Rural Development Dept. of Drinking Water
	Government of Uttarakhand	Dept. of Drinking Water
	Media	Electronic & Print Media

All these stakeholders have their own set of roles and responsibilities, expectations, concerns, difficulties and limitations, which will have implications on the program design. Before exploring on the issue of design implications, stakeholders' mapping in the category of direct, indirect beneficiaries and pressure, threatened groups has to be taken into account because the entire set of stakeholders have their own expectations, issues, concerns and impacts. The mapping is as given in the matrix below:-

Stakeholders Mapping (Direct & Indirect beneficiaries, Pressure & Threatened Groups)

Level	Direct	Indirect	Pressure	Threatened
Village	<ul style="list-style-type: none"> ② Women ② Girl Child ② Hamlets ② Unemployed Literates ② Whole Community 	<ul style="list-style-type: none"> ② SHGs ② Mahila Mangal Dals ② Youth Groups ② VMW ② Labour ② Shopkeeper (Local materials) 	<ul style="list-style-type: none"> ② School Teachers ② Anganwadi Worker ② ANMs ② SHGs ② Children' group 	<ul style="list-style-type: none"> ② SC/ST or Minority Groups ② Poorest amongst the poor
GP	<ul style="list-style-type: none"> ② Gram Pradhan ② Elected Members ② Panchayat Secretary 	<ul style="list-style-type: none"> ② Material Supplier ② Contractors (for big OHT schemes) ② NGOs 	<ul style="list-style-type: none"> ② GP Members ② Teachers ② Block Members ② Health Worker 	<ul style="list-style-type: none"> ② Ex GP Members ② Ex Gram Pradhan ② Members of opposite parties ② Contractors (Petty)
District Level	<ul style="list-style-type: none"> ② Zilla Panchayat, DWSM ② District Program Management Unit (DDPN, DDJS, DPMU) ② District Administration 	<ul style="list-style-type: none"> ② NGOs ② Training Institutes ② Material Suppliers 	<ul style="list-style-type: none"> ② Officials from other departments ② Media 	<ul style="list-style-type: none"> ② JN/JS Engineers ② Ex Panchayat Members ② Other Developmental Depts.

Level	Direct	Indirect	Pressure	Threatened
State Level	② Dept. of Drinking Water (UPN & UJS), PMU SWSM,	② Other Departments	② Media ② Politicians	② Other Development Departments
National Level	② GoI, RGNDWM	② Other State Govts	② Media	

Strengths, Weaknesses, Opportunities & Threats analysis for User Water and Sanitation Sub-Committee (UWSSC)

Strengths

(a) Constitutional Mandate: The UWSSC has the constitutional mandate for undertaking works pertaining to drinking water supply & environmental sanitation. These provisions have been made recently by the GoUA. The UWSSCs have been duly empowered to plan, implement, operate and maintain water supply schemes (Single/ Multi village) and community sanitation facilities as well as to levy suitable user charges against the same. Further, they are empowered for mobilizing voluntary labour and contributions for the community welfare programs, identification of beneficiaries as well as management of developmental schemes. Earlier the Village Water and Sanitation Committees (VWSCs) were formed in villages to perform above functions but they did not have constitutional mandate.

(b) Good Rapport with the community: The UWSSCs will enjoy good rapport with the community by virtue of its formulation process. They will be closer to the user groups and enjoy its confidence. It will be available to the users and will provide good service, for which social pressure would always be felt by it. The rules and regulations for maintaining the assets are decided upon by the committee in consultation and participation with the User group. They can have transparent systems for fund management, book keeping, audit of accounts, records maintenance. Transparency would also be maintained during meetings, elections and constitution of subcommittees.

(c) Operational Flexibility and Freedom: The UWSSCs members are directly elected and accountable to the community. They enjoy relatively higher operational flexibility and autonomy as community based organisation than many of the government institutions. They have higher degree of freedom for prioritising their demands, using the funds/grants in priority areas and generating their own funds.

(d) Participatory Decision-making: The UWSSCs being the direct representative of the people through Gram Sabha, has the unique opportunity of ensuring participatory decision-making. UWSSC is duly empowered for mobilizing voluntary labour and contributions for the community welfare programs, identification of beneficiaries and management of development programs.

(e) Ensuring Social Inclusiveness: The UWSSC by virtue of its being directly elected by the community, including members of marginalised groups such as SC/ST and women.

(f) Direct Representation of People: The members of UWSSC consists of representatives from user households and is sensitive towards marginalised groups. In fact, no other level of Panchayats has this opportunity.

Weaknesses

(a) Lack of Executive Staff: The UWSSC does not have staff to support it in its functioning. They can hire a village maintenance worker (VMW), who would support them in proper functioning of the water supply schemes.

(b) Not availability of functionaries: About 2727 single village schemes have been devolved to the GPs. The Department of Drinking Water through a government order has transferred executive, financial, administrative powers to PRIs. However, the real transfer has yet to take place. The delays and the manner in which the transfer of functionaries are being made without building the capacity of PRIs including UWSSCs to handle the infrastructure, is a major weakness.

(c) **Inadequate Funds with UWSSC:** Scope of UWSSC to generate funds, is a major weakness. The nominal funds that will be generated would come from realisation of water tariff and connection charges but a major chunk of that would be exhausted in paying the Village Maintenance worker (VMW).

(d) **Weak Infrastructure:** The UWSSC does not have infrastructural support. Majority of them operate from their houses.

(e) **Voluntary in Nature:** The elected members of UWSSC do not get any salary or incentives for performing any direct role in various developmental works. This has reduced their motivation to undertake a direct role in the developmental works.

(f) **Legal Action Against Defaulters:** It would be difficult for UWSSCs to take legal action against the defaulters due to social pressures and local politics.

Opportunities

(a) **Transfer of Functions & Functionaries:** The state government has committed to transfer funds, functions & functionaries pertaining to 14 departments to GPs which would be also helping the UWSSCs.

(b) **Mainstreaming in RWSES Sector Program:** There have been extensive efforts in the recent past to bring PRIs especially UWSSCs in the mainstream for implementation of sector reform programs in rural drinking water and sanitation sector. The Government of India in its sector reform program namely Swajaldhara and Total Sanitation Campaign has identified UWSSC as an instrument of delivery of program to rural masses. Similarly the state government has resolved to carry out the reform program in RWSES sector through UWSSC in case of single village schemes.

Threats

(a) **Accessing User Groups, Bypassing GPs:** There have been trends in the past, particularly in the externally aided programs, where funding has been directly routed through user groups/beneficiary groups without involvement of GPs. For example the funding was routed through village water and sanitation committee (VWSC) in the Swajal Project and through Watershed committee in the IWDP Project. This has undermined the efforts for enhancement of capacity of GPs to undertake developmental works at large scale and to act as agents of social change.

(b) **Poor and Insufficient Infrastructure:** The poor and insufficient infrastructure for carrying out the routine business by most of the UWSSCs is a threat area. The minimal infrastructure has to be built up in most of the cases.

(c) **Weak financial management Systems:** Almost non-existence of financial management systems in UWSSCs, is an area of threat. There is no detailed financial planning such as preparation of budget and revenue targets and its linkage with annual action plan.

(d) **Capacity building challenges:** There are huge capacity development needs that pose a major threat of failure of best-designed programs on ground. Few programs that were conducted by the department of rural development for PRIs had no forward and backward linkages.

(e) **Lack of Incentives:** The UWSSC elected representatives have expressed their willingness to undertake more direct and substantial role if some kind of incentive structure for the performing members can be introduced in the system. Due to lack of proper incentive for good performance on their envisaged functions, there was a marked apathy of taking initiatives in the new program. Many UWSSC Chairpersons have expressed the need for introducing some sort of honorarium or incentives for performing representatives not only to motivate but also to cross subsidise their mounting overhead expenses to carry out their assigned duties. Lack of proper incentive structure can lead to malpractices. This is an area of threat and needs to be tackled for creating competitive and healthy environment for performance by UWSSC members.

Strengths, Weaknesses, Opportunities & Threats analysis for GP

Strengths

(a) **Constitutional Mandate:** The GPs have the constitutional mandate for undertaking works pertaining to drinking water supply & environmental sanitation. The GPs are duly empowered to plan, implement, operate and maintain water supply schemes (Single/ Multi village) and community sanitation facilities as well as to levy

suitable user charges against the same. Further, they are empowered for mobilizing voluntary labour and contributions for the community welfare programs, identification of beneficiaries as well as implementation, operation and maintenance of developmental schemes.

(b) Established Procedures, Rules and Regulations: The GPs have established set of procedures, rules and regulations for exercising executive, administrative and regulatory functions. They have established systems for fund management, book keeping, audit of accounts, records maintenance, administrative control over Panchayat functionaries, conduction of meetings and elections, constitution of subcommittees, levy of revenue charges and procedures for its collection etc. The GPs are guided by Panchayat Raj Act and subsequent government orders in this regard.

(c) Operational Flexibility and Freedom: Since the GP members and Pradhan are directly elected and accountable to the community, they enjoy relatively higher operational flexibility and autonomy than many of the government institutions. They have higher degree of freedom for prioritising their demands, using the funds/grants in priority areas and generating their own funds.

(d) Participatory Decision-making: The GP being the direct representative of the people through Gram Sabha, has the unique opportunity of ensuring participatory decision-making by the community in all the major decisions pertaining to developmental works. Gram Sabha is duly empowered for mobilizing voluntary labour and contributions for the community welfare programs, identification of beneficiaries, implementation, operation and maintenance of developmental schemes.

(e) Ensuring Social Inclusiveness: The GP by virtue of its being the democratically elected body and representation of all the voters in the GP constituency, has this unique opportunity to consciously design and implement the various developmental programs in such a manner so as to ensure adequate representation and benefits to socially marginalized groups and weaker sections of the society.

(f) “Direct” Representation of People: The membership of the Gram Sabha consists of all persons registered as voters within the area of a GP. It is unique, and significant, that GPs has direct access to and responsibility towards a general body. In fact, no other level of Panchayats or Municipal organization has this opportunity. Primary electors have a decision-making role in a Gram Sabha.

Weaknesses

(a) Lack of Executive Staff: The GP being the elected body needs a minimum executive staff to carry out its functions. However, the only person available in executive staff to GP is one GP Vikas Adhikari (Panchayat Secretary) who has been assigned 6-8 GPs. In absence of the executive staff at GP level, many of its routine functions are not being performed effectively. The documentation work is very poor and records are not properly maintained.

(b) Delay in Transfer of Functionaries: The functions related to 14 departments have already been devolved to GPs. The Department of Drinking Water has transferred executive, financial, administrative powers to them. However, the complete transfer of administrative control of functionaries of many other departments has yet to take place. The delays and the manner in which the transfer of functionaries are being made without building the capacity of GP to handle the infrastructure, is a major weakness of GPs.

(c) Insufficient and varying Capacity Levels: This area of weakness can be attributed to the nature of GP, which has members of diverse background and educational level. They have varying capacity levels to perform their functions. Uniformity in terms of understanding, awareness and ability to take

decisions is often found missing. This weakness indicates the massive capacity building needs for strengthening the functioning of GPs as institutions of self-governance.

(d) Inadequate Funds with GPs: Inability of GPs to generate funds, is a major weakness. The nominal GP fund consists of grants mostly from state government including revenues that are to be collected by them. Presently, the available GPs fund are inadequate to meet the demands, even in the key areas such as education, health, water supply and sanitation. As on date, no revenue is being collected by the GPs.

(e) Weak Infrastructure: Though most of the GPs have proper building, in many cases it is not in good condition. Inadequate funds with GPs have resulted in only minimal or no infrastructure. This has further hampered their functioning.

(f) Short-circuiting of Participation by People: This is a major area of weakness of GPs and defeats the objective of being direct representative of the people. Gram Sabha, which is the general body of the GP, is required to meet twice every year. One-fifth of the total members constitute the quorum for meetings of the Gram Sabha. In case the meeting is adjourned for want of quorum, as per the usual procedure, no quorum is necessary for the adjourned meeting. This provision has made the meetings a mere formality. Somehow, the initiative for these meetings has passed into official hands. The schedule for meetings of the Gram Sabha within a Block is drawn up by the Block Development Officer and circulated to the Gram Pradhans. There is normally no advance preparation for these meetings. Since no quorum is necessary for the adjourned meetings, decisions on behalf of the Gram Sabha may be taken by the Gram Pradhan and his few close associates.

(g) Voluntary and Political Nature: The elected members of GP do not get any salary or incentives for performing any direct role in various developmental works. This has reduced their motivation to undertake a direct role in the developmental works. Hence they normally work for their parties to get political mileage.

(h) No Focus on Capacity Building and Weak Accountability Structures: During past many years, only few capacity building initiatives have been undertaken at state level for strengthening of GPs. Recently there have been efforts to recognise and fulfil the capacity building needs by Panchayat Raj Department at the state level. The accountability structures within and outside GP are not well defined. The accountability structure between Gram Pradhan, GP Vikas Adhikari (Panchayat Sachiv) and other Panchayat members are very weak and blurred.

Opportunities

(a) Transfer of Functions: The state government has committed to transfer funds, functions & functionaries pertaining to 14 departments to GPs. These include subjects like drinking water, rural housing, poverty elimination, library and cultural activities, family welfare, health and sanitation, women and child development, social welfare, public distribution system, minor irrigation, primary education, adult education, Informal education and agriculture (integrated watershed management).

(b) Transfer of Functionaries: The state government has issued orders to transfer functionaries working in various departments to respective GPs. The functionaries of water supply related sector institutions like Uttarakhand Peyjal Nigam and Uttarakhand Jal Sansthan are being brought under the partial administrative control of appropriate level of PRIs. This would strengthen the functioning of the GPs.

(c) Mainstreaming in RWSES Sector Program: There have been extensive efforts in the recent past to bring the GP in the mainstream for implementation sector reform programs in rural drinking water and sanitation sector. The Government of India in its sector reform program namely Swajaldhara and Total Sanitation Campaign has identified GP as an instrument of delivery of program to rural masses. Similarly the state government has resolved to carry out the reform program in RWSES sector through GP in case of single village schemes and KP and ZP in case of multi village schemes.

(d) Substantive Capacity Building Programs: The Uttarakhand government has resolved to transfer 14 departments under the direct control of PRIs. It has started an ambitious capacity building program for three tiers of Panchayat Raj namely GPs, Kshetra Panchayats and Zilla Panchayats under the Panchayat Raj Department of GoUA. The main objective of these training programs is to build capacities in public representatives under PRIs and the concerned government staff so that they are aware of their roles, responsibilities, rights and powers. The other objectives are to build their capacities so that they can play a better and meaningful role in management and implementation of developmental works in spirit of self-governance as envisaged in 73rd constitutional amendment. There have been other capacity building initiatives for GP such as one under Uttarakhand Decentralized Watershed Development Project and oncoming RWSES Sector Program etc. However, this requires a complete and effective coordination between government departments so as to avoid duplication and make them more effective.

(e) Routing Developmental Programs through GPs

There have been massive efforts at the central and state government level to route all the developmental programs through GPs under a single window approach. Efforts are being made in the other sectors besides RWSES, to bring the GP in the mainstream of developmental programs such as watershed development, education etc. This is in contrast to trends in the past decades of directly implementing the programs through user groups.

Threats

(a) No 'Real' Participation: One of the greatest threats to the functioning of GP is short-circuiting the process of holding Gram Sabha for participatory decision-making and ensuring people's participation in the developmental programs. This is critical to the decision making process and community participation in the developmental programs managed by the GP

(b) Accessing User Groups, Bypassing GPs: There have been trends in the past, particularly in the externally aided programs, where funding has been directly routed through user groups/beneficiary groups without involvement of GPs. For example the funding was routed through village water and sanitation committee (VWSC) in the Swajal Project and through Watershed committee in the IWDP Project. This has undermined the efforts for enhancement of capacity of GPs to undertake developmental works at large scale and to act as agents of social change.

(c) Poor and Insufficient Infrastructure: The poor and insufficient infrastructure for carrying out the routine business by most of the GPs is a threat area. With devolution of more and more subjects, funds and functionaries to GPs, it is imperative to maintain minimum infrastructure by these GPs. The minimal infrastructure has to be built up in most of the cases.

(d) Weak financial management Systems

Almost non-existence of financial management systems of GPs is an area of threat. At present, it was observed that there is lack of financial planning and there is a marked tendency to keep records of only the receipts and expenditure as per their statutory obligation. There is no detailed financial planning such as preparation of budget and revenue targets and its linkage with annual action plan.

(e) Unmet capacity building challenges: There are huge unmet capacity development needs that pose a major threat to failure of best-designed programs on ground. Few programs that were conducted by the department of rural development had no forward and backward linkages. As a result, the capacity of the GPs even after providing them with funds, functionaries and infrastructure shall at best remain questionable for effectively implementation of the proposed RWSES program.

(f) Lack of Incentives: The GP elected representatives have expressed their willingness to undertake more direct and substantial role if some kind of incentive structure for the performing members can be introduced in the system. Due to lack of proper incentive for good performance on their envisaged

functions, there was a marked apathy of taking initiatives in the new program. Many Gram Pradhans expressed the need for introducing some sort of honorarium or incentives for performing representatives not only to motivate but also to cross subsidise their mounting overhead expenses to carry out their assigned duties. Lack of proper incentive structure also leads to malpractices so as to offset personal expenditure in carrying out official functions first and to serve vested interests later. This is an area of threat and needs to be tackled for creating competitive and healthy environment for performance by GP members.

SWOT analysis of Kshetra Panchayat

Strengths

(a) Constitutional Mandate: The KPs have the constitutional mandate to act in the area of rural water supply and sanitation for the works within the jurisdiction of a Kshetra Panchayat but outside the work area of

any single GP. Hence, they have the mandate to act in the area of multi village water supply schemes. Further, the Kshetra Panchayat has a mandated role of providing support to GPs and monitor their functioning.

(b) Representative Nature: Besides the elected members, all the Gram Pradhans, MPs and MLAs of the area are ex-officio members of the Kshetra Panchayat. Hence Kshetra Panchayat has adequate representation of its constituency by virtue of its unique structure.

(c) Presence of Executive Body: The office of Block Development Officer (BDO), Department of Rural Development, supports the Kshetra Panchayat. However, KP does not have direct sanctioning/approval powers for the block related developmental work. The BDO is supported by Assistant Development Officers (ADOs) and the support staff. The functionaries of Uttarakhand Peyjal Nigam and Uttarakhand Jal Sansthan responsible for RWSES at KP level have been brought under the administrative control of Kshetra Panchayat recently. The availability of executive staff at block level is a major strength of KP. However, to reap the full, appropriate modification in delegation and reporting relationships is required.

Weaknesses

(a) Confusion Over Roles and Responsibility: There is confusion over the roles and responsibilities of KPs, particularly in the backdrop of non-devolvement of funds and functionaries on the ground. They are at present are not collecting any revenues, in absence of which they are not undertaking many of their mandated functions. This has resulted into a state of confusion.

(b) Non Devolvement of Funds and Functionaries: There was a government order way back in 1999 by the then UP government to devolve funds, functions and functionaries related to certain chosen subjects (Rural development, primary health centres, veterinary hospitals, seeds stores and marketing) to Kshetra Panchayats. However, it was not implemented due to some reasons. As on date the Kshetra Panchayat stand alone as a symbol of constitutional existence with no major role to play.

(c) Strains Between Elected and ex-officio Members: The membership of Kshetra Panchayats consists of both elected and ex-officio members. Only the elected members have the right to vote on any decision taken by the KP. The ex-officio members of the KPs consist of all Gram Pradhans in the Block, MPs and MLAs whose constituencies fall within the Block. With Gram Pradhans outnumbering the KP elected representatives in many cases, there are undercurrents of not letting KP to perform any major role and access to developmental funds. This often results in strained relations between Gram Pradhans and KP members.

(d) Poor and Inadequate Infrastructure: Most of the Kshetra Panchayat have poor and inadequate infrastructure. The poor condition of block office buildings & inadequate infrastructure are a setback, even if the functions and functionaries are devolved to them.

(e) Lack of Incentive

The KP elected representatives do not get any salary or incentives for good work. This has lowered their motivation to undertake a more direct and proactive role, in the developmental works.

Opportunities

(a) Building Capacity: Uttarakhand government has started an ambitious capacity building program for three tiers of Panchayat Raj Institutions namely GPs, Kshetra Panchayats and Zilla Panchayats by the Panchayat Raj Department. This capacity building program is being taken up by newly created Uttarakhand Institute of Rural Development, which has recently been set up in Rudrapur. The main objective of these training programs is to build capacities in public representatives under PRIs so that they are aware about their roles, responsibilities, rights & powers.

(b) Undertaking Responsibility of Multi Village Schemes within the Block: The Kshetra Panchayat have been proposed for planing, implementing, operating and maintaining the multi GP water supply schemes, which are covering areas under the same Kshetra Panchayat and levying suitable user charges for the same. This is a major area of opportunity for Kshetra Panchayat to improve their management skills.

(c) Undertaking other Multi Panchayat Functions

There may be opportunity for KPs to undertake functions not only in RWSES sector but also in other sectors as well. Some of the functions that are not feasible to be handled at GP level due to economies of scale e.g. taking up basic civic services like sanitation and street lighting in the area and not coming in the domain of any one GP, can be taken up.

(d) Starting Revenue Generation

The KPs can start generate funds from designated sources of revenue. There is an opportunity to augment the income, through the collection of water tariff from the GPs benefited by the multi village schemes. Further, the KPs need to explore ways and means to augment their income through new avenues by utilising their current infrastructure and mandate.

Threats

(a) Justifying its Relevance: It was observed during interaction with Gram Pradhans that they were mostly sceptical about the relevance, need and utility of the middle tier of PRI i.e. KPs. They thought that GPs are the best vehicles to deliver programs at village level. The presence of both elected members (Gram Pradhans & Block Pramukh) in a Kshetra Panchayat has resulted in considerable tension between the two levels. The elected members feel they should have a superior status and primacy in the Kshetra Panchayat as compared to the Pradhans. However, Kshetra Panchayat need to be supported by GPs in their endeavour to play an effective role in self-governance.

(b) Delays in Devolution of Funds and Functionaries: The inordinate delays in devolution of funds and functionaries may result in a major threat to building capacity of KPs and bringing them in the mainstream as a linkage between ZP and GP. There are instances in the past when governments did resolved to transfer certain functions and functionaries under them but failed to implement due to bureaucratic hindrances resulting in nullifying the effect of transfer of functions and functionaries.

(c) Conflict Between KPs served from same Multi Village Schemes: There are chances of conflict between KPs served from same multi village water supply schemes. This may be due to service levels at the head and tail ends of the schemes. This assumes importance in the light of water scarcity and depleting water sources in hills.

SWOT analysis of ZP

Strengths

(a) Constitutional Mandate: Under the Zilla Panchayat and Kshetra Panchayat Act 1961, the functions of Zilla Panchayat were broadly divided into obligatory and discretionary categories. The items specified in the obligatory list of functions pertain to all 29 subjects of the 11th schedule. Their discretionary functions relate to six subjects listed in the said schedule. There was a marginal addition in roles and responsibility of ZP through an amendment in 1994 pertaining to planning, pollution control within its jurisdiction, promotion of tourism and the like. The functional areas of Drinking water, rural housing, poverty elimination, library and cultural activities, family welfare, health and sanitation, women and child development, social welfare, public distribution system, minor irrigation, primary education, adult education, informal education and agriculture (Watershed) has been resolved to be transferred to three tier Panchyati Raj Institutions by the Government of Uttarakhand, vide GO no. 622 dated 29th October 2003. This is their major strength area of ZP to work as a public responsive institution for providing basic civic amenities including water supply and environmental sanitation.

(b) Own Executive Staff: The ZPs have been provided with their own executive staff. Staff from general administration, accounts, revenue and public works department supports them. The presence of executive staff in ZP is an area of major strength for this level.

(c) District Planning Units: The ZPs have their traditional role of being the apex body for preparation of district plan for development and hence are placed in a better position for coordination efforts to be undertaken at the district level. They can act effectively through district planning committees for program implementation.

Weaknesses

- (a) **Financial (un) Sustainability:** The studies done in past have indicated that many ZPs are deficient in covering their salary and establishment costs from their own resources. This has hampered their working as institutions for self-governance and made them dependent on various grants from the state and central government.
- (b) **No Significant Revenue Generation:** ZPs have very little revenue generating power as compared to GPs. However, the ZPs have control over public land which is indifferently managed at present. The increasing value of land in the state would play a role in mobilizing institutional funds for infrastructure development.
- (c) **Weak Accountability Structures:** The accountability structures within and outside ZP are not well defined. Further, the accountability structures among Zilla Panchayat, Kshetra Panchayat and GP are very weak and blurred. This is evident from the fact, that there seems to be no effective control of ZP on the GP and KP, even from the point of monitoring and overall supervision.

Opportunities

- (a) **Capacity Enhancement:** The Uttarakhand government has resolved to transfer 14 subjects under the direct control of PRIs and has started an ambitious capacity building program for three tiers of Panchayat Raj namely GPs, Kshetra Panchayats and Zilla Panchayats under the Panchayat Raj Department. This capacity building program is being taken up by newly created Uttarakhand Institute of Rural Development, which has recently been set up in Rudrapur. The main objective of these training programs is to build capacities in public representatives under PRIs so that they are aware about their roles, responsibilities, rights, powers and can play a better and meaningful role in management and implementation of developmental works.
- (b) **Acting as District Water and Sanitation Mission:** The Zilla Panchayats can play a major role in shaping and coordinating the rural water supply and sanitation program functioning as District Water and Sanitation Mission as envisaged in GoI funded Swajaldhara program and the role envisaged for the proposed RWSES Program.
- (c) **Responsibility of Multi Village Schemes Covering More than One Block:** The Zilla Panchayat can be given the role of planning and construction of multi village water supply schemes, which are covering GPs under more than one Kshetra Panchayat and levying suitable user charges. This is a major area of opportunity for Zilla Panchayat.
- (d) **Coordination of various district level programs under District Plan** The ZPs can play a major role in coordination between various departments for preparation of district plan and its proper implementation. They can also play a role in overall monitoring and coordination of developmental works, undertaken by KPs & GPs.
- (e) **Computerization and infrastructure strengthening:** There is an opportunity to strengthen the infrastructure required for effective functioning of ZPs including computerization.

Threats

- (a) **Lack of Capacity:** Lack of capacity in ZP to undertake functions assigned to it is a major threat area. The inadequate capacity to generate revenues at satisfactory levels, to monitor the developmental programs being undertaken by GPs and KPs, to coordinate and manage the implementation of developmental programs and weak infrastructure has resulted in unsatisfactory performance by many ZPs.

- (b) **Blurred and Inadequate Accountability Structures:** The accountability structures within the ZP are blurred and needs to be delineated and streamlined. There is no clarity as regards to role and functions of vast representation of functionaries at ZP level except ZP chairman and CEO, where all the powers seem to be accentuated. The accountability structures between ZP & GP as well as ZP & KP are not clear. Weak and often blurred accountability structures are a threat to effective functioning of ZPs in future.
- (c) **Unfavorable Balance of Power vis a vis District Administration:** Though ZP has been given the key role in district plans, most of the key and strategic planning for policy making at district level takes place in District Collector office. This has led to office of DC being the predominant centre of planning and coordination against the mandated role of ZP. The unfavourable balance of power vis-à-vis district administration is an area of threat for ZP.

SWOT Analysis of Sector Institutions (UPN & UJS)

Strengths

- (a) **Legislative Mandate:** In the year 1927, in order to provide water supply and sewerage facilities in undivided Uttar Pradesh State, Public Health Engineering Department (PHED) was constituted. In 1975, it was converted into Uttar Pradesh Jal Nigam (U.P. Jal Nigam) under the Uttar Pradesh Water Supply and Sewerage Act 1975 (U.P. Act No. 43 of 1975) to provide for the establishment of a Corporation, authorities and organizations for the development and regulation of water supply and sewerage services and for concerned related matters. On 9th November 2000, when Uttarakhand State came into existence, Uttar Pradesh Water Supply and Sewerage Act, 1975 as mentioned above was also enforced in the State of Uttarakhand under Section 86 of the Uttar Pradesh Reorganisation Act, 2000
- (b) **Established and well defined Procedures, Systems, Guidelines and Policies:** Both UPN and UJS have been in existence for a long time. Both these organisations have established and well defined procedures, guidelines and policies for carrying out planning, designing, construction, operation and maintenance of both rural and urban schemes. Further these institutions have defined management functions and accountability centres as regards to supervision of quality of works, works accounting, technical and financial audit and progress reporting.
- (c) **Technical and Managerial Competence:** Both UPN and UJS have been engineering dominated organisations and well equipped technically and managerially. UPN is equipped technically and managerially to plan, design and execute both single village and Multi village water supply schemes in rural areas and urban water supply and sewerage schemes in urban areas. Similarly, UJS is equipped technically and managerially for operation and maintenance of both rural and urban water supply schemes.
- (d) **State wide Presence and geographical distribution of set up**

For UPN, at present the whole state is covered by 8 circle offices, 4 each in Kumaon and Garhwal region. These circle offices are further distributed into 36 working divisions, 18 each in Kumaon and Garhwal region. These divisional offices cover all the thirteen districts of Uttarakhand and are distributed in such a manner so as to smoothly function in any part of the State. Similarly for UJS, under the Chief General Manager and Head of Department, there are 2 General Managers, one each for Kumaon and Garhwal Regions. Under the General Managers, there are 8 circle offices headed by Superintending Engineers. Under the Superintending Engineers there are 27 division offices headed by Executive Engineers located at all district headquarters and at some of the urban towns and sub-divisions.

Weaknesses

- (a) **Under Staffing:** Both UPN and UJS suffer from understaffing given their current staffing norms and workloads. In UPN, against total sanctioned technical/Managerial staff strength of 725 only 553 positions are filled, causing a shortfall of 24% against sanctioned strength. Similarly for Finance and Accounts staff in UPN as against sanctioned staff strength of 59 only 41 positions are filled, causing a shortfall of about 30% against sanctioned strength. However, the support staff and non-technical staff are over filled from their sanctioned staff strength. There is a huge short fall of Technical / Managerial staff in UJS. Nearly 48% (164 out of 338) of the positions are vacant as on date. As compared, there are 23% vacant positions in field staff category and 16%

vacant positions in office staff category against their sanctioned posts. This shows the levels of understaffing at various levels in UJS and its subsequent effect on various aspects of its functioning.

(b) Inefficient MIS and M&E Systems: Both UPN and UJS suffer from lack of a well-organized Management Information Systems and Data base Management systems. The Flow of information often is mechanical on established patterns and case specific. Further, both UPN and UJS do not have adequate IT and Communication infrastructure, which hampers the communication within its various offices.

(c) Financial (un) sustainability: The establishment cost of the UPN is met through revenue generated by centage charges and development funds. The Act provides UPN the powers to lay down the schedule of fees for all services rendered by it to all parties including the government and to approve tariffs for water supply and sewerage for UJS and local bodies. However, in actual practice, the UPN does not receive a fee (centage) for all services it performs (with major exceptions of ARWSP and drought relief works). Even the centage being collected at present (12.5%) is less than the expenditure incurred by the UPN. There has been off the record references of political interferences in planning and financial allotments. These have limited the financial autonomy of the organisation.

The financial sustainability of the UJS is offset by the factors which are (i) There is a huge gap between the cost of production of water by UJS and the prevalent user charges, (ii) Very high cost of production of water in pumping schemes, (iii) Very low user charges for private connections and no charges for PSPs and HPs & (iv) Low collection levels against the set targets.

(d) Lack of Updation on Latest Technologies, Weak R&D and Capacity Building: Another area of weakness of sector Institutions are the lack of updating on latest technologies, weak research and development wings and minimal attention to the capacity building needs of the staff. These have resulted often in delays in incorporation of new technologies into the guidelines for designing and construction of new schemes as well as operation and maintenance of old schemes. This has resulted into very slow pace of change in technological and managerial practices and adoption of new systems to address changing demands from these sector institutions.

Opportunities

(a) Working with Local Self Governments: Consequent to enactment of 73rd and 74th CAA, the greatest opportunity to these sector institutions is to work with local self-governments so as to function as institutions which are better responsive to peoples need and enable them in taking decisions better suited to local terrain, conditions and requirements.

(b) Adoption of Participatory Approaches: The shift in RWSES sector policy from top down supply driven approach to bottom up demand driven approach and adoption of participatory approaches in planning, designing, operation and maintenance of RWSES schemes presents an area of opportunity for these sector institutions to adopt participatory approaches. This will attune these sector institutions for working in consonance with changed government policy on RWSES and strengthen their systems accordingly.

(c) Accountability to Local Self Government and Beneficiaries

The accountability structures till now were towards sector institutions staff and government officials. With the GoUA decision to shift the administrative control and accountability of RWSES staff to appropriate level of PRIs, there is an opportunity for sector Institutions to be accountable to local self government, elected representatives and the beneficiaries at large.

Threats

(a) Loosing Relevance: If the sector institutions fail to transform their set up and working styles, there is a threat that they may loose their relevance and monopolistic situation in RWSES sector. The new arrangements require them to play the role of facilitator and work in partnership with communities and the local self-governments.

(b) Confusion as regards to legal mandate, roles and responsibilities: The GoUA is trying to implement the provisions of 73rd CAA on the sector institutions. The GO has already been issued. All this is being done without revamping the UP Water Supply and Sewerage Act, 1975 as applicable in Uttarakhand. The sector institutions draw their legal powers, roles and responsibilities in RWSES sector from the abovementioned act.

This is generating much confusion as regards to legal mandate, roles, responsibilities of sector institutions vis a vis PRIs in RWSES sector.

(c) Multiplicity of Roles and Multiplicity of institutions: A new institutional set up of State Water and Sanitation Mission (SWSM) and District Water and Sanitation Mission (DWSMs) is being set up for implementation of RWSES program across the state. These have led to multiplicity of institutions and duplicity in roles and responsibilities between UPN, UJS and DWSM. Further the duplicity is characterized in terms of the geographical areas that are covered by circles and works division offices of UPN and UJS and DWSMs.

(d) Inadequate measures to manage change: Even if the roles of these sector institutions in RWSES Sector are defined by a suitable amendment in the Act, the larger issue of managing change in their organisational systems, subsystems, their roles and responsibilities has to be addressed.

SWOT analysis of PMU / DPMU

Strengths

(a) Program Focused Approach: The PMU /DPMU had been created for the purpose of planning, management and monitoring of the proposed program.

(b) Team with Mix of Skills: The staff in PMU / DPMU is drawn from diverse backgrounds such as government line departments, semi government corporations and private sector. This had brought to the program management a comprehensive experience base cutting across various sectors. This rich knowledge base from the private and government sector was one of the major strengths in working of PMU and DPMUs.

(c) Operational Autonomy: The PMU and DPMU had enjoyed a considerable degree of operational autonomy, as the Swajal project did not lean on any major sector institutions for the implementation. There was Village water Sanitation committee (VWSCs) formed at village level independent of GP and the local NGOs used as support organization and private sector acting as Service Agencies for assistance in highly specialized areas. The PMU/ DPMUs being autonomous registered society under the Department of drinking water was directly reporting to highest level Executive Committee and Finance committee for policy decision-making. It enjoyed their unflinching support. This spurred them to put in their best efforts and the effect was visible in the performances achieved in Swajal Project.

(d) Participatory Decision-making: The provision of taking all the major policy decisions in a participatory manner within PMU had been a major strength area. Further, it has been a practice by the PMU to promote participatory decision making by conducting staff meetings every month where every DPMU Project Manager and staff were asked to deliberate on policy issues before any final action was taken.

(e) No Long Term Liability on State Exchequer: The PMU and DPMU set up ensure that besides current operational cost there are no long-term liabilities being created for the State Government. The staff is either on deputation from other state department /state owned corporations or contracted / hired from the market. Similarly, no permanent assets had been created under the project. The office building was on rent; the vehicles were hired on rental basis and so on. The other procured infrastructure is supposed to be handed over to state government after completion of the program.

Weaknesses

(a) Transitory Nature: The PMU and DPMU were created for implementation and management of a specific project namely 'The Swajal Project'. Over the years, with the change in the GoI policy for RWSES sector and introduction of Sector Reforms Program (Swajaldhara) and Total Sanitation campaign in Uttarakhand, the State Government supported the PMU and DPMUs even after the closure of the Swajal Project. Another reason for continuation of PMU/DPMU by State Government was to carry out the program preparation with the World Bank for the proposed Program. One of the major weaknesses of the PMU and DPMUs is their transitory nature unlike mainstream departments and institutions in RWSES.

(b) Attrition of Talent: The current staffing of 42 only against 72 sanctioned posts of managerial staff in PMU and DPMUs is an indicator of understaffing at these units. Inadequacy of staff in these units had often been quoted as resulting into workloads disproportionate to their existing capacities for its efficient and effective disposal. This has been an area of weakness in the recent past and needs to be strengthened if greater challenges in terms of program management of proposed program are to be assigned to it besides the existing roles.

(c) No Sector Mainstreaming: The PMU and DPMUs were created for implementation of Swajal Project in only 857 revenue villages as against a total 15761 villages (2001) in the whole state. This was supposed to test an alternative delivery model in the state. The project itself did not have any designed linkage with the mainstream sector institutions either in implementation or in the O&M phase. This led to PMU and DPMU working from outside the sector mainstream programs and institutions. This problem of no sector mainstreaming was compounded by almost negligible presence of staff from mainstream sector institutions in PMU and DPMUs. The isolation of the PMU/DPMU from the sector mainstream programs and institutions has been a major area of weakness in the past and as we move forward to a sector wide approach in RWSES sector.

(d) Weak Accountability Structures: Although the reporting structures in PMU and DPMUs are well defined, the accountability structures within PMU and DPMUs are weak particularly in view of the variety of staff engaged in both of them, multiple lines of reporting and the different types of compensation structures. Till now, the PMU and DPMU had worked on a small scale in terms of coverage of villages and had a small team both at PMU and DPMU level. This smallness of team had the inherent advantage of directly monitoring and fixing accountabilities on need basis by the Project Manager and hence did not evolve as a major weakness area. However, if the PMU and DPMUs are to be transformed into bigger size for implementation of the RWSES Program, Swajaldhara program and Total Sanitation Campaign, the accountability structures need to be well defined and well articulated.

(e) Inadequate Infrastructure Support: The PMU/DPMUs being transitory in nature has resulted in avoidance of building any large infrastructural support for themselves.

Opportunities

(a) Change Management Unit: The PMU/ DPMUs have played a role of managing and implementing a change in policy from supply driven to demand led approach in RWSES sector. It has also been playing a major role in steering the policy changes at various levels required for adoption of Swajal approach at State level and thus establishing linkages between various departments and institutions. It can continue to play the role of change management unit being located outside the structures of key sector institutions and PRIs. The working of PMU/DPMUs as a separate independent institution under Department of Drinking Water will ensure their relative insulation from negative influences and resistance to change by the mainstream sector institutions. This shall also provide them autonomy to functions in the area of community empowerment for implementing a real policy reforms in the spirit of 73rd constitutional amendment.

(b) Undertaking Other Roles in Conformity with its Main Objectives: The capacities created in PMU and DPMU in past years can be utilised by undertaking research based studies and capacity building programs in other states as well as in similar programs being run by various institutions. With the advent of Swajaldhara and Total Sanitation Campaign program at national level, there are huge capacity building initiatives being undertaken at national level and has opened a plethora of opportunity for PMU to undertake such functions. The recently set up a CCDU under the patronage of PMU is the starting point in this direction.

(c) Mainstreaming in RWSES Reform Program: Another area of major opportunity is to strengthen and consolidate the Sector Reforms in RWSES at state level by implementing the proposed program besides

continued role as executive wing of SWSM. Although the reforms in RWSES sector have been successfully piloted in The Swajal Project, there is still a greater challenge and daunting task of institutionalising the policy reforms and bringing them in the mainstream sector program.

(d) Anchoring Capacity Building Program: The PMU and DPMUs with their experience of building capacities in NGOs and User groups in RWSES sector can play a major role in massive capacity building program required to be undertaken for the proposed program, Swajaldhara and Total Sanitation Campaign program. These institutions can anchor capacity building program at state level for RWSES sector in future.

(e) Deploying Experience in Other Sectors: The reforms in context of decentralisation of planning, implementation and giving full responsibility and ownership of created infrastructure to user groups and to the local self governments have been tested in RWSES sector by PMU and DPMU. With the agenda of decentralisation of 14 subjects to GPs, the state government may very well utilize the experience gained by these institutions in other sectors and in the areas of integrated development model for the villages including education, health, environmental protection, road and building and rural livelihoods issues.

Threats

(a) Loosing Relevance: PMU/DPMU as an institution transitory in nature has a real threat of loosing its relevance. With the mainstreaming of sector institutions and PRIs in the RWSES Program, unlike Swajal Project may raise questions on their relevance and roles. It does not have any constitutional mandate such as with PRIs and sector institutions, neither do they have an element of being permanent bodies within the governance structures. They had been created for a certain function related to management of the Swajal project and later on awarded functions pertaining to SWSM and preparation of RWSES Program.

(b) Co existence with Sector Institutions: The institutional arrangements in the Swajal Project in the past did not lean on sector institutions. As such there was negligible participation by the Sector Institutions in implementation of the Swajal project. However, in view of sector wide approach and mainstreaming of the reforms program by GoI, the program size has become much large and hence any implementation program cannot ignore the participation and coordination needs with key sector institutions. The attempts of PMU and DPMUs in the past to bring the key sector institutions into the reforms mode of working had been met with a little success. The coordination problems with key sector institutions and resistance to change within them may be a major threat area for PMU/DPMU in implementation of RWSES Program.

(c) Coordination with PRIs: The coordination problems with PRIs may be threat area for PMU/DPMUs. Their structures being created may not have the same type of authority to monitor and guide the PRIs, which shall ultimately be the program planning and implementing agencies. Besides above, the PRIs have their own systems, procedures, rules and regulations for carrying out their functions. With no particular role of PRIs in the past Swajal project, the experience and exposure of coordination with PRIs for implementation of the programs is limited, except for the Sector Reform Project at Haridwar.

(d) Inability to Mobilize Appropriate and Adequate Staff: The poor and insufficient staffing structure of PMU and DPMUs is a threat area in future functioning of these units. There has been an attempt now by PMU to enhance its staffing. Adequacy and right sized staffing of these units shall be a critical area for implementation of the proposed program. The PMU's ability to attract staff with appropriate qualifications and skills may be threatened by the compulsions of bringing, the compensation levels and program benefits, at par with other similar programs and state government departments.

(e) Discontinuation of Incentive Structure: The well-placed incentive structure for the higher motivation to perform in the best manner possible by PMU and DPMUs had been a major reason of enhanced performance levels of the staff. With the convergence of these units with the mainstream sector institutions, there may be the pressures to make the incentive structure of these units at par with other departments and similar institutions, which are minimal at present. Discontinuation of incentive structure may dampen the high motivation level of staff of these units, which was a key factor for successful implementation of the pilot project earlier.

Stakeholders' Expectations, Issues and Concerns

Community Level

Stakeholders: Women have been identified as the main stakeholder at the community level since they are the real water managers and hence direct beneficiary. The household works combined with the additional task of fetching water adds to their burden. Men and children also assist but only in the times of water scarcity. The different Community Based Organization (CBOs) have been identified as indirect beneficiaries. The institutions like SHGs, Mahila Mangal Dals, Youth Groups etc. shall form a part of the program. They will gain in term of capacity enhancement and skill development. Local labourers, shopkeepers and material supplier shall also be benefited. They will be provided opportunity to earn their daily wages within their village. The School teacher, Anganwadi Worker, ANMs, SHG member and Children Groups can act as opinion builder at the village level. They can motivate and orient people, and create an environment for adoption of healthy practices. They can all act as pressure groups to influence the public opinion and generate demand for water and sanitation facility in the village. Finally the schedule castes and Tribes have been identified as threatened groups. It is generally found that SC/STs are very few in number in a village and settled in separate hamlets. Traditionally they have separate water sources.

Expectation: The key expectation at the community level are (i) Availability of water near the house, so that time may be saved (ii) The timing of the water supply should match their daily routine (iii) They should be able to get adequate quantity of water, (iv) The water must be safe to drink & (v) The sanitation facilities must be affordable, combined with some financial assistance.

Issues/Concern

The proposed program will be participatory in nature. The community shall take all the decisions regarding planning, construction, procurement, operation and maintenance. The GP along with the UWSSC shall be the implementing agency at the Panchayat level. The village communities have certain issues and concerns regarding the program, which are as follows:-

- i. Generally women have limited role in decision making. They are apprehensive that the water supply is an issue closely related to them. They would like to express their problems & concerns in the program designing.
- ii. The SC/STs feel that since they form a minority group, whether they would be able to participate in the program processes.
- iii. The functioning of the GP has always been, beyond the knowledge of the village communities. It is a general perception that the GP may be more interested in just utilization of funds while the water user committee may be actually left without any say in the process.
- iv. The coordination between the GP and the different users groups is also a major concern due to local social and political issues.
- v. Seasonal migration is a common phenomenon in some of the hill districts. Water supply and sanitation facilities have always been a problem with such villages. In this program also, it would be hard to decide, how water supply to these migratory people would be provided.
- vi. The rural households have fixed income sources and small savings. The proposed program has an important component of community contribution in capital cost as well as O&M charges. The rural communities are apprehensive whether the cash contribution would be within their reach. The labour contribution is also a source of concern. In order to contribute free labour, they will have to forgo their daily routine work, which also means cash for them.
- vii. The community does not have any idea about the O&M charges for the water supply schemes. In case of high O&M charges, families may not be able to pay regularly.
- Viii. The community feels that if some how, their cash income can be increased, they would be able to cope up with the program strategy.

GP Level

Stakeholders: A GP would be the direct beneficiary. The Gram Pradhan and other elected members of the Panchayat shall be directly associated with the program implementation. The contractors and material supplier have been identified as indirect beneficiary as they will have business from the construction works. The GP members can also act as a pressure group within their electoral area. Their role will also be important, as they will be instrumental in bringing the program to their village. However the Ex. GP members may feel threatened

due to present GP members claiming the limelight and becoming popular. These Ex- Members may pose problem and encourage negative opinion towards the program.

Expectations: The GP will be the lead institution at the habitation level, with high expectations from the program. Some of these expectations are (i) All the habitations within the GP get water supply facility (ii) The GP being the apex body, thinks that even if user's groups are formed separately (habitations-wise), it must have some control over them, (iii) They are sure that the program shall provide technical and community development support & (iv) The GPs role must be adequately supported by government orders in practice, to empower them for taking decisions.

Issues & Concerns

- i. The GP may find it difficult to collect the capital cost as well as O&M contribution. The program must also include activities for convincing people for their contributions.
- ii. There may be lack of coordination between the GP and UWSSCs due to community disputes.
- iii. The GP may not be able to cope up with workload, particularly the paper work. They think that some additional resources should be provided to work efficiently.
- iv. The latrines constructed during the program implementation phase may not be used later, as it happened in other government schemes.
- v. The user committees may not be able to manage the funds, the O&M collection and other technical problems.
- vi. If there are defaulters within the community, what actions are required to be taken by the GP? Stern actions only generate public anger and create ill opinion about them.

District Level

Stakeholders: At the district level there will be three main stakeholders- the Zilla Panchayats, District Program Management Unit (DPMUs) and the NGOs which will act as support organization. The Zilla Panchayat will form the part of the district level steering committee. It will be taking all important decisions related to the program at the district level. The DPMUs will also be part of the steering committee and will actually perform all the work. The NGOs will act as partners with the GP in the program implementation. They will provide technical and community development support to the GPs. The NGOs will be directly benefited in terms of procuring work, finances and capacity building for its staff. The DPMU will supervise the district level activities. The media, mainly the district level print media will act as a pressure group, since they can assist the program in spreading awareness about the program, creating demand, community mobilization and contribution, adoption of sanitary latrines, etc.

The other Govt. Department like Forest Dept., watershed Management, Health, Education, and Panchyati Raj will also act as pressure group for influencing the policies of the program and will positively effect the implementation. The program shall have to design its intervention keeping in view polices and programs of these departments. But there are chances that these departments may also feel threatened due to program encroaching upon their area of work. The same feeling may also be shared by the Jal Nigam and Jal Sansthan, as till date, they were responsible for the construction, operation and maintenance of water supply schemes. The proposed program envisages that these activities will be done by the village communities. Since the funds will be handled by the GPs, this may not be well received by them.

Expectations: The key expectation at the district level would be effective implementation of the program with appropriate participation of all the stakeholders.

Concerns

- i. The GPs are immature institutions and may not be able to perform their responsibilities effectively.
- ii. All the details of the program must be clearly laid, so that selection of NGOs, village selection, material procurement, contracts etc. may be carried out properly.
- iii. The terms of payment GPs, User's Committee, NGOs as well as performance evaluation & monitoring may be well defined.

Sector Institutions Level (Uttarakhand Peyjal Nigam/Uttarakhand Jal Sansthan)

In Uttarakhand till date, the water supplies in urban and rural areas are being managed by Uttarakhand Peyjal Nigam (UPN) and Uttarakhand Jal Sansthan (UJS). UPN is primarily the construction agency while the operation and maintenance is being taken care of by the UJS. Under the proposed program with SWAp, roles and responsibilities of these institutions have been redefined. As per the proposed institutional arrangements, there would be an apex body (SWSM) with Chief Minister, Minister for Drinking Water and Secretary Drinking Water as its chairman, vice-chairman and member-secretary respectively. The primary function of this would be the development of policy guidelines for the entire water supply and sanitation sector. A separate cell will be established at the department of drinking water, GoUA which shall act as secretariat of SWSM responsible for implementation of sector wide approach in the sector.

For rural water supply, below SWSM, there would be three organizations (i) UPN (ii) UJS & (iii) PMU (Swajal Unit). UPN would be responsible for construction of multi-village water supply schemes up to CWR level (intra-village works to be done by the community) and UJS would take care of rejuvenation of existing schemes (SVS/MVS) and existing SVS for devolution to GPs. The PMU (Swajal) would concentrate on SVS and act as the interface for the World Bank regarding the implementation of the sector program. The district unit of these organizations, responsible for sector reform with SWAp would be known as District Division Peyjal Nigam (DDPN), District Division Jal Sansthan (DDJS) and District Program Management Unit (DPMU-Swajal). These district units would be reporting to DWSM with ZP Chairman and District Program Manager (DPMU) as ex-officio chairman and member-secretary respectively. This would be responsible for the implementation of sector program as per the policy decision of the State Government and SWSM. In backdrop of the proposed arrangements, the expectations, issues and concerns of the sector institutions (UPN and UJS) at the district and state levels are as follows:-

Stakeholders: At the district level DDPN & DDJS reporting to DWSM, while at the state level UPN & UJS, reporting to SWSM, would be the stakeholders. The districts units of these will also be a part of the steering committee (DWSM) at district level, coordinating and supervising the program implementation.

Expectations: The key expectation at the district level would be effective implementation of the program with participation of all the stakeholders while at the state level it would be providing effective guidance, policies and procedures. Together with this, since the program demands for attitudinal change within these organizations, engineers devoted and skilled in human resource development are required to steer the program.

Issues & Concerns

- i. The GPs are immature institutions and may not be able to perform their responsibilities effectively.
- ii. All the details of the program must be clearly laid down, so that selection of villages, material procurement, contracts etc. may be carried out properly, which till now was being done by these institutions themselves.
- iii. The user's committee will do the procurement of various goods and services. This will require awareness, knowledge, skill and procedural clarity which may need time to come into practice
- iv. The terms of payment to GPs, User's Committee, SOs as well as their performance evaluation & monitoring may be well defined.
- v. The program has a mandatory condition of community contribution which will be in form of cash and labor. Till now, the rural community was not contributing in capital cost and O&M charges charged are only nominal. This may be a very major issue.
- vi. The GPs are already half way through their tenure. It is assumed that another set of newly elected representatives will be in the office within the next two years. These routine elections will affect the program as the members may have to be oriented again and again.
- vii. Though these institutions have a sufficient technical manpower yet they feel that, with sector wide approach, they may be facing problems in effective implementation of software activities due to absence of community development, health & hygiene as well as environment specialist in their organizations.
- viii. As the staff of these institutions has been working on a set pattern mainly requiring technical skills only, development and adoption of software skills is a major concern. This would need attitudinal change which is the biggest challenge. Hence the capacity building strategy is very-very significant.
- ix. With the new proposed institutional arrangements, there is confusion regarding legal mandate, roles and responsibilities provide to them according to Acts, " The Uttarakhand (The Uttar Pradesh Water Supply and

Sewerage Act, 1975) Adaptation and Modification Order, 2002" which now needs amendment. In case of amendment they have the fear of losing their relevance.

- x. The sector institutions feel that since the program would involve many stakeholders and institutions, guarantee of program success is a major concern.

State and National Level

Stakeholders: The stakeholders at national and state level include all the departments of State and Central Govt. dealing in water supply and sanitation. However the main stakeholder shall be the Program Management Unit, State Water and Sanitation Mission and the Sector Institutions. In this category all the major stakeholders will be involved with policymaking and defining procedures. Their role will be mainly to create an enabling environment for program implementation.

Expectations: The only expectation of the State and National level stakeholder will be that they are able to provide the program with effective guidance, policies and procedures. Since the program demands for attitudinal change within the community, devoted people are required to steer the program.

Issues and Concerns

- i. The experience of working with PRIs during Swajal Project was not very encouraging as there were many dropouts, time overruns and other community level conflicts. Now the whole program will be implemented through UWSSCs & GP. As already mentioned, the level of confidence of the community is not high on the GPs and hence the results of their involvement are very uncertain.
- ii. The program will have the capacity building component. Under this component, different village level trainings will be organized. But it may happen that these capacity building inputs are not put into use due to migration or any other reason. In such cases, sustainability of the program intervention will be adversely affected.
- iii. The GPs are already half way through their tenure. It is assumed that another set of newly elected representatives will be in the office within the next two years. These routine elections will affect the program as the members may have to be oriented again and again.
- iv. The village communities are suspicious about the GPs intention regarding fund utilization. Similarly the GP may have same fear about the user's committee. The program will have to establish a very strong monitoring mechanism to avoid such situations.
- v. The user's committee will do the procurement of various goods and services. This will require awareness, knowledge and procedural clarity.
- vi. The program has a mandatory condition of community contribution which will be in form of cash and labour. The program shall have to design measures so that the women are not forced to contribute labour for their families.
- vii. The latrine usage is maintained after the program's exit and all the latrines that are constructed must be used by the households.

Summary of the Issues that Merit Significance for Designing the Program

The Issues that merit significance for designing the program can be summarize from the SWOT analysis of various stakeholders, which are as follows:-

GP Level:

(a) Lack of Executive Staff (b) Delay in Transfer of Functionaries (c) Insufficient and varying Capacity Levels (d) Inadequate Funds with GPs (e) Weak Infrastructure (f) Short-circuiting of participation by people (g) Weak Accountability Structures (h) Accessing User Groups, Bypassing GPs, (i) Weak financial management Systems & (j) Lack of Incentives.

KP Level:

a) Confusion Over Roles and Responsibility (b) Non Devolvement of Funds and Functionaries
(c) Strains Between Elected and ex-officio Members (d) Poor and Inadequate Infrastructure (e) Lack of Incentive.

ZP Level:

- (a) Financial (un) Sustainability (b) No Significant Revenue Generation (c) Weak Accountability Structures (d) Lack of Capacity (e) Blurred and Inadequate Accountability Structures (f) Unfavorable Balance of Power vis a vis District Administration: .

Sector Institutions (UPN & UJS)

(a) Under Staffing (b) Inefficient MIS and M&E Systems (c) Financial (un) sustainability (d) Lack of Latest Technologies, (e) Weak R&D and Capacity Building (f) Loosing Relevance, (g) Confusion as regards to legal mandate, roles and responsibilities (h) Multiplicity of Roles and Multiplicity of institutions (i) Inadequate measures to manage change.

PMU / DPMU Level

- (a) Transitory Nature (b) No Sector Mainstreaming (c) Weak Accountability Structures (d) Inadequate Infrastructure Support (e) Loosing Relevance (f) Co-existence with Sector Institutions (g) Coordination with PRIs (h) Inability to Mobilize Appropriate and Adequate Staff (i) Discontinuation of Incentive Structure.

Section-IV: Major Issues/ Lesson learnt from Swajal Project

During the Swajal Project, sustainability evaluation exercises were conducted to assess and measure the level of sustainability of created assets and investments. These exercises were normally conducted at an interval of six months. The last (seventh) one was conducted in approximately 10% of the total 857 villages at an interval of 13 months after project completion. This exercise revealed that nearly 7% of the villages are least sustainable, 64% moderately sustainable and 29% are highly sustainable. These exercises have captured data on various major issues. Some of the major issues and lessons learnt are:--

Institutional

- 1) The social life in rural area revolves around women, who are also the real water managers.
- 2) The communities are ignorant about the functioning of the Panchayat though the level of their association with the GPs is higher in the hills compared to foothills.
- 3) The GPs feel that they are still not mature enough to take up all the responsibility. At the same time coordination between the three tiers of the PRIs is a challenge.
- 4) Almost negligible proportions of HHs have been associated with SHGs, especially in hills.
- 5) In initially years, user group meetings were very less compared to the norms. Later on, the scene changed due to continuous mobilization efforts, indicating that awareness, community mobilization and capacity building plays a significant role in sustainability of water supply schemes. The study of Swajal-I villages show that wherever user groups are mobilized, the water supply schemes are functioning properly. Most of the present Gram Pradhans in these villages were actually associated with the implementation of the Swajal Project.
- 6) Hence for the Sector-Wide Approach in RWSES sector, attitudinal change, capacity building and convincing the stakeholders for their changing roles, are the biggest challenges.

Quantity & Quality

- 7) Majority of HHs in hills are collecting fuel wood for cooking & fodder for cattle from forest areas. Only few of them have adopted alternate sources for fuel-energy and cattle feed. This has resulted in degradation of the catchments for water supply sources, when majority is dependent on natural springs for drinking water. Sustainability of sources for water supply schemes is emerging as the most significant area of concern.
- 8) The average consumption of water has been reported to be nearly 20-25 liters per capita per day which is much below the required level.
- 9) In general the community feels that available water is safe for consumption and does not take any measures for its purification at household level. At the same time, facilities for water-testing also do not

exist. In about 18% Swajal schemes, chlorination is not being done by the communities due to (a) non-installation of chlorinator (b) defective chlorinator (c) non-availability of bleaching powder & (d) absence of village maintenance worker (VMW).

Operational

- 10) The reasons for non-functionality of schemes included (a) damage to structures due to land slide; (b) drying up of water sources; and (c) Community disputes.
- 11) Non-functionality is more predominant in older schemes compared to the recent ones, as well as in Hand-pump schemes compared to other technological options such as gravity/ pumping schemes.
- 12) In only 18% villages, community purchased insurance policy to cover damages due to natural disasters, which needs to be focused in the proposed program.
- 13) Inadequate operational management by the user groups due to declining enthusiasm, interest and non availability of VMWs.

Financial

- 14) Rural community is mostly engaged in agriculture which is unproductive due to small un-irrigated land holdings, and livestock management which is of inferior quality. Hence the annual income is very low. It is further lower in the hills compared to foothills. Therefore, community cost contribution and payment for O & M charges is a major issue.
- 15) In nearly 40% cases, non-collection of tariffs for operation and maintenance of water supply schemes has been reported, though there were variations across technology types. Defaulter percentages are lower in pumping schemes where operational costs are higher.
- 16) In nearly 13% villages there is no tariff collection since commissioning of the schemes. The reasons being (a) Users committee not functioning well (b) Availability of water from alternative sources & (c) No immediate requirement of funds for O&M.
- 17) In nearly 30% villages, no expenditure has been done since commissioning of the schemes. The reasons for this were (a) O&M activities being done by the community on an honorary/ adhoc basis and (b) No requirement of funds for repairs especially in case of hand pump schemes.
- 18) In about 10% villages neither collection of O&M charges nor expenditure was done. The villages covered under this category primarily had hand pump & rain water-harvesting schemes.
- 19) There were 29% villages where there had been no tariff revision since commissioning of the scheme. In 59% villages communities had reduced the user charges. The reason for downward revision included (a) schemes not functioning well and (b) low expenses compared to collections. In 12% villages, communities had increased the user charges, the reason being increased expenses in pumping schemes due tariff revision by the electricity department.
- 20) Only 22% communities had bank linkages by way long-term deposit schemes which need attention. At the same time, commercial use of these deposits has to be explained and demonstrated due to its direct bearing on capital cost contribution, O & M charges and overall socio-economic development.
- 21) Contagious effect of non-payment of water tariff by the neighboring communities of non- project villages.

Sanitation

- 22) Environmental Sanitation is lacking though people are aware of its benefit. Nearly 40% HHs do not have any sanitary latrine facilities. In case of HHs with these facilities, only 2% are not using them after construction. The reasons for not using being (a) Faulty constructions & (b) Reluctance of community, implying no behavioral change.

Section-V: Social Impact Assessment

Any community-based program is bound to have different impacts on the stakeholder. The impacts may be positive and negative. The probable impacts on stakeholders have been assessed on the basis of the already implemented Swajal Project, discussions with stakeholders and secondary sources. The probable impacts can be as follows:-

1. Positive Impacts

1.1. Reduction in water borne diseases: Majority of diseases occurring in rural areas are due to unavailability of safe drinking water and unhygienic sanitation practices. Some of the commonly occurring water borne

diseases are diarrhea, skin infections, Eye infections, typhoid, jaundice, malaria and worm infections. Jaundice is the most common water borne disease (7.73% HH) followed by diarrhea (5.74% HH). The investigations reveal that the community is unaware about the cause of occurrence of these diseases. During the Swajal Project, a study on health and hygiene benefits was conducted for Swajal and Non-Swajal villages. It compared the occurrence of diarrhea during pre and post implementation periods. The results indicate, reduction in occurrence rate from 13 % to 3.6 %, which was mainly due to (i) improved water quality and (ii) better knowledge about environmental sanitation. Hence it can be logically inferred that there would be reduction in water borne diseases, during the proposed Program.

1.2. Better use of Common Property Resources (CPR): In rural areas, common property resources (CPR) play a vital role in providing basic necessities. Rural households are dependent on these resources for fuel, fodder and water. The following table shows their dependence on the natural resources.

Dependence on CPR

S. No.	CPR	% of Total Respondents		Total (%)
		Hills(mid & high)	Foothills & Plains	
	Region			
1	Forest land	94.71	18.18	50.62
2	Community land	35.88	3.46	17.21
3	Pasture land	38.82	17.32	26.43
4	Water source for irrigation	41.76	23.81	31.42
5	Water source for drinking	82.94	43.29	60.10
6	Any other	12.94	0.87	5.99

The table reveals that nearly 60% people get drinking water, 51% get fuel and 26% get fodder from these CPR. Hence effective and proper management of these areas is essential, especially in hills where dependence is very high.

1.3. Women participation in decision-making: Women are the main stakeholders. They will be encouraged and motivated to participate in decision-making for waster supply schemes. Their capacity building will be an important component. They shall also have representation in the Water User’s Committee. The program shall also organize women in SHGs and hold trainings for income generating activities. This will lead to higher confidence level and motivate them to participate in the other developmental programs.

1.4. Women role in skilled work in program implementation and management: In the rural area of Uttarakhand, subsistence is based on agriculture and dependent on women’s intensive labour inputs. Women entry into male dominated area like decision-making, income generation, planning, construction, procurement etc. would be a major achievement. They work very hard as house-managers and helpers in field but this generates very little cash income. During the program they will be involved in building assets related to drinking water and sanitation services. Women involvement in water supply schemes would become an important event. Their involvement will help in generating more dignity, respect and pride amongst women and shall also improve their status in the community.

1.5. Community’s increased awareness regarding health and hygiene aspects: The program shall concentrate on providing health and hygiene education and awareness to the communities. This will lead to better health and hygiene practices, which in turn will lead to reduction in water borne diseases and saving medical expenditures.

1.6. Women's participation in Income Generation Activities in the time saved : During the Swajal-Project, the time savings study recorded that the time saved by a women in fetching water was approximately 3.5 hours. It is believed that the women will save time after the program intervention. The saved time could be utilized by them for taking rest, caring for the family, attending meetings, awareness programs and practicing some income generating activities. It is assumed that improved water supply would save their time and they would be able to participate in general economic development activities.

1.7. Capacity Building of Community: A study on the efficacy of the trainings conducted during Swajal Project was analyzed in which capacity building programs were conducted for various interventions. The capacity building activities were mainly in form of practical trainings, where the community learned by doing.

With this, the community was able to retain more. It is assumed that similar approach will be followed during the program.

1.8. Empowerment of local self governance system: It is proposed that the GP shall be the implementing agencies in the proposed program. They shall plan, implement, procure and maintain the water supply schemes. The program shall make all efforts to build their capacities so that they are able to perform their roles and responsibilities effectively. This will facilitate the GPs in implementing the program effectively and make them capable of participating in future developmental programs.

1.9. Developing local leadership: Association of the people with user's group starts with their latent needs. Their need will enable them to demand the program for their village. Once the program reaches, they shall participate in all the processes. It shall include a wide range of trainings and exposure for members. This will lead to enhancement of their capabilities and help in developing their leadership qualities. It has been observed that most of the present Gram Pradhans were actually associated with the Swajal Project in their villages. Since they devoted time and energies, they got majority support during general election of the village.

1.10. Increase in community level collective efforts: All the activities of the program will be based on group efforts. People will receive individual benefits if and only if, they are in association with the community. It was found that during the initial stage of Swajal Project, people were hesitant to contribute for the project. Due to this, some villages were left uncovered. The scenario has changed drastically since then. Now the level of awareness regarding participatory program management is well known. Communities are eager to have the program. During the field survey, high willingness together with willingness to pay more for higher service level has been found. Hence on the basis of above-mentioned evidences, it can be said that collective efforts would lead to the desired reforms.

1.11. Institution building for sustainability: Institution building is essential for sustainability of any program. This has been recognized as priority area in the proposed program. The analysis of Swajal Project villages reveal that, wherever the water user committees are functioning effectively, water supply schemes are functioning properly, the water-tariff collection is regular and people are satisfied. It is therefore believed that the same would also continue for this program.

1.12. Generation of employment opportunity: During the implementation phase of the program, different income generating activities may be organized for the women, as entry point activities. Then they would be encouraged to form Self Help Groups, develop bank linkages and utilize the trainings for income generation. Besides this, the program would also impart trainings for accounting, documentation, water supply technician, mason etc. These trainings will help the trained persons to generate income even afterwards. Together with this, the beneficiary community will get employment opportunities either in terms of skilled or unskilled labourers, during program implementation.

2. Negative Impacts

2.1. Disillusionment due to over expectation among community: The proposed program is based on demand driven approach. The communities shall demand for it, based on their perception. They may feel that it shall provide safe drinking water along with better health, hygiene and sanitation practices, without any restrictions. The procedures for various activities of the program may become secondary while the completion of the schemes may become the prime objective.

2.2. In-migration due to water availability: Rural habitations exist in places which are surrounded by resources which can fulfill their basic needs. Water is a basic necessity. The experiences of Swajal Project shows that, villages where water was made available under the project, population increased within a short span of time. The availability of water in an area attracts poor, unemployed people who do not have permanent assets. In case the population increases, it will lead to water crises again as the scheme will not be able to fulfill the water requirement of the area.

2.3. Conflict regarding leadership: Problems and conflicts are generally associated with leadership. In the proposed program, the committee leader will have the power to deal with financial, administrative and other matters. There may be chances that decisions may cause conflicts. During the Swajal Project, it was seen that members of VWSC were not recognized by the elected members of GP. The conflicts between these two institutions may again arise. This will have a negative impact on the program.

2.4. Dispute regarding collection of O&M charges: As per the guidelines of the program, the community would own the O&M charges. The collection of tariff charges will be uniform irrespective of the family size. Normally this determines, amount of water consumption. This could be a reason for non-payment of water tariff. Besides this, there may be other local reasons. This may create a chain reaction.

2.5. Lack of equal representation of SC/STs in decision-making process: In the rural areas, difference between higher and lower castes, still exists. It has been found that the SC/STs are residing in separate pockets, where they are getting less quantity of water as compared to higher castes. Due to higher caste majority and dominancy, priorities may not be given to them. Their representation in the user's committee may not be pleasant to the higher castes, which may deprive them of any portfolio in the committee.

2.6. Use of Drinking water for irrigation: The program not only aims to provide safe drinking water but also promote proper and efficient use. It has been seen in that after meeting their daily requirement, people use it for kitchen garden and irrigation purposes. This will create problems for the dependent community. In such situations, they may not be willing to contribute. The program should focus on behavioral change, for effective use of drinking water.

Section VI: Program Arrangements

The program arrangements for the proposed program has been framed on the basis of the key issues and concerns, identified as a result of social assessment, which include institutional & fund flow arrangements, design features for the program, monitoring & performance tracking (results framework) as well as capacity building strategy.

Key Issues and Concerns Identified as a result of Social Assessment

General & Women Related

- 1) Uttarakhand is primarily a mountainous State, having high altitude mountains and different micro-climatic zones which significantly affect the nature dependent water supply schemes. Now, since there would be involvement of rural communities in a big way, it is essential to note that 44% of the rural population is illiterate.
- 2) The social life in rural area revolves around women who are the real water managers and heavily own the responsibility of fetching water (96% cases) while men normally migrate for employment. They have to spend 1-3 hrs for fetching water, doing 2-3 trips per day requiring 1-2 hour per trip. They are also responsible for collection of fuel wood for cooking and fodder for cattle which requires another 4-5 hours. In nutshell, most of their time and energy is consumed in collecting the basic necessities.

Quantity

- 3) The average consumption of water has been reported to be nearly 20-25 liters per capita per day which is much below the required level. Only 62% rural HHs get sufficient water for drinking and kitchen purposes. Nearly 33% of the population has access to safe drinking source within 50 meters, while 15%-20% travel up to 1 km. Together with this, about 43% population change drinking water source according to the season. The consumption is more during summers.
- 4) Due to high influx of tourists in the region (150%of the total population), their water needs has to be accounted for, during program designing.
- 5) The water requirement of cattle is 30 liters per day per cattle unit. On an average there are nearly 315 cattle units/village or 4.19 cattle units per HH. Presently only 29% of their requirement is being fulfilled. As per the calculations, nearly 59% additional water is still required for them.
- 6) Fuel wood need of the people is nearly 48 times the recorded production. The average productivity from these forests is only 10% of its potential, indicating the deterioration level of existing forests and high soil erosion rate. Due to this, the existing water schemes (59%) have discharge reduction up to 40%. Since the majority is dependent upon springs for their drinking water requirements, sustainability of these water sources has emerged as the most significant area of concern.

- 7) At present, the state has 2.4 million cattle more than the fodder supply capacity of the forests. At the same time, more than 85% households in the hills collect fodder for cattle from these forests. Only few HHs have adopted stall-feeding practice which can optimally utilize the available fodder. This has resulted into further degradation of the catchments, thereby threatening the sustainability of the natural water supply sources.

Quality

- 8) In general the community feels that available water is safe for consumption and does not adopted any measures for its purification at HH level, though they are aware (53%) of the adverse consequences. At the same time, water quality testing facilities do not exist in rural areas. During Swajal Project, when even the facilities were provided, in 18% schemes, the community ignored it due to various reasons e.g. (a) non-installation of chlorinator (b) defective chlorinator (c) non-availability of bleaching powder & (d) absence of village maintenance worker.

Institutional

- 9) The communities are ignorant about the functioning of the Panchayat. The level of their association with the GPs is low, though higher in hills compared to foothills. The GPs think that they are still not mature enough to take up all the responsibility and coordination between the three tiers of the PRIs is a big challenge.
- 10) The association of the rural families with government financial institutions like banks is very low. Similar is the case for association with the SHGs. Dependency on private money lenders (37%) is very high, who keep on exploiting them.
- 11) Awareness, community mobilization and capacity building programs can play a significant role. Regular meetings of user group and community is essential which is evident from the fact that in Swajal Project villages, wherever user groups are effective and meeting regularly, the water supply schemes are functioning properly. Most of the present Gram Pradhans of these villages were actually associated with the implementation of the Swajal Project.
- 12) Under Sector-Wide Approach for RWSES sector, attitudinal change, capacity building and acceptance of changing roles by the stakeholders, are the biggest challenges.

Operational

- 13) Rural population of the state (49.5%) lives in small clusters (200 persons/village), there by indicating that majority of the rural areas would need small water supply schemes.
- 14) The reasons for non-functionality of schemes included (a) damage to structures due to land slide; (b) drying up of water sources; and (c) Community dispute.
- 15) Non-functionality is more predominant in older schemes. Considering the technological options, hand-pump schemes are becoming non-functional sooner compared to gravity/ pumping schemes.
- 16) The concept of purchasing insurance policy by the community, to cover damages due to natural disasters is in infancy stage (18% villages in Swajal Project) and needs to be propagated.
- 17) Inadequate operational management by the user groups due to declining enthusiasm, interest and non-availability of VMWs (quitting the jobs for better placements), is an area of concern. This needs extrinsic motivation in form of incentives to be logically placed in the program design.

Financial

- 18) Rural community is mostly engaged in agriculture which is unproductive due to small un-irrigated land holdings (less than one hectare) and livestock management, which is of inferior quality. Hence the annual income which is very low. Together with this, nearly 63.1% of total population is unemployed while 9.6% is marginally employed. Paying capacity of the rural community for facilities like drinking water and toilets is very low. Further, it is lower in the hills compared to foothills. Districts of Uttarkashi, Tehri and Chamoli have majority of BPL families (50%-60%), where most of the areas are eroded and construction cost of sustainable water supply schemes would be very high. Therefore, community cost contribution and payment for O & M charges is a major issue.
- 19) Non-collection of tariffs for operation and maintenance of water supply schemes has been reported in nearly 40% cases of Swajal -I villages. at the same time, 13% villages have reported no tariff collection since commissioning of the schemes. To add to this, 30%villages have not done any expenditure on the schemes in a systematic way and are being currently maintained by the community on honorary basis, 10% villages have neither collected O&M charges nor have done any expenditure and 59% villages have reduced the user charges due to improper functioning of schemes and low expenses compared to collections. Not only this, the contagious effect of non-payment of water tariff by the neighboring communities in non- project villages, induces negativity. All these indicate, convincing community and collecting O&M charges, is a tedious task.

- 20) Only 22% communities have bank linkages by way of long-term deposit scheme, which needs attention and has to be increased. At the same time, commercial utilization of these funds has to be explained and demonstrated, due to its direct bearing on capital cost contribution, O & M charges and overall socio-economic development.

Sanitation

- 21) Sanitation facilities at HH and community level are not up-to-the-mark and needs to be developed.
- 22) Regarding rural health status, diarrhea severity is about 4.8 loose motions/ day. Iodine deficiency disorder (IDD) has affected about 2.5% of population. In the year 2004, more than 1934 cases of gastro-entitis, 397 cases of typhoid and 407 cases of hepatitis were reported.
- 23) The district level information reveals that they are only 1%- 2 % compost and garbage pits in rural areas, when only the cattle are generating dung @ 1600kg/day/village, indicating that the concept of waste management is lacking.
- 24) Environmental Sanitation and personal hygiene concepts are lacking, though people are aware of its benefit. In case of HHs with these facilities, only 2% are not using them after construction. The reasons for not using being (a) Faulty constructions & (b) Reluctance of community, implying no behavioral change. Nearly 40% HHs do not have any sanitary latrine facilities

Design Features of the Program to Address the Key Issues and Concerns

The proposed Program is demand driven and participatory in nature. The participation of all the stakeholders has to be ensured for the SWAp based implementation. The stakeholders will be able to participate with full enthusiasm only when, all the issues and concerns are addressed or taken care off in the program design. Some of the design features which should necessarily find place in program design for its success implementation and sustainability are as given below:-

- i. **Representation, Awareness & Skill Development:** The program should emphasis the representation and participation of all the vulnerable and marginalized groups, particularly scheduled castes, scheduled tribes and women. For this, the design should provide (i) reserved representation to the SC/STs and women in the user's group committee, (ii) make provision for the decisions to be taken in a community wide meeting with maximum representation of the community members, (iii) documentation of the meetings should be put into practice (iv) to increase confidence level and decision-making power of these groups awareness, knowledge and capacity building exercises should be organized (v) encouraging women for income generation activities and formation of self-help groups & (vi) safeguarding women against forced labour contribution.
- ii. **Transparency:** Program should make provisions for maintaining coordination among the three tiers of the PRIs especially Gram Panchayat and the user's committee which would require the following:-
 - a) Clear guidelines for the village level institutional setup, with details like constitution, membership, tenure & relationships. This has to be developed prior to program implementation.
 - b) User's Groups to have their own by-laws, which are duly ratified by the GP.
 - c) The finances are jointly controlled by Gram Pradhan (ex-officio chairman of UWSSC), treasurer of UWSSC and Panchayat Secretary. All the records of fund transactions are maintained and shared during community wide meetings. The final accounts to be displayed through wall writings.
 - d) Program to organize trainings in documentation and accounting so as to enable the office bearers to document the proceedings and maintain record of accounts.
- iii. **Equity:** Program should aim at providing equitable amount of water and sanitation services to all the sections of the society irrespective of their economic status, caste and religion. The program may adopt the following -
 - a) All the water supply schemes are designed for providing at least 40 liters per capita day to all the households.
 - b) The cash and labor contribution are the same for all the households. Concessions may be given to SC/ST habitations.
 - c) The cash contributions are calculated according to the households in any habitation so that every HH has equal share to contribute in capital cost and O&M charges, for availing the same facilities.

- d) The distance of the stand post water supply is same from a cluster of households, sharing the stand post, considering the feasibility for its installation. However the program should promote private connections for all the HH, which will further reduce time, and labor for fetching water.
 - e) Program may provide incentives for HHs and community for adopting reforms.
- iv. **Accountability-** Program design should have inbuilt structure for establishing accountability of all the stakeholders during each step of its implementation. For this, following activities should be done:
- a) Roles and responsibilities of all the stakeholders should be defined and details shared.
 - b) The information about the SWAp in the sector should be disseminated through effective communication campaign so that every one is aware about the roles & responsibilities and there are no confusions.
 - c) Providing finances to program management units, GPs, UWSSCs, SOs & SAs should be performance based.
- v. **Decentralized decision making-** The program may evolve a system of decentralized decision making where all the decision related to the water supply scheme and sanitation services in a GP should be taken by the GP members and the water user's group. At the District level, the decisions regarding village selection, NGO selection and program implementation should be taken by the District Program Management Unit with consent of DWSM.
- vi. **Demand Responsiveness-** In case of demand for the program, the authorities should respond promptly. However, as the program is of limited time period and fixed budget, it would not be possible to cover all the Gram Panchayats. Only selected single/ multi village schemes should be considered, depending upon the demand, willingness to pay, technical feasibility & financial viability. In case of villages having all the above parameters but no capacity to pay may also be considered and provisions for interventions made accordingly.
- vii. **Quality-** Work quality should not be compromised at any point of time during the program implementation. Efforts to maintain good quality in respect of the following should be ensured:-
- a) **Material Quality**
The Program Management Unit may prepare guidelines for the standards of the materials to be purchased. The district units may train all the support organizations, Gram Panchayats and user's committee, regarding the material standards. The actual procurement should be done by the purchase committee, which should have representation from GP and user's committee. The district units shall then collect the sample of the purchased material and the quality should be checked with the assistance of selected technical institution/ agencies.
 - b) **Construction Quality**
While the construction work is in progress, its quality may be checked through technical institutes/ agencies. This may be reinforced by regular visits of state and district level units.
 - c) **Water Quality**
The program should encourage and train the user's committee to adopt chlorination practice for ensuring safe drinking water. The VMW may be given adequate training and incentive, to continue the process and take up minor repairs without any external assistance.
 - d) **Quality of Services**
Besides water, the program should also focus on other service like environmental sanitation, health and hygiene awareness and women development. All these activities may be accompanied with adequate capacity building inputs. This is essential to ensure the sustainability of the assets created during the program.
- viii. **Sustainability-** The over all objective of the program is to ensure the sustainability of the investment. The sustainability of the following should be ensured for long term sustainability of the water supply schemes and achieving the program objectives:-
- a) **Water Supply Sources**
The program may assist the community to prepare a Catchment Area Treatment Plan for sustainability of the source discharge. Sources free from dispute should be selected and no objection certificate

obtained from the concerned. The program should define criteria for selection of sustainable water sources.

b) Structures

All efforts should be made to ensure standard quality construction of the water supply structures. To cope with natural calamities, the community may be encouraged to take up insurance plan for the scheme. The program may also assist the community by sharing the premium of the insurance during initial years, to prove its worth.

c) Institutions

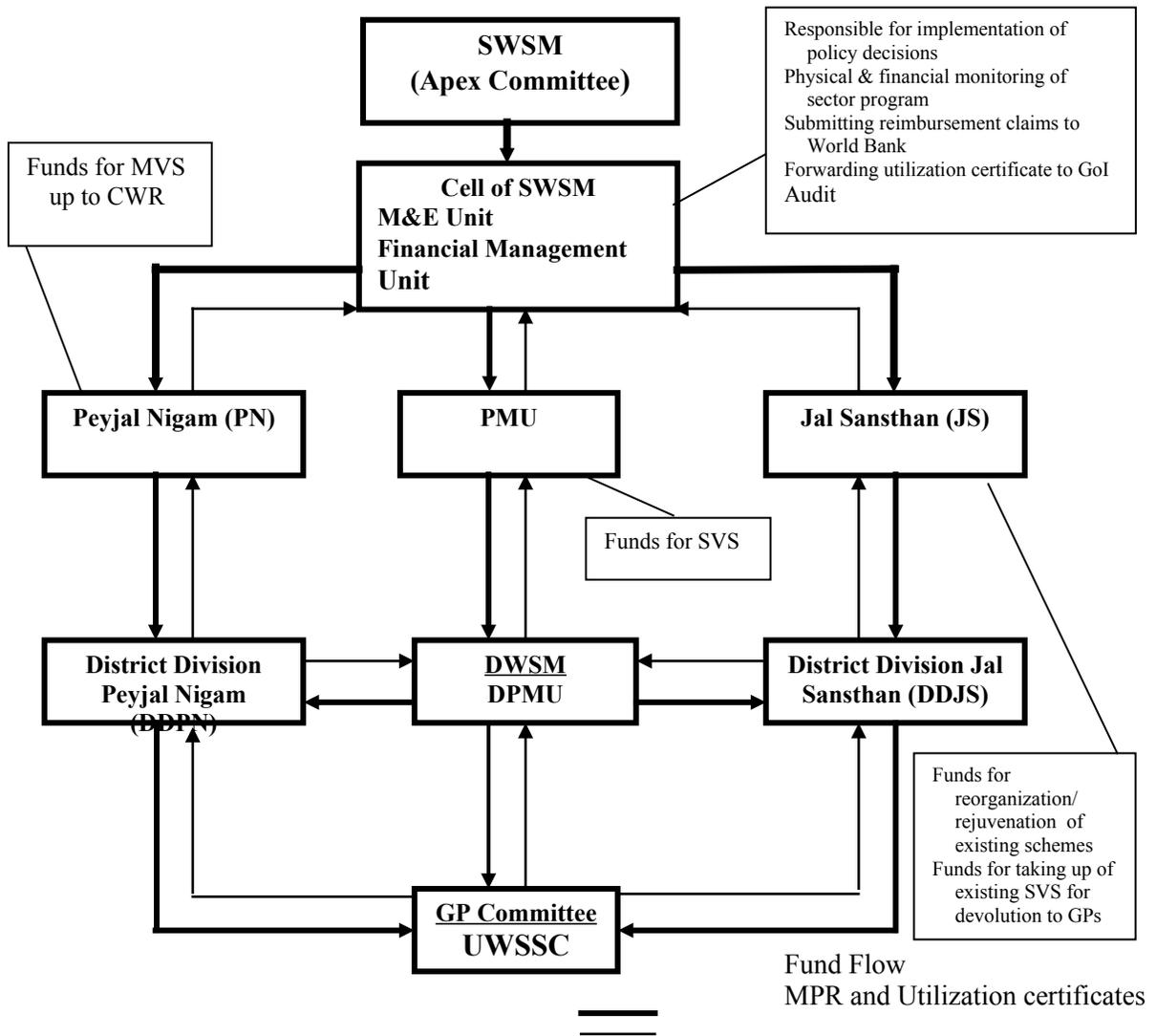
The institutions related to the program like the Gram Panchayats, user's committee, women groups etc should be provide adequate orientation, exposure and training so that they realize the importance of their institutional strength and continue functioning even after the program withdrawal. Besides capacity building inputs, the program may provide assistance to these institutions for establishing by-laws, proper documentation of records, development of informative literatures and the like.

d) Financial

The program should assist the user's committee in fixation of the O&M charges for their water supply schemes. It should highlight the importance of regular payment by the community. Measure of social pressure like displaying the name of defaulter's publicly or disconnection of water supply may be used by the user committee. The user committee treasurer should be adequately trained to handle the funds properly. The amount collected should be regularly deposited in bank account.

Proposed Institutional & Fund Flow Arrangements

The proposed Organogram for Institutional & Fund flow arrangements for the Sector Program is shown below:-



Notes:

1. All funds from different sources will be tracked at SWSM cell.
2. The funds will be given by GoUA in phases after ensuring compliance of principles agreed upon
3. Audit will be got done by cell of SWSM.
4. In case of MVS construction up to CWR will be done by sector institutions and intra village construction will be done by UWSSCs.

In Uttarakhand till date, the water supplies in urban and rural areas are being managed by Uttarakhand Peyjal Nigam (UPN and Uttarakhand Jal Sansthan (UJS). UPN is primarily the construction agency while the operation and maintenance is being taken care of by the UJS. Under the proposed program with SWAp, roles and responsibilities of these institutions have been redefined. As per the proposed institutional arrangements, there would be an apex body (SWSM) with Chief Minister, Minister for Drinking Water and Secretary Drinking Water as its chairman, vice-chairman and member-secretary respectively. The primary function of this would be the development of policy guidelines for the entire water supply and sanitation sector. A separate cell will be established at the department of drinking water, GoUA which shall act as secretariat of SWSM responsible for implementation of sector wide approach in the sector.

For rural water supply, below SWSM, there would be three organizations (i) UPN (ii) UJS & (iii) PMU (Swajal Unit). UPN would be responsible for construction of multi-village water supply schemes up to CWR level (intra-village works to be done by the community) and UJS would take care of rejuvenation of existing schemes (SVS/MVS) and existing SVS for devolution to GPs. The PMU (Swajal) would concentrate on SVS and act as the interface for the World Bank regarding the implementation of the sector program. The district unit of these organizations would be known as DDPN, DDJS and DPMU. These district units would be reporting to DWSM with ZP chairman and District Program Manager (DPMU) as ex-officio Chairman and Member-Secretary respectively. The DWSM would be responsible for the implementation of sector program as per the policy decision of the State Government and SWSM. The PMU/UPN/UJS will consist of resource people from different disciplines and government departments. They will be supported by the DPMUs/ DDPNs /DDJSs respectively at the district level. At the village/ habitation level, the UWSSCs will be implementing the program with support from GP, ZP & support organization(SO). The SOs could be an NGO/CBO, a technical institution or individuals having necessary technical and software development skills. The main advantages of the structure will be as follows:-

- a) Mainstreaming of sector institutions with reform principles.
- b) The disjointed and divide between SWSM/DWSM as well as sector institutions will be abolished.
- c) The ownership of the sector program by the sector institutions.
- d) The resistance to change management and acceptability of reforms will be made easier. Even the integration of the two sector institutions will take place at the functional level.
- e) Eventually the complete manning of SWSM and DWSM will be taken up by the sector institutions or to put it in other words sector institutions will transform themselves into SWSM/ DWSM and present departmental system of Chief Engineer, Superintending Engineer and Executive Engineer will give way to new structure compatible with decentralized participatory structure of SWSM and DWSM.

Monitoring and Performance Tracking

The framework for a monitoring and evaluation (M&E) system for the rural water supply and sanitation (RWSS) sector in Uttarakhand is based on a results framework which would help track the investments and results in the sector following sector wide approach (SWAp). This would help the intended users to have access to the required information to help them find out as to whether the Medium Term Program based on SWAp, is proceeding in the right direction and with expected results.

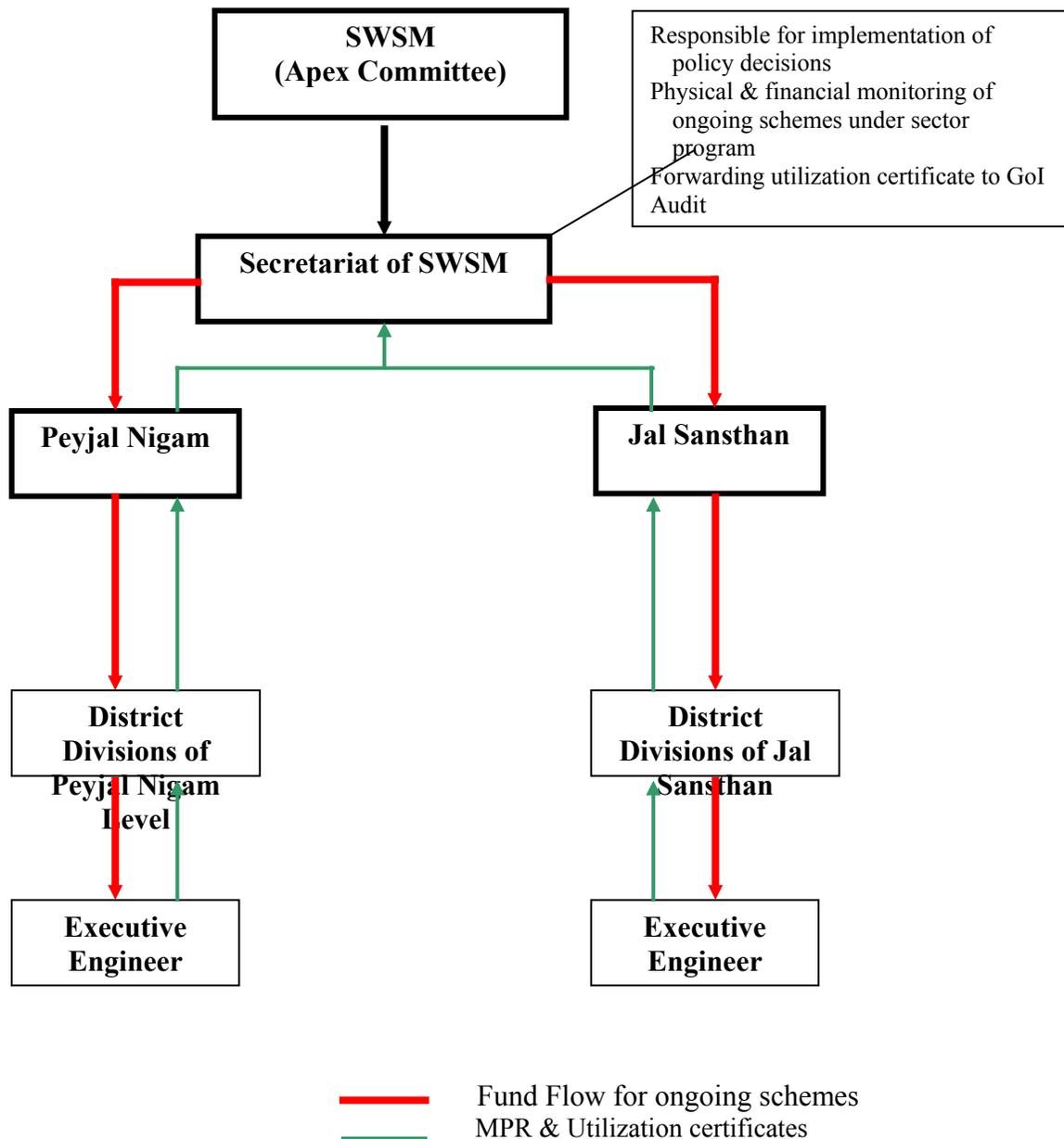
The inherent challenge of the system is to respond to varying information requirements of different stakeholders. In view of the wide diversity of required information at various levels and the attendant complexities in terms of activities related to data collection, compilation, processing, and presentation across a range of sector institutions, it is designed as a multi-component system having a computerized MIS, a field based sustainability monitoring and evaluation system, and a system of community monitoring. Whereas the computerized MIS would be largely driven by quantitative indicators, the other two components are essentially qualitative in nature and would seek to generate and access the kind of information that is most likely to escape the computer based system. For example, information regarding the nature and quality of user involvement, particularly women's involvement in decision making, differential levels of user satisfaction across various segments of rural communities, particularly the poor can be captured more accurately through qualitative methods. The results framework is meant to be the basis of the computerized MIS to be developed subsequently, which could also be the integrating platform for the other two components as well. The details of the related arrangements for results monitoring such as the target values, data collection, reporting mechanisms and formats will be worked out.

Results Framework: Uttarakhand Rural Water Supply & Environmental Sanitation Sector		
Program Development Objectives	Outcome Indicators	Use of Outcome Information
(a) To provide improved access to rural water and sanitation services.	<ul style="list-style-type: none"> ② Time saved in water, fuel-wood & fodder collection ② SHG formation & meetings ② UWSSC composition & meetings ② Available water quantity ② Available water quality ② % of people having improved access to water supply ② % of people having improved access to sanitation. 	<ul style="list-style-type: none"> ② YR1-YR2: To determine required program efforts to capacitate PRI/ community for O&M in first two years. ② YR3: To learn and determine if sector support strategy needs to be revised. ② YR5: To feed the acquired learning into sector strategy for program design and implementation.
(b) To mainstream involvement of PRIs and user communities in RWSES service delivery.	<ul style="list-style-type: none"> ② Sector program implemented following a uniform policy. ② 90 % of new schemes planned and operated based on user community preferences. 	<ul style="list-style-type: none"> ② To determine GoUA commitments for initiating policy reforms, particularly in the first two years i.e. YR1-YR2 under SWAp program.
Intermediate Results	Results Indicators for each component	Use of Results Monitoring
Component 1: Technical assistance for sector reform initiatives including policy change and institutional development. To strengthen and build the capacity of the sector stakeholders.	<ul style="list-style-type: none"> ② % of SWSM/DWSM staff capacitated for providing technical assistance to PRIs/UWSSCs under the SWAp. ② % of UPN/UJS staff capacitated for providing technical assistance to PRIs/UWSSCs under the SWAp. ② % of sources where discharge measurement is taking place yearly. ② % of contracts done on E-procurement. 	<p>YR1-YR5: Low levels may flag poor training support or lack of project initiatives to strengthen local institutions</p> <p>YR1-YR4: Determine effectiveness of the program implementation</p> <p>YR1-YR4: Shall indicate the capacity built and identify the capacity gaps to be addressed.</p>
Component 2: Rural Infrastructure Development and Investments To implement sustainable RWSES services in an integrated manner based on demand driven community participatory principles.	<ul style="list-style-type: none"> ② 90% of new single village schemes fully functional after 1 year of commissioning. ② 90% of new schemes planned, constructed and managed with active user involvement in decision making. ② 90% of schemes that require source protection treated with catchment protection activities to counter depleting source discharge. ② 50 % of GPs declared as open defecation free and rewarded NGP 	<p>YR1-YR5: To determine the measures for improvement in rural infrastructure investments.</p>
Component 3: Sector M&E and operationalization of program. Sector program results are monitored and evaluated.	<ul style="list-style-type: none"> ② A comprehensive sector M&E system including a computerized MIS, system of field based periodic reviews and community monitoring in place and in use in the sector. ② State-wide FMS developed and put in place to track proper recording of expenditures eligible for World Bank financing as part of the sector program. 	<p>YR1-YR4: Realign delivery mechanism as per requirement.</p> <p>YR5: Feed into Phase II Program design</p> <p>YR1-YR5: To track the sustainability of the sector on an on-going basis and help take corrective measures as and when required.</p>

Capacity Building and Training

The capacity building and training is an integral part of the program implementation process. Various capacity building measures have already been mainstreamed during the Swajal Project. However, under the Sector Wide Approach, the program would require technical, financial, community mobilization and attitudinal change exercises for all the listed stakeholders. These training can be imparted through specialized agencies and by other line departments who are already involved in development activities. The finalization of the training schedule for different districts would be the responsibility of the DPMU/DDPN/DDJS with active support from the PMU/UPN/UJS. The thematic issues that require capacity building, training and exposure will include (a) Resource mapping (b) Participatory management of water supply schemes (c) Long-term implications of grazing pressure and fuel wood dependency (d) Waste management, environmental sanitation and alternative fodder as well as cooking options (e) Soil & water conservation practices (f) Water quality testing procedures (g) Protection of water supply sources and above all (h) Attitudinal Change.

Proposed Organogram for Ongoing Schemes during Sector Program



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Table-1
Areas Selected For Social Assessment Field Survey

S. No.	Districts	Blocks	Altitude (Meter)	GPs	No. of Villages	Population	General Population	ST Population (%)
Representative GPs with Altitude upto 500 Meters								
1	U.S. Nagar	Bajpur	200	Ramnagar	2	1888	211	88.82
2	U.S. Nagar	Ruderpur	200	Ajitpur	2	1583	76	95.20
3	Dehradun	Sahaspur	500	Gangol Panditwadi	1	357	276	22.69
	Sub Total	3		3	5	3828	563	
Representative GPs with Altitude between 501 to 1000 meters								
1	Rudrapraya g	Augustmu ni	810	Nagjagai	1	759	593	21.87
2	Tehri	Jaunpur	914	Dewali	2	323	275	14.86
3	Bageshwar	Garud	990	Bheta Kutoliya	2	292	292	0.00
	Sub Total	3		3	5	1374	1160	
Representative GPs with Altitude between 1001 to 1500 meters								
1	Tehri	Thauldhar	1067	Dhaiyakoti	2	336	291	13.39
2	Almora	Dwarahat	1250	Chhabisa	2	371	176	52.56
3	Rudrapraya g	Okhimath	1311	Bansu	1	411	411	0.00
	Sub Total	3		3	5	1118	878	
Representative GPs with Altitude beyond 1500 meters								
1	Almora	Dhauladevi	1800	Kola	1	227	227	0.00
2	Almora	Bhasiya Channa	1890	Punakot	1	446	376	19.14
3	Dehradun	Chakrata	2000	Meghatu	3	381	0	100.00
	Sub Total	3		3	5	1054	603	
	Grand Total	12		12	20	7374	3204	

Table-2
District-Wise Distribution of Total Population

District	Urban Population	Rural Population	Total Population
Garhwal Region			
Uttarkashi	22,918	2,72,095	2,95,013
Chamoli	50,703	3,19,656	3,70,359
Rudraprayag	2,732	2,24,707	2,27,439
Tehri Garhwal	59,846	5,44,901	6,04,747
Dehradun	6,78,742	6,03,401	12,82,143
Pauri Garhwal	89,875	6,07,203	6,97,078
Hardwar	4,46,275	10,00,912	14,47,187
Total	13,51,091	35,72,875	49,23,966
Kumaon Region			
Pithoragarh	59,833	4,02,456	4,62,289
Bageshwar	7,803	2,41,659	2,49,462
Almora	54,505	5,76,062	6,30,567
Champawat	33,778	1,90,764	2,24,542
Nainital	2,69,050	4,93,859	7,62,909
Udham Singh Nagar	4,03,014	8,32,600	12,35,614
Total	8,27,983	27,37,400	35,65,383

Source: Census of India 2001

Table-3
Population Classification In Villages

S.No.	Pop ⁿ size (No.)	No. of Villages	%
1	1 – 200	7797	49.5
2	201 – 500	4902	31.0
3	501 – 1000	1878	11.9
4	1001 – 2000	752	4.8
5	2001 – 5000	350	2.2
6	5000 & above	82	0.1
	Total	15761	100

(Source: State Statistical Diary-2002)

Table- 4
District-Wise Distribution of SC and ST Population In Uttarakhand

District	Percentage of SC	Percentage of ST
Garhwal Region		
Rudraprayag	17.7	0.1
Tehri	14.4	0.1
Dehradun	13.5	7.7
Pauri Garhwal	15.3	0.2
Haridwar	21.7	0.2
Kumaun Region		
Uttarkashi	22.9	0.9
Chamoli	18.2	2.8
Pithoragarh	23	4.2
Almora	22.3	0.1
Nainital	19.4	0.7
Udhamsingh Nagar	13.2	8.9
Bageshwar	25.9	0.8
Champawat	17	0.3

(Source – Census 2001 and Statistical Diary Uttarakhand 2002-03)

Table-5
District Wise Literacy Rate of Rural Population in Uttarakhand

District	Population (%)	Male (%)	Female (%)
Almora	72	89	58
Bageshwar	71	88	56
Chamoli	73	89	59
Champawat	69	87	51
Dehradun	71	80	60
Garhwal	76	91	64
Haridwar	57	69	44
Nainital	76	86	66
Pithoragarh	74	89	60
Rudraprayag	74	90	59
Tehri Garhwal	64	85	47
Udham Singh Nagar	62	73	49
Uttarkashi	64	83	44
Uttarakhand	68	82	55

(Source -Censes 2001)

Table-6
Access to Health Service Delivery Points in Rural Uttarakhand

	Dehradun	Haridwar	Tehri Garhwal	Rudra prayag	Almora	Udham Singh Nagar	Champawat	Uttarkashi
Number of BPHCs	4	5	9	3	11	4	3	4
Number not connected by pucca road	Nil	Nil	Nil	Nil	7	Nil	Nil	Nil
Average distance from pucca road (in kms)	NA	NA	NA	NA	2	NA	NA	NA
Number of BPHCs above 7000 feet	Nil	Nil	1	Nil	Nil	Nil	Nil	1
Number of APHCs	18	19	18	6	19	28	4	8
Number not connected by pucca road	1	Nil	Nil	2	6	3	1	Nil
Average distance from road (in kms)	6	NA	NA	7	8	3	23	Nil
Number of sub-centres	129	139	128	65	181	147	49	63
Number of sub-centres bot connected by pucca road	23	25	37	26	16	22	24	29
Average distance from pucca road (in kms)	3	5	5	5	4	2	5	12
Average number of villages served by one sub-center								
Average distance of villages from sub-centre (in kms)	5_8	5	5	10	6	5	20	6_9
Average distance of villages from sub-centre (in kms)	2_12	3_8	4_5	5_8	6	2_12	5_20	12_42
Percentage of villages not connected by a pucca road	43.6	Nil	83.9	76.3	68.2	26	68.5	58.3
Number of sub-centres above 7000 feet	Nil	Nil	10	Nil	Nil	Nil	Nil	7

SOURCE Jain, 2002

Table- 7
Break-Up of BPL Households

S. No	District	No. of Rural Families	No. of BPL Rural Families	%age	Breakup of BPL households						
					SC	ST	Wome n	Small Farmers	Marginal Farmers	Rural Artisans	Agro Labours
1	Pauri	120941	32342	26.74	9895	212	7525	1639	28882	4731	6876
2	Dehradun	95881	30890	34.22	8158	6771	1916	3736	16303	3368	5681
3	Chamoli	57368	29651	51.69	8314	1392	2966	2009	27642	1460	0
4	Tehri	104424	59028	56.53	11796	9	6946	1388	56178	5730	5029
5	Uttarkashi	48949	33534	68.51	10309	103	2595	4803	28731	3860	0
6	Rudrapraya g	42541	15896	37.37	4820	0	2746	16	15880	2572	0
7	Nainital	65539	19989	30.50	7651	314	218	1383	14241	2794	12439
8	Almora	113857	41650	36.58	15025	38	6474	460	36599	4090	501
9	Pithoragarh	80847	24912	30.81	8409	1489	4974	251	22312	2277	72
10	US Nagar	107457	39413	36.68	8618	7410	2744	3404	9280	3955	71219
11	Bageshwar	37694	15692	41.63	5842	73	2053	153	11522	1245	5370
12	Champawa t	29468	10977	37.25	3519	4	1689	535	9335	959	62
13	Haridwar	128171	22528	17.58	10182	499	1988	5525	4746	1950	16677
Total		1033137	376502	36.44	112358	18314	46834	25302	281651	38991	123926

Source: Rural Development Department, Uttarakhand

Table- 8
Land Use in Uttarakhand

S.No.	Land Use	Area (in Hectare)	Area (%)
1.	1 Forest Area	3466152	62.28
2.	2 Cultivated Area	793241	14.25
3.	3 Pasture Land	439218	7.89
4.	4 Fertile Land not in use	322510	5.79
5.	5 Barren Land	294936	5.30
6.	6 Waste Land	82979	1.49
7.	7 Other Use	166768	3.00

(Source – Statistical Diary Uttarakhand 2002-03)

Table-9 (a) Livestock Status of Uttarakhand

S. No.	Classification			1988	1998
1	Cow Species (Deshi)				
	A	-	Male more than 3 years	784588	718836
	B	-	Female more than 3 years	669002	625010
	C	-	Calf & Heifer	546351	583559
	D	-	Total (A + B + C)	1999941	1927405
2	Cow Species (Cross Breed)				
	A	-	Male more than 2 to 2.5 years	27924	15026
	B	-	Female more than 2.5 years	37475	47206
	C	-	Calf & Heifer	19464	41799
	D	-	Total (A + B + C)	84863	104031
3	Total Cow Species (1+2)			2084804	2031436
4	Buffalo Species				
	A	-	Male more than 3 years	157628	16407
	B	-	Female more than 3 years	610283	655071
	C	-	Calf & Heifer	339538	377737
	D	-	Total (A + B + C)	1007449	1094215
5	A	-	Sheep (Deshi)	279201	263038
	B	-	Sheep Cross Breed	75166	48667
	C	-	Total (A + B)	354367	311705
6	Total Goats & Hegoats			913740	1084790
7	Total Horse & Ponny			20910	23830
8	A	-	Pig (Deshi)	22261	27136
	B	-	Pig Cross Breed	2453	4415
	C	-	Total Pig (A + B)	24714	31551
9	Other Animals			171757	33824
10	Total Animals			4577741	4611351
11	Cock Hen & Chicken			652504	965012
12	Other Cock			10431	17257
13	Total Cock			662935	982269

Source: Statistical Diary, Uttarakhand (2002-03)

Table-9(b) Cattle Unit Calculations

Animal	Cattle unit factor	For the year 1998 (million)		For the year 1988 (million)	
		No.	Total Cattle Units	No.	Total Cattle Unit
Cows	1.0	2.031	2.031	2.085	2.085
Buffalo	2.0	1.094	2.188	1.007	2.014
Sheep	0.2	0.312	0.062	0.354	0.071
Goat	0.5	1.085	0.564	0.914	0.457
Ponies	1.5	0.024	0.036	0.021	0.031
Pigs	0.5	0.032	0.016	0.025	0.012
Others	1.0	0.034	0.034	0.172	0.712
Total	-	4.612	4.931	4.578	4.842

Table-10 (a)**Livestock (Pressure of Grazing) on Forests**

District	Cow	Buffalo	Sheep	Goat
Nainital	268946	228999	3252	97368
Garhwal	370962	90135	774	171502
Dehradun	69501	115881	37336	97504
Almora	358848	115397	33270	210035
Pithoragarh	309593	107088	46083	183345
Tehri	179913	120666	25682	123273
Chamoli	236943	67135	74247	97078
Uttarkashi	107228	73079	89329	95613
Haridwar	154102	217545	6004	21900
Total	2056036	1135925	315977	1097618

Source: Forest Statistics Publication 2001

*Table -10(b)**Dependence on CPR*

S. No.	CPR	% of Total Respondents		Total (%)
		Hills	Foothills	
	Region			
1	Forest land	94.71	18.18	50.62
2	Community land	35.88	3.46	17.21
3	Pasture land	38.82	17.32	26.43
4	Water source for irrigation	41.76	23.81	31.42
5	Water source for drinking	82.94	43.29	60.10
6	Any other	12.94	0.87	5.99

Table-11

Districts, Blocks, GPs, Villages & Habitations in Uttarakhand

Region	District	No. of Blocks	Total No. of GPs	Village Inhabited	Total Habitations	
G a r h w a l	Chamoli	9	565	1144	3255	
	Dehradun	6	310	734	2744	
	Haridwar	6	305	503	739	
	Pauri Garhwal	15	1259	3133	4996	
	Rudra Prayag	3	323	660	1712	
	Tehri Garwal	9	915	1773	5513	
	Uttarkashi	6	299	677	1664	
	Total		54	3976	8624	20623
K u m a o n	Almora	11	1482	2167	5340	
	Bageshwar	3	385	855	2865	
	Champawat	4	288	651	2301	
	Nainital	8	471	1095	2811	
	Pithoragarh	8	645	1569	4934	
	US Nagar	7	315	671	1093	
	Total		41	3586	7008	19344
	Grand Total		95	7562	15632	39967

Table-12

Availability of Schools in Uttarakhand

S. No.	Region	Districts	No. of Junior Basic Schools	No. of Senior Basic Schools	No. of Higher Secondary Schools
1	Garhwa l	Chamoli	824	164	87
2		Dehradun	1309	309	139
3		Pauri	1634	298	259
4		Haridwar	696	139	77
5		Rudraprayag	405	108	83
6		Tehri	1301	380	158
7		Uttarkashi	529	175	67
Total			6698	1573	870
8	Kumau n	Almora	875	168	174
9		Bageshwar	789	115	57
10		Champawat	428	92	41
11		Nainital	815	238	112
12		Pithoragarh	1032	172	109
13		US Nagar	888	122	93
Total			4827	907	586
Grand Total			11525	2480	1456

Source: State Statistical Diary 2002-03

Table-13
Main Occupation in Rural Areas

S. No.	Occupation	Families		Total Families (%)
		Hills (Mid & High) (%)	Plains & Foothills (%)	
1	Agriculture	68.82	55.84	61.35
2	Labour	1.76	38.53	22.94
3	Business	6.47	1.30	3.49
4	Service	11.76	1.30	5.74
5	Any other	11.18	3.03	6.48
	Total	100	100	100

Table-14
Association with Financial Institutions

S. No.	Financial Institutions	% of Total Respondents		Total (%)
		Hills	Foothills	
	Region			
1	Bank	5.88	26.41	17.71
2	Friends or relatives	76.47	18.61	43.14
3	Moneylender	10.00	56.71	36.91
4	SHGs	1.18	0.43	0.75
5	Any other source	1.18	0.00	0.50

Table-15
Perceived Association of the Community with Various Institution

S. No.	Institutions	% of Total Respondents		Total (%)
		Hills	Foothills	
	Region			
1	Gram Panchayat	73.53	9.09	36.41
2	Sub Committee of GP	0.59	3.46	2.24
3	Self Help groups	10.59	0.87	4.99
4	WDC	14.71	32.90	25.19
5	Water User groups	0.00	52.81	30.42
6	Cooperatives	11.76	3.46	6.98
7	Youth groups	0.00	0.00	0.00
8	Any Other	0.00	0.87	0.50

Table-16
Water Supply Coverage in Uttarakhand

Region	District	Total No. of GPs	Total Habitations	Fully Covered		Partially Covered		Not Covered	
				No.	%	No.	%	No.	%
G a	Chamoli	565	3255	851	26.14	1573	48.33	772	23.72
	Dehradun	310	2744	1707	62.21	700	25.51	337	12.28
	Haridwar	305	739	548	74.15	63	8.53	0	0.00
	Pauri Garhwal	1259	4996	2518	50.40	711	14.23	220	4.40
	Rudraprayag	323	1712	719	42.00	845	49.36	93	5.43
	Tehri Garhwal	915	5513	2983	54.11	792	14.37	935	16.96
	Uttarkashi	299	1664	1173	70.49	85	5.11	406	24.40
	Total	3976	20623	10499	50.91	4769	23.12	2763	13.40
K u m a o n	Almora	1482	5340	2522	47.23	1053	19.72	327	6.12
	Bageshwar	385	2865	1099	38.36	790	27.57	559	19.51
	Champawat	288	2301	1101	47.85	448	19.47	377	16.38
	Nainital	471	2811	1691	60.16	662	23.55	302	10.74
	Pithoragarh	645	4934	2561	51.91	966	19.58	396	8.03
	US Nagar	315	1093	882	80.70	13	1.19	10	0.91
	Total	3586	19344	9856	50.95	3932	20.33	1971	10.19

Table-17
Availability of Water Quantity in Rural Areas

S. No.	Water Quantity in liters (per capita per day)	% population
1	< 20	17.21
2	20-40	34.92
3	40-55	25.19
4	55 and above	22.69
TOTAL		100

Table-18

Water Supply Facilities in Schools in Uttarakhand

S.No.	Name of District	No. of Primary Schools	No. of Junior High Schools	Facility Available				Facility Under Construction			
				Primary Schools		Junior High Schools		Primary Schools		Junior High Schools	
				No.	%	No.	%	No.	%	No.	%
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	
1.	Nainital	890	256	480	53.93	132	51.56	75	8.43	0	0.00
2.	US Nagar	649	179	641	98.77	174	97.21	10	1.54	0	0.00
3.	Almora	1377	184	233	16.92	43	23.37	250	18.16	0	0.00
4.	Bageshwar	566	77	158	27.92	19	24.68	0	0.00	15	19.48
5.	Pithoragarh	1059	201	96	9.07	6	2.99	150	14.16	0	0.00
6.	Champawat	445	92	81	18.20	11	11.96	0	0.00	40	43.48
7.	Pauri	1659	404	608	36.65	142	35.15	300	18.08	0	0.00
8.	Chamoli	873	169	461	52.81	111	65.68	45	5.15	0	0.00
9.	Rudraprayag	505	89	22	4.36	9	10.11	95	18.81	0	0.00
10.	Uttarkashi	658	152	424	64.44	0	0.00	0	0.00	40	26.32
11.	Tehri	1276	303	664	52.04	131	43.23	0	0.00	0	0.00
12.	Dehradun	821	211	347	42.27	105	49.76	55	6.70	0	0.00
13.	Haridwar	583	82	543	93.14	50	60.98	0	0.00	20	24.39
		11361	2399	4758	41.88	933	38.89	980	8.63	115	4.79

Table-19(a) Latrine Coverage and Usage in Uttarakhand

Region	District	Total No. of Habitations	Total House Holds	Houses with latrine		Where latrine not in use	
				No.	%	No.	%
G a r	Chamoli	3255	68128	11869	17.42	306	2.58
	Dehradun	2744	122035	43364	35.53	609	1.40
	Haridwar	739	203180	44398	21.85	53	0.12
	Pauri Garhwal	4996	123794	25201	20.36	1028	4.08
	Rudra Prayag	1712	45482	11410	25.09	197	1.73
	Tehri Garwal	5513	114650	20353	17.75	775	3.81
	Uttarkashi	1664	54793	7416	13.53	1551	20.91
	Total	20623	732062	164011	22.40	4519	2.76
K u m a o n	Almora	5340	116063	20406	17.58	2980	14.60
	Bageshwar	2865	48748	12771	26.20	128	1.00
	Champawat	2301	41162	3457	8.40	24	0.69
	Nainital	2811	97316	38364	39.42	845	2.20
	Pithoragarh	4934	81926	16217	19.79	359	2.21
	US Nagar	1093	168584	12481	7.40	618	4.95
	Total	19344	553799	103696	18.72	4954	4.78

Table-19(b) Sanitation Facilities in Schools in Uttarakhand

S.No.	Name of District	No. of Primary Schools	No. of Junior High Schools	Facility Available				Facility Under Construction			
				Primary Schools		Junior High Schools		Primary Schools		Junior High Schools	
				No.	%	No.	%	No.	%	No.	%
1.	2.	3.	4.								
1.	Nainital	890	256	670	75.28	180	70.31	100	11.24	0	0.00
2.	US Nagar	649	179	696	107.24	130	72.63	40	6.16	0	0.00
3.	Almora	1377	184	300	21.79	86	46.74	100	7.26	0	0.00
4.	Bageshwar	566	77	193	34.10	21	27.27	15	2.65	15	19.48
5.	Pithoragarh	1059	201	563	53.16	40	19.90	0	0.00	20	9.95
6.	Champawat	445	92	55	12.36	34	36.96	30	6.74	30	32.61
7.	Pauri	1659	404	954	57.50	179	44.31	55	3.32	0	0.00
8.	Chamoli	873	169	407	46.62	118	69.82	45	5.15	0	0.00
9.	Rudraprayag	505	89	16	3.17	2	2.25	76	15.05	0	0.00
10.	Uttarkashi	658	152	299	45.44	67	44.08	100	15.20	40	26.32
11.	Tehri	1276	303	443	34.72	151	49.83	100	7.84	50	16.50
12.	Dehradun	821	211	319	38.86	114	54.03	45	5.48	0	0.00
13.	Haridwar	583	82	539	92.45	51	62.20	100	17.15	50	60.98
	Total	11361	2399	5454	48.01	1173	48.90	806	7.09	205	8.55

Table-20 Compost Pits and Garbage Pits in Uttarakhand

Regions	District	Total No. of Habitations	Total House Holds	Houses with Compost Pits		Houses with Garbage Pits	
				No.	%	No.	%
G a r h w a l	Chamoli	3255	68128	21	0.03	2	0.00
	Dehradun	2744	122035	628	0.51	3873	3.17
	Haridwar	739	203180	780	0.38	474	0.23
	Pauri Garhwal	4996	123794	3025	2.44	533	0.43
	Rudra Prayag	1712	45482	1034	2.27	121	0.27
	Tehri Garwal	5513	114650	1899	1.66	10692	9.33
	Uttarkashi	1664	54793	55	0.10	0	0.00
	Total	20623	732062	7442	1.02	15695	2.14
	Average	2946.14	104580.3	1063.14	1.06	2242.14	1.92
K u m a o n	Almora	5340	116063	343	0.30	129	0.11
	Bageshwar	2865	48748	59	0.12	1	0.00
	Champawat	2301	41162	228	0.55	166	0.40
	Nainital	2811	97316	3504	3.60	5202	5.35
	Pithoragarh	4934	81926	313	0.38	483	0.59
	US Nagar	1093	168584	777	0.46	665	0.39
	Total	19344	553799	5224	0.94	6646	1.20
	Average	3224	92299.85	870.67	0.9	1107.67	1.14

Table-21(a)**Place for Disposal of Household Waste**

S. No.	Place	% of Total Respondents		Total (%)
		Hills	Foothills	
1	Dispose in a particular pit	37.06	52.38	45.89
2	Dispose in the front/back yard	17.06	33.77	26.68
3	Throw it away anywhere	26.47	11.26	17.71
4	Other	19.41	0.87	8.73

Table-21(b)

Occurrence of Water-borne Diseases

S. No.	Diseases	% of Total Respondents		Total (%)
		Hills	Foothills	
1	Diarrhea	4.12	6.93	5.74
2	Skin infection	1.18	0.87	1.00
3	Eye infection	2.94	0.43	1.50
4	Typhoid	2.94	3.46	3.24
5	Jaundice	5.29	9.52	7.73
6	Malaria	1.76	0.00	0.75
7	worm infection	1.76	0.00	0.75
8	Others	0.00	1.73	1.00

Table-21(c)

Expenditure on Water-borne Diseases

S. No.	Diseases	Total (%)			
		Region			
Expenditure code (in Rs.)		I	ii	iii	iv
1	Diarrhea	2.99	0.50	0.00	2.00
2	Skin infection	0.25	0.75	0.00	0.00
3	Eye infection	1.00	0.25	0.25	0.00
4	Typhoid	0.00	0.00	1.00	2.74
5	Jaundice	0.50	0.75	4.74	1.75
6	Malaria	0.00	0.50	0.00	0.25
7	worm infection	0.25	0.00	0.25	0.25

Code:- (i) 0-300, (ii) 301-500, (iii) 501-800, (iv) Above 800

Table-22

Distance Traveled To Fetch Water

S.No.	Distance (meters)	Total respondents						Total No. (%)		
		Hills			Foothills			i	ii	iii
Season code		i	ii	iii	i	ii	iii			
1	0-150	58.2	71.8	71.8	60.6	60.2	61.0	59.6	65.1	65.6
2	151-300	10.6	10.6	10.6	16.5	16.5	16.5	14.0	14.0	14.0
3	301-800	15.9	8.2	8.2	13.0	16.0	16.9	14.2	12.7	13.2
4	801-1500	13.5	8.8	8.8	9.1	6.5	5.2	11.0	7.5	6.7
5	Above 1500	1.8	0.6	0.6	0.9	0.9	0.9	1.2	0.7	0.7

Code:- (i) Summer, (ii) Winter, (iii) Rainy

Table-23

Time Consumed to Fetch Water

S.No.	Hours	Total respondents (%)						Total No. (%)		
		Hills			Foothills					
Region	Season code	i	ii	iii	i	ii	iii	i	ii	iii
1	0-1	30.0	62.9	67.6	25.1	42.0	45.9	27.2	50.9	55.1
2	>1-3	50.0	35.3	32.4	70.1	56.3	51.9	61.6	47.4	43.6
3	>3-5	16.5	1.8	0.0	2.6	0.9	1.7	8.5	1.2	1.0
4	Above 5	3.5	0.0	0.0	2.2	0.9	0.4	2.7	0.5	0.2

Code: - (1) Summer, (ii) Winter, (iii) Rainy

Table-24

Responsibility to Fetch Water

S. No.	Person	% of Total Respondents		Total (%)
		Hills	Foothills	
1	Male	60.59	45.89	52.12
2	Female	97.06	95.67	96.26
3	Female child	42.94	38.10	40.15

Table-25 SWOT Analysis Matrix of the Stakeholders

Level	Strength	Weakness	Opportunities	Threat
UW SSC/ Gram Panchayat	<ul style="list-style-type: none"> ▪ Constitutional Mandate ▪ Established Procedures, Rules and Regulations ▪ Operational Flexibility and Freedom ▪ Participatory Decision-making ▪ Ensuring Social Inclusiveness ▪ “Direct” Representation of People 	<ul style="list-style-type: none"> ▪ Lack of Executive Staff ▪ Delay in Transfer of Functionaries ▪ Insufficient and Varying Capacity Levels ▪ Inadequate “Own” Funds ▪ Weak Infrastructure ▪ Short-circuiting of Participation by People ▪ Voluntary and Political Nature ▪ No Focus on Capacity Building and Weak Accountability Structures 	<ul style="list-style-type: none"> ▪ Transfer of Functions ▪ Transfer of Functionaries ▪ Mainstreaming in RWSES Reform Program ▪ Substantive Capacity Building Programs ▪ Channeling of Development Programs through GPs 	<ul style="list-style-type: none"> ▪ No ‘Real’ Participation ▪ Accessing User Groups, Bypassing GPs ▪ Poor and Insufficient Infrastructure ▪ Weak financial management Systems ▪ capacity building challenges ▪ Lack of Incentives
Kshetra Panchayat	<ul style="list-style-type: none"> ▪ Constitutional Mandate ▪ Representative Nature ▪ Presence of Executive Body 	<ul style="list-style-type: none"> ▪ Confusion Over Roles and Responsibility ▪ Non Devolvement of Funds and Functionaries ▪ Strains Between Elected and ex Officio Members ▪ Poor and Inadequate Infrastructure ▪ Lack of Incentive 	<ul style="list-style-type: none"> ▪ Building their Capacities ▪ Undertaking Responsibility of Multi Panchayat Schemes within the Block ▪ Undertaking other Multi Panchayat Functions ▪ Starting Revenue Generation 	<ul style="list-style-type: none"> ▪ Justifying its Relevance ▪ Delays in Devolution of Funds and Functionaries ▪ Conflict Between KPs Served from same Multi Panchayat Schemes

Level	Strength	Weakness	Opportunities	Threat
Zilla Panchayat	<ul style="list-style-type: none"> ▪ Constitutional Mandate ▪ Own Executive Staff ▪ District Planning Units 	<ul style="list-style-type: none"> ▪ Financial (un) Sustainability ▪ No Significant Revenue Generation ▪ Weak Accountability Structures 	<ul style="list-style-type: none"> ▪ Enhancing their Capacities ▪ Acting as District Water and Sanitation Mission ▪ Responsibility of Multi Panchayat Schemes Covering More than One Block ▪ Coordination of various district level programs under District Plan ▪ Computerization and infrastructure strengthening 	<ul style="list-style-type: none"> ▪ Lack of Capacity ▪ Blurred and Inadequate Accountability Structures ▪ Unfavourable Balance of Power vis a vis District Administration
UPN & UJS	<ul style="list-style-type: none"> ▪ Legislative Mandate ▪ Established and well defined Procedures, Systems, Guidelines and Policies ▪ Technical and Managerial Competence ▪ State wide Presence and geographical distribution of set up 	<ul style="list-style-type: none"> ▪ Under Staffing ▪ Inefficient MIS and M&E Systems ▪ Financial (un) sustainability ▪ Lack of Updating on Latest Technologies, Weak R&D and Capacity Building 	<ul style="list-style-type: none"> ▪ Working with Local Self Governments ▪ Adoption of Participatory Approaches ▪ Accountability to Local Self Government and Beneficiaries 	<ul style="list-style-type: none"> ▪ Loosing Relevance ▪ Confusion as regards to legal mandate, roles and responsibilities ▪ Multiplicity of Roles and Multiplicity of institutions ▪ Inadequate measures to manage change

Level	Strength	Weakness	Opportunities	Threat
PMU / DPMU	<ul style="list-style-type: none"> ▪ Project Focused Approach ▪ Team with Mix of Skills ▪ Operational Autonomy ▪ Participatory Decision-making ▪ No Long Term Liability on State Exchequer 	<ul style="list-style-type: none"> ▪ Transitory Nature ▪ Attrition of Talent ▪ No Sector Mainstreaming ▪ Weak Accountability Structures ▪ Inadequate Infrastructure Support 	<ul style="list-style-type: none"> ▪ Change Management Unit ▪ Undertaking Other Roles in Conformity with its Main Objectives ▪ Mainstreaming in RWSS Reform Program ▪ Anchoring Capacity Building Programs ▪ Deploying Experience in Other Sectors 	<ul style="list-style-type: none"> ▪ Loosing Relevance ▪ <i>Co existence with Sector Institutions</i> ▪ <i>Coordination with PRIs</i> ▪ Inability to Mobilize Appropriate and Adequate Staff ▪ Discontinuation of Incentive Structure Programs