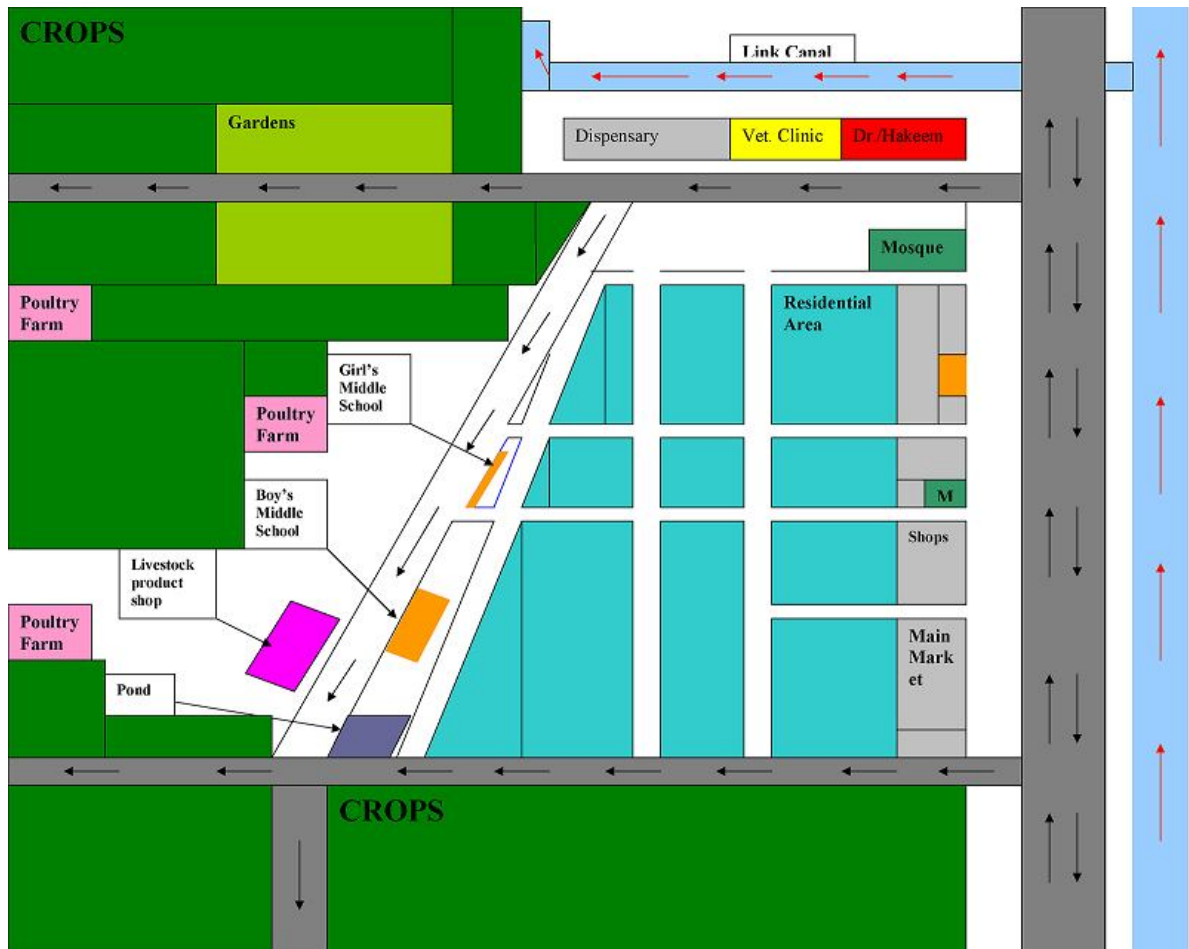


1. Introduction

2. Village map



Expected outputs:

- Village map
- Identification of resources- physical, social, infrastructures..., available to households for their livelihoods, including status (scarcity, plentiful) and distance- (Table 1).

Table 1: Template for analysis – Mapping

| Items on map | Specify availability, status, distance, etc (Q1 to 6) | Relevance to livestock, and for what species |
|--------------|---|--|
|--------------|---|--|

| Items on map | Specify availability, status, distance, etc (Q1 to 6) | Relevance to livestock, and for what species |
|-----------------------------------|---|---|
| 1. Natural resources | | |
| - Water | Canal Water, tube well water, hand pump, pond good water quality. | Animals drank from canal water and pond. All species. |
| - Crop fields | Wheat, Sugarcane, Maize, Sorghum, Fodder Crops | Animals were fed on crop residues. All species. |
| - Forests | N/A | |
| - Gardens | Citrus, jaman, toot, mango | Goats were fed on the Branches and leaves of fruit trees. |
| - Irrigation schemes | cemented Canal , tube wells | Used for animal drinking purpose. |
| - Habitat for wild animals | Rabbit , ducks, jackals, wild cats | Theft for chickens and kids from jackals and wild cats |
| - Communal rangelands | N/A | N/A |
| - Seasonal herd movements areas | N/A | N/A |
| - Others (specify) | N/A | N/A |
| 2. Infrastructure | | |
| - Roads | Main roads, link roads | For sale and purchase of livestock and commodities related livestock |
| - Settlements | People had all types of houses. Cement, brick and mud. | House compounds were used for animals. Especially for buffalos, cattle, goat. |
| - Commodity markets | Shops on main road and link road | Feed were available for animals. All species. |
| - Livestock market (live animals) | 4 km away from village | Sale and purchase of animals |
| - Slaughter house | N/A | N/A |
| - Livestock product market | Available in village | Feed and Commodities were available for all species |

| Items on map | Specify availability, status, distance, etc (Q1 to 6) | Relevance to livestock, and for what species |
|---------------------------|---|--|
| - Vet Clinic | One clinic was there | Providing services for all species and People were fully satisfied from the services of clinic |
| - Others (specify) | N/A | N/A |
| 3. Social services | | |
| - Health | Two Dispensaries | N/A |
| - Schools | 2 public, 1 private school. | N/A |
| - Places of worship | 2 mosques in village | N/A |
| - Local administration | N/A | N/A |
| - Extension offices | N/A | N/A |
| - NGO offices | N/A | N/A |
| - Others (specify) | N/A | N/A |

The Population of village Dalowal was about 2500 from which 60 percent were engaged in jobs. Roads of the village were in good condition. There were also link roads in village. There was well established market in the village. People had shops in village for their daily consumption of goods and there were also well established market for goods related to livestock. So people did not go to next village or near city for purchasing agricultural and livestock goods because they were getting these services in their own village. There was one private and two public schools in the village one of them was boy's middle school and other was girl's middle school. There were two health centres one was working under NGO, PRSP. People were satisfied from the services provided by these health centres. There was one veterinary hospital in the village and providing full required services. There were two mosques in the village for worship. There was no NGO and extension office in the village. There was a market of livestock animals at a distance of 4 km so people sold and bought their animals there. They had easy access to that market. No slaughter house was there only butchers came and slaughter the animals. There was no office of local administration in that village. Major crops sown in the village were maize, wheat and sugarcane. Fodder crops include barsan, sugarcane top, sorghum, and millet, wheat straw and shaftal. They were also growing vegetables like carrot; radish and sugar beat (shaljam). There was a link canal from Rakh branch main canal which was flowing by the Bismillah pur link rod. Main sources for irrigation in the village were canal and tube well. Tube wells water was also used by them for drinking purpose. The ground water quality in that village was very good for drinking as well as for irrigation purpose. For drinking purpose they had hand pumps installed in homes and deras. There was a of sewerage water pit (chappar) in east of village in square form. There was every facility like telecommunication, cable etc. but there was no police station. The animals owning by people were buffalos, cows, goats, donkey, mules, horses and chickens. The fodder crops for livestock were barsan, sugarcane top,

sorghum, millet, wheat straw, shaftal. At day time the animals were at their stall at homes and mostly at deras at night time animals were tied under shed and stall feeding was done. Very few poor people were there who fed their animals for free graze in a boundary but at night they were fed under shed. People worried about different diseases of animals mainly FMD for all species.

3. Production system

Expected outputs:

Production system of village dalowal is shown in diagram. The main crops of the village were wheat, sugarcane, maize, sorghum, millet and fodder. The households get the grains from wheat for their home consumption and remaining wheat they sell in the city market. Wheat straw from wheat crop was fed on their animals. Likewise sugarcane and other crops were sold in the market. They generate income from crops and invest that income in livestock and again in crops. Crop residues like sugarcane tops, maize, fodder were fed to the animals. The large animals like cows and buffalos; villagers used the milk from animals for their domestic consumption and sold the excessive milk and meat of these animals and generate income. Bulls were used in ploughing and for racing while horses, mules and donkeys were used for transportation purposes. They were also generating income from these activities. In case of sheep, goat and chicken, they got income from these species in different kinds and finally total income from livestock was invested in crops as well as in livestock, as a purchase of new animals. Trees were also included in their production system. Sheep and goat were fed on the branches of fruit trees. The trees in the village were Toot, Neem, Sheesham, Keekar, Mango, Citrus, Jaman etc. The trees were sold and the income from them was invested in livestock as well as crops. There were also poultry farms in the village which were included in their production system. Poultry were fed on the grains from crops and after the sale of birds; they invest back that income in poultry as well as crops and livestock.

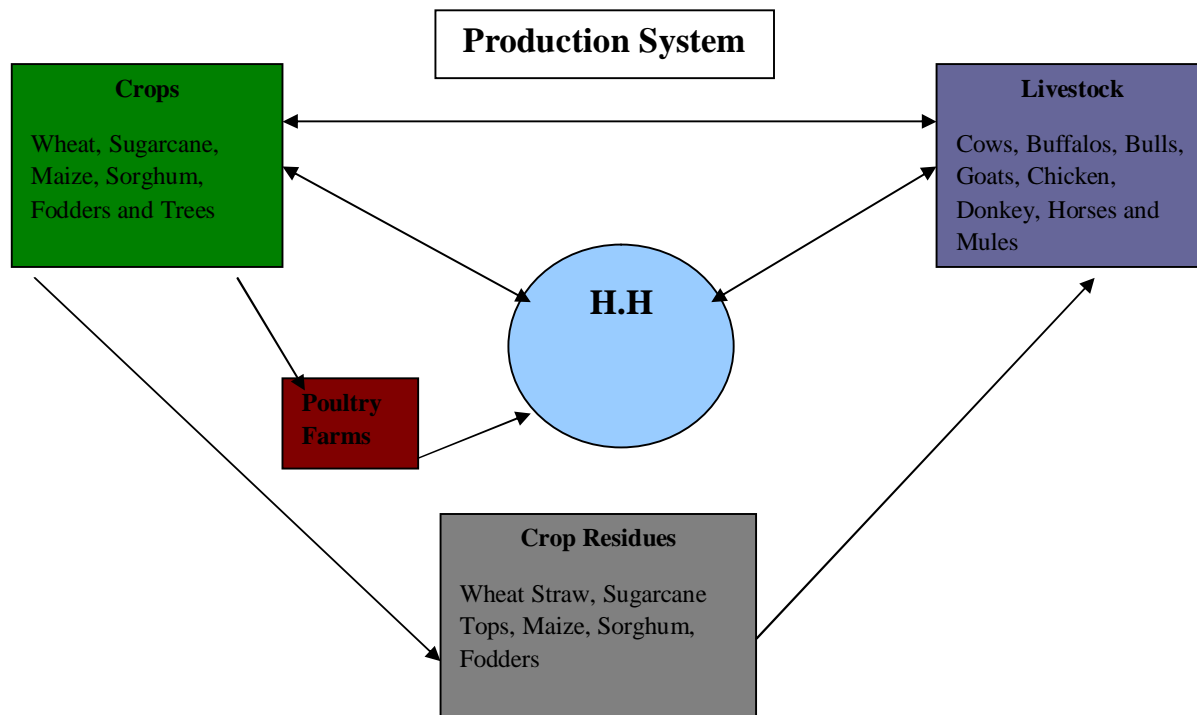


Table 2: Management system

| Livestock species | Management system |
|-----------------------|---|
| Cows+ Buffalos+ Bulls | Intensive |
| Sheep/Goat | Intensive |
| Chicken | Semi-scavenging |
| Horses | Open grazing at day time and stall feeding at night |
| Donkeys | Open grazing at day time and stall feeding at night |

The management system for animals was mostly intensive at day and at night time. Mostly Stall feeding was done at day and night time for animals. Because the people were not poor so they were affordable and land lords. Only donkey, horse and chickens were free for feeding at day time but at night they were fed under shed.

- **Management system:** no free- range; no open grazing/ stall season including seasonality

4. Livelihood Analysis

Expected Outputs;

- Matrix showing key sources of livelihoods and cash income, as well as the changes in importance, by gender and other social differentiation

Table 3: Template for analysis – livelihood analysis

| Current sources of livelihoods¹ | Contribution to livelihoods (Rank in order of importance) | Contribution to cash income (1=very important, 2=somewhat important, 3=not important) | Trends (1=becoming more important 2= same as before 3=less important, 4=new activity) | Differences in terms of gender, age, ethnic minorities, and explain |
|---|---|---|--|--|
| 1. Livestock | 2 | 1 | 2 | Older ones |
| 2. Agriculture | 1 | 1 | 1 | No Difference |
| 3. Govt. Jobs | 6 | 1 | 1 | Young Generation |
| 4. Private Jobs | 4 | 2 | 2 | Male |
| 5. Remittance | 3 | 1 | 4 | Male |
| 6. Poultry | 7 | 3 | 3 | Women |
| 7. Business | 5 | 2 | 1 | No Difference |

According to the respondents livestock was the second important source of their income after agriculture. Other sources sharing to their income were the jobs (government and private), remittance, poultry and business. Although the poultry is the part of livestock but they considered it as a separate source. Livestock and agriculture were not only the important but also becoming the more important with the time. Big animals were mainly were cared by the old ages and the poultry oftenly by the women.

5. Wealth Ranking

Expected Outputs (Table 4):

- Local criteria for wealth categories and the critical herd/flock size for the different wealth categories
- Percentage of households by wealth categories
- Differences by gender, age and ethnic minorities between wealth categories

Table 4: Template for analysis – Wealth ranking

| Criteria for wealth | Wealth category | | |
|---|--|------------------------------------|--------------------------------|
| | Better-off | Moderately poor | Very poor |
| 1. Land, Agriculture | 1 Square or more | 12 Acres | 1-2 Acres or No |
| 2. Livestock | 10-12 Big Animals or more | 5-7 Big and small Animals | 1-2 Buffalo and a goat |
| 3. Business | Shop in Sooter Market | Village Shopkeeper | Workers |
| 4. Wheat Storage | 200 Mounds | 25-30 Mounds | 5-10 Mounds or not |
| 5. Govt. Job | Gazetted Officer and Revenue Deptt. Employee | Non gazetted Employee | 4 th Class Employee |
| 6. Vehicle | Car | Motorcycle | Bicycle or nothing |
| % of households in each category | 10 | 40 | 50 |
| Categories specificities in terms of gender, age, ethnic minority, etc. | Businessmen and Shopkeepers | Arain Caste and small land holders | Other than Arain Caste |

Land holding and livestock were considered as the basic criteria for wealth, these two factors were the most important. A person owning large flock of big animals and land in squares was considered a very better off than the other wealthy persons. Other criteras were the grain storage in surplus, guzatted job, business and vehicles. Revenue department employees were considered better than the other good job holders. A few percent people (10%) people were better off in the village majority falls in the moderately poor and very poor categories.

6. Role of Project species in Peoples Livelihoods

Expected outputs:

- list of breeds of the project species kept, names (local and English) and description (Table 5)
- livelihood matrix (table 6): % farmers keeping different breeds, importance of these breeds by wealth categories, reasons for keeping various breeds, who benefits most and how is money used for, trends over time

Table 5: breed name and description

Make sure you include indigenous, exotic and crossbreeds, including with wild relatives.

| | Breed- local name | Breed- English name | Description of the breed, including picture |
|---------|-------------------|---------------------|--|
| Chicken | Golden | | healthy, more eggs laying ability |
| | Misri | | Smart, slim , Egg production, less feed |
| | Desi | | Medium look , beautiful, meat taste, Egg production |
| | Aseel | | Aggressive, meat production high, beautiful, Long legs, |
| Goat | Beetal/Desi | | Twinning ability, beauty, colourful more weight |
| | Teddy | | 2-3 rearing ability, less height, normal weight |
| | Cross/Mix | | Avg. 2 rearing ability, beautiful, more height than teddy, more weight |

The chicken breeds found in village Dalowal were Desi, Misri, Golden and Aseel. In case of desi, they preferd this breed due to its health, more eggs laying ability and important of all no feed expense because the desi got its food from surroundings at day time. For misri and golden the egg production and less feed was important one. Aseel was just kept for prestige and aggressiveness. Nacked neck was not found in that village. While in case of goats three breeds were there such as, Desi, Teddy and Cross of these two. They preferred desi for its twinning ability, beauty multicolour colour, and more wieght. For teddy it was preferred by its 2-3 kid rearing ability.

Table 6: Template for analysis – Role of livestock in livelihoods

| Breeds | % of farmers keeping these breeds | Who keeps them ? - wealth category | Why do people keep this species and breed? Consumption, Income, prestige, ceremonies, inputs etc.. | Who benefits most? Hh, men, women, children? | How's money spent on? buy food, school/ health, starting business, social activities, savings, invest back in livestock | Trends (1=becoming more important 2= same as before 3=less important, 4=new activity) |
|----------------|--|---|--|--|---|--|
| Chicken | | | | | | |
| 1. golden | 50% | All | Income, ceremonies, Consumption, | Women | Food, School, Health, and starting business. invest back in livestock | 3 |
| 2. misri | 50% | All | Income, ceremonies, Consumption, | Women | Food, School, Health, and starting business. | 3 |
| 3. desi | 50% | All | Income, ceremonies, Consumption, | Women | Food, School, Health, and starting business. | 3 |
| 4. aseel | 10% | Rich, medium and poor | Prestige | Men | Social activities and back investment | 2 |
| Goats | | | | | | |
| 1. desi | 25% | Moderate and poor | Income and consumption | Men | Food, school fee, savings and invest back | 2 |
| 2. teddy | 25% | Moderate and poor | Income and consumption | Men | Food, school fee, savings, invest back | 2 |
| 3. cross | 25% | Moderate and poor | Income and consumption | Men | Food, school fee, savings, invest back | 2 |

The table showing that the ratio of people having breed desi, misri, and golden was same i.e. 50% of each breed and people were rich, poor and moderate which were keeping these breeds and only 10% were having aseel. Purpose was to earn Income, ceremonies, home consumption and also for Food, School, Health, and starting business and invest back in livestock. It was becoming less important. 25% people kept desi, 25% people had teddy and 25% people had mix breed. All three breeds were taken care of by men. In which moderate and poor were most common in above three breeds as shown in table. They were having these breeds for common purpose of Income and consumption. The return from these breed were used on Food, school fee, savings and invest back to start business. No new trends were adopted by people were same as before.

1. Breeding, selection practices and replacement strategies, for project species (chicken goat and pig)

Expected Outputs: tables 7a, 7b, 8a, 8b, 9a, 9b

Start with chicken, complete 7.1, 7.2 sections. Then, continue with goat: complete 7.1, 7.2 sections.

Activity 7.1: Trait ranking

Table 7a: Trait ranking – Chicken

| Traits | Breed 1 | Breed 2 | Breed 3 | Breed 4 |
|------------------------|----------|----------|----------|----------|
| Breed names | Misri | Aseel | Golden | Desi |
| Egg Production | 1 | 4 | 2 | 3 |
| Aggressiveness | 3 | 1 | 4 | 2 |
| Income | 4 | 1 | 3 | 2 |
| Colour | 3 | 1 | 2 | 1 |
| Meat Taste | 3 | 2 | 4 | 1 |
| Physical Structure | 3 | 1 | 2 | 1 |
| Overall ranking | 1 | 3 | 2 | 4 |

By the group discussions it was concluded that there were majorly four breeds that exist in that village; Misri, Aseel, Golden and Desi. The main reason of rearing Aseel was wrestling and this breed has the best physical structure than the all other breeds. Main traits of Misri, Golden and Desi were egg Production, meat taste and colour.

Table 7b: Trait ranking – Goat

| Traits | Breed 1 | Breed 2 | Breed 3 |
|------------------------|----------|----------|----------|
| Breed names | Beetal | Teddy | Mix |
| Milk Production | 1 | 3 | 2 |
| Meat Production | 1 | 2 | 2 |
| Earning | 1 | 2 | 3 |
| Colour | 1 | 2 | 2 |
| Liking | 1 | 3 | 2 |
| Productivity | 2 | 1 | 3 |
| Kid Size | 2 | 3 | 1 |
| Overall ranking | 1 | 3 | 2 |

While for the goat there exist three breed Beetal Teddy and Mix from which beetal was considered as the best breed in all aspects than the all other. Milk and meat production, colour, productivity and kid size were considered the important characteristics for goat selection. The goats having following specific colour fetch the high price than the other,

- Pure white teddy
- Red and white makhi cheeni
- Black and white makhi cheeni

Activity 7.2: Information and sources of replacement animals

Table 8a: Information and sources of replacement animals – Chicken

| | | Breed 1 | Breed 2 | Breed 3 | Breed 4 |
|---|------------------------------------|--------------------------------------|--|-------------------------------------|-------------------------------------|
| Breed name | | Misri | Aseel | Golden or RIR | Desi |
| Source of info on breeds | | Self and Family | Self, Friends and Family | Self and Family | Self and Family |
| Ways of acquiring animals | | Purchase from Neighbours and Markets | Purchase from Neighbour Village and Eagers | Purchase from Neighbour and Markets | Purchase from Neighbour and Markets |
| If purchase, why not rearing own | | | | | |
| If purchase | Where do animals come from? | Friends, Markets, Neighbour | Friends, Eagers, Markets | Markets | Markets |

| | | | | | |
|---|------------------------------------|--------------------------------|-------------------------|----------------|-------------------------|
| | How animals are chosen? | Egg Production | Wrestling, Height etc | Egg Production | Egg and meat Production |
| | Information from the seller | No inf. Is taken | About Breed Purity | no | no |
| | Parentage | no | Father champion | no | no |
| If reared own, why not purchase | | No reason | Satisfaction, Cheapness | No answer | No answer |
| Would you change breeds? If yes, for which breed(s) and why? | | Replace misri with other breed | | | |

Respondents told that the information about breeds was not taken from any body they took from their family or they their selves know the required information. Acquiring of aseel was some what difficult and their main sources were the eagers. Other breeds were oftenly taken from markets. Selection of breed was dependent on wrestling for aseel and for other selection depends on height, egg and meat production.

Table 8b: Information and sources of replacement animals – Goat

| | | Breed 1 | Breed 2 | Breed 3 |
|---|------------------------------------|---|-----------------------------|---|
| Breed name | | Beetal | Teddy | Mix |
| Source of info on breeds | | Self, Shepherd | Self, Shepherd | Self, Shepherd |
| Ways of acquiring animals | | Purchasing from Markets and Neighbour | From Shepherd on half basis | Purchasing from Markets, family and Neighbour |
| If purchase, why not rearing own | | | | |
| If purchase | Where do animals come from? | Self, Shepherd and Market | -do- | -do- |
| | How animals are chosen? | On budget basis, Meat, Colour and milk production | Meat, Colour Milk | Milk, Meat and Colour |
| | Information from the seller | Age, milk production | No info | No info |

| | | | | |
|---|--------------------------------------|--|--------------------------|----------------------------|
| | Parentage | Purity, Mother's milk production | N/A | N/A |
| If reared own, why not purchase | | Purity, Satisfaction, Lack of resources | Scarcity of resources | Deficiency of resources |
| Would you change breeds? If yes, for which breed(s) and why? | Replace all other breeds with beetal | | | |

Similarly they told for goats that the information about breeds was taken from either from shepherd or they their selves know the required information. Breeds were acquired mainly from markets and shepherds. Breeds were selected mainly on the basis of meat and milk production. They told that rearing of beetal was costly than the other breeds. When they were asked about replacement of breed they would replace all other breeds with beetal because it fetches high price on Eid ul Azha and for its high milk production.

Activity 7.3: Breeding strategies

Table 9a: Breeding strategies – Chicken

| | Breed 1 | Breed 2 | Breed 3 | Breed 4 |
|--|---|----------------|----------------|----------------|
| Breed name | Misri | Aseel | Golden or RIR | Desi |
| Controlled versus uncontrolled? | Uncon. | Controlled | Uncon. | Uncon. |
| If controlled, how? | | | | |
| <ul style="list-style-type: none"> How males are selected and accessed? Any payment? | Selected by Wrestling repute, Body Structure Accessed by On half basis chicks, Request or Approach | N/A | N/A | N/A |
| <ul style="list-style-type: none"> Preferred method for accessing breeding males? | On half basis chicks and approach | N/A | N/A | N/A |

| | | | | |
|---|------------------------|----------|----------|----------|
| • How females are selected? | Egg production, purity | N/A | N/A | N/A |
| Decision makers in relation to breeding, and advice | Self or Experts | N/A | N/A | N/A |
| Livestock herders/ grazes use | no | no | no | no |
| Trends in terms of breeding practices in the last 5 years? | Improved | Improved | Improved | Improved |
| Breeding association | No | No | No | No |

Respondents told that there was controlled strategy for aseel and uncontrolled for other breed in case of chicken. Aseel males were selected by wrestling repute, body structure and accessed by on half basis chicks, request and by approach.

They told that they their self and experts were the decision makers for breeding. Herders were not used in this case. The trends according to them have been improved and there was no breeding association till now but they did not like this type of organization because it could cause the restriction for wrestling.

Table 9b: Breeding strategies – Goat

| | Breed 1 | Breed 2 | Breed 3 |
|--|----------------|----------------|----------------|
| Breed name | Beetal | Teddy | Mix |
| Controlled versus uncontrolled? | Uncont. | Uncont. | Uncont. |
| If controlled, how? | | | |
| • How males are selected and accessed? Any payment? | N/A | N/A | N/A |
| • Preferred method for accessing breeding males? | N/A | N/A | N/A |
| • How females are selected? | N/A | N/A | N/A |
| Decision makers in relation to breeding, and advice | self | self | self |

| | | | |
|--|--|----------------|----------------|
| Livestock herders/ "grazers" use | Yes, on term and conditions predefined | -do- | -do- |
| Trends in terms of breeding practices in the last 5 years? | Have decreased | Have decreased | Have decreased |
| Breeding association | No, but like | No | No |

Respondents narrated that there was no controlled strategy for any breed in case of goats. They were their self the decision makers for breeding. Gazers were used in this case. They were paid as,

- Either on the monthly paid basis
- Or on the sharing basis of kids

The trends according to them have been changed adversely and there is no breeding association till now but they like this type of organization for goats.

2. Key constraints to livestock production and marketing

Table 10: Constraint analysis

| Constraint | Importance on production (0 to 10) | Causes (describe) | Which breed is most affected? Which one is not affected? | How do you cope with such situations? | For long term solutions, what can you do locally, and what external support do you need? |
|----------------|------------------------------------|------------------------------|--|---------------------------------------|--|
| Chicken | | | | | |
| 1. Theft | 5 | Drug Addicts | All | Fencing | Subsidy and finance availability |
| 2. Predators | 2 | Jungle Cats, Jackal and dogs | Small Chicks | Fencing | Subsidy and finance availability |
| 3. Diseases | 7 | Rani khait, Gumboro | All | Vaccination | Subsidy and finance availability |
| 4. Finance | 4 | Unavailability | All | Credit availability | Subsidy and finance availability |

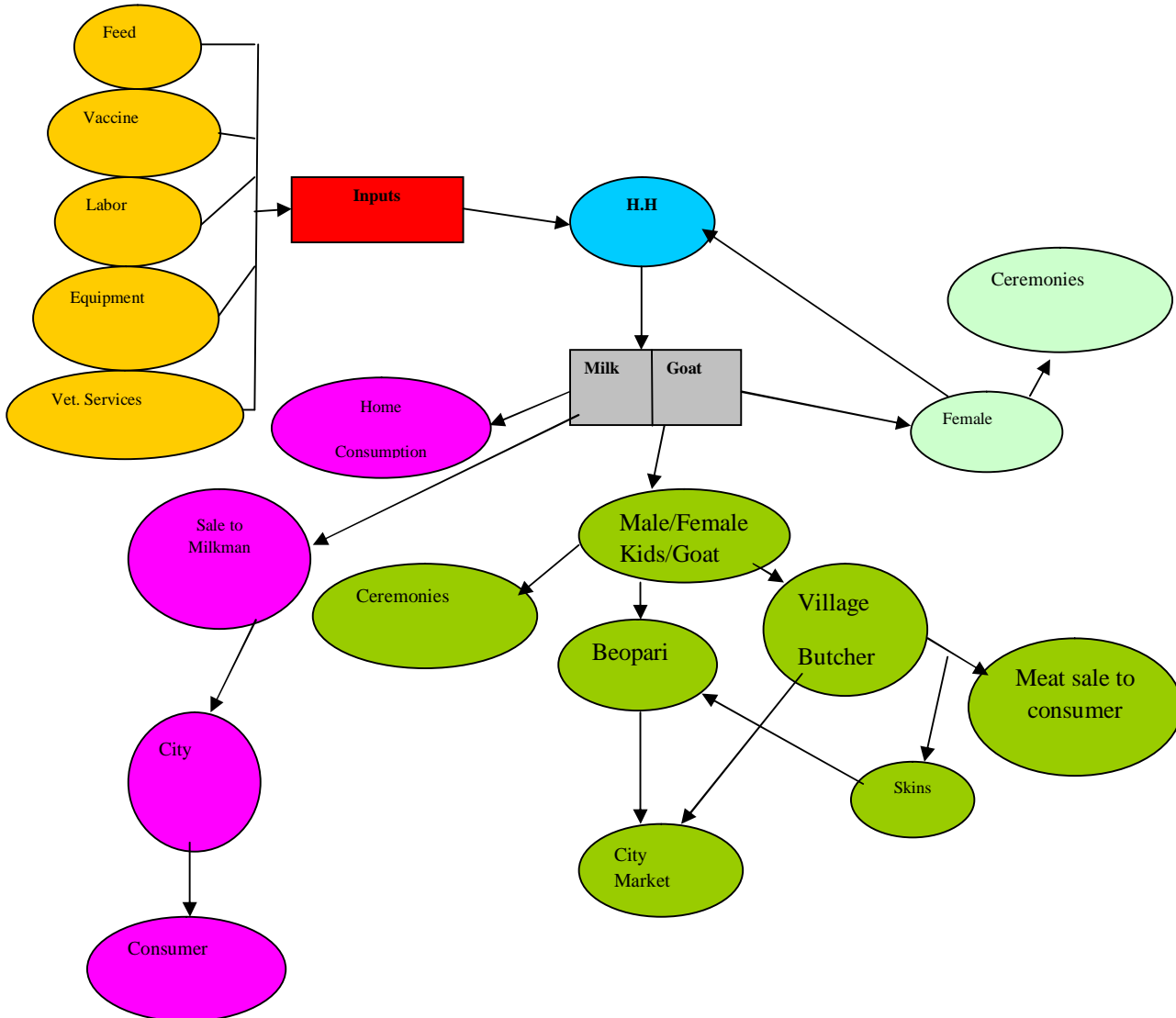
| | | | | | |
|--------------------------|----|------------------------|--------|---------------------|----------------------------------|
| 5.Housing Structure | 3 | Cemented Houses | All | N/A | Subsidy and finance availability |
| 6.Management | 5 | Lack of time and space | Aseel | Depends on above | Subsidy and finance availability |
| Goat | | | | | Subsidy and finance availability |
| 1.Unavailability of land | 5 | For grazing and sheds | All | Land availability | Subsidy and finance availability |
| 2.Finance | 10 | Less availability | Beetal | Credit availability | Subsidy and finance availability |
| 3. Theft | 4 | Robbers, Drug Addicts | All | Catching them | Subsidy and finance availability |
| 4. Diseases | 8 | Moke,Flu, Temperature | All | Vet. Facility | Subsidy and finance availability |
| 5.Management | 2 | Lack of time and space | All | time and space | Subsidy and finance availability |

In case of chicken main constraints were theft, predators (jackal, cat and dogs), diseases, finance, housing standard and management. The most influencing constraint was the disease problem. Approximately all breeds were affected by all constraints. The suggestions from the respondents for coping problems were the availability of credit, fencing and vaccination.

In case of goats main constraints were Unavailability of land, diseases, finance, theft and management. The most influencing constraints were the finance and disease problem. Approximately all breeds were affected by all constraints. The suggestion from the respondents for coping all problems was the availability of credit. They told that they can solve all the problems if they are subsidized and credit is provided.

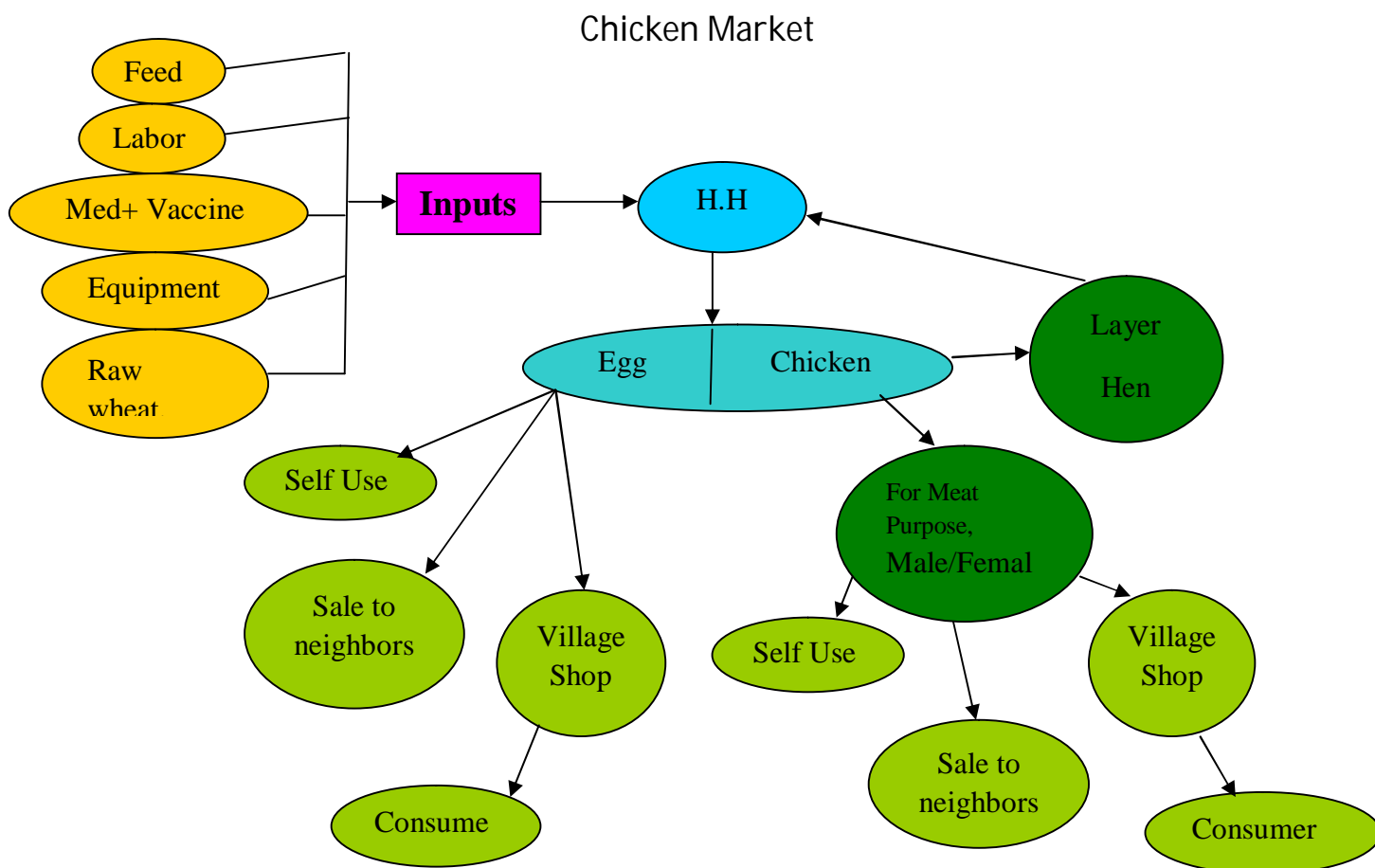
Market orientation

Goat Market



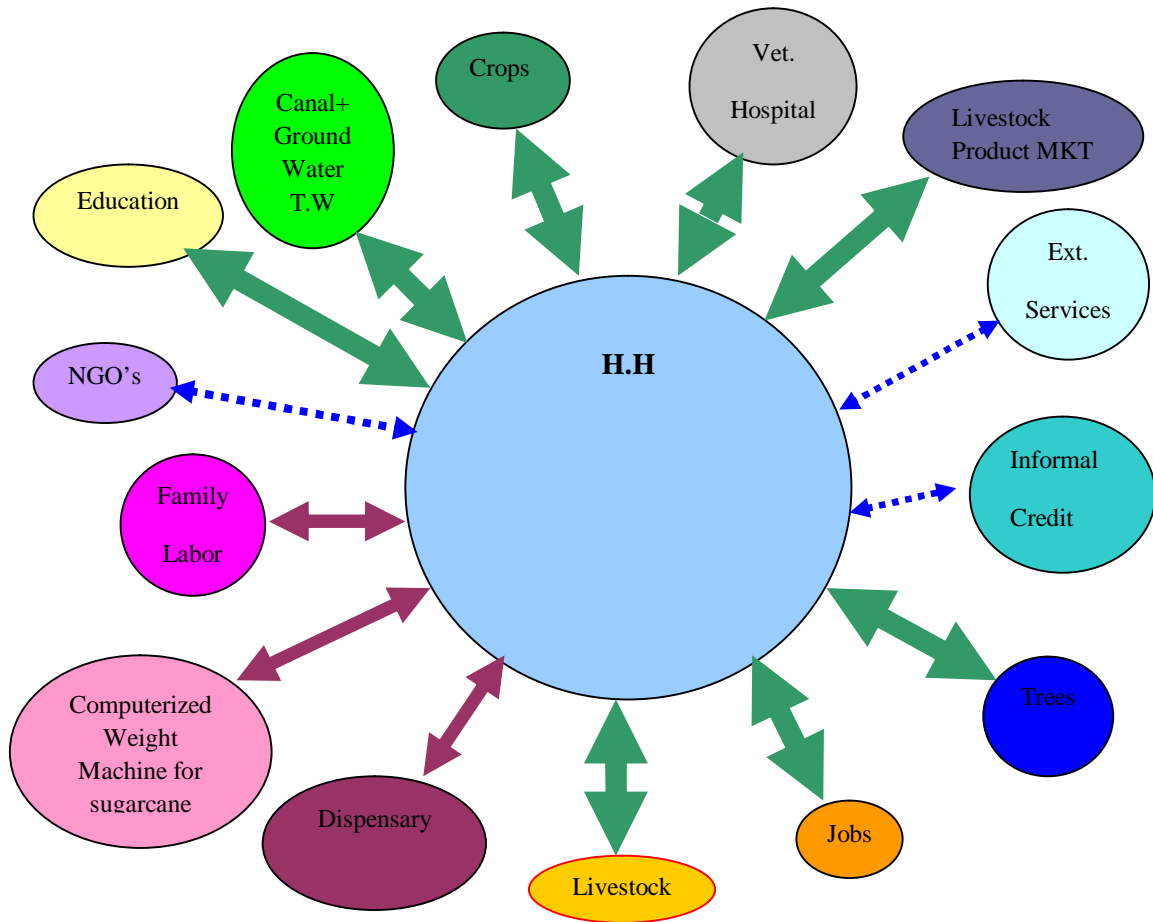
The inputs used by the villagers for goats were fodder as feed, vaccine, labour, equipment like shed or houses compounds and veterinary services. In village Dalowal the veterinary hospital was working very well and doctor was available to the people. In the marketing system of goat, mostly the villagers use the milk of goats for their domestic consumption. Only a few people, who had the large herds of goats, sold the milk to the villagers and also to the milkmen who sold the milk in the city. In case of male goat the villagers sold them to the commission agents, who came to them and purchased the kids and goats and then that commission agent sold the kids or goats to the city market. The villagers also sold the goats to the village butcher, who either use the goat for meat sale purpose to the consumers or

sold the goat to city market. The skins of goat from butcher were purchased by the commission agent, who took the skins and sold them to the city market. People also used their goats for ceremonies like wedding. Some villagers were also rearing the goats for sacrifice purpose. They sold the goats at the time of Eid to the city market at high profit. In case of she goat the villagers kept them at the houses and use them for rearing purpose. There was as such no activity of animal sharing in that village.







The inputs used by the villagers for chicken were feed, including raw wheat, bread, labour which was provided by them, medicines and vaccination of the chickens, equipment like shed at night time. Mostly the hens were free at day time in the houses compounds and they were fed on the residues of human food. In the marketing system of the chicken, the by product associated with chicken was eggs. The eggs were used by the households their selves or they sold the eggs to the neighbours. In case of large quantity of eggs they sold the eggs to the village shop from where the consumers got the eggs. In case of chicken the layer hens were kept by the households themselves and they got eggs from those birds on daily basis. The birds were sold to the village butcher, who sold the meat to the consumers.

3. Actor linkages, effectiveness and interactions



Key:

- Very Strong Relationship** 
- Strong Relationship** 
- Moderate Relationship** 
- Weak Relationship** 

The Venn diagram showed the relationship between actors associated to households. The jobs had very strong relationship in the form of income to the households. 60 percent were job holder. They were also dependent on crops and livestock. Family labour had the strong relationship because they were associated with agricultural activities. Trees also

had very strong relationship because the goats were fed on the branches of fruit trees also and they sold the timber of the trees in case of need and invest that money in crop and livestock. Similarly commission agent and veterinary services also had a very strong relationship because commission agent was associated with the sale and purchase of their animals. Ext. services, informal credit and NGO's had a weak effect on the households. They only sold the sugarcane to the sugar industry. For this purpose the computerised weighing machine had a strong relationship with the households in case of sale of sugarcane and in income generation. All actors pointed as green colour arrows had very strong effect on the households.

Expected outputs

- Venn diagram
- Actor matrix (table 11)
- Text on “understand patterns and strengths of interactions”

Activities related to identification of actors, their roles and how they interact with the community and with each other

Table 11. Actor matrix

| Name of actor/ type of organisation | Core activities | Target group/ beneficiaries | Working on livestock? | Satisfaction (0 to 10) |
|--|---------------------------------------|--|----------------------------------|-----------------------------------|
| crops | Feeding and fodder | All | Yes | 10 |
| Livestock | Sale, purchase and reinvest | All | Yes | 10 |
| Trees | Branches for Fodder and wood for sale | All | Yes | 10 |

| | | | | |
|---|--------------------------------------|-----------------|-----|----|
| NGO'S | PRSP for human health facilities | poor | No | 0 |
| Education | Teaching | All | Yes | 10 |
| jobs | No activity | All | No | 10 |
| Dispensary | Human health | Medium and poor | No | 8 |
| Vet. hospital | Medicine, vaccination | All | Yes | 10 |
| Livestock product market | Provide feed, salt etc. | All | Yes | 10 |
| Credit | For crop and livestock | poor | No | 3 |
| Water | Irrigation and drinking | All | Yes | 10 |
| Family Labour | Farming, livestock management | Moderate, poor | Yes | 8 |
| Computerized Weight Machine for sugarcane | Sale of Sugarcane, income generation | All | Yes | 8 |

Understand patterns and strengths of interactions

People had no need of informal credit because they had better sources of income. If there was need of any credit, first they preferred banks for loan otherwise they borrowed from friends, relatives and colleagues without any interest but it was very rare case. Informal credit was the need of very poor people. People got informal credit with too much high interest from target group small and mostly use for livestock purpose give rank 1 out of 10. They were satisfied from the services of dispensary and Vet. Hospital.

4. Wrap up

Based on previous sections, identify possible project interventions (without raising expectations) and plan for next steps.