

Community Groundwater Irrigation Project (CGIP)

A typical Nepali farmer owns less than 1 ha land and nearly 30 percent of Nepali population still live on less than \$1 a day. The primary barrier preventing the poor and small farmer from escaping poverty is access to irrigation. Agricultural productivity has not increased and the lack of assured water supply limits the use of modern technology – high inputs and high yielding varieties, thus low productivity. Access to irrigation, with appropriate support, allows the poor to achieve food security, allocate more resources to cash crops, increase cash crops production, sales, and ultimately their family income.

The *Terai* region of Nepal is the main producer of food and cash crops in the country and it contains huge ground water resources that could be used for irrigation through the development of low cost Shallow Tube Well (STW) technology. The potential area that could be irrigated with STW technology is estimated at one million hectare of which only 15% is currently irrigated. The past STW development were mainly subsidy based and did not consider the poor and inadequately packaged with other complimentary services needed to improve productivity. STW irrigation is a low cost technology that can be afforded by even the poorest farmers provided that they can access credit.

In 1999, Community Groundwater Irrigation Sector Project (CGISP), a 7 year project funded by Asian Development Bank (ADB) and Canadian International Development Agency (CIDA) was implemented by facilitating the adoption of a “demand responsive” approach by Central Government agencies to assist farmers to access credit in lieu of subsidies and to demand technical support services from the Government and Private Sector. It is based on the premise that improved access to credit through collateral free credit program targeted at water user groups (WUG) will increase access to irrigation services which, combined with adequate agricultural services and farm-to-market roads programs, will improve production, sales of agricultural products and income of poor families on a sustainable basis.

The first couple of years of the project was challenging as it took 2 years to eliminate the Capital Cost Subsidy (CCS) policy. It was difficult to coordinate multi-stakeholders (beneficiaries, banks, NGOs, and government), and there was a rigid project criteria and credit approval process. In December 2003, arsenic was discovered in some STWs in Nepal. CGISP responded to this issue by establishing the Arsenic Advisory Committee and designed “Arsenic Testing Methodology” to test arsenic concentration in over 600 STWs during year 2003 – 2005. CIDA consultant was fielded in Nepal to monitor the work done, and although these testing methodologies were found satisfactory, the CIDA consultant recommended a new standard procedure for Arsenic testing based on Canada’s own standard for arsenic in irrigation water.

CIDA's Community Groundwater Irrigation Project (CGIP) comprises the "social mobilization" component of the CGISP. The project is based on Water User Groups (WUG) of 5-8 farmers forming to jointly access irrigation. Water User Associations (WUA) of 25-50 groups will form multipurpose cooperatives allowing them to construct, operate, and maintain shallow tube wells and have access to services to increase agricultural productivity and marketing. CGIP increased knowledge and skills of farmers and drillers in STWs construction and drilling through training. CGIP worked on improving credit flow through Private Financial Institutions (PFIs), increasing efficiency in agricultural extension and improving market roads, thus improving the delivery service. Social mobilization has made farmers aware of their rights and entitlements thus empowered the communities to give them more confidence to demand services from line agencies and banks, where previously they felt excluded. This, in turn, increased motivation among target farmers to participate in STW irrigation. Women's participation in project activities has also increased due to the training and exposure provided to develop awareness, skills, and overall capabilities.

The number of CGISP households selling specific products increased two to three times after irrigation. New cash crops like vegetables, spices, and fruit crops are introduced or expanded and production of these crops is being scaled up to a commercial level. Sales of agricultural products increased from an average of Rs. 5,650 to Rs. 20,930, a rise of 215%. Financial returns analysis showed that CGISP farmer generate a net annual profit (26,000 Nrs per ha for an average command area of 3,2 ha) that exceeds the total investment cost per ha (estimated at approximately 12,500 NRs/ha). These findings indicate that the average STW WUG members could theoretically repay their loan within one year. Farmers have reported using a significant portion of the increased income for improving family health and children's education. The project is being implemented in Jhapa, Morang, Sunsari, Siraha, Dhanusha, Mahottari, Sarlahi, Rautahat, Bahara, Parsa, and Chitwan districts.

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