

Promoting Socially Inclusive and Sustainable Agricultural Intensification in West Bengal
and Bangladesh (SIAGI)

Household Typologies of Dhoulaguri and Uttara Chakwakheta India

Compiled by

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1 Context

Farmer Typologies have been well established as a tool for research, policy analysis and design that facilitates better reach of information, benefits and policy impacts. Farmer typologies try to capture the variability among different farming systems.¹ Identification and characterization of farming systems helps simplify the diversity of farm types and provides the basis for selecting the appropriate technological interventions and informed policy support.² The criteria for selection of variables in framing the typologies are guided by the research question(s) that are being addressed.

As part of the project Promoting Socially Inclusive and Sustainable Agricultural Intensification in West Bengal and Bangladesh (SIAGI), the Farmer Typology work in India tries to provide the basis for studying the impacts of agriculture intensification on the farmers in two case study villages, Dhoulaguri and Uttar Chakwakheta (UC). It attempts to identify and group the farmers in the two villages using some relevant indicators. The indicators will be chosen based on the objectives of the typology work.

¹ “Typology construction, a way of dealing with farm diversity General guidelines for Humidtropics”, Stéphanie Alvarez Wim Paas Katrien Descheemaeker Pablo Tittone Jeroen Groot, Humidtropics, Dec 2014, https://cgspace.cgiar.org/bitstream/handle/10568/65374/typology_guidelines.pdf?sequence=1

² Farm types and their economic characterization in complex agro-ecosystems for informed extension intervention: study from coastal West Bengal, India, Goswami et al. Agricultural and Food Economics 2014, 2:5 <http://www.agrifoodecon.com/content/2/1/5>

2 Objectives of Typology work

The research project SIAGI is trying to address a number of questions that arise in the context of agriculture intensification in small holder communities in India and Bangladesh. The typology work specifically attempts to support addressing the following research questions:

- How and why are different rural livelihoods affected by agricultural intensification in key agro-ecological settings in the Eastern Ganges Basin?
- What is the nature of social exclusion or adverse incorporation? Who gains, who loses, how and why?
- What are the livelihood risks and how can resilience of disadvantaged households be strengthened in the different agro-ecological settings?

The typology work in this project attempts to provide insights into the livelihoods changes happening in the case study villages. The basic farmer types are selected on the basis of discussions with the local community and the key stakeholders such as the NGO involved at the local level. This report tries to capture the livelihood changes happening at the community level and the livelihood profile of the different typologies. The classification of the households and the insights into their livelihoods profile could help provide the basis for appropriate technological and policy interventions for agriculture intensification and enhanced welfare of the community.

Thus, this report tries to:

- A. Provide a picture of the Livelihoods trajectories
- B. Identify and characterize the different farming systems with a view to understand the pattern of:
 1. Existing livelihood systems
 2. Income sources
 3. Economic situation
 4. Levels of agriculture intensification
 5. Land holding and leasing situation
 6. Gender differences
 7. Food and nutrition situation
- C. Discern the needs and aspirations of the individuals

3 Methodology

Qualitative as well as quantitative methods were used for meeting the above objectives. The quantitative data was used especially for the objective B, which was collected as part of a baseline survey by the ACIAR funded sister project Developing Sustainable Irrigation for Marginal and Tenant Farmers (DSI4MTF). Given the fact that the data was not collected for the specific purpose of the current project, the present study could not obtain all the necessary data in the required form. Thus, the present analysis is constrained and limited by the form and availability of the required data. The farmer typologies are therefore to be taken as indicative of the broad pattern rather than as a strict representation of all categories of farmers. The income and other profiling of the households also provide a general picture rather than the hard numbers.

The qualitative data has been collected by the current project through the method of Focus Group Discussions (FGDs). Two different teams at two different points of time have conducted the FGDs. Questionnaire format was used for some of the FGDs but mostly an open discussion format was used.

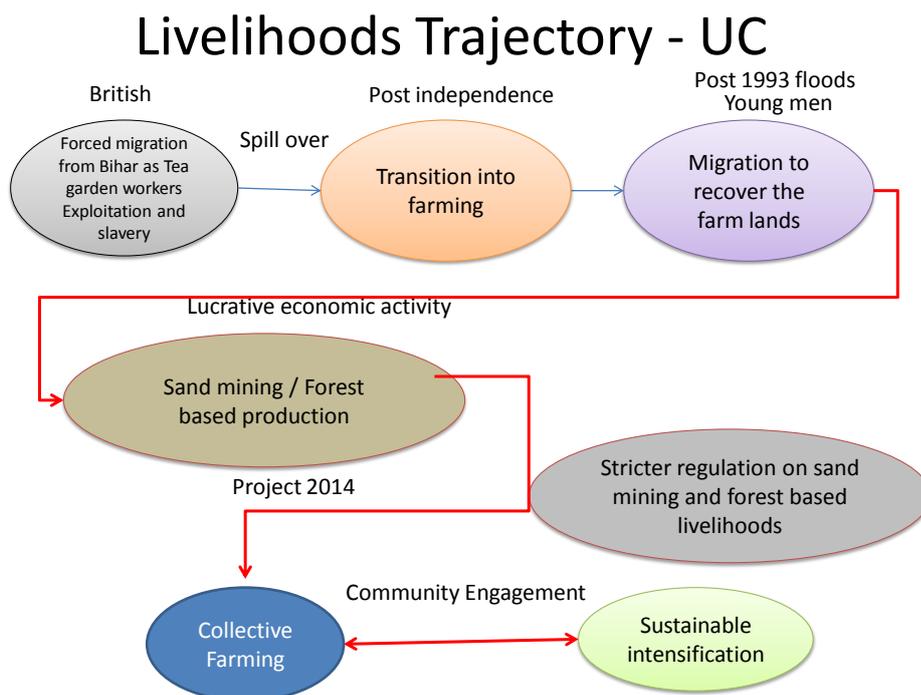
This report is divided into three sections. The first one provides a picture of the livelihoods trajectories for the case study villages. In the second section, identification and characterization of the farming systems in both the villages is provided. The third and final section describes and discusses the needs and aspirations of the individuals in the two villages.

4 Section I - Livelihoods Trajectories

4.1 Livelihood trajectory - Uttar Chakwakheti (UC)

The village UC provides a clean canvas for the project to create and implement a model of socially inclusive and sustainable agriculture intensification. The village is an open canvas in many respects. It has a long history where the people had to constantly change their livelihoods and adapt to the challenges they faced at different points in time. The village history traces back to the British time when their ancestors were brought to UC to work as labourers in the Tea gardens. Some of them moved out of the estates and started cultivating land in this village, along with working in the estates as part time wage labourers. Their livelihood got disturbed completely in year 1993 when the heavy rains and flash floods inundated their village. The flood left the lands filled with sand which to date could not be fully cleared. The families were forced to send their male workforce out to earn money required for clearing the land, some of whom could not return home because they couldn't earn enough to retrieve their land in their life time or lost their lives in accidents at work places. The village now has a river flowing in place of a small stream that existed prior to 1993. Annual floods have become a regular phenomenon, less damaging but still making a huge chunk of land unusable for cultivation. Given this change in agro-climatic conditions, people started adapting themselves to this new reality.

Migration was the main response, especially by the younger household (HH) members. They then sent money back to the village to help clear their lands but in vain as the land could not be recovered. In the process migrant generations have lost connections with agriculture. Slowly some of them have started returning home as a new, quite lucrative economic activity started developing in the village. Sand mining started picking up as a main livelihood activity alongside the sale of forest based products. These two activities have helped the village to sustain itself and survive through the years.



Livelihoods in UC have evolved as a response to the impacts experienced by the community as a whole and influenced by external forces. In particular, sand mining evolved both as a response, as well as a high value, alternative economic activity, which has sustained this community throughout the period after flood devastation until recently. Many people in the village are engaged in this activity, especially the youth, which has helped in reducing out-migration from the village. However, seasonal migration of male workforce still continues. The villagers who had agriculture fields prior to 1993 floods have converted them into sand mining pits and have become sandmining contractors. The community also has large-scale participation in government programmes, like the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)³. The works carried out under the programme are decided by the community as a whole and are implemented collectively.⁴

The village is once again at a point of transition as their main livelihood activities like sand mining and selling of forest products are facing stricter regulatory controls and enforcement. Also, the general transition of the Indian economy from cash to digital transaction since 8th November, 2016⁵ has an adverse impact on these two activities as such payments have traditionally been in cash form. Importantly, some of the farmers have started taking their produce (mainly vegetables) to the local market for sale. According to many farmers, this is a new scenario for UC and is encouraging others to take initiatives and consider agriculture as the main source of their livelihoods. The project is observing that there is an increasing interest and a wider participation in the project activities, with this positive change in mindset and general keenness to redevelop agriculture as a main economic activity.

4.2 Livelihood trajectory – Dhoulaguri (DHG)

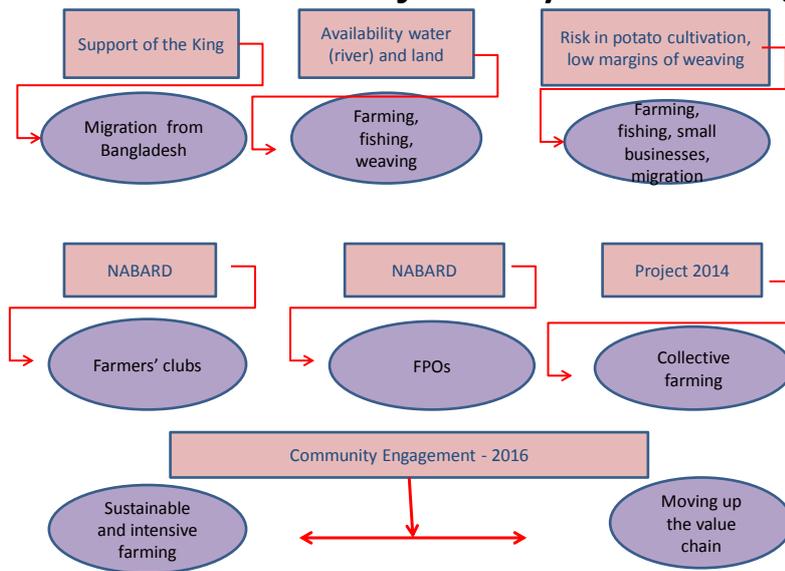
Dhoulaguri is also a village of immigrants but of a different nature. Ancestors of the villagers migrated from Bangladesh after the separation in 1947 and settled there with the support of the Maharaja of Coochbehar. They belonged to the Raja's community and were thus taken care of by him. Migration happened gradually and the village grew from the 5 families which initially settled there. The place for settlement was chosen because of the river flowing nearby and the abundance of fertile land available for cultivation. These families were originally also engaged in agricultural cultivation. The livelihood trajectory could be depicted as below as it evolved over time:

³ <http://www.mapsofindia.com/my-india/government/mnrega-progress-made-by-modi-government-in-one-year>

⁴ The scheme was designed to provide any adult who registers for rural employment a minimum job guarantee of 100 days each financial year. This includes non-skilled work. The minimum wages initially determined were INR 100 a day but later revised in keeping with the state labour employment conventions. The minimum wages are now determined by the states and range between INR 163 in Bihar to INR 500 in Kerala.

⁵ https://en.wikipedia.org/wiki/2016_Indian_banknote_demonetisation

Livelihoods Trajectory - Dhoulaguri



Until ten years back there was a large number of the households who were considered as weavers, cobblers and fish sellers. However, they have slowly shifted their profession due to very limited income, especially among weaver and cobbler community. Among the farming community also the once rich farmers are now facing lower profits due to higher input costs and volatility of market prices. Rich farmers who are dependent on hired labour for cultivation find it increasingly difficult to continue in agriculture with increasing costs and unremunerative prices. Their social status comes in the way of their taking up some of the other livelihoods options like small businesses or wage labour or using family labour to reduce costs. Thus these farmers continue to farm under unremunerative conditions which push them into a debt trap and eventually into weakening of their economic status.

Livelihoods in Dhoulaguri have seen some of the activities disappearing and farming which has been the mainstay of the village becoming increasingly less profitable. Advent of irrigation technology has helped the farmers better adapt to the market by shifting to crops like maize with multiple season paddy. However, the rising costs and the fluctuating market prices are still a major concern, especially for marginal households.

4.3 Expected Livelihood Trajectories

The livelihood trajectories in both the villages are moving towards agriculture intensification although for different reasons. While in UC it is the revived interest in agriculture due mainly to the increasing risk in the current livelihood activities, in Dhoulaguri it is the spread of irrigation technology and the introduction of new crops, which is helping this trajectory.

5 Section II – Identification and characterization of Farmer Typologies

As mentioned earlier, the team has used multiple sources while identifying the basic HH typologies. While quantitative data has been adopted from the sister project, DSI4MTF, the qualitative information has been collected by the SIAGI team through the FGDs. Farmers have been classified in two different but inter-related ways to serve the different objectives of the SIAGI project.

For the purposes of understanding the issues of gender participation and inclusiveness, farmers have been classified on the basis of their expected benefits of participation (Classification I – descriptive). This kind of classification helps in understanding the roles played by different farmers, the inter-dependencies between different types of farmers and dynamics of interactions in a collective situation. This will assist SIAGI in assessing the village scale collectives as a means to enhance agriculture intensification using equity and inclusive principles.

While Collectives could be a long term option for increasing intensification, it is also necessary to understand what drives intensification at the individual farmer level. A reflection on the factors influencing agriculture intensification at the HH level could help steer the process in the right direction as an ongoing process for the long term. The issues at the HH level could be studied by looking at their resource situation, mainly their access to land and irrigation. Other factors like markets, technology etc are also very important but the interventions around these factors need to be designed at the community or even higher level. Thus, the second type of classification is carried out at the HH level using the data collected by the sister project (Classification II – Quantitative). Both these classifications are only indicative of a general pattern that could be observed in these villages rather than a true representation of all the HHs living in these two villages. This information could be used as a basis to design interventions that may support the needs of a majority of the farmers rather than meeting all the needs of individual HHs in a typology.

In what follows we present the two different classifications and to an extent possible their inter-relationship.

5.1 Classification I - Descriptive

The primary thing that was observed in discussions with the villagers was the differences in their approach to collective farming. Basically the farmers from the collectives came from different contexts and differed in terms of their expectations about the collective farming. Once they come together the group dynamics has been influenced by the interaction of all these expectations. Based on the context different farmers bring to the group, farmers could be categorised into the following types:

Full-time farmers: They grow multiple crops and cultivate land for 3 seasons in a year. Additional income comes from supplementary activities like poultry and livestock products. They have land up to 6 to 7 bighas. They cultivate for commercial purpose as well as self consumption. They are relatively more experienced in farming and are willing to experiment with controlled risks. These farmers come to the group as leaders and form the backbone for the sustainability of collective farming initiative.

Part-time farmers: They own up to 2 or 3 bigha land, but grow only one crop in Kharif season and keep most of their land fallow for most of the time in a year. Their main activities include small businesses, shops, fishing, weaving etc. Women from these households are mostly into wage labour. These farmers are weak in farming related knowledge. They are risk averse and would like to work under guidance of experienced farmers. These farmers are attracted to the collective because of the opportunity to learn and risk share. Their interest in participation in the group would be mostly influenced by the quality of group leadership and the opportunity to experiment and learn.

Outsourced farmers: This is a generation of farmers whose parents had sufficient land and supported their transition into a business class. These farmers either lease out their land or leave it fallow. They earn their income mainly from a variety of small businesses like shops, rents, money lending, etc. Their interest in participation in the collective is influenced by their need for social recognition and leadership opportunities. Also the opportunity to network and potential benefits expected from engagement are strong motivators for this type. They support the expert farmer through mobilisation of resources and show an interest in keeping the group together.

Absentee farmers: These are the farmers with small plots of land, which may be cultivated by their families, mostly by their wives, with the support of elderly people like parents. Their main source of income is from migration. These are skilled or semi-skilled artisans who are much in demand outside the village as carpenters, masons, etc. These farmers usually nominate their family members to represent them in the group. Their need for participation lies in keeping the relationships and networks alive through minimal effort and participation.

Landless: Small and marginal farmers with 0 to 2 bigha land. They are mostly dependent on wage labour, migration, leasing in land in Rabi season to grow potatoes. Men from these households usually migrate for wage labour or semi-skilled jobs. Women run the families and HH incomes are generated by their agriculture labour and the remittances sent by their husbands. Women in this type are trying to develop alternative livelihoods through participation in the collective. Their interest in participation comes from the opportunity to move up the livelihoods ladder by developing their skills as well as networks that could help them lease in land and become farmers.

There are inter-dependencies among all the above typology of households. The village economics is mostly determined by the Fulltime farmers and the Outsourced farmers. The former have an influence because they are respected for their knowledge, hard work and success and the latter because of their exposure to outside world and their power to lend money, etc. Cohesiveness within a typology seemed to be lacking probably due to competitive nature of farming these days. For instance there were no instances talked about where one Full-time farmer tried to learn from another full-time farmer. Each of them appeared to have their own formula and considered it as their secret for success. Similarly, the landless also showed no tendency to think as a group for their overall welfare. In fact, none other than the Outsourced farmers probably appeared to have the time to think or organize the community for overall benefit. The Outsourced farmers, on the other hand, have already been commercialised and operate for profit. Thus, these farmers have the time and self-interest to lead activities that can generate additional income and give them opportunities to showcase their leadership skills.

According to the farmers participating in the collectives only four farmers are more active in the collective farming project in terms of contributing their time. One is a Full-time farmer, another is an Outsourced farmer and couple of others were the Part-time farmers. The women seemed to be active and interested in participating in the collective farming activity but their participation was constrained by their inability to contribute land or cash for collective farming.

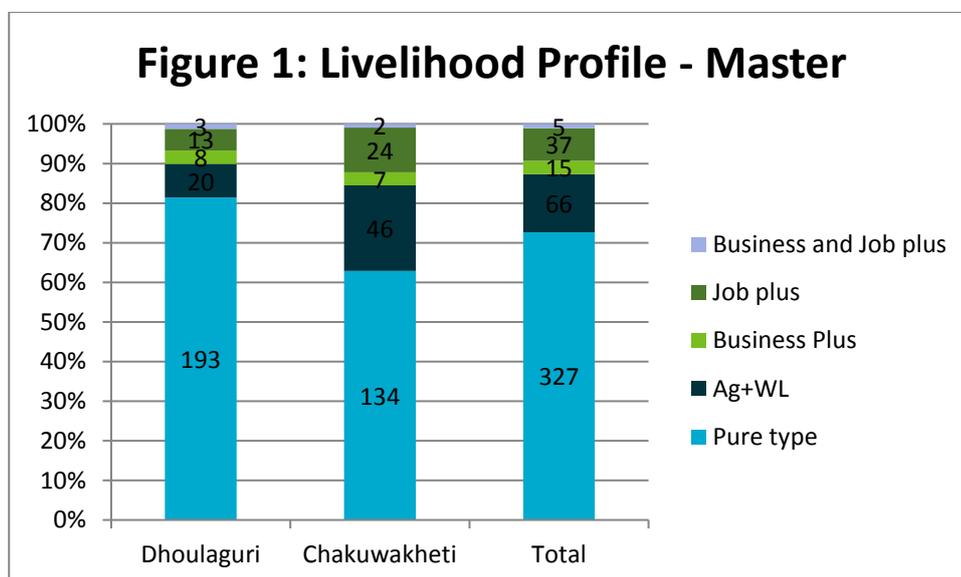
The above classification of the farmers and the dynamics observed in a collective situation could be helpful in designing collectives and assigning roles and responsibilities. It could also help in understanding the factors influencing the success or failure of a collective intervention.

5.2 Classification II – Quantitative

This classification tries to look at the farming HHs from a different perspective. It uses the access to land as a basis for classification. This classification focuses on the relationship of the farmer with the land rather than the quantity accessed. The basis for this classification is the input gathered from the FGD participants from a question on whom they considered as successful farmers and the reasons for their success in their view.⁶ Both men and women participants thought that tenant farmers are the most successful because they use the resources more efficiently and also personally work in their fields. Ability to lease in land seemed to be important for profitable farming given that majority of the farmers belong to the marginal category with less than half hectare of land. Also, crop diversity and intensity (growing crops in all three seasons) was pointed out as a factor for successful farming.

Before getting into the farmer classification based on the above criteria, an attempt is made to look into the profile of livelihoods in these two villages in what follows:

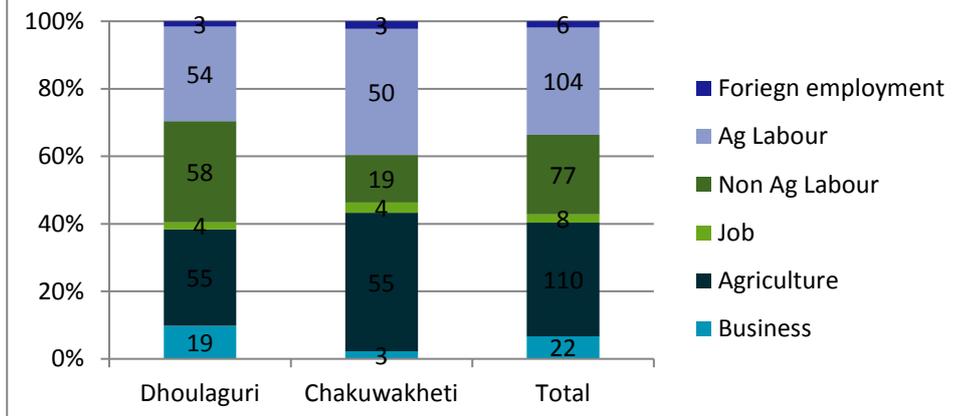
Figure 1 shows that a high proportion of HHs in both the villages are dependent on a single source of income for their livelihood, with this percentage being relatively much higher in Dhoulaguri. Probing further into the single source of income for different HHs it may be observed that Dhoulaguri has a more diversified livelihood profile compared to UC. Interestingly, a larger percentage of HHs in UC compared to Dhoulaguri are dependent on agriculture as farmers or as wage labourers (WL). Small businesses and non-agriculture labour are more prevalent in Dhoulaguri compared to UC (see Figure 2).



Note: Pure type: Farmers with single source of income, WL: Wage labour from on-farm and/or off-farm work, Plus: Primary source plus one or more secondary sources of income ex: Job plus: Job as the primary source and other sources like farming, wage labour etc

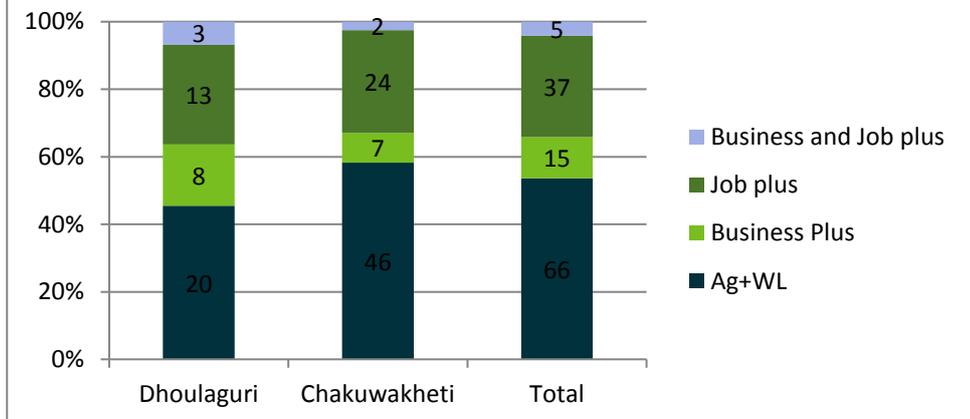
⁶ Please refer to table 1 in Annexure A

Figure 2 - Livelihoods with one main source



Among the HHs with multiple income sources, it can be seen from the below (Figure 3) that a large percentage of HHs in both the villages in this category of livelihoods are dependent on salaried jobs. Majority of HHs in this category are dependent on agriculture and wage labour as the main sources of income.

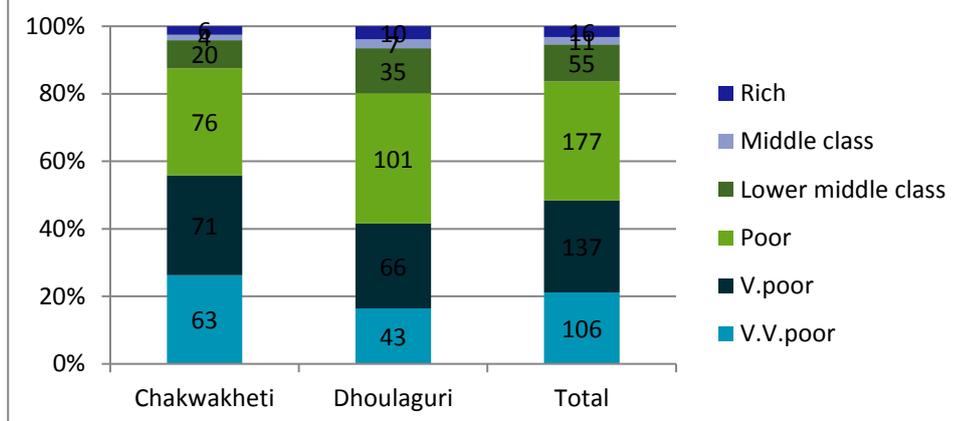
Figure 3 - Livelihoods with one main and multiple other sources



A look at the per capita income of different HHs with a view to assess the poverty levels in the two villages depicted a very grave picture as can be seen in Figure 4. Just 10 to 20 percent of HHs in these villages earn above the poverty line of \$1 per head /day. About 28 percent HHs in UC belong to the very, very Poor (V.V. Poor) category that has less than \$80 per head per annum, or 22 cents per head per day. Dhoulaguri has relatively more HHs above the poverty line (around 20 percent.) Irrespective of the livelihood activities they are involved in, a large proportion of HHs in both the villages have income levels below the poverty line. As some of these families produce part of their food requirements, signs of poverty are often reflected in terms of lack of nutritious food.⁷

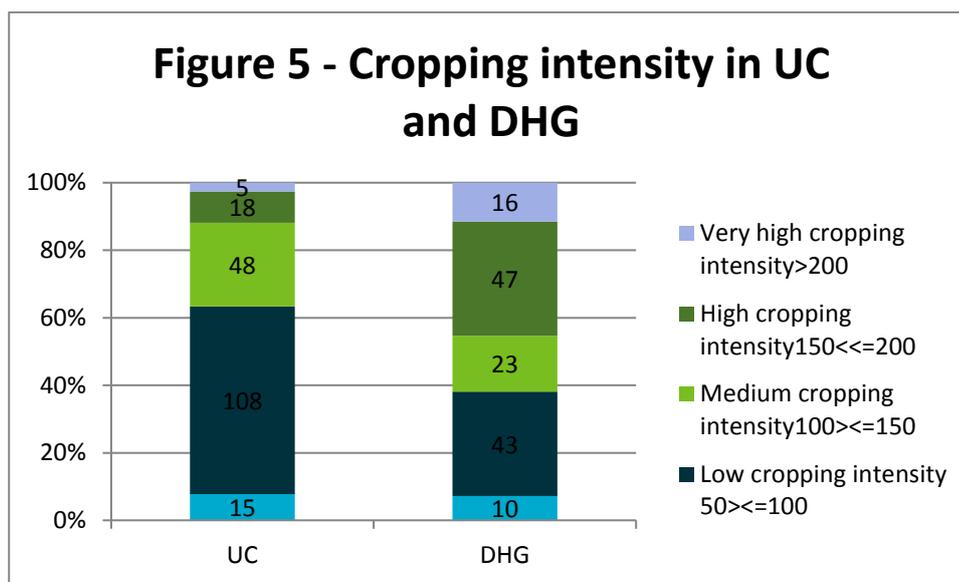
⁷ Please Refer Table 2 in APPENDIX A

Figure 4 -Poverty status of the two villages



Looking at the cropping intensity in the two villages (see Figure 5) the majority of farmers in UC have a cropping intensity less than 100, which means they are cultivating only part of their land and in only one season. Cropping intensities are much better in Dhoulaguri with a majority of farmers growing crops in more than one season.

Figure 5 - Cropping intensity in UC and DHG



Main Observations

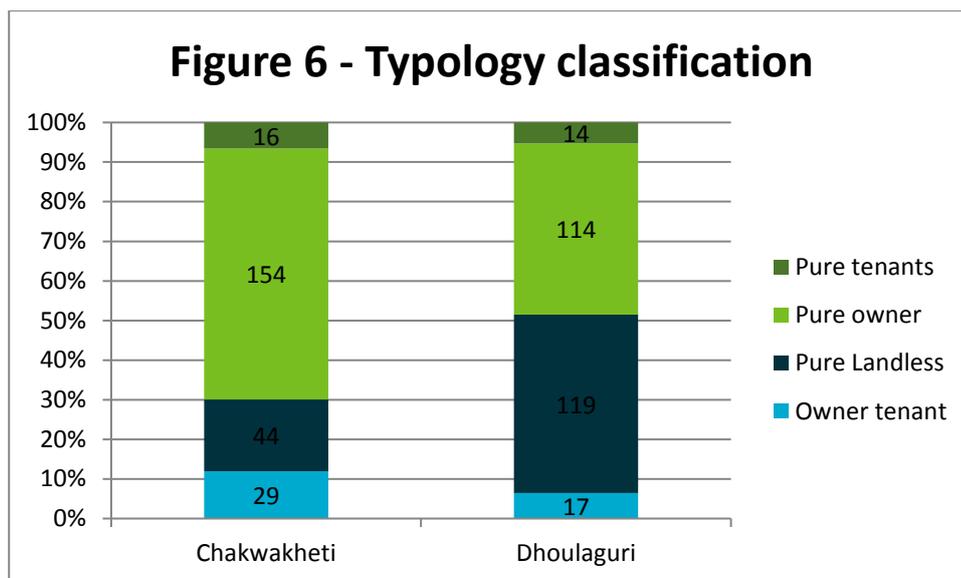
From the above analysis it may be noted that majority of HHs in both the villages depend on a single source of income, mainly agriculture. HHs with multiple sources are still highly dependent on mainly agriculture. Dhoulaguri has more diversified livelihood profile with good proportion of HHs with incomes from non-agriculture labour, small businesses or jobs. In relative terms dependency on agriculture is found to be higher in UC.

Irrespective of the livelihood profiles, the majority of HHs in both the villages have incomes below the poverty line. Dhoulaguri is relatively better placed as at least 20 percent of the families are above the poverty line, compared with UC where it is less than 10%. Cropping intensity in both the villages is low although it is relatively better in Dhoulaguri.

In what follows, these aspects are examined at the typology level with access to land as criteria. The 4 categories are defined as below:

1. Pure Landless - households with no access to land
2. Pure Tenant - households with access to land only through leasing
3. Pure owner - households with access to land through ownership and
4. Owner tenant – access to land through ownership as well as leasing

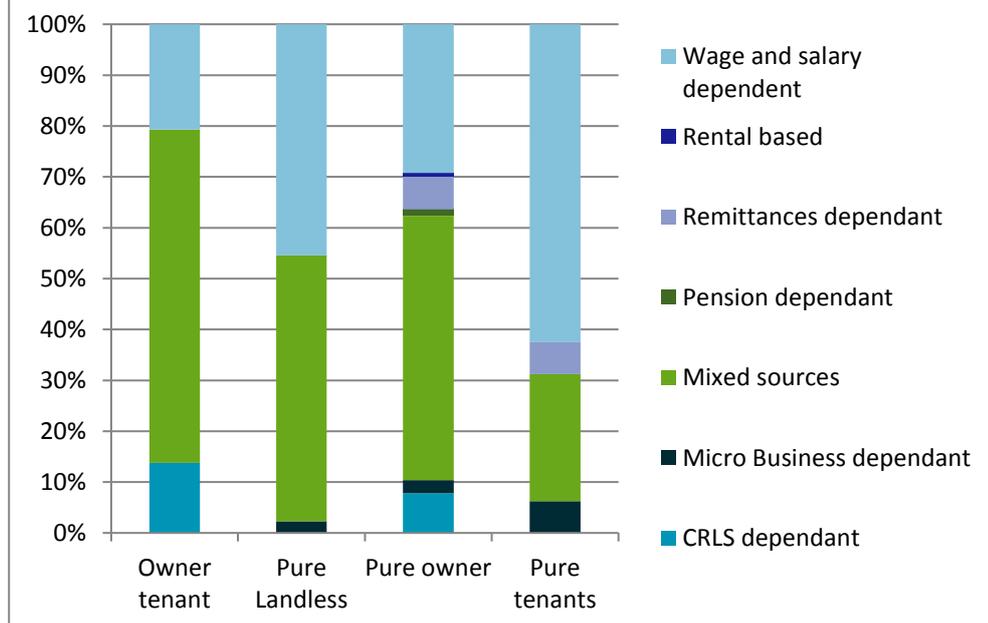
To start with we take a look at the relative share of different typologies in sample HHS. In Figure 6 the pure landless HHs are a majority in Dhoulaguri. In UC it is the pure owners. Owner tenants also have a relatively larger share in the total in UC compared to Dhoulaguri.



Source: Data collected by IWMI for the sister project DSI4MTF

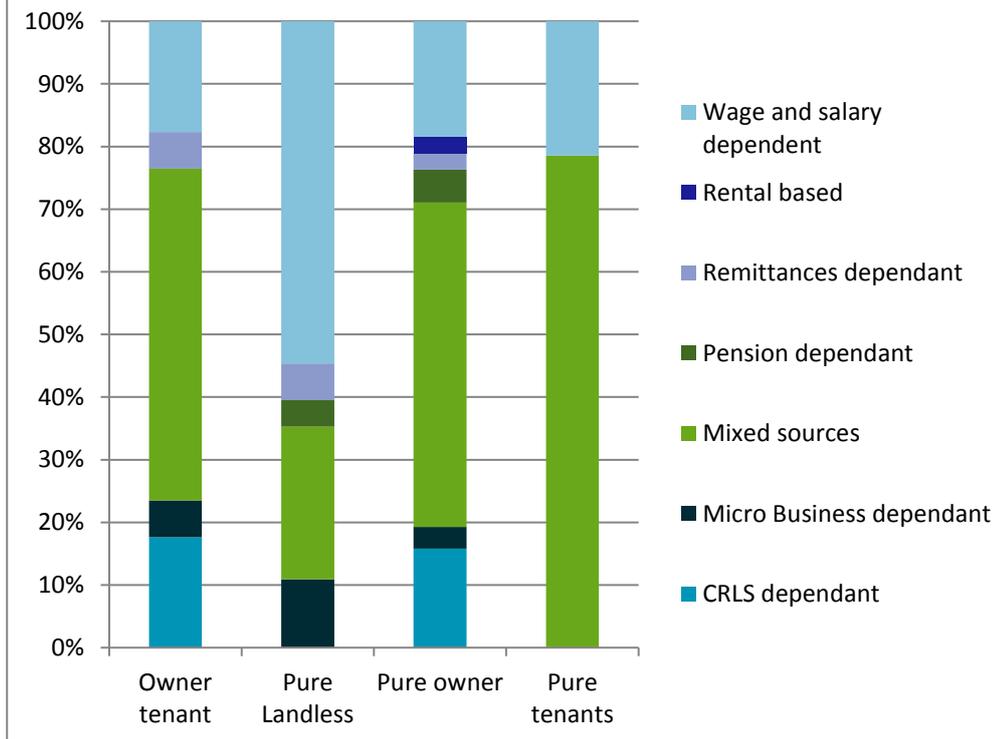
In terms of sources of income for the 4 types of HHs in UC, this widely varies as can be seen from figure 7. Except for the pure tenant category, all the categories of HHs are largely dependent on mixed sources. The pure tenant category is more dependent on wage and salary as a source of income.

Figure 7 - Nature of income sources across Typologies in UC



In Dhoulaguri it is the opposite of UC. The pure tenant category was the majority among all the categories of HHs dependent on mixed sources (see Figure 8). Another difference between the two villages is the crop and livestock dependent HHs, which are quite substantial in Dhoulaguri though limited only to the owner tenant and pure owner categories. Wage and salary dependency seems to be slightly more in Dhoulaguri landless category compared to that of UC. Interestingly the landless category in Dhoulaguri is found to be more enterprising compared to that of UC as about 20 percent of them have either a small business or a pension or remittance from outside.

Figure 8 - Nature of income sources across Typologies in Dhoulaguri



Source: Data collected by IWMI for the sister project DSI4AI

Poverty levels in general are much higher in UC compared to Dhoulaguri across all typologies although there are some interesting differences (see Figure 9). The pure owner category in Dhoulaguri represents the highest percentage of HHs below the poverty line (86%) but in UC the same category has a slightly lower percentage of HHs below the poverty line compared to all other categories (90%). The owner tenant category has the lowest percentage of HHs below poverty line in Dhoulaguri (71%). The pure tenant is the category with highest proportion of HHs below the poverty line in UC (94%)

Figure 9 - Percentage of HHs below poverty line in each Typology

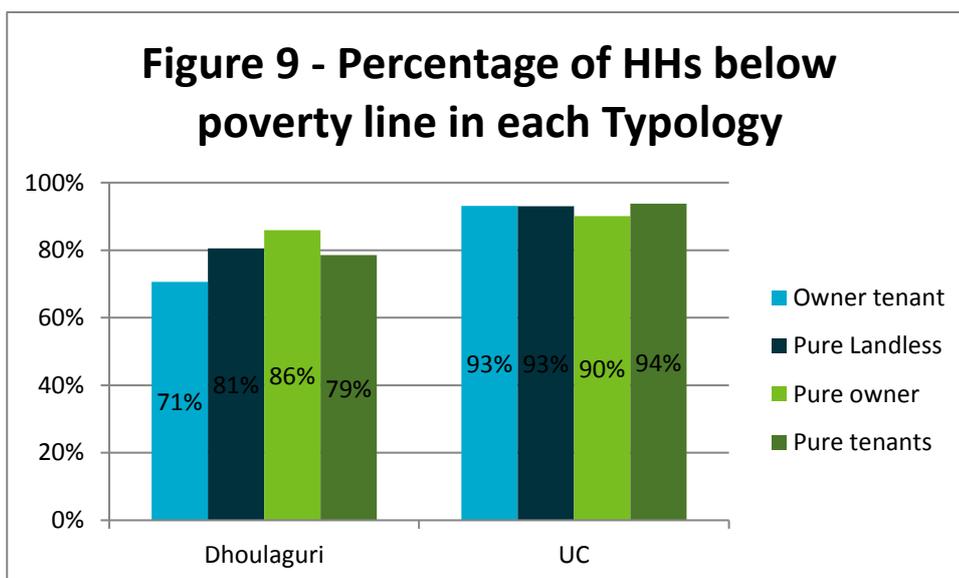
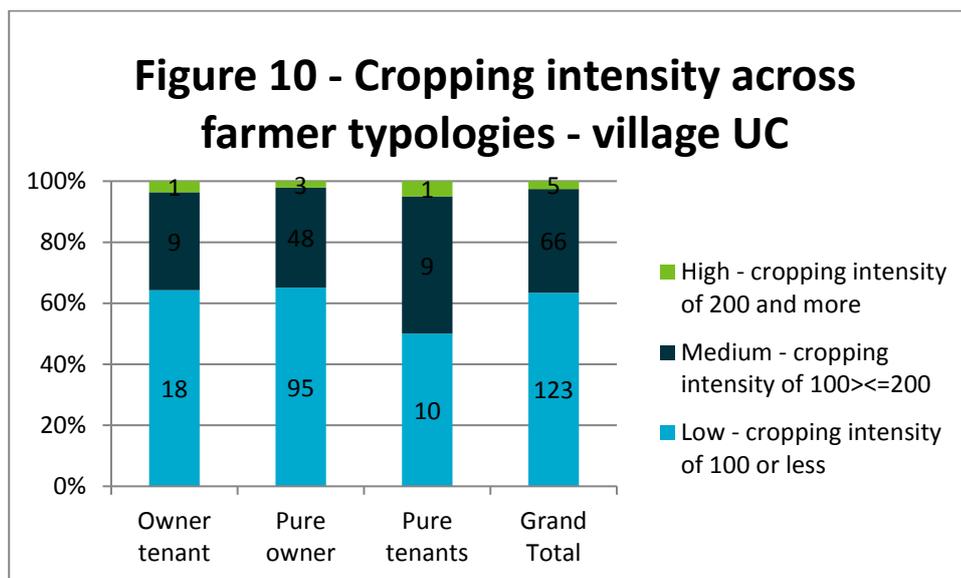
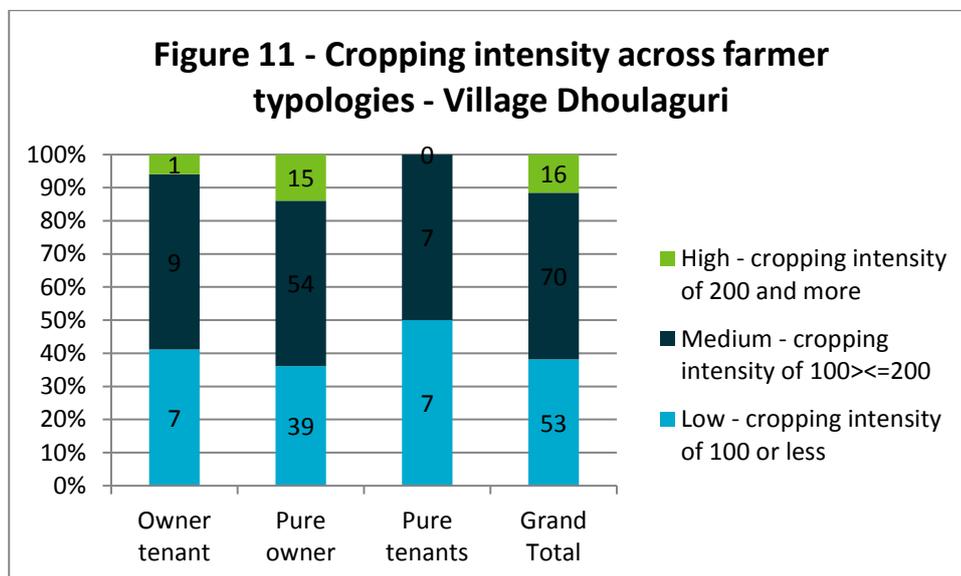


Figure 10 below depicts the cropping intensity across the typologies in village UC. Pure tenant category of farmers seems to have better cropping intensity. Most of the other typologies grow crops in one season.



Dhoulaguri has better cropping intensities across all categories compared to UC except in the pure tenant category. Thus in this village farmers who own some land seem to be growing crops more intensely than those who don't own any land (see Figure 11). This could imply two things; one, that the farmers grow crops in all the seasons or two, they lease out their land in some seasons. This could mean that pure tenants are able to lease in land for only one season. The majority of owner farmers seem to be growing crops in more than two seasons. In fact this category of farmers has the highest cropping intensity.



Main Observations

From the above analysis, it can be seen that the two villages differ in terms of the share of different types of farmers in the sample HHs. The HHs across typologies differ in terms of their poverty levels, sources of income and cropping intensities. The above analysis provides a good beginning for identification of target HHs and design of interventions.

A lot more aspects need to be studied to confirm the characteristics identified before using the above classifications on a larger scale or for any specific purpose. It is just a beginning and a deeper characterization will require a greater interaction and studying of behaviours over a longer period.

6 Section III – Needs and Aspirations Analysis

While a simple beginning is made in terms of identifying the possible HH typologies and a few of their characteristics, it will be useful to also develop an understanding of the needs and priorities of HHs from the perspectives of men and women who run them.

The following observations gathered through FDGs yielded an interesting insight into the gender preferences and differences while looking at the key concerns and aspirations at the household level.

To begin with we take a look at the ranking of key concerns by men and women. Interestingly the highest priority for both men and women is savings. More interesting is the difference in rank given to problems due to migration of men. While the men ranked it as last, for the women it was the 6th most important concern. Similarly the differences in ranks given to food and nutrition, health, shelter etc also point out how different policies could be perceived differently by men and women. An intervention or a policy will need to get both the target beneficiary as well as their priorities correctly for it to have the maximum impact. Some of the interventions like encouraging savings groups, though target the women, they become successful because they head the priority list of men also.

Table 1: HH priorities and Life concerns as perceived by men and women

Ranking of key concerns / priorities	Men	Women
1	Savings	Savings
2	Health	Shelter
3	Income	Children's education
4	Drinking water – availability & access	Income
5	Children's education	Food – quantity / nutrition
6	Shelter	Problems from migration
7	Personal security/safety	Health
8	Family security & safety	Personal security/safety
9	Personal image	Family security & safety
10	Family reputation	Comfort
11	Food – quantity / nutrition	Drinking water – availability & access
12	Comfort	Personal image
13	Problems from migration	Family reputation

As we can see from Table 2, while men thought women to some extent are responsible for earning the necessary income, women seem to think that it is mainly the responsibility of men. Both men and women however think that women are responsible for HH level savings. This perhaps indicates a lack of understanding of the connection between income and savings. Table 1 also to some extent demonstrates this point of view where both men and women put income on a lower priority compared to savings. This is an interesting point to be considered from the intensification point of view where the cost reduction may need to be given a better focus compared to yield enhancement.

Table 2: Perceptions of HH level roles and responsibilities as understood by men and women

Gender perceptions	Men	Women
g. Who is mainly responsible for family income? Men or Women	70%- Men 30% - both (men & women)	Men
h. Who is mainly responsible for savings? Men or Women	Women have saving mentality	Women
i. Main factors affecting family income	Wine, Gambling, Lottery, Loss from agriculture, illness.	No work in off seasons.
j. Main factors affecting family happiness	Income is not sufficient to maintain the HH. There is no alternative source of income other than agriculture. Drinking, lottery, etc.	Bad habits of male members (wine, lottery, gambling, etc.).

Similarly, while women find lack of work round the year as a problem in increasing family income, men list a number of factors impacting their income including gambling and lotteries.

Main Observations

Men and women differ in ranking of key concerns at the HH level. The differences observed could help us explain the success or otherwise of policies targeting the HH as a unit. Where the concern being addressed is common to both women and men, the policies tend to be more successful. Thus, it may be very important to understand how these differences in perceptions could be affecting the design of interventions, their implementation and impacts.

7 Conclusion

In this report a profile of the two villages is provided in terms of few selected indicators like livelihoods trajectories, main and subsidiary sources of income, poverty levels, level of cropping intensities and the typologies of HHs.

The analysis used both quantitative as well as qualitative information collected through different means. Quantitative data is totally based on the information kindly shared by the sister project.

Main observations from the analysis indicate that the typologies are quite distinct in terms of their livelihoods profiles. Agriculture is a significant livelihood activity and a substantial scope exists for its intensification. Right targeting is possible using the typologies identified.

At the HH level the differences in perceptions of men and women with regard to key HH concerns clearly point out the need for looking at the HH as a unit of multiple and differing priorities while designing policies, interventions and programs.

APPENDIX A

Table 1: Perceptions about successful farmers and the factors for their success

Viability / profitability	Men	Why	Women	Why
c. Which is the most viable or profitable category? Why?	Tenant	Motivated cultivator, hard working, works themselves in the field, knowledgeable, target oriented, marketing knowledge, can involve labourers better way.	Tenant Farmers and Big Farmers	
d. Which is the least viable or profitable category? Why?	Small and marginal farmers	Knowledge gap, minimum access to modern technologies, access to finance, minimum capacity of hiring labour, dependency.	Tenant Farmers	More laborious and knowledge about modern Agriculture Technology.
e. Which category is most efficient in using resources like water, fertilizers, machines etc? Why?	Tenant	Very active, innovative	Tenant Farmers and Big Farmers	
f. Which category is most effective in increasing yields? Why?	Tenant	Very active, innovative, hard working, target oriented.	Tenant and big farmers	Knowledge and capacity.

Table 2: Factors impacting profitability of crop production

Crop Production	Men	Women
a. Name 5 successful farmers	Hard working, innovative, 300% cropping intensity, Knowledgeable. Practice multi cropping.	She cultivates in her own land. She has practical knowledge of Agr. She cultivates all types of crops all over seasons.
b. Main problems in crop production	Irrigation deficiency, Unable to access the modern technologies, Inadequate finance / access to credit is difficult, Unable to access the benefit under KCC, Deficiency of knowledge, Climate.	Investment
c. Possible reasons	Knowledge gap, shortage of finance, information gap, Markets are dominated by the middlemen.	Low investment in crop production. Need

		irrigation facility, technical knowledge.
d. Possible solutions	Multi cropping, collective farming, government's intervention in marketing / implementation of schemes efficiently, strengthening the cooperatives / local level institutions. Access to information on time.	More support from Agrl. Dept. Need irrigation facility, technical knowledge and adoption of early varieties cultivation.
e. Most important constraint for increasing income	Marketing, capacity of investing in agriculture, selection of crops.	No work all over seasons.
f. Main difference between a male and a female farmer	Women can't plough, knowledge deficiency, women can do comparatively light work, bargaining capacity is low, not comfortable in marketing.	Technical knowledge is low in comparison to the male farmers

Table 3: Key concerns at the HH level - perspectives of men and women

Key Concern	Men	Women
Food	Every family has sufficient meal every day for three times but there is deficiency of nutrition.	There is no scarcity of food but protein/nutrition.
Drinking water	90% of the H.Hs have HTW at their home but quality of the drinking water is not good. Villagers also have the access to water supplied by the PHED	Drinking water – availability & access but concern about quality.
Health	People suffer from diarrhoea, fever, T.B, etc., there is deficiency of basic health services.	Primary health centre nearby but Hospital is at a distance from the village.
Shelter	People can't afford to build good house due to poor economic condition but around 40% of the H.Hs got the benefit of IAY. So, presently shelter is not their problem. They have moderate house and they are happy with that.	Most of the House are Katcha and some people got IAY houses, from GOV.
Children's education	Quality of education is missing in the primary schools which are affecting the children. Some people are sending their children to private schools.	There are three Primary schools in Dhologuri but quality of education is very low.
Migration	People (landless, tenant, daily labours, and marginal farmers) used to go to nearby towns for work. There is no case of permanent migration but observed some cases of seasonal migration. Farmers face the problem of labour shortage (male labour) during rabi season due to migration.	Since the male members go out for work the work pressure on women is high.