



Prioritization of rural water supply and sanitation schemes

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DRINKING WATER is one of the basic needs of the people, receiving increasingly stronger emphasis in every consecutive development plans of the His Majesty's Government of Nepal (HMG/N). In this context, HMG/N has set a target to provide drinking water to all by the year 2002 AD. Similarly, the target of sanitation coverage has been set to achieve 40 percent within the same time frame (HMG/N: 1998).

In line of increased emphasis of the government on social infrastructure development, it is imperative to develop future development plans for phased investment in the sector. Accordingly, District Profile and Plan for the rural water supply and sanitation sector (DWSDP) was prepared for several districts in the country. The authors were responsible for developing such plans in five districts in the Eastern Development Region of Nepal. These Plans were developed to prepare an inventory of existing water supply and sanitation situation of the districts, information on existing coverage and location of areas that have not been covered and identification of potential and possible schemes and sanitation services to be implemented in the future. The DWSDPs are expected to be the basic document on which future investments in the water and sanitation (WATSAN) sector would be based at the district level.

Criteria for Ranking

The criteria for prioritisation of the schemes was done based on both diagnostic as well as prognostic analyses. In this way, the authors' approach included prioritisation on the bases of Holistic, Participative and Realistic Criteria. Holistic dimension in water supply implies the need and ability to grasp all the relevant interconnectedness within the context of the plan, especially that existing between water supply and sanitation sub-sectors. Participative dimension expresses the local community's inclination and external effort's ability to involve in the local water use. Similarly, realistic dimension means the ability to understand the existing realities in terms of financial and geographical limitations and opportunities. The authors also utilized the prioritisation approach developed under Fourth Rural Water Supply and Sanitation Sector Project (FRWSSSP) (1996) to further consolidate the ranking approach.

Holistic Criteria

The holistic criteria used by the authors comprehensively endorsed the need for integrated water supply and sanitation sector development. In this context, the hardship

within the district was seen as a composite factor signifying the prevailing water supply and sanitation situation in an area. Similarly, the extent of services made available to the community in terms of health education and the people's behavioural inclination as regards water supply and sanitation also become an integral component of holistic criteria.

Participative Criteria

The participative criteria was utilised by the authors by making efforts to incorporate aspects relating to the participation during water supply and sanitation schemes' implementation, and their subsequent O&M and management. Emphatically, the criteria included the preliminary assessment of the capacity of the community — in gender-segregated manner- to place demand with the sector agency or other organizations. This was assessed by investigating the community's record of involvement in previous initiatives to manage common property resources, men and women's inclination to get involved in O&M and management.

While exploring the participative criteria, the authors not only assessed the people's willingness to participate but also assessed the facilitating environment for people to participate. Understandably, the remoteness of the village, level of literacy, knowledge of government's support and benefits to participation, etc. were some of the prime variables explored to assess the demanding ability or ability to participate by the community. Similarly, the ability of the community to generate and mobilize resources was also taken as one of the bases to assess a community's propensity to participate.

Realistic Criteria

The realistic criteria, which meant understanding of the existing capacities in terms of limitations and opportunities, were comprehensively utilized to rank the schemes. The government cannot simply provide funds for drinking water and sanitation sector, given its commitment to several other sectors as well. The internal trade-off between and among the development sectors vis-à-vis the investment requirement needs to be appreciated. It needs also to be noted that the investment in WATSAN sector is often high with the benefits occurring to a small community or enclave identified by the geographical regime. Consequently, the return to the investment, defined strictly in financial terms may not be very attractive. For this study, the authors have recognized the issue of the investment

requirement for WATSAN projects. Alternatively, under this criterion, the per capita investment for the schemes was considered in prioritising of the schemes.

Integrative Criteria

The authors used the criteria developed by FRWSSSP, which comprehensively considers hardship experienced by the community, cost of the identified scheme and commitment for participation as demonstrated by the community.

Prioritised Water Supply Schemes

Based on the prioritisation criteria discussed above and complying to the goals and objectives of the district plans, following results were observed for the five districts:

Holistic Criteria

The survey conducted by the authors resulted that the present water supply coverage in the five district is 46.6 and 25.2 percent have access to sanitation facilities.

Table 1. Prioritisation based on Holistic Criteria

Hardship Score	A	B	C	D	E	Total
>40	6	2	10	10	12	40
30-40	36	14	19	18	33	120
20-30	74	72	20	29	58	253
20-10	17	121	114	77	76	560
<10	30	17	8	26	17	98
<i>Total</i>	<i>318</i>	<i>226</i>	<i>171</i>	<i>160</i>	<i>196</i>	<i>1071</i>

A = Ilam, B = Khotang, C = Solukhumbu, D = Taplejung, E = Udaypur

Based on the holistic criteria, it was observed that only 4 percent of the clusters have a very high to high hardship level; 87 percent have moderate hardship and 9 percent have low hardship.

Cross-district comparison of hardship ranking resulted that Udaypur district has the most urgent investment requirement, followed by Taplejung, Solukhumbu, Ilam and Khotang district. It is apparent that Khotang district is relatively better-off in drinking water supply than other districts in the eastern development region.

Participative Criteria

The survey data provided that from among the schemes already implemented in five districts, WUCs are formed in 68 percent of the existing schemes; in 35 percent the WUCs are formally registered, and in about 23 percent of the schemes O&M fund has been established. This result provides that the concern for WUC establishment may have been widely considered as an integral part of the

scheme implementation, but WUC registration and O&M fund establishment is not yet a mandatory requirement for scheme implementation.

In order to counter this situation, the authors explored the willingness of the people to participate from several angles. The authors found that only 35.7 percent communities are willing to provide cash and labour contribution for scheme construction, and 62.6 percent people are willing to contribute for O&M fund establishment. Similarly, in 31 percent of the clusters women said that they are willing to participate as much as their male counterparts. It was observed that the willingness to participate and contribute resources in water supply projects is generally higher.

Table 2. Prioritisation based on Participative Criteria

Participative Score	A	B	C	D	E	Total
40	164	99	108	92	131	594
30-39	29	97	19	25	27	197
20-30	3	10	1	7	5	26
10-20	100	18	35	28	22	203
<10	22	2	8	8	11	51
<i>Total</i>	<i>318</i>	<i>226</i>	<i>171</i>	<i>160</i>	<i>196</i>	<i>1071</i>

A = Ilam, B = Khotang, C = Solukhumbu, D = Taplejung, E = Udaypur

Data from the field indicates that in about 55 percent of the clusters, the prospective users affirmed a high level of commitment to participate in scheme development and future O&M process. However, in about 5 percent of the schemes, the prospective beneficiaries showed very low to no interest in participating in the planning, implementation, and future O&M process.

Cross-district comparison of the participative criteria resulted that people of Ilam have the highest inclination to participate in the future O&M and management of the schemes, whereas the people of Khotang are relatively less keen on participating in WATSAN development. Correlation analyses provided that a high level of literacy among the Ilam resident is the determinant for their high propensity to participate in WATSAN development. This observation holds valid for Khotang district as well where the public's propensity to participate in WATSAN projects is comparatively less.

Realistic Criteria

As presented earlier, the investment required to implement the project is one of the crucial aspects in WATSAN development. Often in resource-constrained situation, this factor primarily shapes the decision to implement a water supply scheme.

The survey data provided that about 30 percent of the schemes are categorized as very high per capita investment

schemes, 10 percent of the schemes are high per capita investment, 36 percent are medium per capita schemes and the rest 26 percent are low per capita investment schemes. The higher per capita investment required for a bigger majority of the schemes is probably due to the relatively inaccessible nature of the districts, especially in the northern areas with poor infrastructure facilities, which remains almost inaccessible during the monsoon. In addition to this, the data collection process was based on a conservative approach, which could have led to a “safer” assessment of the needs for the identified schemes.

Table 3. Prioritisation Based on Realistic Criteria

Per Capita Cost	A	B	C	D	E	Total
50-60	12	46	35	52	52	307
40-50	25	19	22	21	19	106
30-40	55	41	25	27	27	175
20-30	49	48	30	37	45	209
20-10	50	54	34	18	37	193
<10	17	18	25	5	16	81
<i>Total</i>	<i>318</i>	<i>226</i>	<i>171</i>	<i>160</i>	<i>196</i>	<i>1071</i>

A = Ilam, B = Khotang, C = Solukhumbu, D = Taplejung, E = Udaypur

Cross-district comparison of the collected data resulted that the per capita cost of the schemes were more or less same for all districts. However, the similarity was consistent only for the breakdown, but the relative difference in per capita cost exists for individual districts.

Integrative Criteria

The schemes identified in the districts were also evaluated against the integrative criteria developed by FRWSSSP.

Table 4. Prioritisation Based on Integrative Criteria

Integrative Score.	A	B	C	D	E	Total
>40	16	99	10	89	132	594
30-40	28	96	6	24	30	184
20-30	2	12	18	2	5	39
10-20	10	18	32	33	21	205
<10	21	1	7	12	8	49
<i>Total</i>	<i>318</i>	<i>226</i>	<i>171</i>	<i>160</i>	<i>196</i>	<i>1071</i>

A = Ilam, B = Khotang, C = Solukhumbu, D = Taplejung, E = Udaypur

Prioritisation based on this criterion indicated that 55 percent of the schemes fall under very high priority. Similarly, 17 percent fall under high priority category for implementation, followed by 20 percent in lower to medium category. About 4 percent of the schemes fall under low priority categorization. This identified scenario can be attributed to the fact that community’s willingness to participate in the development and implementation process was generally higher.

Cross-district comparison shows that in Udaypur district almost 83 percent of the identified schemes fall under very high priority for implementation. Comparatively, in Khotang only 44 percent of the identified schemes fell under very high priority for implementation. The observed spectrum of priority is also reflective of the willingness to participate by the communities in the individual districts.

Hardship and Participation

It was observed in all the five districts that the hardship faced by the people has a strong positive correlation with the level of commitment of the people to participate in the implementation and subsequent operation, maintenance and management of the schemes. In this context, the consultants emphatically state that the level of participation increases with the increase in hardship. Thus, in extreme cases the hardship factor should be dominant factor in relation to other factors like cost and level of participation.

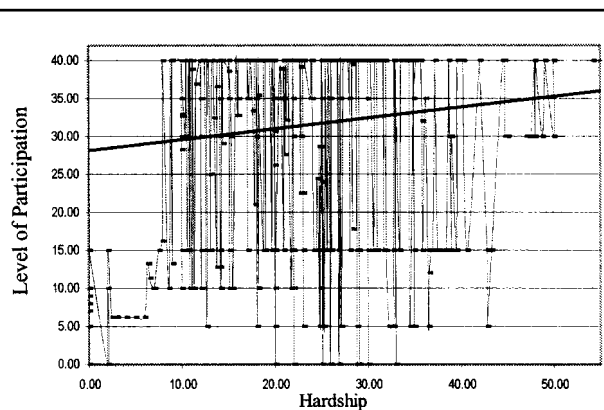


Figure 1. Correlation between Hardship and Level of Participation in Development, O&M of the scheme

Conclusion

The District Water Supply and Sanitation Plan provide a very strong and effective basis for future investment in the sector at the district level. In the resource-constrained environment, the overall scenarios of the districts reflect the need to plan and develop the WATSAN sector in an effective manner. The plans have prioritised and ranked the proposed water supply schemes as well as the VDCs in terms of needs and hardship situation - the district planning activity should be carried out on this priority basis in

conjunction with the identified / proposed water supply schemes for the respective VDCs.

As a precautionary note, it is stated that the prioritisation of the schemes is the first stage in the development and implementation of the schemes. The authors propose that during actual implementation the following issues must not be forgotten:

- **Participation:** The plan implementation must take into consideration that all users participate during the implementation of the plan. A logically defined educational support may be appropriate to increase the level of participation.
- **Regulation:** The implementation of the plan implementation should be guided by the normative and strategic principles outlined in the National Policy documents.
- **Transparency:** The implementation must assure that all processes, institutions and information bases are widely disseminated and the information contained within the plan are made readily accessible to all stakeholders.
- **Responsiveness:** It needs to be considered that the developed plan is a decision-support tool, and some essential deviation may be needed during the course of actual implementation. However, such changes too, as this plan, should be responsive to the needs of the people and comply with the resource milieu of the community.
- **Consensus-building:** Differing interests of involved stakeholders and the people can often be conflicting to each other, thus the effort to reach a broad consensus that satisfies the concerns of all involved stakeholders should be a continuous process.

- **Equity:** It needs to be realized that all women and men belonging to different strata are availed with an opportunity to participate in the process of WATSAN plan implementation.
- **Effectiveness and efficiency:** The plan implementation needs to be initiated with the concern for effectiveness and efficiency.
- **Accountability:** The plan is developed for the people using certain preset criteria and it needs to be implemented to honor the same.
- **Strategy:** It is essential that a joint strategy is conceived which is fully amenable with the available policy framework.

References

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