Follow-up and Action of the PARDYP Project

The PARDYP project is following a sectoral approach to address the water-related constraints. The results of the survey confirm the idea that water problems in the middle mountain watersheds vary more with the physiographical location in a watershed than with the elevation. Thus PARDYP is following an approach in which a watershed is divided into several zones according to landforms, and the best water source (rainfall, spring water, river water, groundwater) is assessed for each zone. Methods to support the actual supply can then be proposed according to the land use and the water use. Figure 12 shows a schematic representation of a watershed with the different sectors. This scheme is being studied in greater detail and other important factors will be added.

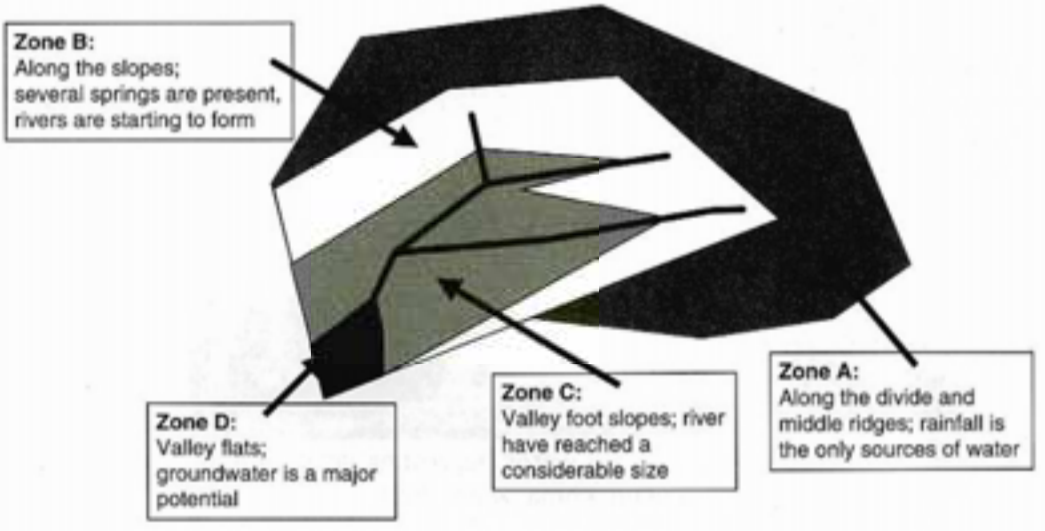

Figure 12: Sectoral approach for water management considerations in PARDYP

The PARDYP project focuses on marginalised and financially weak groups of people, thus its main efforts so far have been directed at the upper areas of the watersheds where people have no access to springs or irrigation water. Harvesting of rainwater and surface flow seems to be the only alternative to the commonly used water sources. In order to improve the situation of these groups, the project has focused on two water management activities:

- ensuring sufficient and safe water for domestic use at a convenient location and reasonable cost; and
- improving the availability of water for production of cash crops on land which was previously lying fallow during the dry season.

Water harvesting

As most rainfall occurs during the monsoon and only a few events are expected during the winter and the early pre-monsoon, the rainwater has to be captured and saved for the dry season. In addition, much of the monsoon rain leaves the system as surface runoff and this water needs to be kept back for use later in the season. To do this, the project ventured into the field of water harvesting.

For drinking water, trials were initiated using roof harvesting of water and the jar technology as implemented by the Rural Water Supply and Sanitation Programme (RWSSSP) in the Lumbini Zone. In collaboration with the Water Harvesting Programme of ICIMOD and RWSSSP, PARDYP trained local masons in the Jhikhu and Yarsha Khola and constructed 13 trial and demonstration units in houses, temples and schools in the Jhikhu Khola and 9 in the Yarsha Khola (Figure 13). The funds for construction were collected from the beneficiaries and local authorities with some support provided by the project. The constructed units are currently under observation, both from a technical and a socioeconomic point of view. Further implementation of the jar technology will

Figure 13: Rooftop rain water harvesting jar in Hokse, Jhikhu Khola watershed

depend on the acceptance and interest of the local residents. The project has clearly stated to the different stakeholders in the two watersheds that it is willing to support any further implementation activities with expertise, but funding will need to be organised from elsewhere.

For irrigation water to be used to grow cash crops on rainfed agricultural land, the project has initiated trials with water harvesting tanks that capture overland flow from suitable surfaces like roads and degraded areas, and introduced them together with alternative methods of applying water like drip irrigation (Figure 14). More detailed information is given in Nakarmi and Neupane (2000) and Nakarmi et al. (in press).

In future PARDYP plans to improve the sectoral approach up to the development of a decision support system. This will include applicable methodologies for all sectors in a middle mountain watershed.

Figure 14: Drip irrigation set for cash crop production