Annex 1

## Criteria for the Selection of Study Site by Farming System

| Criterion/Parameter | Farming System | | |
|---|---|---|---|
| | Crop-dominated | Horticultural Crop-dominated | Livestock-dominated |
| 1. Accessibility | | | |
| - Walking distance from road | 3 - 6 hours | Along the perhiphery of road | 3 - 6 hours |
| 2. Aspect | S, S-E, S-W | S, S-E, S-W | - |
| 3. Elevation | 1000 - 2500 metres | 700 - 1500 meters | 1200 - 3000 metres |
| 4. Slope | 20 - 30° | - | 20 - 30° |
| 5. Vertical Agriculture[1] | Vertical Agriculture | - | - |
| 6. Cropping Pattern | Maize-dominated | Vegetable Cereals | Maize-Potato |
| 7. Traditional/Improved Agriculture | Fair | Good | Fair |
| - Use of Improved seeds | Fair | Good | Fair |
| - Use of chemical fertilizer | Fair | Good | Fair |
| 8. Soil Type (Land System) | Loam to Sandy Loam | Loam to Sandy Loam | - |
| 9. Natural Resources (Forest/Grazing land/pasture land/shrubland) | Medium Profile | Low to Medium Profile | Medium to High Profile |

Note: S = South, N = North, E = East, W = West

1 Vertical agriculture or farming system indicates a situation where a long series of upland and lowland terrace cultivation prevails and is along nearby forests.

## Demographic Features of Sample Households at Different Study Sites

| Site and Farm Size | Family Size (No.) | | | Economically Active Members (No.) | | | Dependency Ratio | Literacy [1] (%) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Male | Female | Total | Male | Female | Total | | Male | Female | Total |
| Naubise | | | | | | | | | | |
| Small | 3.40 | 2.90 | 6.30 | 2.30 | 2.10 | 4.40 | 0.40 | 47 | 55 | 51 |
| Medium | 3.00 | 3.25 | 6.25 | 2.25 | 2.12 | 4.37 | 0.43 | 79 | 73 | 76 |
| Large | 3.92 | 4.50 | 8.42 | 2.50 | 2.83 | 5.33 | 0.58 | 70 | 61 | 65 |
| Overall | 3.50 | 3.63 | 7.13 | 2.37 | 2.40 | 4.77 | 0.49 | 65 | 62 | 64 |
| Dhuskun | | | | | | | | | | |
| Landless | 3.00 | 3.00 | 6.00 | 2.00 | 2.00 | 4.00 | 0.50 | 0 | 0 | 0 |
| Marginal | 2.33 | 2.33 | 4.66 | 1.33 | 1.33 | 2.66 | 0.75 | 29 | 29 | 29 |
| Small | 2.25 | 2.31 | 4.56 | 1.56 | 1.19 | 2.75 | 0.66 | 44 | 43 | 44 |
| Medium | 2.29 | 2.57 | 4.86 | 1.43 | 1.57 | 3.00 | 0.62 | 69 | 61 | 65 |
| Large | 4.33 | 4.00 | 8.33 | 3.33 | 2.33 | 5.66 | 0.47 | 85 | 92 | 88 |
| Overall | 2.50 | 2.57 | 5.07 | 1.70 | 1.43 | 3.13 | 0.62 | 50 | 48 | 49 |
| Yelung | | | | | | | | | | |
| Marginal | 2.83 | 2.61 | 5.44 | 1.89 | 1.94 | 3.83 | 0.42 | 47 | 51 | 49 |
| Small | 3.00 | 2.17 | 5.17 | 2.50 | 1.33 | 3.83 | 0.35 | 39 | 54 | 45 |
| Medium | 3.50 | 2.50 | 6.00 | 1.83 | 1.67 | 3.50 | 0.71 | 43 | 60 | 50 |
| Overall | 3.00 | 2.50 | 5.50 | 2.00 | 1.77 | 3.77 | 0.46 | 44 | 53 | 48 |

Source : Household Survey, APROSC 1989.

1 Economically active members of the family include those persons who are 10 years old or above.

## Crop Production

*Cropped Area*

Crop production in the study area is highly diversified and cereal is the dominant crop. The types of crop grown are mainly influenced by family needs for food, and owing to small farm sizes farmers usually do not grow market-oriented cash crops. Maize, paddy, wheat, and millet are important crops grown in the study area. Table 1 shows the distribution of cropped area as percentage of cultivated land at different study sites.

**Table 1: Distribution of Cropped Area as Percentage of Cultivated (Operated) Land**

Total of the Sample Households

| Crops | Naubise | | Dhuskun | | Yelung | |
|---|---|---|---|---|---|---|
| | Cropped Area (ha) | % of Cultivated Area | Cropped Area (ha) | % of Cultivated Area | Cropped Area (ha) | % of Cultivated Area |
| Normal Paddy | 11.72 | 40 | 4.99 | 32 | - | - |
| Early Paddy | 0.89 | 3 | - | - | - | - |
| Wheat | 7.72 | 27 | 0.52 | 3 | 3.21 | 38 |
| Maize | 18.04 | 62 | 0.52 | 3 | 3.21 | 38 |
| Millet | 1.18 | 4 | 8.90 | 57 | 1.64 | 19 |
| Potato | 0.89 | 3 | - | - | 1.88 | 22 |
| Barley | - | - | - | - | 0.33 | 4 |
| Buckwheat | - | - | - | - | 0.35 | 4 |
| Sugarcane | 1.16 | 4 | - | - | - | - |
| Oilseeds | 1.31 | 5 | 0.31 | 2 | - | - |
| Vegetables [1] | 4.87 | 17 | - | - | - | - |
| TOTAL | 47.78 | 165 | 26.91 | 172 | 9.84 | 115 |

Source : Household Survey, APROSC 1989

1 Includes brinjals (5%), capsicums (5%), tomatoes (3%), cauliflowers (1%), beans (1%), and cucumbers (1%)

*Cropping Patterns*

Cropping patterns in the study area are usually maize-based on rainfed uplands and paddy-based on irrigated lowlands although potato-based patterns are also common on uplands at the Yelung site. Both mono-cropping as well as multiple-cropping are practised in the study area. The cropping patterns at different study sites are presented in Table 2.

**Table 2: Existing Cropping Patterns and Proportion of Cultivated Land Covered by Them at Different Study Sites**

**(In Percentage)**

| Cropping Patterns | Naubise | | | Dhuskun | | | Yelung |
|---|---|---|---|---|---|---|---|
| | Lowland | Upland | Total Land | Lowland | Upland | Total Land | Upland |
| Mono-cropping | 12.0 | 54.6 | 37.3 | 60.7 | 13.6 | 28.6 | 68.6 |
| Normal (N) Paddy-Fallow | 12.0 | - | 4.8 | 60.7 | - | 19.3 | - |
| Maize-Fallow | - | 47.9 | 28.5 | - | 9.1 | 6.2 | 9.2 |
| Wheat-Fallow | - | - | - | - | 4.5 | 3.1 | 37.6 |
| Potato-Fallow | - | - | - | - | - | - | 17.9 |
| Barley-Fallow | - | - | - | - | - | - | 3.9 |
| Sugarcane | - | 6.7 | 4.0 | - | - | - | - |
| Double Cropping | 82.6 | 45.5 | 60.5 | 39.3 | 86.4 | 71.4 | 23.4 |
| Early Paddy-N. Paddy | 6.2 | - | 2.5 | - | - | - | - |
| N. Paddy-Wheat | 23.4 | - | 9.5 | - | - | - | - |
| N. Paddy-Maize | 12.4 | - | 5.0 | 39.3 | - | 12.5 | - |
| N. Paddy-Vegetables | 39.8 | - | 16.1 | - | - | - | - |
| N. Paddy-Oilseeds | 0.8 | - | 0.3 | - | - | - | - |
| Maize/Millet | - | 6.8 | 4.1 | - | 83.1 | 56.7 | 19.2 |
| Maize-Potato | - | 4.2 | 2.5 | - | - | - | - |
| Maize-Oilseeds | - | 7.1 | 4.2 | - | 2.9 | 1.9 | - |
| Maize-Vegetables | - | 1.2 | 0.7 | - | - | - | - |
| Potato-Buckwheat | - | - | - | - | - | - | 4.2 |
| Tripple Cropping | 5.4 | 2.2 | - | - | - | - | - |
| N. Paddy-Wheat-Maize | 4.0 | 1.6 | - | - | - | - | - |
| E. Paddy-N. Paddy Potato | 1.4 | 0.6 | - | - | - | - | - |
| Fallow | - | - | - | - | - | - | 8.0 |

Source : Household Survey, APROSC 1989.

**Table 3: Cropping Intensities at Different Study Sites**

(In per cent)

| Sites | Farm Size | | | | |
|---|---|---|---|---|---|
| | Marginal | Small | Medium | Large | Overall |
| Naubise | | | | | |
| Lowland | - | 189 | 198 | 192 | 193 |
| Upland | - | 167 | 160 | 138 | 145 |
| Average | - | 175 | 182 | 157 | 165 |
| Dhuskun | | | | | |
| Lowland | 100 | 137 | 164 | 119 | 139 |
| Upland | 200 | 184 | 189 | 185 | 186 |
| Average | 186 | 170 | 182 | 158 | 171 |
| Yelung | | | | | |
| Lowland | - | - | - | - | - |
| Upland | 107 | 123 | 116 | | 115 |
| Average | 107 | 123 | 116 | - | 115 |

Though the farmers could not provide quantitative information regarding the changes in cropping intensity, they have feelings that cropping intensity has increased over time. Inclusion of additional crops, such as early paddy, spring, maize, and vegetables, under multiple cropping on lowlands in Naubise and Dhuskun, and shorter fallow periods, from 5-6 years to 3-4 years, under shifting cultivation at Yelung support the increment in cropping intensity over time. Discussions with the farmers in Naubise and Dhuskun revealed that the coverage of improved varieties has increased over time.

*Input/Use*

Table 4 shows the coverage of improved crop seeds at different study sites. Discussions with the farmers in Naubise and Dhuskun revealed that the coverage of improved crop varieties has increased over time.

**Table 4: Proporption of Farmers[1] Growing Improved Varieties and the Cropped Area[2] Under It**

| Crops | Naubise | | Dhuskun | | Yelung | |
|---|---|---|---|---|---|---|
| | Farmers | Cropped Area | Farmers | Cropped Area | Farmers | Cropped Area |
| Early Paddy | 100 | 100 | - | - | - | - |
| Normal Paddy | 93 | 92 | 78 | 76 | - | - |
| Wheat | 100 | 100 | 92 | 83 | 0 | 0 |
| Maize | 65 | 72 | 40 | 38 | - | - |
| Potato | 100 | 100 | - | - | 90 | 79 |
| Vegetables | 100 | 100 | - | - | - | - |

Source : Household Survey, APROSC 1989.

1] Percentage of farmers growing improved crop varieties calculated from the total number of respective crop growers.

2] Percentage of cropped area under improved varieties calculated from the total area under respective crops.

*Organic Manure*

Compost is the major source of soil nutrient for agricultural land in the study area. Table 5 shows the average rates of compost application in different crops in the three study sites.

Regarding the changes in the average rates of FYM/compost application over time, mixed responses were recorded. Some farmers reported that the average rates increased because of increased adoption of stall-feeding practices in livestock. However, a majority of the farmers believe that the average rates of compost application per unit of cropped area decreased due to reduced supply of litters, bedding materials, and fodder from forests, reduced size of livestock-holding, and increased cropping intensity.

**Table 5: Average Rates of FYM/Compost Application by Different Crops**

(In MT/ha)

| Crops | Naubise | | | | | | Yelung |
|---|---|---|---|---|---|---|---|
| | Low-land | Upland | Average | Low-land | Upland | Average | Upland Average |
| Early Paddy | 2.29 | - | 2.29 | - | - | - | - |
| Normal Paddy | 1.49 | - | 1.49 | 1.46 | - | 1.46 | - |
| Wheat | 1.56 | 1.96 | 1.79 | - | 2.16 | 2.16 | 2.61 |
| Maize | 2.74 | 5.00 | 4.76 | 2.33 | 5.59 | 5.07 | 6.10 |
| Millet | - | 1.06 | 1.06 | - | 0.61 | 0.61 | 1.66 |
| Potato | 8.37 | 10.25 | 9.91 | - | - | - | 10.19 |
| Barley | - | - | - | - | - | - | 1.23 |
| Buckwheat | - | - | - | - | - | - | 2.60 |
| Sugarcane | - | 4.74 | 4.74 | - | - | - | - |
| Mustard | 1.50 | 0.28 | 0.36 | - | 0.65 | 0.65 | - |
| Vegetables | 11.43 | 11.25 | 11.42 | - | - | - | - |
| Average per unit cropped area | 3.73 | 4.23 | 4.00 | 1.71 | 3.20 | 2.82 | 4.74 |
| Average per unit cultivated area | 7.22 | 6.16 | 6.58 | 2.38 | 5.97 | 4.83 | 5.44 |

Source : Household Survey, APROSC 1989.

In Naubise almost all farmers apply chemical fertilizers to all crops grown, apart from millet in which only 43 per cent of the growers use fertilizers on about 44 per cent of the cropped area.

The average rates of fertilizer used for different crops are given in Table 6. Chemical fertilizers form the major source of plant nutrients for crop production at Naubise site, where the average rate of fertilizer application is quite high and the average dose of fertilizer applied is found to be highest for vegetables followed by wheat, paddy, sugarcane, and maize.

**Table 6: Average Rates of Fertilizer Use in Different Crops by Land Types**

(In N:P:K kg/ha)

| Crops | Naubise | | | Dhuskun | | |
|---|---|---|---|---|---|---|
| | Lowland | Upland | Average | Lowland | Upland | Average |
| Early Paddy | 63:18:0 | - | 63:18:0 | - | - | - |
| Normal Paddy | 64:29:0 | - | 64:29:0 | 13:0:0 | - | - |
| Wheat | 68:32:0 | 65:38:0 | 66:35:0 | - | 22:10:0 | 13:0:0 |
| Maize | 43:35:0 | 50:26:0 | 49:27:0 | 16:7:0 | 17:8:0 | 17:8:0 |
| Millet | - | 16:7:0 | 16:7:0 | - | 1:0:0 | 1:0:0 |
| Potato | 54:31:0 | 36:29:0 | 39:29:0 | - | - | - |
| Sugarcane | - | 57:17:0 | 57:17:0 | - | - | - |
| Mustard | 33:33:0 | 38:38:30 | 38:38:0 | - | 6:0:0 | 6:0:0 |
| Vegetables | 71:41:23 | 80:60:30 | 71:44:23 | - | - | - |
| Per Hectare Cropped Area | 64:33:5 | 51:28:0 | 57:30:2 | 14:2:0 | 10:4:0 | 11:4:0 |
| Annual per Hectare of Cultivated Land | 124:63:9 | 74:40:0 | 94:49:4 | 19:3:0 | 18:8:0 | 19.:7:0 |

Source : Household Survey, APROSC 1989.

*Crop Yields*

Crop yields are determined mainly by soil fertility, availability of irrigation facility, climate, and the level of technology, including inputs used by farmers. The average yields of crops grown at different study sites are given in Table 7.

**Table 7: Average Crop Yields at Different Study Sites**

(in MT/ha)

| Crops | Naubise | | Dhuskun | | Yelung | |
|---|---|---|---|---|---|---|
| | Main Product | By-product | Main product | By-product | Main Product | By- product |
| Early Paddy | 2.97 | 3.24 | - | - | - | - |
| Normal Paddy | 2.70 | 3.21 | 1.72 | - | - | - |
| Wheat | 1.68 | 2.72 | 1.23 | 1.15 | 1.15 | 2.10 |
| Maize | 1.77 | 3.38 | 1.49 | 1.53 | 1.53 | 2.83 |
| Millet | 1.03 | 1.72 | 0.95 | 0.88 | 0.88 | 1.69 |
| Potato | 5.95 | - | - | 5.54 | 5.54 | - |
| Barley | - | - | - | 0.66 | 0.66 | 1.19 |
| Buckwheat | - | - | - | 0.90 | 0.90 | 1.39 |
| Sugarcane | 15.40 | 7.50 | - | - | - | - |
| Mustard | 0.66 | 0.82 | 0.51 | - | - | - |
| Cauliflower | 11.75 | - | - | - | - | - |
| Brinjal | 26.63 | - | - | - | - | - |
| Capsicum | 11.98 | - | - | - | - | - |
| Tomato | 21.12 | - | - | - | - | - |
| Cucumber | 9.21 | - | - | - | - | - |
| Beans | 3.95 | - | - | - | - | - |
| Onion | 15.21 | - | - | - | - | - |
| Garlic | 6.60 | - | - | - | - | - |

Source : Household Survey, APROSC 1989.

*Farm Trees*

Trees are grown on farmlands mainly for fruit, fodder, fuelwood, and timber. The importance of farm trees has increased significantly in the context of increased demand of tree products and dwindling forest resoruces. Table 8 shows the average number of trees per farm by farm size at different study sites.

**Annex 3**

**Table 8: Average Number of Farm Trees per Household**

| Site and Farm Size | Fruit Trees | Fodder Trees | Other Trees | Total |
|---|---|---|---|---|
| Naubise | | | | |
| Small | 27.9 (19.0) | 13.4 | 13.8 | 55.1 |
| Medium | 37.9 (24.7) | 31.0 | 37.8 | 106.7 |
| Large | 97.0 (41.7) | 27.7 | 55.2 | 179.9 |
| Overall | 58.2 (29.5) | 23.9 | 36.7 | 118.8 |
| Dhuskun | | | | |
| Marginal | 0.3 (0.3) | 1.7 | 0.3 | 2.3 |
| Small | 1.3 (0.8) | 4.0 | 3.4 | 8.7 |
| Medium | 1.8 (1.1) | 7.0 | 16.1 | 24.9 |
| Large | 4.4 (1.9) | 6.3 | 21.6 | 32.3 |
| Overall | 1.6 (0.9) | 4.7 | 8.1 | 14.4 |
| Yelung | | | | |
| Marginal | 0.0 | 26.1 | 36.9 | 63.0 |
| Small | 0.0 | 19.8 | 27.1 | 46.9 |
| Medium | 2.2 (1.0) | 19.2 | 222.4 | 241.6 |
| Overall | 0.4 (0.2) | 23.5 | 72.0 | 95.9 |

Source : Household Survey, APROSC 1989.

Note: Figures in parentheses indicate the number trees at bearing stage.

**Annex 4**

**Table 1: Annual Farm Cash Income Per Household By Source and Study Site**

| Source | Naubise | | Dhuskun | | Yelung | |
|---|---|---|---|---|---|---|
| | Rs. | % | Rs. | % | Rs. | % |
| Horticultural Crops | 17265 | 80.5 | - | - | - | - |
| Cereal Crops | 2210 | 10.3 | 72 | 53.3 | 100 | 1.9 |
| Livestock | 1985 | 9.2 | 63 | 46.7 | 5248 | 98.1 |
| T O T A L | 21460 | 100.0 | 135 | 100.0 | 5348 | 100.0 |

Source : Household Survey, APROSC 1989.

**Table 2: Total Annual Cash Income Per Household by Source and Study Site**

| Source | Naubise | | Dhuskun | | Yelung | |
|---|---|---|---|---|---|---|
| | Rs. | % | Rs. | % | Rs. | % |
| Farm | | | | | | |
| - Horticultural Crop | 17265 | 44.1 | - | - | - | |
| - Cereal Crop | 2210 | 5.6 | 72 | 1.8 | 100 | 0.6 |
| - Livestock | 1985 | 5.1 | 63 | 1.6 | 5248 | 34.3 |
| - Off-farm | 17706 | 45.2 | 3893 | 96.6 | 9954 | 65.1 |
| TOTAL | 39166 | 100.0 | 4028 | 100.0 | 15302 | 100.0 |

Source : Household Survey, APROSC 1989.



**Table 1: Annual Animal Feed Supply by Source and Type of Feed, and Study Site**

| | Unit | Study Site | | |
|---|---|---|---|---|
| | | Naubise | Dhukshun | Yelung |
| Crop Land | | | | |
| - Tree Fodder | kg | 497 | 100 | 187 |
| - Grass Fodder | kg | 4275 | 3392 | 2568 |
| - Dry Roughage | kg | 2883 | 1778 | 510 |
| - Concentrates | kg | 275 | 51 | 9 |
| Forest/Pastureland | | | | |
| - Tree Fodder | kg | - | 61 | 5202 |
| - Grass Fodder | kg | - | 2219 | 987 |
| - Grazing | hrs | 298 | 686 | 2018 |
| Purchased from Market | | | | |
| - Concentrates | kg | 12 | 13 | 39 |

Source : Household Survey, APROSC 1989.

Annex 6

**Table 1: Land Use of Naubise *Panchayat* by Ward**

(in hectare)

| Ward # | Physical Area | Residential Area | Forest Area | Pasture/ Rocky Area | Cultivated Land (ha) | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Low land | | | |
| | | | | | Irrigated | Rainfed | Upland | Total |
| 1 | 214 | 4 | 51 | 1 | 30 | 20 | 78 | 128 |
| 2 | 341 | 10 | 50 | 3 | 50 | 12 | 89 | 151 |
| 3 | 204 | 5 | 34 | 5 | 25 | 1 | 80 | 106 |
| 4 | 458 | 10 | 70 | 3 | 40 | 5 | 91 | 136 |
| 5 | 249 | 10 | 55 | 26 | 19 | 5 | 86 | 110 |
| 6 | 127 | 6 | 45 | 13 | 30 | 3 | 53 | 86 |
| 7 | 362 | 15 | 66 | 13 | 96 | 5 | 167 | 269 |
| 8 | 242 | 7 | 62 | 11 | 13 | 2 | 194 | 209 |
| 9 | 125 | 3 | 31 | 1 | 32 | 5 | 63 | 100 |
| TOTAL | 2322 | 70 | 464 | 76 | 335 | 58 | 901 | 1294 |

Source : Village *Panchayat* Secretariat, Naubise, 2045 (1988)

**Table 2: Existing Calorie Intake Per Capita Per Day By Source and Study Site**

| Particular | Naubise | | Dhuskun | | Yelung | |
|---|---|---|---|---|---|---|
| | Calorie | % | Calorie | % | Calorie | % |
| Farm | | | | | | |
| Food Crops (Cereals mainly) | 1698 | | 1663 | | 526 | |
| Fruits and Vegetable | 76 | | - | | - | |
| Animal Food | 130 | | 15 | | 78 | |
| Outside Farm | | | | | | |
| Food Crops (mainly cereals) | 106 | | 70 | | 383 | |
| Fruits and Vegetables | 1 | | - | | 1 | |
| Animal Food | 1 | | - | | 1 | |
| Overall | | | | | | |
| Food Crops (mainly cereals ) | 1804 | 89.7 | 1733 | 99.0 | 909 | 91.9 |
| Fruits and Vegetables | 77 | 3.8 | - | - | 1 | 0.0 |
| Animal Food | 131 | 6.5 | 15 | 1.0 | 79 | 8.1 |
| | 2012 | 100.00 | 1748 | 100.0 | 989 | 100.0 |
| Total Calorie Intake | | | | | | |
| Farm | 1904 | 94.6 | 1678 | 96.0 | 604 | 61.1 |
| Outside Farm | 108 | 5.4 | 70 | 4.0 | 385 | 38.9 |
| | 2012 | 100.0 | 1748 | 100.0 | 989 | 100.0 |

Source: Household Survey, APROSC 1989.

Note: Based on the information provided by B.V. Ilaco, 1981, and Burton, 1973, food commodities have been converted into calories as per the calorific values per kilogramme of food items in edible form as follows: rice-3600, wheat-3340, maize-3560, millet-3320, oilseeds-5740, sugarcane-600, fruits-550, vegetables-250, milk-1010, and meat-710. The conversion coefficients from raw food items into edible form are 0.6 and 0.4 for rice and other crops respectively (Asian Development Bank 1982).

**Table 1: Farmers' Strategies and Their Operational Measures in Different Types of Farming System: A Comparative Table**

| Farmers Strategies | Operational Measures by Type of Farming System | | |
|---|---|---|---|
| | Crop-dominated | Horticultural Crop-dominated | Livestock-dominated |
| 1. EXTENSIVE/ INTENSIVE CULTIVATION AND MANAGEMENT PRACTICES | 1.1 Intensive cultivation practices (medium level)<br>(i) Higher level of cropping intensity<br>(ii) Absence of abandoned land | 1.1 Intensive cultivation practices (high level)<br>(i) Higher level of cropping intensity<br>ii) Absence of abandoned land | 1.1 Extensive cultivation practices<br>(i) "Slash and burn" cultivation practice, e.g., "BUKMA SYSTEM"<br>- reduced interval period from one Bukma cultivation to another Bukma. Interval period is now 3-5 years instead of 4-6 years as used to be few years back.<br>(ii) Presence of abandoned land |
| | 1.2 Intensive management practice | 1.2 Intensive management practice | 1.2 Extensive management practice |
| | 1.2.1 Crop<br>i) Introduction of new crops<br>- maize in lowland after paddy<br>- wheat in upland<br>ii) Introduction of new varieties (crop)<br>- *pokhreli* in paddy | 1.2.1 Crop<br>i) Vegetables in lowland after paddy<br>- introduction of new varieties<br>- RR21 in place of local<br>- CH45 in place of *ghaiya* paddy<br>- CH45 in place of millet (steadily)<br>- sugarcane crop which used to be major cash crop has completely disappeared due to (i) low price (ii) higher occurence of diseases and pests | 1.2.1 Crop<br>i) No introduction of new crops<br>ii) introduction of new varieties<br>- improved potato (red)<br>- despite higher yield in case of improved potato, farmers also cultivate local in order to hedge risk that may arise from disease and drought |