

WATER AND POVERTY IN NEPAL

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1. INTRODUCTION

Nepal is a land-locked Himalayan Kingdom located between the People's Republic of China and India. Its land area is 147,181 square kilometers and elevation varies from 60 meters at the lowest point to 8,848 meters (Mt. Everest). With a population of 23.15 million (2001 census) and annual population growth rate of 2.24 percent per annum (1991- 2001decade), the national census of 2001 reveals that 65.7 percent of the population is dependent on agriculture, fishery and forestry sector as opposed to 81.2 percent indicated by the 1991 census (Economic survey, FY 2001\2002). Agriculture share in GDP is close to 35 percent, with a per capita income of US \$ 220 per annum, literacy rate of 53.7 percent, life expectancy at birth (2001) of 59.7 and infant mortality rate of 64.1 per 1000 live births. According to Nepal Development Forum, Economic Update 2002, World Bank's report Nepal's per capita income makes it the thirtieth poorest country in the world, where 38% of the population lives below the poverty line. With an annual average precipitation of about 1700 millimeters, Nepal carries a vast water resource potential with a total average annual runoff of more than 220 billions cubic meters of water. The major rivers of Nepal originate in Tibet, traverse through Nepal and join the Ganga river in India before entering the sea.

2. WATER SECTOR NEEDS AND ISSUES

Water is one of the principal natural resources supporting the economy of Nepal, the others being the forestry and tourism sectors, based on the idyllic landscape of the country. At present, almost 30% of Nepal's agricultural production is based on irrigation facilities. Similarly, 84% of Nepal's electricity is currently produced by hydroelectric generation. A large increase in hydro power generation capacity would enable Nepal to meet its domestic energy demands as well as increase its revenues by exporting energy to India and neighboring countries. Currently, the latest 2001 census indicates around 38% of the population, as having access to some form of electricity.

Nepal faces a number of physical and human challenges in recognizing the benefits associated with water resources development thereby improving the living condition of its people significantly in a sustainable manner – the directional goal of the Water Resources Strategy- Nepal 2001.

The country's rugged and steep topography, fragile geology and monsoon climate all combine to produce high rates of runoff which initiate erosion, sedimentation, slides and floods with the other concomitant water induced calamities during the monsoon season. Human activities have also resulted an adverse impact to the country's forests, ponds and lakes, terrestrial and aquatic species and habitats. Increasing population pressure and demand for marginal agricultural land often conflict with plans for protection of the natural environment. In urban areas, wastewater, solid waste and air pollution have seriously degraded living conditions. Poverty and environmental degradation are closely interrelated in the country.

The present situation with regard to the country's water resources development can be summarized as follows:

- 33% of the population does not have access to potable water supply.
- Only 42% of the net cultivated land has access to some form of irrigation.
- Only 41% of the irrigated land receives "year-round irrigation".
- Less than 2% of the country's estimated economically viable potential hydroelectric capacity (43,000 MW) has been developed;
- Around 53% of the population has no toilet or sanitary facilities.

Agriculture and rural economic growth remains constrained by inadequate infrastructure, weak irrigation and other inadequate complementary inputs. Poor cost recovery of operation and maintenance (less than 2%) in surface irrigation and the slow rate of rehabilitation of farmer managed irrigation systems have prevented the expansion of irrigation. Reportedly, the installation of shallow tube wells has also sharply fallen off in recent years due to removal of subsidy by the state. Despite its recent growth, fertilizer application per hectare in Nepal is still significantly below that of neighboring countries. A critical input – land, is highly fragmented and informal \ non – transparent tenancy arrangements deter investment in land. **These constraints will have to be removed in order to boost agricultural production and poverty.**

As regards to potable drinking water as a basic need, it is not uncommon to find village women and children walk long distances to fetch water from nearby springs or mountain streams. Therefore, mountain communities have been living between water surplus and water deficiency depending on their location in the slopes or valleys. In plain terai, although ground water is available but arsenic pollution have been found in few districts.

The rural communities with low level of incomes are also the ones most affected by recurrent water induced disaster such as landslides, debris flows and floods. Around 500 people lost their lives to such calamities this monsoon alone and several villages were literally decimated by landslides only recently.

3. ATTEMPTS AT POVERTY REDUCTION

As with the Eighth and Ninth Five Year Plans, the Tenth Plan (2002-2007) also envisages poverty and unemployment reduction as its overriding national goal. The Ninth Plan targeted to reduce the poverty level by 10 percentage points from 42 % to 32%. However, only 4 percentage points achieved, i.e., from 42% to 38%. In the Tenth Plan poverty reduction has been targeted from 38% to 30% by prioritizing improvements mainly in the agriculture, water and other social sectors. While reduction in ‘consumption \ income’ poverty has been slow, good progress was made in some aspects of human development in the 1990s s.a. reducing infant and maternal mortality, increasing primary school enrollment, reducing the gender gap in education and increasing access to drinking water.

His majesty’s Government has launched targeted programs such as rural infrastructure development, rehabilitation of free bonded labor, participatory district development programs, local governance, village and town partnerships, empowering and strengthening of local water and forest user’s group.

A Poverty Alleviation Fund (PAF) has been established with a view to conduct poverty targeted programs in a comprehensive manner for water resource management to address drinking water, small irrigation, electrification, mule track, motor able road and different income generating activities as well as mitigation of water induced disasters and reclamation of lands. Comprehensive river management will be conducive to alleviate the poverty of the poor farmers residing in the flood plains. Attempt is being made to institutionalize water induced disaster management in order to reduce water related risks, one of the prime causes of poverty particularly with respect to the most vulnerable men & women living in rural area.

4. WATER RESOURCES STRATEGY AND NATIONAL WATER PLAN

A COMPREHENSIVE VISION

The Water Resources Strategy approved by His Majesty's Government of Nepal has identified ten key strategic outputs for the coming next 5-year, 15-year and 25-year periods in order to maximize sustainable benefits of water use in the country. These relate to disaster management, environment, water supply and sanitation, irrigation, hydropower, other economic activities, water related information systems, policy and legal reforms, international cooperation and institutional mechanisms. The activities and indicators for each output have been identified by the comprehensive strategy document. The ongoing National Water Plan and its accompanying Environment Management Plan will translate the envisaged outputs into program's and action plans.

The Water Resources Strategy Formulation - Nepal (2001) has given the directional guidance and priority to address the problems of sustainable water resources development along with poverty reduction for the coming 25 years in order to sustainable enhancement in the living condition of the poor people.

5. CONCLUSION

In context to water and poverty issues in Nepal and all over world, policies of securing water rights for all including poor people and all life beings is essential for water allocation on priority based such as drinking and domestic use, irrigation, hydropower, industry, etc. In this regard it would be worth to conserve the *finite water resource* by creating reservoirs & high dams ,recharging ground water aquifers and minimizing wastages by awareness. Similarly **mitigating water induced disasters** by environmentally sound methods structural and non-structural, flood plain management and awareness in the people. Some of the issues need to be addressed are :

- Nepal's broader policy framework is adequate to address water and poverty issues, but the various acts, legislation and regulations in each sector need to be drawn together under a comprehensive water law and policy umbrella.
- Further development of the institutional capacity at regional, district and community level is a priority to enable and undertake a range of macro and micro initiatives that embrace the rights and involvement of the poor and vulnerable groups.
- Use of participatory approaches for empowering the poor and marginalized who are most at risk and vulnerable to nature and human- induced disasters are required.
- Appropriate technology for rainwater harvesting and non-conventional irrigation systems and use of local resources are required in micro-water management responses.
- Integrated land and water management program's in catchments are essential.
- As Water and Poverty is an issue that cuts across many sectors and also transcends national boundaries in South Asia joint collaborative efforts between and among the co-riparian nations of the region is most essential in undertaking large and meaningful water resources projects for the benefit of tens of millions of poor people of the region by bringing about a drastic transformation of the respective national economies through the judicious and equitable harnessing of the Himalayan waters.

BIBLIOGRAPHY

- Approach Paper to the Tenth Plan, HMG/N, National Planning Commission, 2002
- Bhattarai, D., Tsunaki R., Mshra, A.N, Water and Risk, Asia High Summit, 2002, ICIMOD
- Haas, L.J.M., Commentator's Remarks on the Crosscutting Paper: Water and Risk, Asia High Summit, 2002, ICIMOD
- Economic Survey, Fiscal Year 2001\2002, HMG\N, Ministry of Finance:
- Nepal Development Forum – Economic Update 2002, World Bank:
- IWMI-Nepal, Interim Findings From Institutional Assessment of Arrangements For Managing Water in the East Rapti River Basin, Nepal, 2000
- National Population Census 2001, Summary Sheet, HMG\N, Ministry of Population and Environment
- Water Resource Strategy – Nepal 2001, HMG\N, Water Energy Commission Secretariat: