

## 14 Site description for Bardiya, Nepal

Bharat Bhandari & Rachana Devkota

LI-BIRD, Pokhara

### 14.1 Context

The most common livelihoods in this area are agricultural, small business ownership and animal husbandry. Despite the majority of land being covered with tropical and sub-tropical forest, a large area is used for agricultural production including a broad diversity of crops, vegetables and fruits. The greatest proportion of agricultural land is classified as lowland dominated by rice production, which is preceded by wheat as the additional crop of the year. Maize is grown in the higher-lying areas and many households grow vegetables and fruit trees in their gardens.

### 14.2 Institutional and project setting

The lead organization for the study in Nepal is LI-BIRD. There is an on-going CBM orientated project in the site, to which this study relates, known as the WTLC project; landscape level biodiversity conservation in Nepal's Western Terai Landscape Complex (WTLC). Implementation of the project commenced in 2005 with plans to phase out in 2012. The main objectives of the WTLC project are to establish an effective management system and to build capacity for conservation and sustainable use of Nepal's Western Terai Landscape Complex. The project is funded by the UNDP and Global Environment Facility (GEF) in partnership with: the Nepalese Ministry of Forests and Soil Conservation; Netherlands Development Organization (SNV); WWF; Bioversity International, Rome; and the Nepal Agriculture Research Council (NARC). The project runs from August 2005 to July 2012.

### 14.3 Key project activities

Key activities in the above-mentioned WTLC project include:

- establishing benchmark information regarding agro-biodiversity uses, land-use practices and the socio-economic and cultural setting;
- raising awareness on biodiversity conservation and utilization;
- forming an association of farmers' groups and strengthening their organization's effectiveness in conservation and sustainability practices;
- initiating community-based biodiversity management activities; and
- mapping globally important agro-biodiversity.

More specific project and community practices are enumerated in the section entitled *CBM practices* below.

### 14.4 Social and institutional organization

During 2007, LI-BIRD facilitated the establishment of a farmers' group association called the Biodiversity Conservation and Development Committee (BCDC). The BCDC is tasked with initiating various CBM activities and generating community awareness on plant genetic resource conservation and sustainable use. An executive committee heads the BCDC which has been selected from representatives of the different farmers' groups and the Village Development Committee (VDC).

This executive committee meets at least once a month to decide on routine CBM activities and then every two years a general assembly elects a new committee. Further activities of the BCDC include documenting plant genetic resources in the community biodiversity register, organizing biodiversity fairs and other awareness raising activities, but also importantly, mobilizing member contributions to the CBM fund. Loans are provided to the BCDC members only, and priority is given to the poorest of individuals for running income-generating small business activities. Landholding is indicative of wealth and the vast majority of the community are poor, owning less than two-thirds of a hectare or even nothing at all. Wealthy households command greater than two hectares of land, but represent a mere 4% of the community.

Currently, most farmers within the community appreciate the importance of local landraces, especially as a source of genetic variability for crop improvement programmes. Such programmes operate with the participation of the community in plant breeding and variety selection. Furthermore, a biodiversity themed topic has been integrated into the school curriculum to further augment capacity development and awareness raising initiatives launched by the BCDC and VDC. The community realizes that organizing themselves into groups makes it easier to work on community development and conservation activities, to share ideas and also to improve their access to resources and their opportunities to utilize these.

## 14.5 Plant genetic resources

Ninety-two per cent of the agricultural land of Bardiya site is classified as lowland; dominated by rice production. One group within the BCDC has been tasked with carrying out trials for the selection of superior landraces of drought tolerant and higher productivity rice for a range of different moisture conditions. The group has designed this trial in the form of a diversity block for maintaining landraces and has incorporated 36 different varieties of rice. The upland areas cultivate mainly maize and some households grow vegetables and keep fruit trees in their gardens, but the predominant plant genetic resources of the region can be summarized by: cereals; pulses; vegetables; and some forest and household fruit trees.

A voluntary scholar initiative has resulted in the establishment of a small indigenous fruit tree nursery in the school garden. The community, assisted by LI-BIRD, is also conserving a number of fruit and vegetable species through the establishment of a local nursery. The land has been provided by a single farmer who provides training on how to manage fruits and vegetables, using techniques such as the grafting of mango trees, for example.

## 14.6 CBM practices

This list serves to enumerate all the different activities taking place in the study site which pertain to community-based conservation and sustainable utilization of agrobiodiversity.

1. Generating awareness and an understanding of local diversity:
  - documenting plant genetic resources in the community biodiversity register;
  - generating awareness through a biodiversity fair and village workshops;
  - displaying the value of goods and services provided by agrobiodiversity;
  - formation of the BCDC to enhance community awareness about agrobiodiversity.

2. Establishing community institutions, developing their capacities and consolidating CBM in their working modalities:
  - electing an executive committee to take decision on routine CBM practices, meeting at least once a month;
  - integrating biodiversity themed topics into the school curriculum;
  - focussing capacity development of community institutions within the activities of agricultural biodiversity conservation and management, participatory plant breeding, the diversity block and drought tolerant rice variety trials, local nurseries, the CPCP, rainwater harvesting, medicinal plant growing, home garden establishment, and all associated training activities such that of mango tree grafting, for example;
  - setting up institutional working modalities, mobilization of member contributions to the CBM fund, internal coordination and linkage between stakeholders;
  - internalizing CBM practices in the community action plan in the study site.
3. Developing conservation practices (including entrepreneurship and marketing of agrobiodiversity), monitoring and evaluating practices, promoting social learning and scaling-up:
  - establishment and maintenance of the community seed bank;
  - promoting participatory approaches to plant breeding and variety selection;
  - supporting the school indigenous fruit tree nursery and the Cyber Plant Conservation Programme (CPCP) which hosts an electronic database of information related to these nursery trees;
  - setting up a student website enabling the sharing of the CPCP information and that gathered by others;
  - crediting conservation-orientated farming activities with first priority for financial support being granted to the poorest among the community;
  - rewarding farmers who cultivate the highest number of indigenous landraces with a financial prize.