

of a certain house than with a certain person and may in case of the absence of the holder be transmitted to other persons in the household and thereby also to women. The house is also thought to possess a soul, and when it is gone, people say that the house is empty (*khangpa tongba*), as they would say for a person who had died (*mi tongba*). In order to build a house, the local gods, the *lu sabdag*, must be appeased; and hence symbolically, relations among members of the household are as dependent on locality and mutual help as they are on kinship and descent.

Michael Kollmair: *Futterbäume in Nepal. Räumliche Verteilung und Stellenwert in kleinbäuerlichen Betrieben*, University of Giessen, Department of Geography, 1996, 205 p., maps, illus., figs.

This dissertation deals with the spatial distribution and the status of fodder trees in the land-use system of the Nepalese Middle Hills. The term "fodder trees" is defined as arborescent plants integrated into the fields of private land and pruned annually for feeding purposes. Fodder trees are found throughout Nepal, though only in the Middle Hills are they a distinct feature of the landscape and the land-use system.

Livestock husbandry, intimately coupled with the practice of arable farming, occupies a key role in the predominantly smallholding and subsistence-oriented land-use system of the Nepalese Middle Hills. Virtually all the nutrients needed to maintain soil fertility make their way onto the fields via livestock. Moreover, such animals represent the only possible means of providing draught power for farming on the steep, narrow-terraced slopes. Overall, the land-use system is characterised by an exceptionally tight-knit spatial, functional and economic integration between animal husbandry, arable crop production and the use of forested areas. In this production system, maintaining the supply of feed during the dry winter season poses a basic problem for animal husbandry. Foliage of fodder trees is able to provide a considerable amount of fodder needed during this critical period of the year. Although more than 100 different tree species in Nepal are cultivated to obtain fodder, only 20 to 30 species are frequently encountered and characterise the mix of species at local level. Common to all is a great variety of additional uses—for example as fuelwood, litter, bedding, fruits or medicinal properties.

The study's objectives were on the one hand to identify the spatial distribution, and on the other to deduce the traditional knowledge regarding fodder tree cultivation. Therefore, a conceptual approach, a combination between landscape ecology and indigenous knowledge, was needed. A broad range of different methods, from semi-structured open interviews to ethnobotanic methods as well as mapping and biomass determination, was chosen. By selecting several case studies in the Middle Hills of central and eastern Nepal at all typical altitudes inhabited by diverse ethnic groups, fodder tree cultivation could be studied on different scale levels.

Despite varying socio-economic and ecological conditions, there are certain regularity factors in fodder tree distribution at regional level. Different groups of suitable tree species can be demarcated at various altitudes, with the number of species declining clearly as the altitude increases. On account of the change in water balance and intensity of irradiation, exposure influences the cultivation limits of individual species as well as the intensity of fodder tree cultivation. In lower-lying locations, it was possible to ascertain a preference for the north-exposed slopes which are more humid during the dry season, while south-exposed slopes are preferred at higher localities because of higher irradiation values.

At household level, fodder trees are, wherever possible, planted near dwellings, not only to guarantee convenient availability but also to protect the foliage against theft. Preferred locations are terrace embankments, along paths and in home gardens. Conversely, there are practically no fodder trees to be found in the area of irrigated terraces. One of the most interesting study findings emerged from the enquiry into the relations between different ethnic groups and the intensity of fodder tree cultivation. Contrary to a common hypotheses, the ethnic group as such does not strongly affect the intensity of fodder tree cultivation, nor does traditional knowledge between different groups substantially differ. Rather, the more determining factors are the settlement location and the population density as well as access to areas of pasture and woodland. The yield of fodder from a single tree averages 35 to 40 kg/tree annually. It fluctuates greatly, however, and for very large trees it may total up to 300 kg per annum. Thirty to 50% of the biomass harvested consists of wood from the branches lopped off in the process. Converted for an average farm—with about 45 fodder trees of varying size—that amounts to a total yield of about 1,700 kg, providing some 15% of the annual feed and 10% of the fuelwood requirement.

The farmers of the Nepalese Middle Hills have traditional classifications to assess the quality of tree fodder. Two main assessment criteria can be distinguished. Fodder foliage quality is graded primarily on the basis of palatability. Furthermore, the farmers differentiate foliage feed with regard to its effects on the productivity of cattle, goats and buffaloes. Some of the tree species are considered *posilo* (nutritious), others *narāmro* (poor). More precise still—though not applicable to all tree species—are distinctions regarding milk production or even relating to the fat content of the milk. From the farmers' point of view, the time span during which it is possible to prune a tree is an important quality criterium. Species with early or late, long or short, as well as multiple pruning periods can be distinguished. For the farmers it is important to use a broad range of different tree species, which are able to meet the feed requirements during the dry season. In order to record the negative impacts of fodder tree cultivation (e.g. shading, water dropping, root competition) on the yield of arable crops, comparative studies were made on affected and unaffected sections of terraces. Results from these studies showed that the yield reduction caused by fodder trees is smaller than usually expected. Even without fodder trees—owing to poorer fertilisation and inferior seed stock—the yield from the lateral terrace areas turns out to be generally lower.

The farmers in Nepal have a quasi-fixed, reproducible nomenclature for the influence of the various tree species on soil quality. It is an observation-based empirical value derived from the root competition and the influence of leaf litter on the tree's surroundings. Trees that have a soil-enhancing, fertilising influence are considered *malilo* (manuring, fertile), whereas trees impacting negatively on the fertility of the surrounding soils are termed *rukho* (dry, infertile). The yield-reducing effects of the fodder trees on cultivated crops are, from the farmers' point of view, attributable not only to shade and root competition. Particularly during the rainy season, sizeable areas of poor or non-growth were reported to emerge beneath the trees, with the farmers ascribing these to the effect of dripping water. They use a word of their own for these areas: *tapkyāni* (literally: "place of the drops"). Since a part of the trees are already pruned and many fields lie fallow during the dry season, the farmers sometimes attribute less significance to the effect of shade.

Despite these negative impacts, fodder tree cultivation has been intensified during the past decades. A distinct increase in trees on private

land is attested by the results of the interviews conducted and by aerial photographs. Since fodder tree cultivation is a successful option to bridge the shortage of forage during the dry season, this process will probably continue. In spite of everything, the trees between the fields are only tolerated; for besides the positive contribution they make to the feed supply, they also have detrimental effects on arable crop yields.

The intensified cultivation of fodder trees clearly shows that, contrary to opposing views, innovations are able to spread quickly in traditional societies. Even people who live at subsistence level adopt innovations which prove useful under their specific ecological and socio-economic context. The inferred implication for the planning of development initiatives is that it is more meaningful to provide the indigenous population with "baskets of choices" and to entrust the task of selection to them rather than to present rigid, pre-engineered solutions.

Annick Hollé : Cité des dieux, ville des hommes : organisations spatiales, morphologies urbaines et correspondances sociales à Katmandou - Népal, Université de Paris I, UFR de Géographie, 1997, 550 p., tabl., maps, fig., photographs.

This geographical study is both an analysis and an interpretation of the spatial organisation of Kathmandu. The author emphasizes the connections between the spatial patterns of the city and its social conditions. The scope of investigation varies from the minute to the comprehensive according to necessity.

Arranged in three parts, the first is an examination of the location and development of Kathmandu: why is/was this town, located on the southern Himalayan slopes, so wealthy? The reasons are numerous. Kathmandu is first considered in an international context, a point on the map of Asia, before gradually approaching the town itself, first at the national, then the regional level. The first part concludes with a general presentation of the city through its various aspects—religious, political, military, economic, cultural, etc.

The second part, a detailed description of the urban space, penetrates into the alleys and neighbourhoods of the city. Kathmandu is divided into its fundamental elements—streets, crossroads, neighbourhoods, landmarks and borders. Each of these elements is then analysed through its