

Water and Sanitation Sector in the Periodic Plans: A Snapshot

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Abstract

Water is one of the essential elements for survival. Civilization develops along or near water bodies. Implementation of modern water supply system in Nepal started during the Rana regime. By the second periodic plan, drinking water supply has categorically mentioned. Since then water supply has been one of the components of each and every plan. During Panchayat period water supply was basically emphasized on urban areas and district headquarters, after words gradually moved towards accessible villages. The UN Water and Sanitation Decade has accelerated the pace of implementation.

By the time of democratic regime, budget, actors and coverage on water supply and sanitation increased much. However, functionality remained dismal. Three different categories of service levels of water supply targets and achievements have been mentioned in the periodic plans starting from republican era. Compared to water supply coverage, sanitation has been lagging behind. Still functionality of piped water supply systems remain challenging, information based planning and decision making as well. Sector coordination, cooperation and joint planning yet to be realized among the sector actors. Planners and policy makers should be accountable using the sector related official information in planning, monitoring and evaluation. The write up has used secondary source of information and is broadly divided into four segments according to overarching state polity.

Background

Drinking water supply is one of the most basic needs of human being and access to water plays a key function in human civilization. Overall development of any society/country depends upon the availability and accessibility of water that include safe drinking water. Around 5000 years ago the first complex and centralized civilizations began in and around river valleys (Prasain and Gautam, 2011). Like in many religions including the Hindu religion believes that water washes away the sin (Prasain, 2007). Natural and man made water sources have been the main source for drinking and domestic purposes e.g., stone spout (Hiti/Dhungedhara), well, (Kuwa, padhera), ponds, lakes, rivers, rivulets, etc., have well been existed and used since time immemorial.

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The Interim Constitution of Nepal 2007 has also incorporated the clean environment as a fundamental right of an individual that also includes the basic water supply and sanitation service facilities as well. World Health Organization (WHO) also recognizes that access to adequate water supply is fundamental human right. Water related diseases are killing millions of people each year that account for 80 percent of all deaths in developing countries. Many diseases transmitted via the fecal-oral route and that occurs when human faecal is ingested through drinking contaminated water or eating contaminated food (www.hwe.org.ps/Projects/Training/Training%20Municipality/course1/material/Water.pdf). Retrieved on June 17, 2014).

Waterborne and water related diseases can have significant negative impact on household, local and international economic sphere. People who infected by waterborne and water related diseases are usually confronted with related costs and with a huge financial burden. It happens especially in developing countries. The financial losses are mostly caused by costs for medical treatment and medication, costs for transport, special food and by the loss of manpower. Many families must even sell their land to pay for treatment in a proper hospital. On an average, a family spends about 10 percent of the monthly households income per person infected (**Error! Hyperlink reference not valid.** ... Schnabel, Bastian. "Drastic consequences of diarrhoeal disease" Retrieved on June 17, 2014).

In Nepali context, the Nepal Demographic Health Survey (NDHS) 2011 states that 14 percent of children under age five had diarrhea in the two weeks before the survey. The proportion of children with diarrhea taken to a health provider for advice or treatment has increased over time, from 14 percent in 1996 to 38 percent in 2011 and it further states that 12 percent of children under five years suffer from diarrhea, and 5 percent die due to the condition (NDHS, 2011).

The national average for households using safe drinking water sources was 85 percent in 2012/13 which was 80 percent in 2010 and in excess of the 2015 MDG target of 73 percent, whatever may be the quantity and quality. Access to piped water, considered the safest source. It has not increased in the last seven years. Overall, 44.5 percent of households have access to piped water, and almost half of these households have private connections. The remaining percentage of water supply coverage considered not safe. People of urban households in Kathmandu Valley expressed the worst opinion of drinking water facilities (NPC/UNDP, 2013). It is due to the concern authority does not care about the safe and adequate quantity of drinking water supply rather Kathmandu ties relied on the private water tankers irrespective of water quality. Nonetheless, access to piped water is positively associated with household wealth: about 47 percent of households in the top quintile have their drinking water piped to their housing units while only 7 percent of the bottom quintile. Regarding sanitation between 2000 and 2011, the national sanitation coverage doubled from 30 percent to 62 percent that surpassed the 2015 MDG target of 53 percent. Those without access to toilets defecate in the open. In terms of Nepal's three physiographic regions, sanitation coverage is 75 percent in the hills followed by mountain (60%) and Tarai (49%). Disparities between urban and rural areas, geographical regions are very wide, among rich and the poor are also stark (NPC/UNDP, 2013).

Despite significant progress made in this connection, still a large chunk of population resides in hard to reach areas and are deprived of the facility as well suffer much from water borne and water related diseases caused by lack of safe drinking water and inadequate sanitation facilities. In the effort of improving water supply and sanitation, many government and non-government organizations such as National Planning Commission, Ministry of

Urban Development, Ministry of Local Development and Federal Affairs, Ministry of Finance, Unicef, Water Aid Nepal and many more projects, NGOs, I/NGOSs, local bodies (MPPW/SEIU, 2011), have been working constantly with no coordination. Even within the ministry several water supply and sanitation projects are running without coordination. They have been working either from on-budget and off-budget. For the purpose of this write up, the duration of water supply and sanitation has been broadly divided in different regimes.

Before Panchayati Rule

Air, water, food and shelter are the very basic necessity of human life. Civilizations evolve and develop in places where water is easily available and accessible to human being for drinking, domestic, agriculture and industrial purposes. In Nepalese context, since long water sources - such as *Hitis* (stone spout), *Kuwa*, (natural well), have been serving as the main source of drinking and domestic purposes. Implementation of piped water supply was executed mainly for the ruling families in Kathmandu in 1891 by Bir Samsher J. B. Rana, the then Prime Minister which was known as '*Bir Dhara*'. The modern concept and practice of institutionalization of piped water *Pani Goswara* (Water Office) was initiated in 1929 after 38 years of installation of first piped water supply (NGO Forum, 2008) was established. It was replaced by Water Supply and Sanitation Board in 1974. After the political change in 1950 the state considered water supply service is one of the key development activities and incorporated in each and every periodic development plan of Nepal.

Serious efforts were made for the socio-economic development of Nepal after the ousted of oligarchy Rana regime in 1951. Then in 1955 a Planning Board was set up for the purpose socio-economic development. In 1956 the First Five Year Plan (1956-61) was prepared by the Board. It was a Herculean task for the government without basic information and human resource to do so. The first plan envisaged various sectoral developments. Regarding the water supply, the plan slightly touches upon under the health section as provision of safe water supplies, etc. Before completing the plan, unfortunately however, the elected government was ousted by the then king Mahendra and initiated party-less '*Panchayati*' system.

Autocratic Panchayati Rule

As the ephemeral existence of the democratically elected government, the king took control over the entire state structures. Before restoration of multiparty democracy in Nepal seven periodic plans were completed. Among them six (second to seventh) plans were guided by the Panchayat polity which was directed by the palace through the National Planning Commission. Then second plan (1962-65), was formulated by the then party less panchayat system which continued for three decade (from the Second to the Seventh Plans). All of them were directed by the king. Apparently the prime motive of the *Panchayat* polity was '*vikas ko lagi rajniti*' (politics for development). So as to get the national and international support, the state endeavored to proclaim as a welfare state. But in practice, it was contrary. The plan documents overtly support the Panchayat and covertly condemn the democratic system. Though the overall goal of second plan was to enhance the planned economic development and to create progressive, socio-economically just, and welfare state. It stresses the growth of productivity together with the fair distribution of benefits. Keeping the overall political objective in mind the state emphasized in implementing drinking water supply mainly targeting to serve the expanded state structures, i.e., zonal, district and

municipalities. Though, drinking water supply intervention is not categorically elaborated in the first plan. The plan highlighted on implementation of water supply mostly in the district headquarters/urban areas such as Kathmandu, Bhaktapur, Lalitpur, Biratnagar, Panauti, Amalekhgaj, Pokhara, Doti and so on (NPC, 1961).

The plan has flag-out issues of operation and maintenance. The task of maintenance of water supply has been given the local bodies, which then as merely presupposition, i.e., Municipality and Village Panchayat, were unable to shoulder the responsibility without having necessary system, procedures and lack of capable human resource.

Gaining experiences from the previous plans, the third plan initiated the concept of balanced development and geo-physically diversified agriculture. In the third plan ((1965-70) water supply services placed as one of the people's basic needs. Since this plan, urban sanitation (sewerage system) has been touched upon slightly as an integral part of drinking water supply. So as to address the sanitation situation, a master plan was prepared with the help of World Health Organization (WHO). Urban/district headquarters based water supply services were still given high priority while village sanitation program was implemented with the assistance of UNICEF, water supply and a sewage disposal program was started on an experimental basis in the three villages of Lalitpur district (NPC, 1964).

The government mentioned importance of sanitation together with drinking water for healthy living of the people in fourth plan (1970-75). However, in case of drinking water supply intervention, it is compelled to move gradually from district headquarters/urban focus to rural areas so as to popularize the political system. With regard to water supply and sanitation, four types of interventions were mentioned in his plan documents; they were: i) New Projects- a. drinking and b. Sewerage; ii) Continuing projects; iii) Survey and preparation of project report and iv) Laboratory establishment for water quality testing. In addition to the above, selected village panchayats were also included to start with water supply and sanitation which was the continuation of the third plan. It was also given priority to sewerage disposal in those urban areas where drinking water facilities were already existed and carried out feasibility study were some of the works envisaged by the plan (NPC, 1969).

The overall objectives and goals of the Fifth plan (1975-80) were not much different than that of previous two plans giving priority to the Panchayat polity. Despite the huge investment up to the fifth plan to build the infrastructures no substantial improved of people's living standard.

Similar to the previous plans, large sections of the populations have been suffering from lack of safe and adequate drinking water. Piped drinking water supply facility and services could not catch up the pace of the fast growing population. Equitable provision of water supply service and facility could not be provided to all people at that juncture of time. So communities were divided into five different categories. Category A&B communities planned to provide 20 to 30 gallons of drinking water per day, whereas category C would get 15 to 20 gallons and categories D&E have to be provided only ten gallons. The communities of A&B has to be given private connection and such communities have to manage operation and maintenance cost by themselves. While communities D&E will get only public taps and all costs will be provided by the government (NPC, 1974). The fifth plan aimed at supplying piped drinking water to 12.2 percent of population to the minimum program and 13.1 percent according to the maximum program. However, by the end of the plan period about 11

percent of the populations were able to get water supply, i.e., it was made available to 1,548 thousands population supplying 139 million liters per day (NPC, 1979).

During the decade of 1980s, the United Nations (UN) declared International Drinking Water and Sanitation Decade with the goal 'water for all by 1990' (Bourne, 1984) to give emphasis on the water and sanitation for all and to ultimately enhance the people's health and well beings of all developing countries including Nepal. The UN declaration helped to pursue the goal and objectives of drinking water and sanitation. The Sixth plan (1980-85) also acknowledged high importance of provision of safe drinking water which can raise the health status along with improvement in environmental sanitation. In this context, the plan set its drinking water and sewage/sanitation objectives. They were: i) fulfill the basic minimum requirement of the people by extending the drinking water facility to the maximum number of people, ii) reduce regional inequalities as much as possible and, iii) optimized mass participation and use of local material, skill as well labor in rural areas along while implementing projects with provision of sewerage in the urban areas.

The plan envisages making quantitative improvement of the existing drinking water supply in the urban areas, while some new drinking water supply schemes were launched in the rural areas. Active involvement of the beneficiaries and use of local materials were the pre-condition while selecting projects for implementation in the rural areas. Only piping materials and technical support would be given by the centralized agency, whereas necessary arrangements for maintenance of the constructed projects were to be carried out by the local Panchayats themselves (NPC, 1979). By analyzing the plan documents, the state prioritized on the urban/district headquarters which reflected the mentality of planners' that the periphery should serve the centre. A good example can be cited in this case is during the plan period a 'Master Plan' was prepared by giving particular emphasis on Kathmandu Valley and in general to the urban areas (NPC, 1979), leading to urban focused growth. It is clearly reflected the urban bias planning culture which creating huge discrimination among the people living in urban and rural areas. Because of several problems the population covered by the facility of piped drinking water has stood at 22.4 percent at the end of the sixth Plan.

In view of the prime importance of the healthy manpower, the Seventh Plan (1985-90) focused on drinking water and sanitation programs which have been continued since the past periodic plans. In the mountain and hill where majority of people resides, water sources are usually long way to go and lots of time and energy are spent on fetching water. In such circumstance the government committed for "Health for all by 2000" and the "Drinking Water and Sanitation Decade" through accelerating the sectoral performance. At the same time, due priority was given to create awareness to the crucial need of sanitation even in the rural areas.

In rural areas, sanitation programs were underscored and sewerage in urban areas was accentuated. In order to fulfill the key objectives of the plan, policies were stressed on the purification of drinking water projects in urban areas. Effective coordination efforts were sought among agencies involved in drinking water projects. At the same time, rural drinking water projects were implemented by mobilizing local labor, skill and resource so as to benefit maximum number of people. In prominent urban areas, sewerage system be gradually installed and the drains of all houses would be connected with this system as far as possible through private participation. Low cost waste disposal programs have been taken up in the semi-urban areas. In order to promote mass consciousness towards sanitation necessary publicity, information and motivation programs were launched. Similarly, local panchayats were activated to launch mass educational and informational programs about public toilets in

order to run sanitation work regularly and systematically in the town areas. The policy also emphasized to the distribution of private taps in semi-urban as well as in the densely populated rural areas.

Despite as emphasized in the aforementioned plans, facility of pure drinking water could not be provided to the majority of people because of the scarcity of means and resources. At the end of Seventh Plan 42 percent of population having with basic drinking water supply and only 6 percent had sanitation facility (NPC, 1994/5). During the planned holiday, already initiated projects were taken up. The Table 1 tries to sum up the Panchayat era progress in the sector.

Table 1: Target and Achievement during Panchayat Period

Plan	Target				Achievement	
First Plan (1956-61)					1,452,000- gal/per day	
Second Plan(1962-65)					1,495,000- gal/per day	
Third Plan(1956-70)	10 million- gal/per day				49,48,000- gal/per day (6%)	
Forth Plan(1970-75)	Target				Achievement	
	7,403,200				7.25%	
Fifth Plan(1975-80)						
	Rural		Urban			
	Target	Achievement	Target	Achievement	Target	Achievement
Water supply	6.4%	-	83%	-	13.1%	0.9 %
Sixth Plan (1980-85)						
Water supply	25.8%	17.9	87.2%	79.9	30%	22.4
Seventh Plan (1985-90)						
Water supply	67%	39%	94%	67%	69%	42%
Sanitation	-	3%	-	34%	-	6%

Source: From First Plan to Seventh Plan, NPC, GoN.

The first periodic plan did only mention Water and Sanitation under the health section but not as separate one regarding the provision of piped water supply target. But, achievement is stated to supply 1,452,000 gallons of drinking water per day in the review of second plan. By the second periodic plan, 1,495,000 gallons of drinking water supply per day was provided. In both the planning documents, no target had fixed clearly. However, in the Third plan its target was fixed to supply 10 million gallons of water per day. As an achievement, by the end of the plan 49, 48,000 gallons of drinking water supply was provided to district headquarters/urban centers which is nearly fifty percent of the targeted figure. Despite that it only served six percent of the then population. In the fourth plan merely 1.25 percent additional population was served. Up to the fourth periodic plan, there was no clear target and achievement in terms of population coverage by the improved water supply systems. The fourth plan was to set numerous national development goals, but only those goals were placed in highest priority which corresponded to the objectives of the Panchayat System. In the fifth plan, targets were separated for rural (6.4%) and urban areas (83%). Looking into the figures on target and achievements it seemed dismal. By the seventh plan, in addition to water supply target and achievement it also included sanitation target and achievement. However, it showed sluggish achievement in the rural setting compared with the urban one.

Throughout the Panchayat era, from second to seventh plans were implemented, progress in drinking water supply and sanitation were found extremely lethargic. Most of the

development initiatives lacked the sense of responsibility and the feeling of ownership among the concerned. Hence, the development interventions 'died a natural death' (Mishra, 2000) during the three decade of autocratic polity. It is rightly said by Daron Acemoglu and James A. Robinson (2012) extractive institutions are the cause of being achieve a snail pace of development of a country. A self explanatory Table.1 clearly shows the ambitions urban centric target and poor achievements.

Era of the Restoration of Multiparty Democracy

The interim government prioritized to prepare new constitution and holding election for multiparty system. As a result (1990 and 1991) there was not periodic plan but carried out some water and sanitation work. Nepali Congress Party formed government as it got clear majority in the parliament in the first election. The government was committed to liberal market policy that aimed at ameliorate socio-economic conditions of the common people as the government policy departed from welfare state to free market-oriented liberal economic systems. Since then, as a consequent of liberal government policy, many organizations have been working in the water supply sector.

As previous planned efforts aimed at raising the economic growth and poverty alleviation did not necessarily benefit the poor as expected. Up to the end of the seventh plan only 42 percent population were benefited from pure drinking water whereas 94 percent people were deprived from sanitation facilities. No noticeable decline in the communicable diseases was seen by the use of unsafe water (NPC, 1992). On the sanitation aspect, no substantial progress has been accomplished as only six percent of the population covered by the facilities and the services. Priority for drinking water and sanitation was continued though political context has changed.

In this circumstance, providing drinking water facilities nearer to the people to improve a sanitary situation, the wasted time and energy could be utilized for productive activity considered a Herculean task. Looking at the miserable sanitation situation, efforts needed to raise the general health condition of people living in rural areas by personal hygiene, households, community and environmental sanitation. It was considered necessary to improve both quantitative and qualitative aspects of the water supply and sanitation services.

The salient features of the eighth plan policies were: Honored the water rights; for rural areas, appropriate arrangements for maintenance and repair; women participation in all stages of project cycles; high consideration of serving deprived community; involvement of Users' Committees in all stages of project in rural areas, etc. Together with the mentioned, a system of agreement between the implementing agency and the Users Committee with their defined role and responsibilities were emphasized.

In line with the broader development policy, participation of the private sector and NGOs in implementation of water and sanitation sectors is encouraged. Involvement of sector actors in research and development as well as given priority to the utilization of springs and available water bodies also the policy of this plan. Similarly, drinking water projects can also be constructed by companies set up under joint ownership of the private sector consumers and local bodies. For such activities, bank loans and government grants should be available. Provided training to rural people on appropriate latrine construction suitable to geographical and topographical conditions. In order to improve the drinking water supply system of the growing urban population, a long-term measure would be explored for urban areas. A similar policy was followed in case of Greater Kathmandu drinking water supply, Melamchi water supply project was came into sight.

During this period access to drinking water facility was reached to 61.8 percent of the total population which is less by 10 percentage points than the plan target (72%). Contrary to drinking water, sanitation has improved remarkably (20% coverage) exceeding the target of 13 percent (NPC, 1996/97).

Though the long-term development objective of the Ninth Plan (1997-2002) was to alleviate poverty, several attempts were made to develop the drinking water and sanitation similar to previous plan documents. Owing to the increasing concentration of various types of facilities and services in urban areas consequential effect of growing population on the existing sources of piped drinking water, it was necessary to tap additional sources of water. Standard has to be maintained to construction of water supply system, production of efficient manpower, development of management information system and the involvement of national and international organizations were expected.

The plan emphasized on to raise consciousness and awareness of the beneficiaries on the existing leakage of water, source protection, proper utilization, environmental sanitation and endeavored to make the sector attractive. Interest of national agencies, local bodies, non-governmental organizations, consumers' groups and international donor agencies felt necessary. The role of local bodies was considered as crucial to the suitable and sustainable sectoral development. The plan also integrated the components of mutual understanding and coordination among the sector actors, appropriate charge and fee collection and reliable service, etc. The plan adopted strategy was to make the sector more productive.

Among others, the Tenth Plan (2002-2007), core objectives of water supply and sanitation were to increase sustainable access to basic drinking water in rural areas and basic sanitation in both rural and urban areas. Similarly, upgrading basic drinking water services in urban and semi-urban areas by private sector involvement and checking water-induced diseases through the supply of safe drinking water were some of the major objectives. The sectoral strategies were to encourage NGOs, CBOs, local bodies and the private sector to participate in all stages of water supply and sanitation project/scheme. Furthermore, with the support of NGOs and the private sector formulate and implement necessary legislative reforms as well as cost recovery policies and so on. Among the major policies and activities adopted by the plan, the government envisioned to revise the 1998 rural sub-sector policy to specify clear roles and responsibilities for the various actors. Equally, the government also formulated an Act to ensure the autonomy of the Rural Water Supply and Sanitation (RWSS) Fund Development Board (NPC, 2002).

Likewise, the government formulated an Act to ensure the autonomy of the RWSS Fund Development Board. With the completion of proposed activities, about 3.8 million people estimated to have access to safe and sustainable drinking water services. Girls would have better opportunity to go to schools due to time saved in fetching water. Incidence of water borne diseases would reduce considerably (NPC, 2002).

There has been phenomenal increase in the involvement and participation of the users' groups/users' associations in the construction, operation and maintenance of water systems. In the field of drinking water and sanitation, coordination is deficient in many accessible duplication and overlapping of services. However, in remote and inaccessible places; necessary services have not been provided. In addition, due attention has not been given to improve the quality of the available drinking water, and proper repair and maintenance of the constructed water supply system.

The tenth periodic plan had suffered from the armed conflict. Development efforts during the time had nearly in a languished situation. The state's compelled to divert its development expenditure in maintaining peace and stability as its priority concern. Policies followed in the past, failed to address the structural problems of Nepalese society.

Table: 2. Target and Achievement during Multi-party Democracy (in percentage)

Plan and Place of Residence	Water Supply		Sanitation	
	Target	Achievement	Target	Achievement
8th Plan (1992-1997)				
Rural	72	60.86	9	-
Urban	77	62.49	48	-
Nepal	72	61.08	13	20
9th Plan (1997-2002)				
Rural	100	78.10	36	21
Urban	100	92.30	60	53
Nepal	100	79.90	40	25
10th Plan (2002-2007)				
Rural	85	-	43	-
Urban	85	-	83	-
Nepal	85	76.60	50	45.8

Source: MPPW/SEIU 2011, 10th and TYIP.

At the end of Panchayat era, only 42 percent of populations have access to drinking water and six percent of basic sanitation, i.e., population having toilet. During the period 15 year of multiparty democracy, a great deal of improvement in the sector has been observed. By the end of democratic era 77 percent of basic water supply and 46 percent of sanitation coverage were recorded increasing by 35 percentage points in drinking water supply and 40 percent in sanitation facility even though the period was encounter with the decade long armed conflict. Thought the system proved to be incompetent to deal with the high expectations created by the mainstream political parties in course of 1989/90 people's movement (*Jana Aandolan*). That is the reason of dissatisfaction of mass which the Maoist captured their frustrations. Despite all that due to the liberal polity, elected people's representative and role of mass media, progress in drinking water and sanitation coverage has to be noted as praiseworthy (Table. 2).

Republican Era

The end of decade long armed conflict, Nepal moved forward towards ensuring sustainable peace after the historic People's Movement of 2006. In the changing context the Three Year Interim Plan (2007-2010) was formulated. The Interim Constitution of Nepal acknowledges that the water and sanitation as basic right of the people (UDNP, 2007).

Gradually, the local bodies are being made responsible for basic water supply services, and sanitation, serving less than one thousand people has been entrusted to them. Furthermore, during this plan period, it has been taken momentum of functioning the Kathmandu Valley Water Supply Management Board. Similarly, Water Supply Tariff Fixation Commission has been established for the purpose of tariff fixation and monitoring. Kathmandu Upatyaka Khanepani Limited, i.e., Kathmandu Valley Water Supply Limited

(KUKL) has been instituted for the management of water supply services in Kathmandu valley.

The most important challenges were improvement of water quality standards and development of effective coordination among sector actors. In spite of the challenges foreseen by the plan, it has set the following objectives: i) ensured sustainable water supply services and a healthy environment by institutionalizing socially inclusive development initiatives; ii) gradually providing purified drinking water to the whole population; iii) provided treatment facility with an inclusive sewerage system in urban, semi-urban areas and emerging towns; and iv) provided toilets using appropriate technology in rural areas.

Strategies are devised to attain the above objectives. The strategies are: i) implementation of simple technology for extending the basic drinking water supply and service standards as per the Water Supply and Sanitation Policy-2004; ii) introduce necessary policy, institutional and legal reforms for adopting the Sector Wide Approach through effective coordination between the stakeholders; and iii) capacity building of the sector professionals and dissemination of sectoral information to the concerns were some of the strategies envisioned in the plan. As well as the plan clearly categorized three types of water supply service level such as- i) Basic service level 20-45, ii) Medium service level, and iii) High service level according to quantity, accessibility, reliability and quality (MPPW, 2009) and fixed target accordingly (Table.3).

Three Year Plan (2011-2013), emphasized the importance of safe drinking water and sanitation as the prime foundation of human development. Because of high priority accorded to this sector and involvement of various agencies, about 80 percent people have got the basic facility of drinking water and about 43 percent have been provided with sanitation service during the time of plan formulation (2010). Disparity between urban and rural areas still prevailed. Lack of coordination among various agencies, and continuation of quality and sustainability of the service are appeared as major challenges. Without having expected quantity of drinking water supply and government's inability to provide adequate quality of drinking water and sanitation service to the rural and urban people are the main problems for the improvement of people's health and well being.

Various actors of Village Development Committees, Municipalities, District Development Committee, development partners, including Users' committee or Users' Associations have been involved as co-financing actor in urban, semi-urban and even rural areas in order to provide safe water supply and sanitation service and facility. In collaboration and partnership with all the stakeholders, total sanitation and open defecation free programs (ODF) have been initiated. The under construction and planned water supply and sanitation schemes would be implemented in an integrated and unified manner.

Water supply management of Kathmandu valley has been given the responsibility to the Kathmandu Water Supply Management Board by handing over the assets and liability rest within Kathmandu of Nepal Water Supply Corporation. Long awaited Melamchi water supply work has been progressing slowly with ups and downs. As envisaged by the National Water Plan hundred percent of people will have basic water supply and sanitation by 2017 as a long term goal. Let us hope the achievement will be positive.

Table: 3. Target and Achievement during Republican Era

Three Year Interim Plan (2007-2010)		
Indicators	Target (%)	Achievement (%)
Basic water supply coverage	85	80
Medium and high level water supply coverage	15	8
Sanitation coverage	60	43
Three Year Plan (2010-2013)		
Access to basic drinking water supply coverage	85 %	82
Access to medium & high standard water supply	15%	-
Access to sanitation	60%	56

Note: An asterisk* denotes Draft NMIP Report, 2014

Source: NPC, 2006 and NPC, 2010.

Since the Three Year Interim Plan (2007-2010), it incorporated three different categories of water supply coverage service levels, i.e., basic, medium and high. The Three Years plan (2011-2013) followed the preceding plan on the service level categories and the government endeavors to fix target and achievements accordingly. The progress or achievement seemed slow. The reason is one or combined together, most of the accessible areas have been already covered, weak sector coordination, fragmented efforts, weak monitoring, over estimation of local bodies' (VDC, Municipality and DDC) capacity. Regarding the declined sanitation figure as the definition of sanitation (temporary to permanent) has changed recently. Table 3, presents the snap shot of progress during the republican era that clearly depicted the snail progress in water supply coverage. Using water and sanitation related information in planning and programming yet to be institutionalized. The NMIP 2010 and Joint Sector Review 2011 raised importance of NMIP information for planning, decision making and monitoring purposes.

As envisaged by the previous plan, 85 percent of people would get basic water supply and 15 percent would get medium and high level of water supply. However, 80 percent of basic and 10.5 percent of medium and high level of water supply have been achieved while in sanitation, it was planned to provide 60 percent but reached 56 percent. There is a big gap between water supply and sanitation between rural and urban areas. The so far un-served areas are thinly populated and remote one so to served such areas would be costly and needs robust approach.

Summing up

However, compared with the Second periodic plan, drinking water supply coverage has been phenomenally improved, for example; the water supply coverage of Kathmandu district is 92.2 percent (NMIP, 2011). As everybody knows, most of the inhabitants of Kathmandu relay on procuring water from water tanks. Water supply from the Kathmandu Upatyaka Khanepani Ltd., appeared once in a blue moon in an erratic timing, the gifted load shedding aggravates unreliable service. Looking into functionality scenario of piped water supply indicates the dismal situation.

Figure 1: National Functionality Status of Piped Water Supply Systems

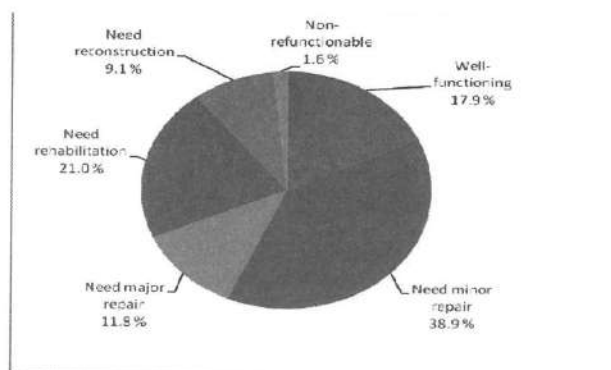


Figure 1 indicates the situation for the country as a whole. Some 17.9 per cent of the piped water systems are in well-functioning state, 38.9 per cent belong to the need minor repair category, 11.8 per cent are in major repair status, 21.0 per cent need rehabilitation, 9.1 per cent need reconstruction, and 1.6 per cent are in non-refunctionable condition (NMIP, 2011). It means the stakeholders need to take care not only building new projects together repair and maintenance be considered as their prime responsibility.

Conclusions and Policy Recommendations

Successive planning documents repeated mostly the same goal and objectives of the preceding one since the second plan. Targets have been set ambitiously but achievements seemed stunted.

Generally, up to the fourth plan, water supply and sanitation services and facilities concentrated in urban centers and district headquarters. By the seventh plan, target and achievements of sanitation coverage in rural area had included. At present, sanitation coverage is still lagging behind compared to water supply coverage.

WHO states, water and sanitation is a fundamental rights of the people. In the same direction, The Interim Constitution of Nepal (2007) also acknowledged the basic rights. In accordance with the spirit of the constitution, three year interim plan (2007-2010) had categories of service level of water supply. Water supply and sanitation figures increased compared to the initial planning period. By the year 2012 water supply and sanitation coverage surpass the MDG goal. Despite the progress made sustainability/reliability, quality and quantity of the provided facilities and services not encouraging.

Looking into the functionality perspective, of the total 37 thousand piped drinking water supplies (NMIP, 2011) only 17.9 percent of the systems are fully functioning category.

The issue of service levels and functionality was never considered as pertinent issue to be implemented by the planners and decision makers before the first NMIP survey and the Joint Sector Review held in 2011. Planners and decision makers have to be accountable to using water and sanitation related data for planning, monitoring and decision making.

Multiple partners and programs need robust mechanism and system to make coordination functional, effective and efficient. That could help to improve the water supply and sanitation coverage is a must rather than ad hoc, patch work and only short term purpose.

Understanding water as scarce and economic goods, policy makers and planner have to use programmatic approach proactively and devised policy and strategy accordingly to make water supply and sanitation facilities and services sustainable. It is still a Herculean challenge to achieve hundred percent of functional coverage of water supply and sanitation. Let us hope, the state policy, strategy and programs in this regard would be geared towards meeting the people's aspiration, as an urgent action.

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