

**The motorable road of hope**

**Resource management by rural households  
in Nahi Gewog**

**Report for the Bhutan-German Integrated Forest Management Project Thimphu  
PN 92.2267-01.100**

**Report: Marlene Richter  
Soi Nora Uthit 623/5  
Nakorn Chaisri Road  
Bangkok 10300  
Tel/Fax: (66)-2-669-3464  
December 1996**

**Farmers of Nahi valley:**

**“If there would be a motorable road, life would be much easier.”**

**“It is boring to grow always the same vegetables. If there would be a motorable road, we would grow other things for the market.”**

**“Why should we grow fruit trees, if we cannot transport the fruits to the market?”**

**“I have five daughters. With a road, I could marry them easier.”**

**Acknowledgements:**

As one can imagine this stay was not possible without the cooperation and support of the Bhutanese partners on different administrative and political levels.

In addition Mr. Baskota (National Project Coordinator BG-IFMP) and Mr. Krezdorn (Team Leader BG-IFMP) gave continuous support and made the stay in Nahi possible.

I am very grateful to Mr. Sangay Duba (RNRRC Bajo) for his cooperation, profound discussions and exchange of ideas during our first field visit in Nahi. My thanks go as well to Mr. Tashi Tshering (BG-IFMP) and Mr. Kenzing Tashi (RNRRC Bajo), who accompanied me during my second stay in Nahi and helped in information gathering. I am very grateful to Mr. Phuntsho Namgyel (RNRRC Semthoka) for his various information and materials.

Thanks are also due to the project staff in Thimphu for the infatigable services during my stay in Bhutan.

Last, but not least, I would like to thank the women and men of Nahi valley, who were willing to share their information, problems and hopes with me. They sacrificed precious labour time, hosted us in their homes, made portering services available and contributed a lot to our well being in the Nahi valley.

Marlene Richter

## Table of Contents

<b>1. Objectives and approach</b>	<b>1</b>
<b>2. The National RNR Development Policy Framework</b>	<b>2</b>
<b>3. Women and development</b>	<b>3</b>
<b>4. The situation in Nahi valley</b>	<b>5</b>
4.1. Some characteristics of the valley	5
4.2. The typical rural household	7
4.2.1. The family structure	7
4.2.2. The production system	8
4.2.3. The division of labour at the household level	11
4.2.4. The income and expenditure pattern	14
4.3. Access to and control over natural and material resources	18
4.3.1. The land ownership in Nahi valley	18
4.3.2. The water-use system	22
4.3.3. Access to and control over forest products	24
4.3.4. Access to markets	25
<b>5. Pattern of social and economic changes in rural life</b>	<b>25</b>
5.1. From compulsory labour contribution to voluntary community work	25
5.2. From in-kind contribution to cash taxes and competition	27
5.3. From free access to forest land to restricted community forestry areas and commercial exploitation of timber	28
5.4. From fining to counselling	29
5.6. From life long learning to formal education	29
5.7. Impacts of changes on women in Nahi valley	30
<b>6. Recommendations</b>	<b>31</b>
6.1. Improvements inside the existing production system	31
6.1.1. Improvement of health and nutrition	31
6.1.2. Introduction of time and labour saving tools	32
6.1.3. Improvement of the irrigation system	32
6.1.4. Improvement of fodder	33
6.1.5. Income generation	33
6.1.6. Identification and management of community forestry plots	36
6.1.7. Introduction of a gender-specific monitoring system	36
6.2. Improvements by opening up the valley	36
6.3. The implementation approach	38
<b>7. Annexes</b>	<b>40</b>
Annex 1: Map of Nahi Gewog	40
Annex 2: Suggestions for immediate actions	41
Annex 3: Time Schedule of the Mission	45
Annex 4: List of Documents	47
Annex 5: Terms of Reference	51

## **1. Objectives and approach**

In cooperation with the Bhutanese German Integrated Forest Management Project, several studies were carried out in Nahi valley (Kievelitz 1995, Namgyel 1996). The present study is intended as a complementary work to these studies (See Terms of Reference, Annex 4). It was meant to obtain qualitative data on the gender division of labour, access to and control over natural resources and income generating activities of the farmers in the valley. The following study provides recommendations on how to support the inhabitants of Nahi valley to improve their natural resource management.

The study team comprised Mrs Marlene Richter and Bhutanese experts, including Mr Duba who joined first, followed by Mr Tashi and Mr Tshering. Unfortunately it was not possible to identify a woman to join the field work. Mr B. Singh was responsible for logistical arrangements.

Primary information was gathered by means of two fields visits during which the study team interviewed both male and female farmers considered as representative of a wide spectrum of economic levels. The participation at a village meeting gave additional insights and direct observation of several farming activities provided valuable information. Two female headed households were interviewed as well. An overnight stay in a Bhutanese house gave further insights in the organisation of the household and specific tasks.

The field visit was interrupted for three days because of the celebration of the 44th birthday of his Majesty, the King of Bhutan.

Secondary information was obtained by interviewing resource persons at the Ministry of Agriculture in Thimphu. Representative of United Nations agencies, NGOs and other institutions provided valuable information, documents and reference materials.

A visit to the Thimphu Sunday market gave an overview of the present local food and handicraft production.

## **2. The National RNR Development Policy Framework**

To put the field study on 'Women's Involvement into the Management of Natural Resources' in the proper perspective and macro-economic setting, the

present national Renewable Natural Resource (RNR) sector policy may be recalled.

The present sectorial policy objectives are three-fold:

- ‘Sustainable and balanced development of renewable natural resources for the enhancement of self-reliance and food security through an integrated systems approach within the entire national economy,
- Improvement of income, living and nutritional standards of the rural population and at the same time strengthening the national share in meeting the demand of a growing urban market,
- Conservation of the unique natural and cultural inheritance of the country and protection of the fragile mountain environment from natural calamities’<sup>1</sup>

Those objectives that have been recalled in the ‘Objectives and Strategies for the Eighth Five Year Plan (8FYP)’(p. 98) provide the principal policy orientation for this study. However, within the RNR Sector strategies and policies of the 8FYP (1997-2002), there are a number of specific strategies which again will constitute a more operational political guideline and yardstick for the further analysis of the present situation of Nahi valley and the envisaged scenario for change and development in the management of natural resources in this area.

In particular, the expressed intentions to

- ‘Integrate crop/horticulture/livestock production into the area/location specific farming systems,
- Promote people’s participation through collective and private institutions in the production and marketing process,
- Promote market related, diversified production of agricultural and livestock produce with the emphasis on location- and product-specific comparative advantages’<sup>2</sup>

are of great importance for the further analysis and change scenario.

Even though the 8FYP in its RNR policy highlights the constraints of inaccessibility and points out that ‘the ability of rural communities to develop beyond subsistence production depends crucially on their access to markets’ (p. 94), there are only a few RNR related policies which emphasise the development of rural access roads and a mule track network as an integrated part of renewable natural resource management - partly due to financial constraints. The RNR policy, therefore, suggests to identify ‘niche market’ opportunities for high value and low weight rural products’ with important potential in providing enhanced income opportunities to remote communities.

The strategy of ‘strengthening Natural Resource Management’ puts equally shared responsibility on both the RGOB and local communities (p. 99), with particular emphasis on land husbandry practices in agricultural areas.

---

<sup>1</sup> Cited from: MOA/RGOB, RNR Policy and Strategy, Draft, January 1996, p. 2.

<sup>2</sup> RNR Policy and Strategy, p. 3.

The strategy of 'Sustainable Economic Production and Enhancement of Rural Income' will 'aim to provide:(i) appropriate, viable, and ecologically sustainable agricultural technologies;(ii) rural communities with access to the benefits provided by the markets...' (p. 99). One major programme of the 8FYP will focus on irrigation to increase rural incomes by diversifying the range of irrigated crops. The construction costs and rehabilitation of crop-based irrigation such as rice or other grains will be shared by the Royal Government of Bhutan (RGOB) and local farmers.

These are some of the strategies of the 8FYP with immediate implications for the Nahi valley study. It aims to particularly identify income generating activities and provide recommendations for project activities in the field of RNR management.

### 3. Women and Development

"...As long as Bhutanese can remember through their rich cultural heritage there has never been any discrimination of mankind's fairer sex...." This is a straight-forward statement of the Royal Government of Bhutan in its National Report for the Fourth World Conference on Women in 1995 (p. 1) which has been recalled and even emphasized in the 8FYP (1997-2002): "Bhutanese women do not suffer from gender discrimination as they have equal status with men and enjoy the same level of freedom under the laws of the country" (p. 62).

Nevertheless the level of women's involvement in the decision-making processes has been acknowledged by the Government as being very low in the higher levels of Government and Parliament. It is described as much higher at the grassroots level in community meetings and is steadily increasing at district and block levels. This general perception does not always hold if looking at it from a more regional and institutional view. Surveys in East Bhutan and in the Punakha-Wangdi valley prove that village authorities are always men. Indeed, there are no female village headmen.

#### **Box 1: Some statistical data concerning women**

- Female population: 48% of 0.65 million(1995)=320,000
- Adult literacy rate: 30%; female literacy rate 10%
- Female enrolment in educational system: 43% of a total of over 75,000 (1995); only 20% at the college level
- NRTI<sup>3</sup> integrated training programmes: 11% female of 143 students (1995)
- RIHS<sup>4</sup> training (health): 45% of total enrolment(1995)
- Crude birth rate: 37.31 per 1,000 (survey 1994)
- Total fertility rate: 5.6 children per woman (survey, 1994)

<sup>3</sup> Natural Resources Training Institute (NRTI).

<sup>4</sup> Royal Institute of Health Science (RIHS).

- Life expectancy for female: 66.2 years (male 65.9)
- Number of female Civil Servants: 1,722 out of 11,526 (15%, 1994); teaching staff women make up 29%

Statistical figures for education, health and employment in the public sector do not fully support a present policy of balanced gender opportunities, but the strong efforts - particular in health - are evidence for improvements.

Agricultural work of the predominantly rural population is shared between men and women, and task division exists. The survey in the Punakha-Wangdi valley indicates that both men and women are involved in irrigating the fields, applying inputs such as weed-killers, chemical fertilisers, weeding, threshing and transporting. Certain activities such as ploughing and broadcasting seed are usually a male job, transplanting a female task.

Although gender relations 'tend to be more egalitarian', 'migration of men to the towns or to paid work outside of their communities means that women are increasingly having to assume responsibility for tasks which were formerly shared, placing additional pressure on their time'<sup>5</sup>.

In land ownership there appears to be some gender-bias in favour of women. The family structure in West Bhutan is clearly matrilineal and residence patterns are matrilocal: land is inherited by the daughters of the family. Land ownership in Bhutan is officially registered according to gender and data show that in many areas Bhutan women inherit and own land giving them a strong position in the family, often controlling the family income as well.

Women's role in urban and modern business seems to be somehow restricted: as spouses of civil servants they may not be involved in certain businesses to avoid potential corruption. Their employment share in private sector and business undertakings is about 15% (1989). In the business sector they work as managers of shops and small entrepreneurs in the more informal sector of trade and markets. Even though the Bhutan Development Finance Cooperation (BDFC) provides credit services to both women and men, past loans to women accounted for only 27% of the total BDFC loans and 32% were female clients in 1994<sup>6</sup> (RGOB, 8FYP,p.64)

It is not the intention of this survey to thoroughly study the present role and situation of women on the national level, but rather to highlight some aspects of the Government's perception and prevailing positions of women in education, health, employment, agriculture, land ownership or opportunities in the modern and urban sector. Gender roles are culturally shaped and developed by specific historical situations. Although legally women have the same rights in Bhutan as men have and, as a consequence, are integrated in the mainstream of development, a certain amount of information about the present living conditions, the daily work, the problems of the farming households in the project area is necessary.

<sup>5</sup> RGOB, Background Paper, March 1996, p. 3.

<sup>6</sup> RGOB, 8FYP, p. 64.

The responsibilities, tasks and needs of men and women have to be taken into consideration to develop a specific support approach of the project as the final objective of this analysis is to give recommendations for the improvement of the living conditions of rural families in the project areas through an improved RNR management.

This rapid review will serve mainly as a guideline to look at the situation in the micro-cosmos of Nahi valley further down. To fully appreciate the situation of women in Bhutan a more comprehensive understanding of the socio-cultural environment and of the evolution of the value patterns is required. Envisaged changes for improvements of women's role in RNR management have to take this into consideration.

## **4. The situation in Nahi Valley**

### **4.1. Some characteristics of the valley**

The steep Nahi valley was shaped by the river Hindey Rongchhu flowing from west to east. In addition, small rivers and springs supply the hamlets in the valley with water. Farmhouses are mainly built on the sunnier northern slopes. Almost 91 per cent<sup>7</sup> of Nahi valley is covered by forest which is the habitat of a wide range of wild animals. Thus, barking deer and wild boars often come out to destroy the wet and dryland crops which are cultivated on terraced farms.

The remote valley is still not linked by an access road. Nonetheless, a web of small footpaths and mule tracks going up and down the steep valley link the houses with the fields and the outside world. All goods brought in and out of the valley have to be transported by porters or on horseback. Two towns, Wangdi in the East and Thimphu in the West, are important for the valley. A walk from a hamlet to Wangdi, the nearest market town in the east, takes from two up to five hours, depending on the location of the starting point. The western hamlet of Nabesa is linked by a footpath with the road to Thimphu, so the western part of the valley is more oriented toward the capital. Owing to the topography of Nahi valley and the lack of a road, communication with the outside is greatly reduced. There is no electricity and no telephone.

Nahi valley consists of different hamlets or blocks whose populations are of different origin and status. The settlements are scattered deep into the valley and up the higher slopes. (See Annex 1)

The majority of the inhabitants of the Eusagom and Eusawom hamlets seem to belong to the early settlers in the Nahi valley and constitute the noble families.

---

<sup>7</sup> Source: LUPP, Sustainable landuse, 1996.

Hebesa is mainly inhabited by share-croppers who cultivate the land owned by different monastic bodies, in addition to their own small plots.

Nabesa is, among others, inhabited by former serfs (some of them coming from Gaselo valley, where several noble families released serfs following the king's orders in 1958). These old relationships can be reactivated even today, when labour is needed. The serfs obtained land in the valley when serfdom was abolished. Migrants from other parts of the country as well as Nepalese, who stayed after the construction of the road to Thimphu was finished, are also inhabitants of the Nahi valley. The heterogeneous origins of the Nahi population generates different opinions and competition between the hamlets.

An agglomeration of more than four to five houses is very rare. The settlement pattern reflects the difficulty of finding adequate land on the slopes suitable for terraced farming. This contributes to the time consuming communication and lack of coordination between the inhabitants of different hamlets. An indicator of this fact is the necessity of appointing an official messenger to inform villagers one by one about official meetings to be held. Mobility is greatly reduced in the valley because of the long distances and difficult and strenuous footpaths.

## **4.2 The typical rural household**

### **4.2.1. The family structure**

A farm house is normally shared by an extended family comprising of at least two generations. In most cases a man marries into the household of his future wife. He is the head of the household by marriage although due to the prevailing matriarchal inheritance pattern, the farmland, house and animals are passed down from mother to daughter. This matrilineal inheritance and matrilocal residence pattern is traditionally explained by the belief that women are similar to the earth: they stay and care, so they have to look after the land and house. On the contrary, men are similar to the wind: they blow here and there -- not stable, so they do not take care of the land. Consequently, the daughters are expected to nurse their parents when they are old.

The sons of the family leave the maternal household after their marriage and join their wives in their parental houses. If there are several sons in a household, one son is supposed to follow a religious education in a monastery and stay there. Another option for a safe and secure future is to join the military. Nowadays sons are sent to school in order to learn skills to earn a living and adopt to different situations. This fact is confirmed by the school enrolment, showing about two thirds enrolment of boys and only one third of girls.

Traditionally the daughter is not allowed to sell the inherited property, even if her husband died or she is divorced and all her children left the valley for schooling. She has to take care of the inheritance and keep it for her children.

This pattern has led to female headed households, where a woman is staying alone with a daughter or a servant, even if other family members are still registered in the household. To manage the farm she is forced to ask male

relatives for help or hire labour if there is enough land and sufficient cash to pay them.

**Box 2: Two education strategies for girls**

'My daughter has to stay with me, because if she is going to school as my boys she will marry in town and never come back. So how could I manage the farm then?'

'My daughter is going to school, so she has the alternative: she can come back to this house and she can have a job and invite share-croppers to cultivate our land or she can employ a caretaker for the house. So she has an income. She has all possibilities and choices'.

Both points of view hope for a non-destructive influence of change on the children.

Girls are increasingly sent to school in order to avoid dividing the property. In households with meagre resources, younger girls might be at a disadvantage in comparison with boys.

The prospect of finding men for daughters in the valley seems not to be very high. And a man from outside might not stay in the village for a long time since life is so hard.

In addition, although the different social classes do not exist anymore, everybody is still aware of the underlying social differences. For instance, members of the noble class will rarely marry a member of a former serf family. In fact, they will neither eat from the same plate nor sleep together. Moreover, a member of a serf family will never be appointed as the village headman (Gup)<sup>8</sup>. Thus, when working with the villagers, these invisible relationships have to be taken into account.

All family members work on the farm and thus contribute to the survival of the household.

#### 4.2.2. The production system

The average rural family in Nahi valley cultivates paddy on irrigated fields and dryland crops for subsistence. The field sizes ranges from 1 to 3 langdos<sup>9</sup> (less than 1 acre) for a poorer family to 5-15 acres for a better off family<sup>10</sup>. Graph 1 shows the production and exchange system of a rural household in Nahi valley.

Rice is the main staple food; other cereals, such as wheat or maize, are not considered as important. After harvesting the paddy, the fields are watered once again, ploughed and cultivated mainly with wheat and mustard. In addition, barley and buckwheat are grown in the rainfed fields. Wheat is

<sup>8</sup> Gup is the selected village head.

<sup>9</sup> One langdo is the amount of land one ox can plough in one day. Four langdo wetlands equal one acre and three langdo dryland equal one acre.

<sup>10</sup>Source: Kievelitz, U.: Working Paper No 3, Analysis of the environmental and social situation in Nahi valley , Wangdi Phodrang District, p. 23.

mainly cultivated for making cake or beer and mustard provides oil necessary for the family. Oil cake is used as cattle feed.

Concerning livestock production, almost every family owns some local cattle for milk, manure and draught power. At least one ox is trained for ploughing. The cattle are fed with fresh grass carried to the house and they graze in the forest. In winter, cattle are fed with paddy straw. They are not kept for meat due to religious prescriptions. Consequently, cattle are rarely slaughtered. The cows are normally milked twice a day producing between two to three litres/day. The milk is processed as butter and cheese, two important ingredients of the famous butter tea and national dish ('emerdazi'). Cross breeds are said to be more productive, but consume more fodder.

At least one pig is fattened for the annual 'Puja', which is the main social event in the valley. This follows the religious belief that the 'Puja' cannot be celebrated without a pig and another animal cannot be substituted. During the last five to six months the pig is only fed with paddy, amounting to around 160 dre<sup>11</sup> (192 kg). The pig is consumed by the monks, friends and relatives during the ceremony. A better off household feeds an additional pigs to be sold at market.

Poultry is kept for the eggs, which can be offered to visitors and relatives.

A horse is used for transportation.

A kitchen garden, very often cultivated by the women, supplies the family with a wide variety of fresh vegetables and green leaves. The vegetables are mainly meant for consumption and the surplus is sold at the market.

**Box 3: Example of a variety of plants in one Nahi household seen in November**

Fruits for home consumption: Banana, guava, pomegranate, pomelo, peach, orange, apple, squash.

Fruits for the market or as a gift to neighbours and other family members: Peach, orange, apple.

Vegetables for home consumption: tomato, onion, chilli

Trees for fodder and construction: ficus, willow tree, chir pine.

Non-timber products: Cotton as wick for the butter lamps.

In addition, the farmer cultivates five langdos of paddy rice and 1 langdo of dryland crops (maize, wheat), as well as mustard.

Some rare fruit trees (apple, peach, orange and pomelo) are grown in or around the kitchen garden. In Nabesa orchards of apples and oranges can be found cultivated on dryland. The fruits are sold to the Thimphu market.

The cultivation time varies about one month due to the different climatic conditions, depending on whether the fields are situated near the main river in the valley or on the slopes at a higher altitude.

In addition to the agricultural cultivation, the households are dependant on the collection of timber and non-timber forest products. The forest supplies

<sup>11</sup>Dre is a volume measure equivalent to 1.2 kg.

fuelwood, timber for the houseconstruction, the stairs and shingles, fencing poles, ploughs and other tools as well as household containers and churns.

Non-timber forest products<sup>12</sup> are collected for home consumption during the time of cattle grazing. Only some families go on purpose to collect ferns during the fourth and fifth Bhutanese month, because this is the period without vegetables. Wild asparagus, mushrooms and orchids are collected for sale. Fallen leaves are collected regularly as cattle bedding and used later as manure.

**Table 1: Seasonal calendar of selected kitchen garden vegetables and cereals<sup>13</sup>**

vegetable	1	2	3	4	5	6	7	8	9	10	11	12
	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
chilli	---			---	---	---	HH H	SFS		SD S	SD S	
radish								---	---	HH H	HH H	
eggplant				---	---	---	---	---	---			
tomato		---	---			---	---					
turnip								---	---	HS H	HS H	
onion							---	---	---	HS H	HS H	
garlic							---	---	---	HS H	HS H	
green leaves									---	HS H	HS H	
mustard	---	HH H	HH H								---	---
calabash												---
forest vegetables					HH H	HH H						
bean			---	---	HHh	HH H						
potato	---	---	---	HH H								---
improved asparagus	HH H	HH H	HH H		---	---	---					
barley	---	HH H								---	---	---
buckwheat			---	---	--H							
sowing/growing:---- Harvesting: H Selling fresh: SFS Selling: S Selling dry: SDS												
Source: Agricultural extension officer of Nahi valley and several farmers												

<sup>12</sup>See Namgyel (1996) on the use of non-timber forest products in Nahi valley.

<sup>13</sup>See also Kievelitz (1995) and Namgyel (1996) for other crops and forest products.

In a subsistence economy there is almost no traditional professional specialisation. Every family member knows almost everything and has all the necessary skills to survive. Learning is done by doing and experience only improves the skills. For example, the several storied houses are built of wood and clay with the help of neighbours. After long experience some people have specialised as carpenters, masons and painters, but few have any formal training for their job.

All members of the household contribute labour to different sectors of production. Rice cultivation requires most of the available manpower. May-July and November are especially labour intensive months<sup>14</sup> when labour shortage is a crucial problem. Lack of manpower is reported mainly by poorer families and female headed households. Labour shortage is also the reason why poorer households can not collect minor forest products. They just do not have the time for collection activities.

Mutual exchange of labour between neighbours does exist and is done for instance for transplanting, house building and shingle collection. During the labour exchange a man's labour day equals a woman's labour day.

The farming equipment and tools are very basic. Most of the households use simple home made traditional agricultural tools such as hoes, sickles, axes and knives. Some important work like threshing is still done by hand and therefore labour-, time and energy intensive<sup>15</sup>.

Soil preparation is done by bull ploughing. The ploughs are produced from wood, while the shares are sometimes of metal. Every family has a lot of them prepared, because the soil is so hard. After the ploughing, comes the hoeing. The paddy rice is carried home on the head or by horse.

Modern farming equipment is scarce in the hamlets. Only two families own a power tiller. There are five iron pedal threshers in the valley and 14 rice mills unhusk the rice. An oil mill for milling the mustard is used in Wangdi.

Households still focus on food crop cultivation. For the rich families the income from farming is enough to feed the family. The harvest only feeds poorer families until July. Then people have to borrow rice from their neighbours. For a rice loan of 20 dre one has to pay 3 dre interest. The rice is paid back after harvest. The poorer households visited were not self-sufficient in rice.

#### 4.2.3. The division of labour at the household level

The gender division of labour in Nahi is not very pronounced as compared with other countries. Who does what in the household, in farmland cultivation or animal husbandry is more dependant on the availability of labour than on gender.

<sup>14</sup> Source: Kievelitz (1995).

<sup>15</sup> See also: Ehsan (1993).

There are only a few activities which are really gender-specific and which could not be done by the opposite sex.

Men exclusively train bulls and plough the fields with bulls, because in Bhutanese Buddhism it is believed that women have to be reborn nine times more than men to be enlightened. If a woman touches a ploughing bull, the bull will cry because his chance to be reborn at a higher stage is spoilt by the minor status of the woman. Hence, there is no objection for women to use a power tiller.

Men are the only ones to slaughter animals, women are not allowed to kill another creature.

As carrying manure is supposed to be an activity of minor status only women can carry manure. If a man carries manure, he will be insulted by his neighbours. Women clean the cowshed as well.

There are preferences of men and women to carry out different activities, but every household member is able to perform almost every activity. Reproductive and productive work is done by both men and women.

**Box 4: Some selected activities of men and women**

Activity	Women	Men	Men/Women
<b>Animal husbandry</b>			
training the bull		+	
milking cows			+
preparing feed for pigs			w/m
cleaning the stable	+		
preparing and carrying manure	+		
slaughter an animal		+	
grazing cattle			+
searching for lost cattle			m/w
cutting grass for cattle bedding			girls/boys
transport fallen leaves			w/m
<b>Farmwork</b>			
preparing, carrying and applying manure	+		
ploughing with bull		+	
transplanting			w/m
weeding			w/m
harvesting			+
storing the bundles in the field			+

threshing by feet			m/w
carrying the rice home			+
growing vegetables			w/m
applying for seeds and fungicides			+
collecting non timber forest products			+
collecting fuel wood/use of axe		+	
carrying poles a long distance		+	
making shingles		+	
producing wooden ploughs		+	
collection of fencing poles			m/w
transport fuel wood	+		
<b>Housework</b>			
cooking			w/m
cutting meat for drying		+	
butchering		+	
pounding			w/m
drying vegetables			w/m
washing	+		
making beer	+		
preparing ara	+		
lighting fire			w/m
caring for children and sick people			w/m
housebuilding		+	
<b>Other activities</b>			
marketing			w/m
selling meat		+	
helping women after giving birth		+	
portering			m/w
paying tax			+
w/m: activity preferentially done by women m/w: activity preferentially done by men + : activity done by			

Women are mainly responsible for the **work at home**, although men perform the same tasks as well, women look after the children and care for ill people. They clean the house, wash and cook. They are involved in food processing, churn butter and make cheese. They dry and blanch chilli and fruits. Men build the house and repair it. They fence the vegetable garden.

Both sexes are involved in **farm work**. Women are mainly transplanting, weeding, exclusively carry manure and harvest the rice. Men prepare the land, thresh the paddy and transport the harvest.

Regarding **animal husbandry**, both men and women are concerned with grazing cattle, but feeding pigs, milking cows, cleaning stables is usually women's work. However, here as well the different tasks are performed in relation to availability of labour. **Collection of forest products** is also done by all family members. Men are responsible for the fetching of fuel wood and timber for shingle. They split the wood, whereas women are responsible for transporting it to the house. They likewise collect fallen leaves.

Women and men play an equally important role in **marketing** vegetables and rice.

Men and women participate in village meetings and contribute to village activities. They pay land taxes and apply for government services. Men can be seen carrying babies on their back and women are allowed to repair irrigation channels.

Only from a religious point of view are women of minor value compared to men. They are not allowed to perform 'Puja' and other important religious rituals. The taboo for women to plough with bulls is one indicator of this. Except for this case, there seems to be no obvious inbuilt discrimination of men or women in the Nahi valley.

Owing to the labour shortage the workload of both men and women is very heavy. Problems do not derive from the unequal workload of men and women but because of different resources available in a household. Poverty is a clearer indicator for suffering than the gender division of labour. Poorer women when staying alone without the financial possibility of hiring labour might suffer the most.

#### 4.2.4. Income and expenditure pattern

Almost all necessities of the household are produced by the families themselves.

The main income of the household is drawn from agricultural and livestock production. Rice, vegetables and milk products feed the families. The forest still supplies the main raw material for tools and equipment. Abundant fuel wood keeps people warm and assures cooking facilities. The households are mainly self reliant.

They exchange labour for goods and pay for services in terms of goods and/or labour. They share land and labour resources. Share cropping is still a prevalent payment pattern for cultivating land. Thus shortages in cash and labour can be overcome temporarily.

Although the barter trade still exists, the rural households are more and more integrated in the market economy. In 1956 a man walked from the Nahi valley in six days to Phuntsholing to barter salt and tools. Today the farmers get their supply from the Wangdi or Thimphu market, which is only a few hours walk.

**Box 5: Labour exchange rates in Nahi valley**

Hired labour:	
1 labourer/day:	40 Nu/day or 3 dre paddy or 1.5 dre rice or 2 dre wheat
portering one day:	40 Nu/day
for ploughing, firewood splitting, hoeing	45 Nu/day plus food
for splitting shingles transporting them	50 Nu/day
for house building:	
men	50 Nu/day plus food
women	40 Nu/day plus food
use of pedal thresher/day:	labourer for three days
milling 10 dre of mustard:	1 phuta <sup>16</sup> mustard seeds
unhusk 40 dre of paddy:	1 dre white rice
milling 20 dre of wheat:	4 dre
borrowing 20 dre rice:	3 dre interest
hire one pair of bulls/day:	3 labourers/day plus 8 dre paddy feed for the bulls
produce a wooden churn:	one churn filled with paddy
produce a wooden plough:	1 labourer/day
1 power tiller:	65,000 Nu
In labour exchange between neighbours a work day of a woman equals a day of a man, but not so when cash is paid.	

Since the former government's 'in kind' tax was converted into a cash tax, every household needs a certain amount of cash income to pay the taxes and the royalties. Land for wetland and dry land cultivation, grazing and pangshi<sup>17</sup> land as well as land for a kitchen garden has to be registered and is due for government taxation. The taxes are collected by the village headman.

The existence of a Nahi school causes an additional demand for cash, as school uniforms and materials need to be purchased.

The increasing cash expenses cannot be met by exchange of goods and labour anymore. The lack of access to market facilities makes it even more difficult to sell the few surplus goods.

**Box 6: Compulsory Government Taxes for land and other items**

<sup>16</sup> 5 phuta = 1 dre.

<sup>17</sup> Pangshi land is land without irrigation possibilities

paddy land	24 Nu/acre
dry land	12 Nu/acre
pangshi land	10 Nu/ acre
grazing land	100 Nu/100 acres
house	20 Nu/year
shed	10 Nu/year
life insurance	15 Nu/year/person over 8 years
fuel wood	2 Nu/year equivalent for 200 headloads
house construction:	11 Nu/tree
ploughing license:	1 Nu for two to three ploughs
cattle/horse less than 10:	1 Nu/head
cattle/horse more than 10:	5 Nu/head

Nevertheless, almost every household sells rice either as surplus or because of shortage, when cash is needed. In winter, poorer families sell about 80 to 100 dre to buy other needed items, not produced at the household level, such as: tea, salt, sugar, butter for oil lamps, dried fish, etc.

Rice is also exchanged for cash between family members living in town and in the valley.

Wild mushrooms and wild asparagus are sold at the market in Thimphu and Wangdi in small quantities. Selling puffed rice and cakes also contributes to the family income. Apples and oranges are mainly sold by families in Nabesa.

Labour hired out for cultivation is another source of cash income and practised by both men and women. Portering is mostly done by men. Horses can also be hired for cash.

Remittances from family members in town are substantial but irregular. The amounts vary and one cannot count on them.

For the last three or four years there has been a seasonal out-migration from the valley for paid work in towns. About forty young men regularly go to look for short-term contracts in Thimphu. Normally they leave during the months of November-January. They usually get work in house construction, road building and splitting of timber. This relatively new trend may also be explained by the fact that in the past contract workers had to accept any type of work at any price. Nowadays they can negotiate the wages and the amount of work to be done. Wages are increasing as well. Until now every men who was born in the valley came back because of ties to his family after the season. On the contrary, men who marry into Nahi valley very often never come back after leaving once. The out-migration leads to additional work and time pressure for other family members, mainly the women.

Only one blacksmith migrated to the valley to personally repair and sell tools. In urban areas one can now find tailors, shopkeepers, hairdressers, carpenters and other craftsmen. These are indicators of the ongoing change from a barter economy to a market economy, where services are being bought and sold and cannot be exchanged any more.

Besides the items already mentioned others such as cloth, shoes, blankets, cups, mats soap and matches are bought at the market. Wealthier families buy corrugated sheets for the roofing.

However, the highest mentioned<sup>18</sup> expenditure for the families is the annual 'Puja' ceremony which is performed in every household. During this house purification ceremony several monks read holy scriptures, chant and pray. Neighbours join in and food is prepared for everyone.

The total amount for the 'Puja' varies from 2,000 Nu to 9,000 Nu in relation to the resources of the family.

Richer families spend money once a year for a journey to a holy place in India.

**Box 7: Amount in cash and goods spent for the annual 'Puja'**

red rice :	40 dre
white rice:	30 dre
pig :	one
beef :	40 kg (bought from the market)
local butter:	3 kg
Indian butter:	4 kg
unmilled rice:	30 dre (for ara)
wheat:	7 dre (for beer)
cheese:	6 to 7 balls
eggs:	6 to 7
incense, tea leaves	
9-10 monks are paid 100 Nu/day	
They stay two days:	2,000 Nu

The total household income from different activities and sources is spent for the survival of the family. There is no separate gender-specific income and expenditure flow at the household level. Decisions on the household expenditure and farm management are done by both sexes.

<sup>18</sup> The relatively high costs for the cremation were not mentioned.

### **4.3. Access to and control over natural and material resources**

#### 4.3.1. The land ownership in Nahi valley

##### **4.3.1.1. Private land owners**

As all the landless farmers have left Nahi valley, today there are 157 registered private land owners in the valley. These land owners own altogether about 242 acres of the wetlands, 81 acres are registered as dryland including the plots for the kitchen gardens (with irrigation possibilities) and 57 acres as pangshi land (without irrigation facilities for rainfed crops). Most of the private land is registered under the name of the wife of the head of the household due to the prevailing inheritance pattern. Only in a few cases have businessmen from the outside and married a woman in Nahi valley bought land and registered it in their own name<sup>19</sup>. Consequently, one household can have several registrations.

Both men and women have access to the cultivation of land.

Some of the large land owners leave parts of their land to be cultivated by share-croppers.

Besides inheriting land people can buy land if it is on offer. In Nahi valley one family is selling land because of labour shortages.

##### **4.3.1.2. Institutions as land owners**

Besides private land owners, monasteries possess land in Nahi valley. Coming from a social system where ordinary people had to work for the nobility and the clergy until the fifties when serfdom was abolished, it is understandable that even today monasteries possess land. The possession of land by different monastic bodies not residing in the area is due to the fact that during the reigns of the first and second kings the expected contributions of the ordinary people in taxes, goods and labour were very high and exceeded the resources of the people. Families who did not have a sufficient labour force very often could not deliver the expected contributions and surrendered their land to a monastery which they felt could protect and care for them. In this case the whole family 'belonged' to the monastery, was fed, received cloth and worked for the monastery.

In addition, there used to be a severe epidemic<sup>20</sup>, which threatened the area. People tried to flee from Nahi valley and surrendered their land to the monasteries whose monks were supposed to stay. These facts explain to some extent the fact that the monastic land is scattered throughout the whole area.

The total agricultural land owned by the monastic bodies is share cropped today, not seldom by the descendants of the former owners (See Map 1). These monastic institutions are represented in Nahi valley by different temples. One can distinguish three categories of temples:

---

<sup>19</sup> Oral communication by the village headman.

<sup>20</sup> Oral communication by the village headman.

**Government temples:** In this case the temple and all furniture belongs to the Government. A caretaker is normally appointed by the Government who receives a food ration and is responsible for the temple. The Government monasteries are managed by the monastic body of Dzongkhag district.

**Community temples:** Community temples are mostly constructed by and belong to the community of the valley. All maintenance costs are met by the community that also organises 'Puja' and prayers. The caretaker is appointed by the community. The families of the valley contribute to his food ration.

**Private temples:** These belong to well-off private families who built them. The private temples are maintained by the owners. The owners of these private temples normally possess a lot of land which they offer for share cropping as well. The private temples are highly respected by the community.

The following table shows the land ownership of institutions and the acreage with the number of share-croppers per temple.

Sometimes the institutions also own houses, which the share-cropper has to maintain. Today no wetlands are left fallow by the institutions owning land.

As can be seen in the table, most of the share-croppers are living in Hebesa, Nabesa and Eusagongwog.

**Table 2: Wetlands owned by various institutions in Nahi valley**<sup>21</sup>

No	Institutions	Acreage	Number of share-croppers	Location
1	Khuju Lakhang	2.10	3	Hebesa
2	Pangso Lakhang	1.26	2	Hebesa
3	Lamisey Lakhang	?	?	Hali, Hebesa, Eusagongwog
4	Dongkala Lakhang in Paro	0.76	2	Hebesa
5	Jabchu Karmo (Nunnery in Punakha)	5.01	3	Hebesa
6	Wangdue Rabdey	8.65	8	Hebesa, Nabesa, Eusagongwog

<sup>21</sup> Source: Village headman of Nahi valley.

7	Tashigang Lakhang	10.20	17	Hebesa, Nabesa, Eusagongwog
8	Talogoenpa at Punakha	2.00	2	Hebesa
Total		29.98	38	

Note: The above figures on cultivated land holdings of institutions reflect on those that are in the headman's records. ? indicates that the registration figures are not with the headman.

#### 4.3.1.2.1. The share cropping agreement

The normal share cropper in Nahi valley owns land less than 2 langdos, which is not sufficient to feed the family. Share cropping is mainly done on wetlands.

In most cases, a representative of the land owner or a representative of the institution makes a verbal but firm agreement with the share cropper, in which the share-cropper's duties are fixed.

The rent for wetlands depends mainly on the size and location of the field and is independent of the yield.

#### **Box 8: Rent for share cropped land**

1 langdo of a central piece of land: 80 dre paddy  
 1 langdo of an intermediate piece of land : 60 dre paddy  
 1 langdo of a piece of land on the rim: 50 dre paddy

The share-cropper is responsible for the plot and maintains the irrigation channel. The share-cropper does not pay a land tax to the headman nor does the temple (probably the temple pays directly to another institution).

After harvest the share-cropper has to transport the share of the landowner to a collection point. A collector appointed from the managing monastery comes to collect the paddy. If the share-cropper has a 50:50 arrangement the division of the harvest is done in the field in the presence of the collector. He then brings the paddy to the milling machine for decortication and carries back only the rice. The landowner is responsible for the transport of his share to the monastery.

If the share-cropper has to give a fixed amount of rice and is not able to pay his share because the harvest has not been good, his payment will be postponed until next year. However lagging behind in his payment, the farmer has to pay 3 dre interest for every 20 dre he owes to the landowner. In case

the debts are piled up, the share-cropper has to pay his debt by contributing labour.

Every share-cropper can terminate his contract after the harvest and look for better opportunities. He has to inform the landowner or the collector, if he does so.

Every share-cropper was aware of the recent initiative of the Government to convince the monasteries to legally transfer share cropped land to the share-croppers, but this initiative was not taken up by the monasteries in Nahi valley<sup>22</sup>.

When looking at the Table 2, one has to keep in mind that, in reality the acreage might be greater than the registered amount because the former used chain measurement which is not as exact as the modern measurement methods used nowadays.

In summary, it can be stated that there are no landless families in Nahi valley, although they are not always in possession of enough of their own land or share cropped land to be self sufficient. Referring to the high number of share-croppers (more than 38) the availability of land for small farmers is still a crucial problem. Owing to the topography of the valley the prospects increasing cultivable land and consequently increasing the agricultural production are very limited.

However some land is not under cultivation because of irrigation problems.

The actual land ownership system in the Nahi valley seems to be quite complicated, because important landowners (about 20% of the wetlands) are institutions that are not residing in Nahi valley. Concerning the land use planning, this fact needs to be taken into consideration.

#### **4.3.1.2.2. Other share modalities**

Pig-sharing is done for the annual 'Puja'. The owner of the pig gives a small pig to a caretaker, who is responsible for the feeding and fattening of the pig during the year for the annual 'Puja'. When the pig is slaughtered, the owner and caretaker both receive equal shares. The caretaker saves the initial investment, normally about 500 Nu, of buying the pig.

Cow-sharing follows the same pattern. The owner gives a cow to the caretaker, who in turns feeds and milks it for five days and churns the butter for the owner. The milk of the second five days is for the caretaker. The arrangement fixes to whom the first and second calves belong, regardless of whether it is a male or female calf.

---

<sup>22</sup> Oral communication by the village headman.

### 4.3.2. The water use system

The availability of water, the most important natural resource for farmers, is a major issue for every household. Traditionally a village managed irrigation system existed in paddy rice growing communities. Owing to social change and fluctuation of inhabitants the traditional structures very often do not function anymore, so water user groups have been created. In Nahi valley water is used in the following way.

#### 4.3.2.1. Supply of drinking water

The water supply is dependant on natural water from the main river Hindey Rongchhu, its tributaries Chagyen Lum and Domjay Lum, as well as several natural springs in the valley. The water use is free of charge for the households. Except one, every household has its own water supply, either by a natural spring or by water tanks and water pipes leading to the households. Two tanks were built by the Government in Hali, and one each in Yusawom, Nabesa and Hebasa. In addition, several households arranged for their own water supply.

A household normally has a tap or pipe located outside the house. The taps often do not close properly any more. If the pipes worked well, labour and time need not be expended fetching water. Nevertheless, the water of the main river Hindey Rongchhu is still used for washing clothes by households near the river and by the school. The main river also supplies water to Lower Gaselo, Rinchingoaw under Thechro Gewog and the mini hydropower plant at Hesithangkha near the highway to Chirang.

#### 4.3.2.2. The irrigation system

As paddy rice is the main and most appreciated staple food in the area, the functioning of the irrigation system is a prerequisite to a secure food cultivation for subsistence farmers. All paddy fields are irrigated. Dryland crops are rainfed or sometimes irrigated as well. There are three main irrigation channels in the Nahi valley (See Map 2).

#### **The Hali channel**

At present there are seven families living in Hali. Another five households have registered land in the area, but do not live in the hamlet. The total acreage of cultivable land is 27, only seven acres (25 per cent) were cultivated last year, because the water did not reach the fields.

The earthen channel with some wooden flumes in between is about 3.5 km long. It was constructed by the inhabitants of Hali. It reaches the first tributary and from there it was connected later by the military to the second tributary during the 1983 drought. The channel is supplied by the first tributary which has water all year round but is especially full during the monsoon. At present the water supply is not sufficient due to seepage. Moreover, the channel

crosses some rocky areas and, unless the rocks are blasted away, it can not be installed properly.

#### **The Nabesa-Eusawom-Hebesa channel**

The people themselves first constructed the channel from Nabesa to Eusawom. Later, with the support of the Government, it was extended up to Hebesa. The Government channel was partly done with cement and still has seepage. Unfortunately the water volume is not enough to reach Hebesa. The people requested assistance to blow up the rock near the source to ease the water flow. About 3.5 km of the channel need some repair. Most of the share croppers live in the Hebesa area.

**The channel to Upper Eusagom** also has a problem and should be widened. As farmers are not allowed to use explosives, they can not help themselves.

**The seven small channels** from the Chagyen Lum River seem to be functioning satisfactorily.

**The Nabesa upper channel** is without problems as well.

#### **4.3.2.3. The water user groups**

Several water user groups have been initiated by families using the same water sources. The agreements are as follows:

For 4 acres of wetlands a family receives 24 hours of constant water-supply by rotation. Small holders have joined together to be able to irrigate 4 acres together, so they enjoy the same conditions. Per 4 acres every family supplies two men/women for necessary maintenance of the channel until the repair is finished. Normally the user groups are functioning well, consequently so does the irrigation system.

Every household has free access to drinking and irrigation water. The irrigation system in general is functioning and maintained by the water user groups. However, the use of cement or pipes at crucial points of the system could improve the water supply in some areas quite substantially. There are still potential wetlands in Hali which are not used because of insufficient water supply.

### 4.3.3. Access to and control over forest products

There is likewise an abundance of forest in Bhutan. The forest land is owned and controlled by the State or its representatives, the forest authorities. The RGOB attaches great importance to the protection and sustainable management of natural resources, knowing that the forest is one of the main income sources for the country. Consequently the large scale commercial exploitation of the forest for timber is exclusively reserved for the Government logging company. Until now logging licenses are not offered to foreign companies. In addition, one of the outstanding objectives of the Government is to protect the natural resources. A UNDP funded project for the processing and export of essential oil extracted from lemon grass is being tested. The extraction of essential oils might become a potential resource of income in some areas.

Not only the Government depends on forest products for income generation, but Bhutanese farmers are very dependent on forest products to secure their livelihood. Wood is the main rawmaterial for lots of farming and household items. Two use rights for farmers have been officially recognised by the Government, as follows:

- The right to graze livestock in a specific area (Tsamdrog) which can be registered individually or by group.
- The right to collect fallen leaves in a specific area (Sokshing) which can also be registered<sup>23</sup>.

With the establishment of Community Forest Rules forest land classified as Community Forest is still owned by the RGOB, but trees and plants growing and being cultivated on this land belong to the hamlet user groups. The rules and guidelines for user groups prescribe their participation. In addition, the special interests of women have to be taken into consideration.

In reality farmers in Nahi valley feel no major restriction concerning the somewhat 'free' use of the forest. More than 120 non-timber products<sup>24</sup> are known and used by the farming families. The farmers are complaining more about the time consuming task of obtaining a license from the forestry personnel.

It seems that somehow today the access to forest products might be easier for the farmers than the envisaged establishment of community forest plots because there are no felt problems or constraints concerning the collection and use of forest products.

### 4.3.4. Access to markets

The markets of Wangdi and Thimphu are only reachable on foot. Both men and women sell goods here. Referring to the resourcepersons although women are preferred over men because of their known bargaining capacity and they are not as shy as men. The income from the sale is spent on family needs, regardless of who has sold the goods. There is no restriction

<sup>23</sup> Source: Desmond (1996).

<sup>24</sup> Source: Namgyel (1996a).

concerning the responsibility and the purchase of household items, because there is no gender-specific cash/income flow

The general mobility however, shows some differences between men and women.

Family members do not often travel to distant destinations. There are only more or less regular walks to Wangdi market for men and women. Regular meetings at the school are attended by women and men alike. However, accompanying the dead body of a neighbour to the cremation ground in Wangdi or sometimes in Punakha is a duty assumed mainly by men. Relatives are visited once or twice in Thimphu and wealthier families make a yearly pilgrimage to an Indian monastery.

## **5. Pattern of social and economic changes in rural life**

### **5.1. From compulsory labour contribution to voluntary community work**

As mentioned in the report of Kievelitz (1995) self help motivation of the farmers does not seem to be very high.

In 1958 the third king of Bhutan abolished serfdom and thus introduced fundamental changes in the rural society of Bhutan. This decision of the king was followed by the inauguration of the Supreme Law stating equity of every person before the law.

During the past history of Bhutan<sup>25</sup> heavy compulsory work contributions were expected by the inhabitants in the whole country. Porter services had to be done for official missions crossing the valley. The villagers had to serve with their labour to the construction of roads, administrative buildings, monasteries and bridges whenever the official rulers called for support. They had to place cattle herders, cooks and servants temporarily at the disposal of aristocratic households as well as monasteries.

The dependency relationships - on the one hand the representatives of the Government and monasteries demanding services and on the other hand the villagers following such demands - are still deeply rooted in the memories of the population. The inbuilt respect and even fear in front of Government officials and project officials is still apparent. One can assume too, that during this long period ritualised relationships independent actions and creative thinking of the villagers might not have been encouraged. Although these patterns belong to the past, they are still very much alive and close to the hearts and minds of the people.

A few years ago the contribution of family labour to the Dzongs consisted of 15 days per year. Since January 1996<sup>26</sup> the compulsory work contribution outside the valley does not exist any longer. Nowadays a work contribution is only asked for development work in the Gewog. Consequently, every adult man and woman can recall his and her personal work contribution per year. At

<sup>25</sup> Source: Jit Hasrat (1980).

<sup>26</sup> Oral communication.

the same time they are aware of the substantial changes that have taken place in their generation.

Now there are new demands for labour from the outside. Foreign assisted projects are arriving with their concepts of community participation and project ownership which require community contributions and expectations of self-help as well. Community approaches need a labour force, a rare commodity in the households.

Donors also ask for the creation of formalised committees, user groups and village associations in order to make sure that the representatives of the villages care about their projects. This is not only for the management of natural resources, but for the management of people.

Donors suggest more co-ordination and communication between the different households. However, looking at the topography of the valley, this would be a very time-consuming approach. It is evident that a higher degree of participation would require even more of the farmers' time.

Decentralisation of decisions and participation of the people are two concepts approved and promoted by the RGOB today. Nevertheless the concept of creating village associations, helping them to defend their interests and arguing for their advantage might be a considerable challenge to the members of the official administration. Some might see the danger of emerging political parties or pressure groups. Therefore, a somewhat restricted and 'limited' participation could be the hidden agenda of the decision-makers.

The farmer is the person who has to integrate all these different and probably controversial demands on his personal time and household. Nonetheless, feeding his family is priority number one for the household. Until this aim is reached in Nahi valley, the poorer families might not have the time for a participatory discussions on, for example, land use planning. If the initial expected work contribution is not targeted to solve the farmers' main problems, they might actually be reluctant to participate. With the existing shortage of manpower, they have to keep in mind their immediate benefits.

This has to be taken into account by the project. The content and speed of implementation of new development concepts have to be adapted to the prevailing psychological makeup of this society in transition.

## **5.2. From in-kind contributions to cash taxes and competition**

Only as recently as 1968 were taxes in kind converted to a tax system in cash to achieve comparability for all. These changes were made not even a generation ago.

The change from a barter economy to a mixed economy still needs a continuous mobilisation of self-help of the household members for subsistence. In addition, an increasing regular amount of cash income to satisfy the

different demands occurring with the change is also necessary. Thus, farmers have to carefully assess their situation, labour capacity and time, to meet the different requirements.

With the opening up of the Bhutanese society a more and more specialised and skilled labour force will arise whose services cannot be exchanged for goods. These services require cash payments. These subsistence farmers have produced almost all necessities for self support. They are the constituting factors and live within the centre of their economy. With the coming changes there is a tendency and danger of being marginalised. Traditional general knowledge and skills will slowly disappear.

One has to keep in mind that in a subsistence and barter economy there was no reason to sell goods and bargain for a good price. 'We are not used to going to the market, men are too shy for selling' was the comment of one of the farmers. In addition, in former times hand-made articles which need a certain skill and creativity such as jewellery and weaved cloth, and religious items were not bought, but exchanged for food and/or cloth. They were given to the 'master' in exchange for protection, food and cloth. As there was no cash market, a comparable price did not exist. Probably even today precious and valuable goods fashioned by skilled workers do not reach the competitive market, because they are exchanged within a long established purveyor relationship.

The handing over of business licenses to foreign traders instead of doing the business itself reflects the same pattern: To obtain (in this special relationship) money out of a (newly) established dependency. In the long-term it is a difficult and dangerous pattern, because skills necessary to cope with the increasing changes in Bhutanese society and its new demands and requirements might not be learnt and accumulated by the population.

### **5.3. From free access to forest land to restricted community forestry areas and commercial exploitation of timber**

Traditionally forest resources were used by villagers living nearby, thus access was free and the forest land was supposed to be common property. With the nationalisation of the forests in 1969, the RGOB is now the owner of the forest and has officially introduced rules and regulations to manage the forest land. The increasing judicature comprising the ownership and use of forest land reduces customary rights of forest use and reserves the exploitation of economically valuable trees to the Government. The creation of community forestry plots in 1995 allows villagers to exploit forest land in only certain areas following strict conditions. Villagers have to accept and adjust to all these changes.

The increasing scarcity of the renewable natural resources and a constant threat to these resources by degradation, erosion and the continuous use of a subsistence farming population, has led to the Renewable Nature Resources (RNR) concept.

The new RNR management approach tries to avoid mistakes made in the past. It tries to combine Government objectives, donors' support, existing land use patterns of the rural population as well as future needs to achieve a sustainable management concept of the resources. Observing the abundant forest resources today, farmers might not be immediately convinced of the necessity of applying a restricted access and management of the resources. Coordination and communication might appear senseless in their eyes. Thus, before a renewable natural resource management approach with the participation of the local population is accepted and appreciated, the more urgent problems, needs and perception of the rural families should be solved. RNR Management in Bhutan has to take into consideration the special interdependence of human activities and natural resources in Bhutan.

#### **5.4. From fining to counselling**

In the newly introduced RNR concept the traditional role of the forestry personnel belonging to a paramilitary unit with the power of imposing fine and meting out punishment is gradually changing or at least being supplemented by other professional tasks and roles. The traditional perception by the forestry personnel of a farmer being an irresponsible consumer of the forest has to be altered slowly. It must be acknowledged instead that the farmer is to a very great extent dependant on the forest resources and thus interested in their sustainable management. With the new RNR approach forestry personnel are requested to change their role and perform extension services, listen to farmers and give advice and support. This will take time to realize to be credible and believable to the farmers. A compromise between the different and sometimes contradictory concepts has to be made to improve the living standard of rural families and at the same time improve the sustainable management of the forest resources.

#### **5.5. From life long learning to formal education**

Traditionally, children in Nahi valley have learned all skills necessary to survive from their parents, grandparents and other persons in the village. They have learned by doing, helping their parents in whatever work needed to be done. Increasing experience has taught them until they are able to manage their life independently, get married, have their own children and die. In a traditional culture their position in society was ascertained, their role was clear and they knew where to go and why.

Today, the children of the Nahi farmers receive a much more diversified and broader orientation. And afterwards they might not like the hard work on the farm any more. They aspire to other things: their dreams and visions are different from their parents and ancestors. They already touch what their parents never dared to dream of. The change of the reference system is linked to a fundamental change of values. Consequently, measures have to be developed to keep the young women and men on the farms. Signs of modernisation and the outside world have to be brought to the valley to make

it more attractive, so people will want to stay. When Pandit Nehru<sup>27</sup> first visited the slowly opening Bhutan, he brought films to show the people. Whatever the content was, it was a good idea, because it brought the outside world to Bhutan, so there was no need to go to India. The outside world has to come to Nahi valley slowly, steadily and in a controlled manner.

### **5.6. Impacts of changes on women in the Nahi valley**

The above elaborated patterns of social and economic changes in rural life do have manifold implications and impacts on women in the valley as well.

The predominant male enrolment and the early drop-out of girls primary school are contributing factors to the long-term changes in roles and opportunities. At least one educated son will be sent to urban college to further his education and thereby increase his opportunities in the modern and public sector.

Literacy is conducive to active participation in the decision-making processes at the grassroots level. To be elected as a village head, literacy and basic education are preconditions to cope with the administrative workload involved. The increasingly external induced change process calls for more participatory planning and decision-making activities and requires more frequent presence of male and female villagers at community meetings. Since women are less informed, less educated and more charged with reproductive activities at the household level, their time for participation and active involvement is limited.

The reduced vertical and horizontal mobility of women already deprives women in the valley of being married, of optioning credit or having access to information.

The cash demands from the outside have led to seasonal migration of young men. This fact has already influenced the gender division of labour. Other imposed demands such as producing more cash crops will arise and will further influence the production of food crops and the control of household consumption.

The traditionally balanced sharing of tasks and similar competency in agriculture between women and men is or will be further changed by more specialisation due to the professional requirements of "modern" agriculture. The first three prototypes of change agents for modern specialisation have already arrived in the village: the teacher, the health worker and the agricultural extension worker - all three are men.

Since young male farmers are better informed and better educated they are most likely more addressable and receptive in responding to the proposed innovations in agricultural technologies. Again the wife might fall behind and will become more dependent on the competence and skills of her husband (e.g., in driving the power tiller, in applying fertiliser or pesticides).

These implications and impacts will have to be considered when introducing new activities in RNR management to protect resources, to save time and to generate income at the village level. Activities should be chosen carefully, their impacts and results need to be properly monitored and adjustments provided, if necessary. Our recommendations tried to keep these implications on gender in mind.

## **6. Recommendations**

Taking into consideration the results of Kievelitz (1995) and Namgyel (1996a) and our own observations, the problem assessment of the population of Nahi valley is quite clear and is summarised here:

---

<sup>27</sup> Source: Rustomji (?).

- Lack of access to market and other facilities
- Irrigation problems mainly in Hali
- Lack of additional land for share-croppers
- Lack of manpower during peak seasons
- Lack of cash income

It has to be kept in mind that due to the workload participation in village groups to be created is only possible when the workload for women and men is reduced.

There are two strategies possible for the improvement of the present situation of the households:

- Improvements within the existing production system and
- Improvements targeting to an opening up of the system towards the outer world. A further integration into the market and communication system of the national economy is optional.

### **6.1. Improvements inside the existing production system in the valley**

Before exploiting any further potentials the actual labour shortage and time constraints have to be overcome.

Taking the main problems mentioned by the resource persons into consideration, some interventions to improve the manpower and income capacity may be recommended.

#### 6.1.1. Improvement of health and nutrition

- If there is shortage of manpower, one has to examine whether the existing manpower is in a healthy condition. Decentralised health workers could be trained further in preventive activities such as water sanitation and supplied with medicaments of primary necessity, so the health of the families is improved.
- The nutritional status could be improved by the introduction of a more balanced diet including more vegetables.

#### 6.1.2. Introduction of time and labour saving tools

In order to raise productivity of Nahi valley, time and labour saving tools are recommended. As the cash income for the average farmer seems to be very low, special credit lines for more expensive tools or machines need to be provided. It has to be assessed whether farmers can apply for credit with the official banks.

Traditional ploughing is done with a wooden plough which does not turn the soil. Better ploughing equipment might help in the meanwhile. Power tillers that are of limited use in the steep valley of Nahi are recommended only where larger tracts exist. In addition, one has to keep in mind that all materials

and machines have to be carried by horses or manpower for hours before they reach the villages and fields. The further distribution of power tillers should be complemented by training on how to use and maintain them. There is one blacksmith in the valley who might have the potential to become a rural mechanic in future.

Threshing is actually done by foot and requires a lot of energy and is very time consuming. Pedal threshers are known, but are probably too expensive for several families to buy. Threshing over a wooden block, metal drum or metal screen might be a better alternative technology rather than threshing by foot or directly beating the paddy bundles on the ground.

There are motor driven oil milling machines, which might be complemented by animal drawn machines, as there are trained bulls available in almost every household. The same applies for paddy decorticators.

Moreover, horses used as transport facilities to carry produce from the field or goods to the market might save labour, energy and time as well.

### 6.1.3. Improvements of the irrigation system

The seepage of water in the irrigation channels is not only a waste of a valuable resource, but requires continuous maintenance. This is a waste of precious labour capacity, which could be substituted by either a pipe or a cement repair. With an assessment of the water sources and a technical appraisal of the necessary channel repairs, it is recommended to support the reconstruction of the channel system in Hali provided that the contribution of the farmers is discussed and agreed upon.

The headman as well the farmers from Hali declared several times their willingness to contribute labour if material support could be arranged by the project. Beyond that it should be the task of the extension personell to get the mental participation and cooperation of the villagers to increase and improve their sense of ownership. Additional meetings have to be organised with the village and the user group(s) to clarify their contributions. The donor's support would be a confidence-building measure and a means to address the main issue: the management of renewable natural resources including the water, forests and grazing and cultivated lands. The increase of production would serve all household members and save labour.

Moreover, since during the winter season water is less abundant but nonetheless required, the villagers could probably discuss and identify natural places for water retention reservoirs for the dry season.

### 6.1.4. Improvement of fodder

Fodder scarcity was reported mainly for pigs. Fodder plants might be possibly sown on the boundaries of the rice terraces. This suggestion could not be discussed with the villagers and needs to be verified.

### 6.1.5. Income generation

The further screening of income generating potentials in the Nahi valley should be guided by some principal considerations. Provided that time-saving activities have already been introduced, the following principles are suggested:

- New products and services should be based on available natural resources and potential skill developments.
- Owing to distant markets and high transportation costs (as long as there is no access road), product selection should be guided by 'high value added and low weight per unit' criteria.
- New products or services should be introduced through external resource persons in cooperation with the village school serving as a creative and applied learning centre. Teachers and students may serve as a transmission belt for new ideas and products.
- Since income generation through commercial services and marketable goods appears to be relatively unknown, training on price setting has to be conducted, based on the time spent, material inputs and existing trade margins.
- To initiate new products and services, the project should provide the required material inputs, technical assistance and marketing support.

In working with the villagers, first-hand experience shared together can guide the different actors to new plans and procedures and continuous joint monitoring can assess the impact of the actions taken. Learning together by doing should be the guiding principle of the approach.

#### 6.1.5.1. Income potential from non-timber forest products

There are considerable research efforts made to collect more information on non-timber forest products in the country. The report of Namgyel (1996) mentioned the income potential of collecting wild asparagus and mushrooms in Nahi valley. The production or processing of products with a high market value, easy storing facilities and low weight might lead to income generation.

##### Asparagus

Several farmers in Nabesa collect wild asparagus in the forest to sell them in Thimphu market. Using the road to Thimphu they have slightly better marketing opportunities. In Thimphu a bundle is sold for 10 to 20 Nu. In Wangdi it sells for only 5-10 Nu.

Five families - after trying to cultivate wild asparagus near their houses without success - are now cultivating improved asparagus in Nabesa. The new variety is more fleshy, not as bitter as the wild one, but has a shorter storage life. The marketing of the improved asparagus is nevertheless easy. Farmers prefer asparagus as a cash crop, because of its short-term return.

Since manpower is in short supply, long walks to the forest for collecting asparagus can be avoided. It is recommended to assess the number of interested farmers, provide seeds and training (if necessary) and test the asparagus cultivation. An exchange of experience between farmers already growing asparagus and newcomers should be organised by the project. The agricultural extension workers in the valley should be involved in the activities and the follow up. The market demand also needs to be monitored to prevent oversupply.

#### Mushrooms

Mushrooms are normally collected by chance as a by-product during grazing of cattle or other activities in the forest. Most of the wild species are for home consumption. Some families also intentionally collect mushrooms to sell them at the market. Mushrooms could always be sold, but they are very fragile and suffer during transport. Several farmers are very interested in the cultivation of domestically grown mushrooms and have applied for government training in the past. When the course was finally announced, it coincided with a major religious celebration organised in the valley and they could not join the training. However, they are still ready to attend.

It is recommended to assess training possibilities with the National Mushroom Centre in Semthoka. Interested farmers should be supported to attend the training and assisted with the necessary supplies. The farmers are interested in cultivating Shiirtake because of its high market value. Farmers have applied for subsidies concerning the necessary oak stems for cultivation.

#### **6.1.5.2. Income potential from fruit trees**

Nabesa and other hamlets in the valley have potential for fruit tree growing as well, but the trees are very often infected by pests and birds eat the fruit. The price for apples is very low at the local market. The return on investment for apples is too long. Farmers are more interested in short-term income activities. Nevertheless, the fruit tree cultivation should be encouraged by supplying varieties requested.

#### **6.1.5.3. Other income generating ideas to test**

Income generation very often has to be innovative to be successful. The argument 'we never did that' hinders creativity and is not helpful. The village school could become a centre of creativity, testing children's art.

- In 1995 GTZ sponsored a calendar with drawings of school children and it sold very well. It is worth trying to encourage children to make drawings about their life in the hamlet and various problems there and to try to sell them by commission at the handicraft emporium or private shops in the capital. A good slogan would be: Children's Original Art in Bhutan. It should be tested whether the drawings sell better if framed. Probably value can be

added by drawing on hand-made paper. Pencils, pens and paper should be provided by the project for the first test. The cooperation with the teachers should be stimulated for mutual benefit. Shingles could also be painted like icons with Bhutanese symbols.

- Another income generating possibility is the colouring and lacquering of small natural stones (found everywhere) to serve as multi-coloured paper weights. A good slogan: Support the School of Nahi - Buy a Souvenir from Bhutan. It is important to identify items specific for Bhutan for sale.

These could be improvements within the existing system without changing or eliminating the major constraints. All activities are confidence-building measures. The closer project supported activities relate to farmers' urgent needs, the better.

#### 6.1.6. Identification and management of community forestry plots

As mentioned above the creation of community forestry plots is recommended by the Government and should be supported by the project. Anticipating ongoing forest degradation and increasing demands of timber and non-wood products, the idea of community forestry should be introduced to the villagers although there is no felt need for these plots in the moment. Study tours to areas with less forest resources should be organised by the project in order to initiate the exchange of experiences between the farmers.

Suitable land should be identified in cooperation with the villagers and legally approved by the respective administration. In order to sustainably manage the plots the establishment and training of user groups has to be initiated and supported.

#### 6.1.7. Introduction of a gender-specific monitoring system

The project should introduce a gender-specific monitoring system to observe the effectiveness and impact of the activities promoted in Nahi valley. The monitoring system should provide early indications for changes in the gender division of labour and responsibilities. The monitoring exercise should be appropriate to the level of education and time available, so the villagers themselves could apply the method. Consequently they would be in a position to better understand the impacts of changes.

### **6.2. Improvements by opening up the valley**

Lack of access to the market or other facilities (hospital, family members outside, communication) was always mentioned as a major constraint for the improvement and expansion of the village life. Income generation facilities determine motivation for additional production in general. An access road is seen as the principal remedy for a lot of existing problems. However, on closer inspection, all these problems could not be solved by a road. However, a number of economically feasible opportunities in fruit and vegetable growing, tourism (trekking) and improvements in traditional agriculture in conjunction with infrastructural improvements will enable young and better

trained villagers to enjoy the living conditions in the valley. A road is a means of hope for change toward a better life.

Realistically, it can be expected that the connection of Nahi valley to the Wangdi-Thimphu road will lead to substantial changes in the social and economic life of the Nahi people.

#### Social change

Improved access to the valley by an access road would facilitate the possibility of leaving the valley and visiting people in the valley. A greater exchange with businessmen, merchants and tourists may inspire and broaden mutual understanding. New contacts and experiences could be made, thus changing the view of development and the appreciation of the outside world. New settlers might come with professions, such as tailoring and shopkeeping, and skills already practised in urban areas. Services would be available in the valley. Certainly the access to medical facilities would be improved. Access to Government services including training and credit would be facilitated.

#### Economic change

Access to the valley by a motorable road would allow not only 'niche products' (high value, low weight) to be produced and sold, but would open up a wide range of marketable goods to be cultivated, regardless of their weight and storage capacity. Furthermore, a cost-effective use of natural resources would be possible. Surplus products could be easily transported to the market, fruits like apples, oranges might be prepared for export. Cash crops like potatoes are another option for the farmers. The exploitation of the forests for timber would be easier. The transport cost would be decreased, and labour and time saved would therefore be available for cash crop production.

Through the connection to the outside business world, dealers and craftsmen would have easy access to goods and customers. More commercial exchange would be established between Nahi valley and Wangdi. Heavy technologies like a power tiller and a milling machine could be transported without any problem.

#### Impacts

The positive and negative impacts of an access road should be studied in other valleys which have been recently opened up.

#### **Box 9: Pros and cons of an access road**

<b>Positive impacts for the villagers</b>	<b>Negative impacts for the villagers</b>
<ul style="list-style-type: none"> <li>- reduction in time and transport costs to reach outside markets</li> <li>- more frequent communication with Government offices</li> <li>- faster access to health services and hospitals</li> <li>- more frequent visits from outside (information exchange, in-migration)</li> <li>- new investment opportunities due to cost reduction, availability of skilled labour, technical services, better education etc.</li> </ul>	<ul style="list-style-type: none"> <li>- exposure to stronger competition with products/services from outside,</li> <li>- out- migration/higher fluctuation of people,</li> <li>- changes in values, rising expectations,</li> <li>- negative role models and examples,</li> <li>- selling- out of land and houses.</li> </ul>

Evaluating the pros and cons of the access road to Nahi valley and the changes associated with it, decision-makers need to seriously consider the construction of the road. The expressed intention of the Dzongkhag to build the road should be supported, thus satisfying one of the most urgent needs frequently expressed by the people of Nahi. The construction of the road itself could be a development project if villagers are involved as workers, suppliers of food and services. In addition the road construction will transfer know-how to local people (e.g. road maintenance).

### **6.3. The implementation approach**

This pattern of change in Bhutanese society today also influences present thoughts, dreams and action of the local farmers in Nahi valley. They have to be taken into consideration by every project. Observing the constraints and the problems mentioned by the farming community, the approach of the project should consider these needs in order to really follow the envisaged holistic RNR approach.

The decision-making body of the Government - although having obtained a modern education outside the country - can still remember the way of life in the rural areas. They might have shared the same type of cold boarding school as in Nahi valley, slept on the floor and afraid of the wild animals. Consequently, there must be a very realistic personal assessment of problems and needs for the development of the country as well as a strong conservative development philosophy towards necessary and induced change.

The apparent contradiction between the experience of the leaders on the one hand and the felt need of the donors to scientifically support their decision processes as much as possible by all kinds of studies and reports on the other hand has to be harmonised in order to be able to implement development projects. Outsiders require considerable time before they can trust their own judgement based on limited information about the country to finally implement activities. To a some extent a body of knowledge exists and is known by the researchers and the country.

This is to call for a pragmatic step-by-step implementation process together with the rural families in Nahi valley. In cooperation with the household members and the extension workers small changes can be induced and monitored to assess their impact on productivity and organisational capacity and the willingness of the male and female farmers concerned in order to plan the next steps. To start with, the implementation of community forest plots do not seem to be the first priority of the villagers and, therefore, is not recommended at the moment. The implementation of the above made proposals are in line with the envisaged objectives for the second phase of the project<sup>28</sup>. The suggested activities contribute in particular to the accomplishment of Result No 7. of the last PPM. (For first actions see Annex 2)

All necessary information is available and decision-makers are there also, and a decentralised body (the Dyt) seems to exist as well. A potential analysis

---

<sup>28</sup> see Project Planning Matrix, Revised Version, 19 October 1996 in BG-IFMP, Project Planning Workshop, 7-18 October 1996, Thimphu.

concerning agricultural and livestock inputs is present too. Therefore, the wisdom of the people should be combined with the outside expertise within the political framework.

## 7. Annexes

### Annex 1: Map of Nahi Gewog<sup>29</sup>

---

<sup>29</sup> taken from: Kievelitz, Working Paper Nr. 3, 1995.

## Annex 2: Suggestions for immediate actions

### Area of intervention: Introduction of time and labour saving tools

#### Immediate actions suggested:

1. Equipping the wooden ploughs with metal plough shares for improved ploughing and following

**Project inputs:** Training of the blacksmith, metal as working capital and additional tools provided

2. Training of blacksmith or 1-2 farmers (preferable share-croppers) with basic technical skills in repair and maintenance of agricultural equipment (threshers, mills, etc.). A cooperation with the Helvetas Professional Skill Training Programme(?) should be checked.

**Project inputs:** Training and basic tools for participants

3. Documentation survey for appropriate technologies to be introduced in Nahi valley (e.g. portable rice threshers, animal-driven machines - Goepel- for decorticating of rice, oil-milling, etc.)

**Project inputs:** Written local problem specification (TOR); review of appropriate technology data base at GTZ/ISAT(GATE) and in other countries (SATIS), if positive, organisation of study mission and testing under local conditions. Cooperation with Applied Technology Centre of Bhutan. Technology resource books are available which show various techniques under different conditions.

**All proposals require further information and should be cross-checked with the concerned agencies.**

**Monitoring and evaluation of tests and experiences will be fed back to planning process.**

**Area of intervention: Improvement of the irrigation system**

**Immediate actions suggested:**

1. Technical assessment of water resource capacity and repair requirements of Hali channel, co-ordination with concerned government services, labour requirements clarifying with villagers and implementation of repairs.

**Project inputs:** Materials, cement, logistics, technical support.

If proven successful the other channels could be improved as well.

**All proposals require further information and should be cross-checked with the concerned agencies.**

**Monitoring and evaluation of tests and experiences will be fed back to planning process.**

**Area of intervention: Income from Nahi valley 'Children's Art**

**Immediate actions suggested:**

1. Encouraging students and teachers from Nahi school to draw and paint after school their imagination, visions, village life and problems on Bhutanese hand made paper. Drawings should be sold at urban markets to collect funds for teaching material and benefit of teachers facilities.

**Project inputs:** Drawing/painting material and initial stock of paper and equipment, marketing support.

2. Drawing and paintings on other material such as shingles (wooden icons) or 'polished' stones as souvenir items for mutual benefit of Nahi valley School

**Project input:** Drawing and painting material, shingles, stones.

As an additional input the missing corrugated sheets in the school's dormitory should be provided by the project.

**All proposals require further information and should be cross-checked with the concerned agencies.**

**Monitoring and evaluation of tests and experiences will be fed back to planning process**

**Area of intervention: Income from non-timber forest products**

**Immediate actions suggested:**

1. Promoting the cultivation of improved asparagus varieties by distribution of seeds to interested farmers (preferably share-croppers for additional income source).

**Project inputs:** seeds, technical advice and market monitoring, special training (if necessary) for the agricultural extension officer in Nahi valley to monitor the cultivation.

**2. Promoting the cultivation of Shiitake mushrooms for a selected number of interested farmers.**

**Project inputs:** Support of farmers training at the Mushroom Training Centre, support for oak stem licences, seeds, marketing support, special training (if necessary for the Agricultural Extension Officer)

**3. Introducing a variety of fruit trees to a selected number of interested farmers.**

**Project input:** A variety of fruit trees, technical advice by the Agricultural Extension Officer, plant protection and care, monitoring of tree growth performance in cooperation with Nahi School.

**All proposals require further information and should be cross-checked with the concerned agencies.**

**Monitoring and evaluation of tests and experiences will be fed back to planning process.**

### **Annex 3: Time Schedule of the Mission to the Bhutanese- German Integrated Forestry Project**

Sun 27.10.96	Flight from Bangkok to Paro/Bhutan
Mon 28.10.96	Discussion with Mr. Krezdorn (Team leader); studying reports and project papers
Tue 29.10.96	Meeting with Ms van der Pasch (SNV); Meeting with Mrs. Naito-Yuge (Res. Rep. UNDP) and Mr. T. Dorji (Sustainable Development Adviser UNDP); Meeting with Mr. B.B. Chettri and Mr. D. Desmond (Social Forestry and Extension Section/FSD); Meeting with Mrs. Netan Zangmo (Acting Director, Planning Ministry)
Wed 30.10.96:	Meeting with Mr. M.B. Ghaley (Dep. Programme Representative, Save the Children U.K.); Meeting with Ms. Deki Pema (Planning Officer PPD/MoA); Meeting with Mrs. Chimme P. Wangdi (Research Officer MoA)
Thu 31.11.96	Meeting with Mr. Krezdorn and Dr. Kievelitz; reading reports,
Fri 1.11.96	Discussion with Mr. Namgyel; participation at the 'Puja' Ceremony for the office; Meeting with Mr. Krezdorn and Dr. Kievelitz
Sat 2.11.96	Collecting data at the weekend market in Thimphu
Sun 3.11.96	Reading and writing
Mon 4.11.96	Meeting with Mr. Krezdorn; Meeting with Mr. Phuntsho Namgyel; preparing for the field trip
Tue 5.11.96	Meeting with Mr. Krezdorn; reading reports
Wed 6.11.96	Travel to Lobesa; Meeting with Mr. Baskota (Divisional Forest Officer, Lobesa); Meeting with Mr. Chettrie (Head RNR RC Bajo) and Mr. Sangay Duba (Agric. Research Officer, RNR RC Bajo)
Thu 7.11.96	Meeting with Mr. Jambey Dorji (Head NRTI Lobesa); walk to Nahi valley with the headman of Nahi valley, Mr. Duba and Mr. Bhawan Singh (FMU Nahi)
Fri 8.11.96	Meeting with the Nahi headman, working on land ownership and water use system; discussion with Mr. Duba
Sat 9.11.96	Discussion with Mr. Duba; walk to the village meeting place at the old Extension Centre; participation in the village meeting, informing the villagers about land ownership; compiling information from them; discussion with Mr. Sonam Chhopel (Assist. Agri. Extension Officer Nahi); discussion with several farmers; discussion with Mr. Jigme Wanchuck (Headmaster of the Nahi school)
Sun 10.11.96	Discussion with a farmer from Hali on irrigation problems; walk back to Wangdi; on the way held discussions with several farmers; returned to Lobesa
Mon 11.11.96	Participation in the celebration of his Majesty, the King's birthday in the NRN Training Institute with Mr. Krezdorn; working on the information gathered in Nahi
Tue 12.11.96	Continuing analysis of information; meeting with Mr. Duba and together checked different possibilities to find a translator
Wed 13.11.96	Prepared for the second field visit to Nahi valley
Thu 14.11.96	Walk to Nahi valley; discussion with the headman
Fri 15.11.96	Interviewed different households; exchanged information with Mr. Tashi Tsering and Mr. Kezang Tashi
Sat 16.11.96	Interviewed different households; exchanged information with Mr. Kezang Tashi
Sun 17.11.96	Walked back to Wangdi; transferred to Lobesa
Mon 18.11.96	Visit of Punakha Dzong; Departure for Thimphu
Tue 19.11.96	Office work
Wed 20.11.96	Office work
Thu 21.11.96	Departure for Bangkok

#### **Annex 4 : List of Documents**

- ADAMS, L.: UNDP Women in Development mission, 1991.
- ARKESTEIJN, M, KADIN, D, DORJI, P.: Grain, Money and Labour, A Study of the Involvement of Farmers' Households in Zhemgang District in the Cash Economy, and Its consequences for socio-economic stratification, Zhemgang Dzongkhag Administration/ISDP, 1996.
- BURINGA, J, PRADHAN; M.: Women and health in Bhutan: Practices, Beliefs and Care, National Women's Association of Bhutan, SNV Bhutan, Thimphu, 1991.
- DE WIT, T., CHOEDA, T.: Slowly getting strong, a study on economic development opportunities in Zhemgang District, 1996.
- DESMOND, D.: Current Concepts in Community Forestry, Thimphu 1996.
- DORJI, C.T.: History of Bhutan based on Buddhism, Thimphu, 1994.
- EHSAN, N.: Women and Rural Development in Bhutan, A Pilot Time Allocation Survey report, UNDP/MoA, RGOB, Thimphu 1993.
- GTZ  
Report on the Progress Review of the Project 'Integrated Forest Management Bhutan', PN 92.2267.0.01.100 Vols. I and II, 1996.  
Project Planning Workshop, 7-18.October 1996: Thimphu, Bhutan, Documentation of Results prepared by Dr. N. Schall, Thimphu 1996.
- GYELTSHEN, K., NORBU, U.P., DESMOND, D.: Report of The Rapid Rural Appraisal For Initiating Community Forest Management Activities in Dawakha, Punakha District, 1994.
- HASRAT, J.B.: History of Bhutan, Land of the peaceful dragon, Thimphu 1980.
- INAYATULLAH, A.: Women and Development, A review of the Bhutan Effort, UNFPA WID, 1993.
- JUEL, M.: Report on Village Surveys in Thimphu and Paro Dzongkhags, Bhutan, Land Use Planning Project, 1994.

- KIEVELITZ,U.: Insights, Conclusions and Recommendations for the Bhutan-German Integrated Forest Management Project in the context of the Mission on RRA/PRA and Land Use Planning, Thimphu, July 1995.
- Working Paper No. 3, Analysis of the Environmental and Social Situation in Nahi valley, Wangdi-Phodrang District, Results of a Rapid Rural Appraisal, June 21 to June 24, 1995.
- Working Paper No. 10, Participatory Rural Appraisal/Participatory Land Use Planning Issues within the Bhutan-German Integrated Forest Management Project, Report of a Backstopping Mission, June 1996.
- Conceptual Elements, Frame conditions and Procedural Steps for Improved Natural Resource Management on the Basis of the RNR Concept in Bhutan-German Integrated Forest Management Project, 1996.
- Land Use Planning Project, Bhutan: Sustainable Land Use, Guidelines for Bhutan, The Surveys, Part 1, Kashi Gewog-Wangdue Phodrang Dzongkhag, February 1996.
- LEVITT, M., BARNA, R.: Motherhood in Bhutan: Maternal Health Practices among postpartum Bhutanese women, UNICEF 1993.
- MOLNAR, A.: A Review of Rapid Rural Appraisal Tools for use in Natural Resource Management Planning and Project design and Execution, FAO 1989.
- NAMGYEL, P.: Beyond Timber - What value of the Forest: A Rapid Rural Appraisal Study on Non-Timber Forest Products in the Nahi valley, Wangdue-phodrang Dzongkhag, Western Bhutan, 1996 a.
- Local Participation in Forest Management, The Rapid Rural Appraisal Exercise in Kothoka Forest Management Unit, Wangdue-Phodang Dzongkhag, Western Bhutan, Sept.1996 b.
- PEM, L.: Women in Development: Bhutan, Asian Development Bank, Technical Assistance No. 1030-BHU, Agricultural Department and Programs Department (West), Country Briefing Paper, November 1989.
- PEMA, D., PENJORE, D., UPADHAYA, K.: Bhutan: Women and men working together. Seven villages in the Punakha Wangdi Valleys. in FAO International training package on Gender analysis and Forestry.
- PEMA,D., UPADHAYA, K.: Gender Analysis and Forestry, A Case Study in Bhutan, 1992.
- RAMAKANT&MISRA: Bhutan, Society and Polity, New Dehli, 1996.

- RGOB/MOP: Eighth Five Year Plan (1997-2002) Vol.I Main Document and Vol.II Project Profiles, Ministry of Planning, RGOB, 1996.
- RGOB/MOA Community Forestry Guidelines for Bhutan, Draft February, 1996.
- RNR Sector Coordination Meeting, Thimphu 14-15 May 1996, Background Paper.
- RNR Policy and Strategy  
 Community Forestry Rules, 1993.
- Masterplan for Horticulture Development, Vol. I, Annex 2, 1995.  
 Forestry Field Manual No. 1, August 1996.
- Non-Timber Forest Products, Druk Forestry News, Thimphu, 1996.
- RGOB: Bhutan, Himalayan Kingdom, Thimphu, 1979.
- RGOB: National Report for the Fourth World Conference On Women Held in Beijing, China from 4 to 15 September, 1995, 1995.
- RUSTOMJI, N.: Enchanted Frontiers, Dehli ?.
- SHIRATORI, K.: Development and Foreign Aid in the poorest landlocked Countries in Asia: Nepal, Bhutan, Laos, Foundation of Advanced Studies on International Development, 1994.
- SNV: Bhutan Country Policy Plan 1995-2000.
- Socio-economic baseline survey 1994, Zhemgang District, Zhemgang Dzongkhag Administration/ISDP, 1996.
- Sustainable Land Use, Guidelines for Bhutan, The RNR Development Plan for Kashi Gewog, Part 2, February, 1996.
- THINGO, O.: Verhalten in Bhutan, Arbeitsmaterialien für den landeskundlichen Unterricht aus der Reihe Verhaltenspapiere, Nr. 31, DSE, Bad Honnef, 1989.
- TSHERING, P.: Summary of Country Statements: BHUTAN, in Gender Issues in Agricultural and Rural Development Policy in Asia and the Pacific, FAO, RAPA Publication: 1995/2, Bangkok 1995.
- UNDP Development Cooperation Bhutan, 1993 Report.
- UNICEF: Children and women in Bhutan 1991, a situation analysis.
- UPADHAYA, K.: Proposal for involving women in forestry activities,CTA.BHU/85/016.

- URA, K.: The hero with the thousand eyes, a historical novel, 1995.
- WIKAN, U.: Between life and death, Bhutanese women's knowledge, attitudes and practises regarding pregnancy and delivery, UNICEF, 1991.
- WIKAN, U.: The Situation of the Girl Child in Bhutan, UNICEF, 1990.