

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

Report on Household Typologies of Two Villages in Amtali and Dacope, Bangladesh

Compiled by

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International Agricultural Research**

REPORT ON HOUSEHOLD TYPOLOGIES OF TWO VILLAGES IN AMTALI AND DACOPE UPAZILA, BANGLADESH

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INTRODUCTION

Agriculture is the single most important sector of Bangladesh, contributing 14.79 percent to the national GDP (Gross Domestic Product) and providing employment for 45 percent of the population (BER, 2017). It is the major source of livelihood in the rural areas, where three-fourths of the population lives. In general, rural livelihoods mostly depends on land. However, unequal distribution of land is one of the critical problems (which can be regarded as outcome of landlordism patronized during British period) in rural Bangladesh. Government initiatives to re-distribution of land could not benefit the marginalized due to implementation gap. It was supposed to transfer the land in the hands of the tiller and fisher but these have largely been captured by the wealthy and powerful (CARE, 2003). Due to lack of awareness, skills, financial means and political connections, poor and landless citizens do not manage to obtain or retain the land to which they are entitled (Herrera, 2016). In fact, a vested interest group representing the power structure comprising of local influential, (and sometimes corrupt) politicians, government officials and emerging "bourgeoisie" have managed to occupy almost all the khas lands (agricultural, non-agricultural, and waterbodies), illegally (Barkat et.al., 2000). Thus, people have sought alternative livelihood for their survival. The trend of seeking alternative livelihoods is found more in the regions where social and geographical disadvantage prevailed. Social disadvantage presents in the form of discrimination based on caste, class, ethnicity and religion. Geographical disadvantage is focused in the areas of low geographic capital that derive few benefits from the economic and social opportunities. In southern Bangladesh particularly Barguna and Khulna districts possess both social and geographical disadvantage. These areas are affected by tidal surges, cyclone, salinity and water logging due to geographical location while the elite captures most of the development benefits due to social dichotomy. In this circumstance, an in-depth understanding of different categories of household are essential for any research and development project.

Several approaches have been taken by the researchers to classify the rural households in Bangladesh. These include, Arthur and McNicoll (1978) who classify agricultural families into four: i) those who control about 3 hectares or more constitute the rural elite and are known as *landlords* and *surplus peasants*; ii) those who have about 1 to 3 hectares, they are both *landowners* and *tenants*; iii) *marginal peasants* with less than 1 hectare, including the poorest tenant farmers and sharecroppers; iv) *landless agricultural workers*, forced to rely on agricultural wage labour and whatever other sources of income they can find.

Similarly, Westergaard (1983) have the following 5 classifications i) *Landless*: no land, entirely dependent on selling labour; ii) *marginal peasant*: own 0.1-2.99 acres of land; iii) *small peasant*: own 3.0-6.99 acres of land; iv) *medium peasant*: own 7.0- 14.99 acres of land; v) *surplus peasant*: Own 15+ acres of land.

Bertocci (1976) classified peasants into three broad categories including poor peasants, middle peasants and rich peasants. He further sub-divided the broad categories as: *Landless*: own 0.00 acres; self-skilled or unskilled labour; *Land poor*: own >1.15 acres; supplement income by wage labour; *Debtor middle* (own 1.15-3.99 acres): may sell labour, may rent land or borrow money to more than 20 % of total farm value; *Non-debtor middle* (Own 1.15-3.99 acres): Occasionally hire or sell labour, do not rent land out or lend money to more than 10% of total farm value; *Creditor middle* (own 1.15-3.99 acres): rent out land or lend money to extent of more than 20% of total farm value; *Rich non-creditor* (own more than 4 acres): do not rent out land or loan money to more than 10 % of farm value; may hire labour, but usually work their

own farm; *Rich creditor* (own more than 4 acres): rent out land and loan money to more than 20 % of farm value and rely on hired labour.

Choudhury (1978) classified farmers into three dimensions, namely class, status and power. The classes are based on the ownership of land. The Hindu Caste and Muslim status groups are arranged hierarchally on the basis of high and low status. Inequality in the distribution of power is to a large extent, related to the inequality of ownership and control of land to the inequality of status.

Mick Howes (1981) classifies farming society based on: i) ownership and control of land, and ii) consumption requirements. His classifications are *Rich peasant*: depend exclusively on the hiring labours, produce twice more than their own subsistence requirements; *Middle peasant safe*: Produce > 1.5 times than their basic subsistence requirements; *Middle Peasant danger*: Produce <1.5 times than their basic subsistence requirements and vulnerable at the period of bad harvest; *Poor peasant small*: Own very small amount of land or lease some small holdings, may or may not engage with wage labour selling directly; *Poor peasant landless*: No access to land, sell their labour.

Willem van Schendel (1982) classified sample households into four groups: i). A households are those which are unable to provide for themselves for 12 months at a very low standard of living, it was not possible for them to get loans they starved almost regularly; ii) B households just managed for 12 months at a very low standard of living, iii) Households are able to provide for themselves for 12 months at a moderate standard of living; iv)) household are able to provide for themselves for 12 months at a comfortable standard of living and for more than three months in excess.

Ullah (1996) classified into three groups based on “cereal sufficiency”. Group A - the upper cereal sufficiency, the households which could meet their cereal requirement from the output of their own land for more than 12 months; Group B - the medium cereal sufficiency, the household which could meet their cereal requirements from the output of their own land for 6 months or more but less than 12 months; and Group C - the lower cereal sufficiency the households which could meeting their cereal requirements from the output of their own land for less than 6 months.

In connection to non-farm sector the Matika (2007) village level study examines non-farm sub-sectors: i) Poultry rearing, ii) pond fishery and iii) silk production considering all these sub-sectors correspond to the definition of non-farm sector for landless. Sen (2003) classified households into three groups: ‘crisis’ factors, ‘lifecycle’ factors, and ‘structural’ factors. Crisis factors include natural disasters, health-hazards, ‘personal insecurity’ and isolated ‘idiosyncratic’ events such as social ceremonies. Lifecycle factors include an increase in the number of dependents and splitting up of families, reducing the number of earners. Structural factors include, for example, erosion of the asset base such as alienation of land, lack of access to credit, loss in business, and deteriorating market conditions for employment or income.

The above studies are good to closely observe the dynamics of a village in connection with the household category but none of the approaches have been replicated in other villages of Bangladesh. Except Makita (2007), most of the village level studies were carried out in 1980s which may not be applicable now due to the significant change which have taken place in agriculture sector. The most widely used classification of rural households is that of the Bangladesh Bureau of Statistics (BBS), which is based on farm and non-farm holdings. Therefore, this report forwards an approach to classify the household typologies in combination with the BBS approach and field observations. The report aims at building a typology to identify typical agriculture and alien activities that rural populations are involved in. This household typology will help the policy planners to make appropriate development interventions that benefit marginalized groups. Finally, timely development intervention will support growing more crops, better livelihood options and ultimately ensure food and nutritional security. This report first outlines the method used and briefly describes the study villages, before describing the household typologies of the study villages.

METHODS

Both qualitative and quantitative methods were used to collect relevant information from study villages. At first, a village level census was carried out to obtain basic socio-demographic data for each and every household. A structured questionnaire was used for collecting key household information by visiting door steps. Afterwards, Focus Group Discussions (FGD) were carried out applying homogenous and mixed group method. Meanwhile, transect walk along with observations helped to identify who is poor, rich, marginal, landless and women managed households. Transect walk, FGD, informal discussions and door-to-door surveys not only helped in the characterization of household typologies but also validated them. The survey adopted an indirect approach to obtain real information on critical issues. For example, field staff did not explicitly ask participants about their socio-economic status. Rather, they collected relevant socio-economic data, and then categorized households as large, small, medium, marginal, landless, tenant, owner cum tenant and women managed households. Beside primary sources of information, secondary data were collected from national statistics particularly from agricultural census and Bangladesh Bureau of Statistics (BBS).

DESCRIPTION OF THE STUDY VILLAGES

Khatail, Dacope upazila

Khatail village is situated in Pankhali Union of Dacope Upazila under Khulna district. About 345 households and 1621 population live there. About 55 percent are Muslim and about 45 percent are Sanaton Hindu (Quantitative survey, 2017). There are 2 Mosques, 8 Temples and 1 primary school, but no secondary school. Almost all people are directly or indirectly dependent on agriculture. Others are fishermen, day-labourers, and salaried profession. The rest of the households are involved in off-farm activities like earthen work, van puller, rickshaw puller in Dhaka and Khulna mostly in rabi and kharif season. Crop and vegetable farming is increasing due to stopping shrimp farming after the storm surge of cyclone Aila in 2009. Unemployment reportedly increases in December to March and many marginal and landless farmers seasonally migrate in Khulna, Dhaka and northern part of Bangladesh as well to work as agricultural labourers every year.

The village is surrounded by the river and many canals. The Vodra River flows to the south side; the west bordered by the canals of Moukhali-Doania and Moukhali. Other canals include Simonto-Katakhali, Aro, Khader, Coyateyar and Baroikhali. However, mostly the canals are silted. Generally, canals are leased by Upazila Nirbahi Officer (UNO) to the community. Some of the canals are encroached by the local influential persons through fabricated leasing process. Actual target groups (landless and fishermen) are not obtaining leases from Government officials due to lack of financial strength and political interference by the elite. Local influential and political persons are very active in leasing the canals and utilizing the wetlands for their own interest.

The NGO-Shushilan has re-excavated a canal named *Vaiyar katakhali* from its east side. The land elevation is comparatively lower in the east part than the west. Salinity is one of the common hazards in this village. Livelihoods, socio-economic and environmental condition were affected by cyclone Sidr in 2007 and storm-surge Aila in 2009. More than 15 NGOs such as BRAC, ASA, AD-Din, Shushilan, Grameen Bank are working there to improve the situation. Khatail village is nearby Chalna *Pourosova (Municipality)* and about 500 meters distant from it. A road made of concrete from Chalna to Lokhikhola has gone from the middle of the village and divided it into two parts (north and south). Road communication is comparatively good between the village and Chalna Bazar (market) because of availability of motorized rickshaws, vans, easy bikes (motorize three wheelers) and motorcycles.

Agriculture is the main livelihood option of the villagers. Rabi farming mostly depends on canals, however, poor farmers cannot enjoy the benefits of the canals due to siltation, illegal capture by powerful class and lack of proper re-excavation. Rice is the main crop. Other livelihoods are horticulture, shrimp farming, fishing, poultry farming and vegetables with fishing. The farmers grow different types of rice varieties such as *BR10, 11, 23, and 49, Baishmoti, Benapol, Najirsail, Cinikani* etc. Among them *BR-23* is most productive. Farmers said that one an average 10 mounds of paddy are produced per bigha (50 decimals) which is maximum 18 or 20 mounds.

There are 5 types of agriculture households in Khatail village, including large farmers, medium farmers, small farmers, marginal farmers, landless. About 13 farmers are large, 26 as Medium, 106 small, 34 marginal farmers and rest of 166 families are landless (Quantitative survey, 2017). The landless depend on leasing process of agriculture land and the share of crops is equally distributed between lease holders and landowners. Input costs of crops is higher than output price. Sometimes, local wholesalers provide credit facilities during cultivation, so that farmers are bound to sell produce to the wholesalers. They are mainly working as migrant labourers and part-time workers or day labourers. This village has one Integrated Pest Management Club (IPM), but it is almost inactive. They have no coordination among the members of IPM club and do not arrange regular monthly or fortnightly meeting

The salinity of water is the main problem in cultivating rice and other crops in Rabi and Kharif seasons. Thus, Aman is main crop season depending on sweet water availability. The farmers plough their land in the month *Baishakh (April-May) - Joisto (May-June)* and harvest the crop in the month of *Poush (December-January)*. The rest of the months the land remain fallow. Sometimes a few farmers have tried to cultivate other crops such as sunflower, lentils, khesari dal and sesame but have failed to have good harvest due to lack of sweet water in dry season.

Poultry and cattle rearing is one of the venture for Khatail villagers. About each family especially women are engaged in poultry and cattle rearing. There is a strong syndicate that the dealers bear all the cost such as poultry feed, medicine and all other necessary cost before the selling stage of poultry, and the farmer forced to sell it to the dealer with low price. There is a scarcity of fodder. Thus, people rear livestock or cattle openly particularly in dry season.

It is very worthy to know that about 10 years ago, Khatail village was dominated by *bagda cultivation* but an interesting shift happened from saline water to sweet water ponds. They are motivated from nearby people of Tildanga Union who have converted their field from shrimp cultivation to agriculture practices. But the fish farmers at khatail village use their field in innovative way. They are practicing shrimp and sweet water fish at same gher through ground water irrigation. The fish farmer said that it is possible to practice shrimp and sweet water field at 5ppt. salinity level. At high salinity area mostly in river and canals side, they are practicing mud crab which is also profitable for them. Recently farmers also have introduced integrated farming through land shapping for growing vegetables in dyke and fish in pond. Farmers consider the integrated farming is profitable and meeting demand of vegetable for round the year.

Some of women are involved with income generating activities such as sewing clothes, attractive needle work, catching fish, rearing duck/hens, day labourer, homestead gardening, and roadside work. Extreme poor women also enjoy Social Safety Net (SSN) benefits undertaken by Local Government Institute (Union Parisahd) such as Food for Works and Employment Generation works (40 days works) etc. Moreover, they also participate in development interventions of NGOs such as skill training, milk production, livestock rearing, cow fattening, goat rearing, homestead gardening and mud crab.

Salinity is a problem both for agriculture and access to safe drinking water. Installation of tube-wells is likely not to be successful due to deep ground water table and salinity up to 1200 feet in ground water table. Women are facing more challenges than men regarding collection of water. Women carry water

from 3-4 km away. A few tube-wells have found sweet water but not at a desired level, so people depend on rain water harvest for drinking water.

Sekandarkhali, Amtali upazila

The Sekandarkhali village is situated in the Amtali upazila in the Barguna district, which is 80 km away from Patuakhali. It is divided into two parts by the Dhaka-Kuakata Highway. The western side looks like a peninsula that is surrounded by the Arpangasia River, and the eastern part is covered by several canals. About 292 households comprising roughly 1450 people live there (Quantitative survey 2017). There are about 6 Mosques, one primary school. No secondary schools or Temple exist in the village. The settlements are linear round the embankment as well as scattered along the eastern part. Most of the inhabitants of the village are Muslim, and some Hindus. The social amity between these two communities is amicable as observed during field investigation. Women do not hesitate to talk to outsiders, which may be the combined efforts of different NGOs and Government to increase awareness of women. There are several NGOs are working here. These are BRAC, Grameen Bank, ASA, RDF, Sonkolpo, BRDB, UDDIPON etc, which work mostly in micro-credit, development and agriculture. There is only one local market name *Bandra Bazar*. There are about 4 canals of which 2 canals remain dry in rabi season. Saline water remains in the canals from October to January.

The entire area is surrounded by river and canals water so that salinity in water and soil are common problems, as well as cyclones and seasonal flood. In November 15, 2007, the devastating Cyclone SIDR changed the livelihoods, economic and environmental condition of this village. Identifying alternative livelihood options rather than agriculture is one of the main issues. People, especially landless and marginalized farmers migrate to other regions in lean period for survival. Farmers reported during discussions that there are 2 large, 20 medium, about 80 small, 49 marginal, 141 landless and about 40 women managed farmers living in the village.

Agriculture is the main livelihood option for the villagers. Nevertheless, there might be some households who have ownership of *Gher*¹. There are some off farming households who are involved in off farm activities like earthen work, van puller, rickshaw puller and Tom Tom driver in Dhaka and Khulna mostly in rabi and kharip season. Usually, one crop (aman) is grown in rainy season due to high salinity in the dry season. In Aman season, they grow different varieties of aman rice including BR-23 BR-10, BR-40, BR-26, BR-41, BR-49 and also some local varieties like *sorna*, *guti Aman*, *Mota Aman*, *vojon* etc. Among them, they mostly produce Aman-23, *Mota Aman*, *Guti Amana*, *Vojon* and *Sorna* in their field. On an average they produce 10 mounds aman rice per *bigha* (33 decimals) with a maximum of 18 mounds. Farmers face problem of fair pricing of their produces due to the syndication between wholesaler and dealer.

Moreover, some farmers have tried to cultivate sunflower, lentil as well as vegetables in rabi season as a commercial option, but they lost their yield. Farmers face problems in irrigating their crop due to the salinity of groundwater and the lack of access to sweet water through canals. They have tried to install deep tube well but they could not get sweet water up to 700 feet. A farmer explain that “even though we get sweet water in some areas by installing deep tubewells but the running costs are too high”. Because the area has no electricity, the fuel and maintenance costs increase the input costs and flow on impact means that the farmer can become a loser. Alongside this, due to the failure of proper irrigation, the sunflower crop failed to reach full maturity and so they did not get as much production as they expect. A women farmer claimed that she had cultivated sunflower in 2 bigha of land last year but

¹ *Gher farming is a traditional agriculture system in Bangladesh. A pond is dug into a rice field to use for fish farming, with the dug out soil used to create dykes around the pond for growing vegetables.*

she only got 6 mounds. There is no market facility for selling their sunflower, that is why they sold their sunflower to the local paddy wholesaler and received lower price.

In aquaculture, the western part of the village (mostly river char area) has some shrimp gher. The shrimp farmers mostly produce Tiger Shrimp with some *Talapia*, *Horina chingri*, *Khorkulla*, *Paira* etc. Some households also have pond aquaculture where they produce fresh water fish like rui, katla, puti etc. About 30 households have initiated crab culture in this village for commercial sale and from which they benefit.

In Sekandarkhali, women are mostly involved in household activities and occasionally in farming. However, women-headed/managed households are involved in different economic activities like roadside work, work in agriculture field, sewing clothes, catching fishes, paddy harvest, day labour, maid-servant and small business. However, they are paid lower amounts than their counterpart male member.

Water management is one of the key issues that the people suffered from the most. The operation and maintenance of gates (sluices) are influenced by the elite people. In the rainy season the gates (sluices) are totally blocked and sometime flush out water at ebb period. However, in the dry period, saline water is introduced into canal through gate (sluices) for fishing practices. There is no access by the community people onto the canals even though the canals are regarded common resources. Some canals are leased by the Government so that people cannot gain access. The farmers said that if the canals could be used as a rain water reservoir, there is an opportunity to produce three season of crops. Therefore, government should look into the issue, and it may include re-excavated some canals. The farmers explained if 'we will not intrude saline water from Sunnibari and Hapanari Canals (totally blocked) and re-excavate only 2 km of canal from Tiakhali (from Paira River) which have sweet water, then we can cultivate three crops in the field'.

Access to drinking water is also an issue in the village. Due to the salinity of the groundwater, they cannot use tubewells. Therefore, households mostly women have to carry drinking water from 500 to 1000 metres away which places additional pressure on their daily activities.

HOUSEHOLD TYPOLOGIES

For wider application, the study followed the combination of national statistics (BBS) and field observation. Benefits of using national definitions are that findings can be generalized at regional and national level. On the other hand, field observation gives micro level in-depth information that can help for area specific interventions. This section presents the household typologies of two villages, namely Sekanderkhali from Amtali upazila and Khatail from Dacope upazila. There are two broad classifications of the households: i) farm category; and ii) non-farm category. The farm category is mostly similar to BBS standards while non-farm category is classified based on field observation.

A. Farm category:

In Bangladesh, most of the farmers are small and medium-scale farmers (98.45 percent) who have less than 7.5 acres or 3 ha of land, with few large-scale farmers (1.54 percent). According to agricultural census of Bangladesh, a farm household was classified into three categories such as: small (up to 2.4 acres); medium (2.5 to 7.49 acres); and large (7.5 acres or more) (BBS, 2016). The small farmers can be further categorised into three, based on landholding:

- i. **Large farmer:** Large farm households are those who own 7.5 acres or more land. Major income is generated from agriculture but may involve in job and business as secondary profession. Give rented/leased out land. Average household income was about Tk. 175,000.

The minimum and maximum income was estimated Tk. 100,000 and Tk. 350,000, respectively (Table 1). The proportion of larger farmers in Bangladesh is 1.54 percent. It is 2.41 percent for Barguna district and 2.26 percent for Khulna district, respectively (BBS, 2016). Village level data reported that there are 4.00 and 1.0 percent large farmers found in Khatail and Sekandarkhali village, respectively (Table 1). The percentage of large farmers from Khatail village in the study location was found to be higher than the national average. However, as observed and reported by participants, most of the large farmers live in the town can be regarded as absentee landlord.

- ii. **Medium farmer:** Medium farm households are those who own 2.50 to 7.49 acres of land. Household income mainly depends on agriculture, a few of them are also involved in non-farm activities such as service and business. They themselves cultivate land and rent/ lease out land too. Average household income was estimated at Tk. 122,000 (minimum Tk. 60,000 and maximum Tk. 400,000). The proportion of medium farmers in Bangladesh is estimated to be 14.07 percent. Barguna and Khulna district estimation showed 12.45 and 16.92 percent, respectively. In the study villages, 8.0 and 7.0 percent of household belongs to this medium farm category for Khatail and Sekandarkhali village, respectively (Table 1).
- iii. **Small farmer:** Possess 0.05 to 2.49 acres of land. Their major income comes from farming. They cultivate their own land by themselves and also rent/lease/mortgage in (leased in). A few of them also involved in non-farming activities such as wood-carpentry/stonemason/petty trading (hawker)/driving/service within the locality or outside of the locality. Those that work outside of the locality send remittances to their family. Average household income is estimated at Tk. 88,000 in which minimum Tk. 24,000 and maximum Tk. 350,000. The proportion of small farmers in Bangladesh is 84.39 percent (Table 1). In Barguna district it was 80.03 percent while in Khulna district it was 80.82 percent. In Khatail and Sekanderkhali village it was estimated at 31.0 and 27.0 percent respectively. The lower end of small farmers is known as marginal farmers.
- iv. **Marginal farmer:** Marginal farm household are those who owned 0.05 to 0.49 acre of land. They cultivate their own land and rented/leased/mortgaged/shared their land. They mostly depend on farming, however sell labour during lean period. The proportion of marginal farmers in Bangladesh is 27.98 percent. Marginal famers are estimated at 33.08 and 29.09 percent for Barguna and Khulna district, respectively. The percentage of marginal farmers in the study villages is reported as 10.0 and 17.0 percent for Khatail and Sekanderkahli village, respectively (Table 1).
- v. **Landless (non-farm holding):** According to Agricultural Census (2016) landless has been redefined as non-farm holdings and defined as those who possess up to one half of an acre. The survey classified the landless into three different categories: Category-I are those who have no homestead or cultivable land (with no operating area); Category-II are those who have a homestead but no cultivated area; and Category-III are those who have a homestead and cultivable land 0.001 to 0.04 acre cultivated area. About 47 percent of the holdings fell into landless category at national level while it was 58.69 and 28.06 percent for Khulna and Barguna district, respectively. Interestingly, village level estimation shows about 48 percent fell into this category for both villages.
- vi. **Women managed farm:** In general, men are considered to be the farmers and women to be only their helpers. Women are increasingly involved in agricultural management, but they are generally overlooked as farmers by both men and women at household and community

levels. In absence of male members or due to seasonal out migration of male members, most of the farming activities are managed by women. Hence, women managed farms are considered as an important category of farmer. In this category, the household may have own land or/ and rented in land but most of the household income come from farming activities. They involved in farming in inside or outside of the home to the family's land or wage labour by the women. So far, there are no statistics on women-managed farms at national and regional level, but our village census reported 20.0 and 14.0 percent women-managed farms in Khatail and Sekenderkhali villages, respectively (Figure 1).

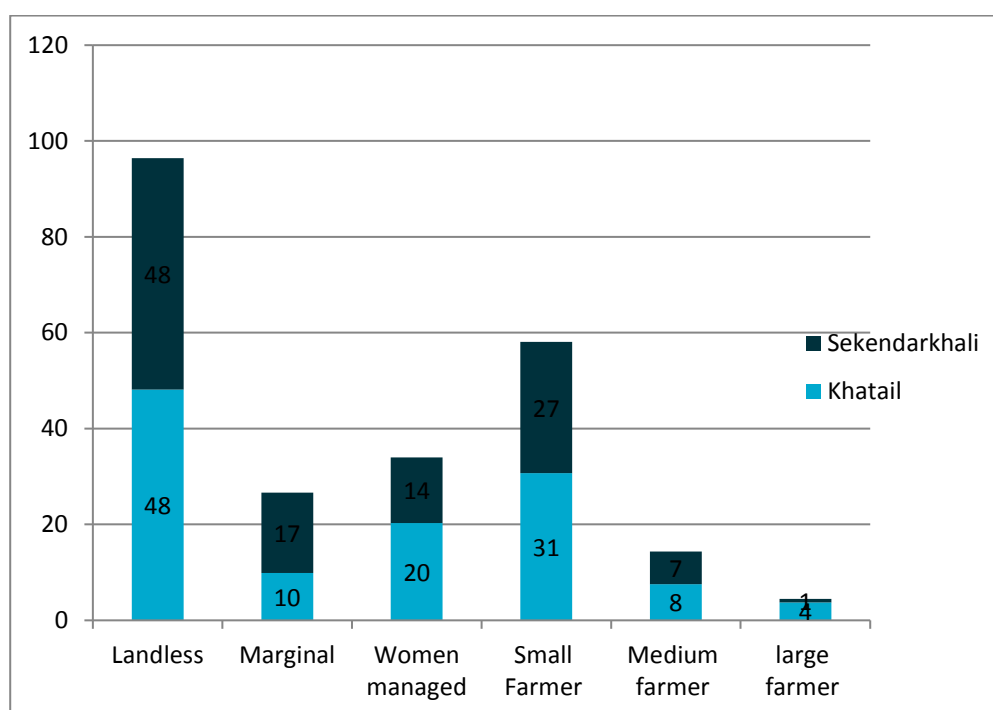


Figure-1. Typology classification

Based on ownership of landholding, BBS further categories into three. These are-

- i. **Owner:** Owner farmers cultivate owned land and mortgage/rent out land to others. In the case of mortgaged-out land, cultivators need not to pay any share of the produced output to the land owner but need to pay a certain amount of mortgaged money and duration of this mortgaged land persists until the mortgaged money can be repaid by the mortgagor. Owner farmers represent 65.29 percent at national level while it was 63.44 and 71.06 percent at Khulna and Barguna district, respectively (Figure 2).
- ii. **Owner cum tenant:** Owner cum tenant farmers cultivate owned land, mortgaged land, fixed rented land and share cropped land. In cultivation of fixed rented land, a fixed amount of money is needed to pay annually to the land owners by the cultivators. The terms and conditions of mortgaged land in owner cum tenant farming areas same as mortgaged land in owner farming. There are 21.88 percent owner cum tenant reported in Bangladesh while it was 21.31 and 17.16 percent estimated in Barguna and Khulna district respectively.
- iii. **Tenant:** Tenant farmers do have own land they cultivate, as well as renting land of others, to whom they pay rent either in cash or in shares of produce. In Bangladesh, tenant farmer

estimated at 12.83 percent but it was 7.63 percent found in Barguna district and 19.40 percent in Khulna district (Figure 2).

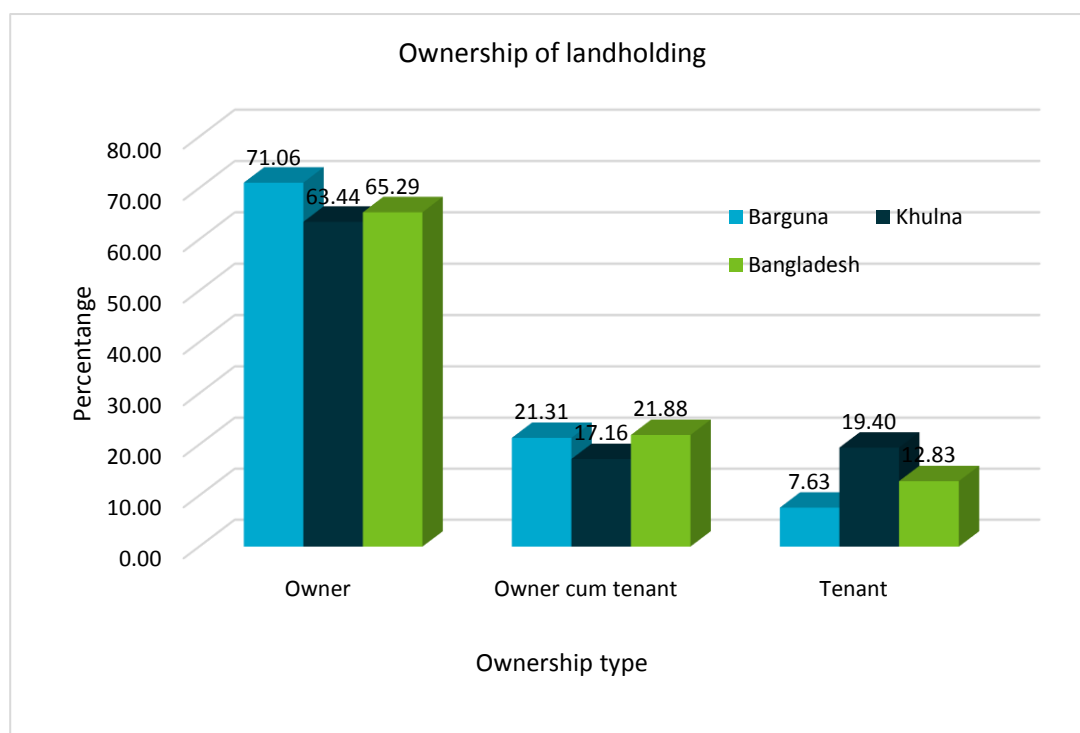


Figure 2: Ownership of landholding at national and selected district

B. Non-farm category

The importance of non-farm activities is increasing in rural Bangladesh. Rural non-farm economy in Bangladesh is comprised of a broad range of heterogeneous activities: handicrafts, mechanics, wage employment, transport operations, construction labour, salaried service in public and private sector, teachers, religious leaders, lawyers, village doctors, and various types of personal services (barbers, laundry services, mid-wives etc.), agro-processing, shop-keeping, peddling, petty trading, and contractor services. However, all mentioned non-farm activities are not prominent everywhere. The following section presents the most important non-farm activities that villagers are involved in the study sites. The distinct feature of non-farm category from farm category is that more than 50 percent household income are generated through non-farm activities. It is noted that livestock and fish farming considered as part of the non-farm category here, although in many studies they are considered under farm category.

- i. **Livestock and poultry rearing:** Livestock and poultry rearing contribute significantly to household income. Households may involve other income generating activities, but majority of the household income is generated through livestock and poultry rearing. It is observed in the study villages that every household possesses cattle as well as chicken and duck which is reflected in village level statistics (Table 1). About 1.4 percent of households was estimated under this category for Khatail village, while it was 1 percent for Sekanderkhali village.
- ii. **Fishermen (crab, white fish, shrimp):** Fish farming and catching fish is one of the important sources of livelihood in the study villages. It is reported from the village census that 1.2 percent of the household in both villages are involved in fish farming or catching fishes.

- iii. **Wage labourer (male & female):** Wage labourers are those who sell their labour seasonally or year round to maintain their livelihood. They may sell their labour to farm and non-farm activities but above 50 percent of their household earning should come from wage labour. About 78.0 and 71.0 percent is estimated under this category for Khatail and Sekandarkhali village respectively, whereas absolute wage labourers who sell their labour round the year is about 15 percent in both villages.
- iv. **Petty business:** A person/household that is involved in selling and buying commodities and products at small scale can be considered under petty business. In the study villages about 10 to 14 percent of the households are involved in petty business as their means of livelihood.
- v. **Driver/motorcycle/easy-bike/motorized rickshaw:** If most of the household income is generated through rickshaw/van pulling and riding motorcycles, then the household is considered under this category. There are 7 and 8 percent of households in Khatail and Sekanderkhali village involved in motorized & non-motorized van pulling/easy bike/motorcycle driving related activities (Table 1).
- vi. **Remittance-receiving households:** If any household members live outside of residence and send money to the household they may be considered in this category. The remittance may come from Bangladesh and abroad, but the amount of remittance should be above 50 percent of total household income. About 1 percent of the households receive foreign remittances for both villages.
- vii. **Service-government/non-government:** If more than 50 percent of household earnings are generated through services/jobs then the household is considered in this category. About 4 and 5 percent of the households depend on services in Khatail and Sekandarkhali village respectively.

Table 1: Basic characteristics of households and their representation at national, regional and village level

Household typologies/types	Bangladesh (%)	Regional and village (%)		Regional and village (%)	
		Khulna district	Khatail village	Barguna district	Sekanderkhali village
Household type based on landholding					
Large farm (7.5+ acres)	1.54	2.26	4.00	2.41	1.00
Medium farm (between 2.50 to 7.49 acres)	14.07	16.92	8.00	17.33	7.00
Small farm (between 0.50 to 2.49 acres)	84.39	80.82	31.00	80.26	27.00
Marginal farm (between 0.05 to 0.49 acres)	27.98	29.09	10.00	33.08	17.00
Landless	47.09	58.69	48.00	28.06	48.00
Household type based on livelihood					
Owner farmer	65.29	63.44	-	71.06	-
Owner cum tenant	21.88	17.16	-	21.31	-
Tenant	12.83	19.40	-	7.63	-

Household typologies/types	Bangladesh (%)	Regional and village (%)		Regional and village (%)	
		Khulna district	Khatail village	Barguna district	Sekanderkhali village
Wage labourer (male & female) (<50% from this profession)	58.25	69.48	78.00	35.46	71.00
Fishermen (<50% from this profession)	-	-	1.40	-	1.00
Poultry farming	-	-	4.00	-	1.00
Patty trading/business	-	-	10.00	-	14.00
Easy bike/Motorized van/motorcycle	-	-	7.00	-	8.00
Tailoring/sewing			0.50		
Service in government/non-government	-	-	4.00	-	5.00
Remittance (foreign)			1.00		1.00
Women-managed Households	-	-	20.00	-	14.00

Source: Authors' own calculation based on BBS, 2016; Census and FGDs data provide in Annex tables.

Note: The columns do not add up to 100 per cent because of double counting data. Some of the households have been counted double, e.g. women managed households, landless and wage labour has also been overlapped with other farming and non-farming households.

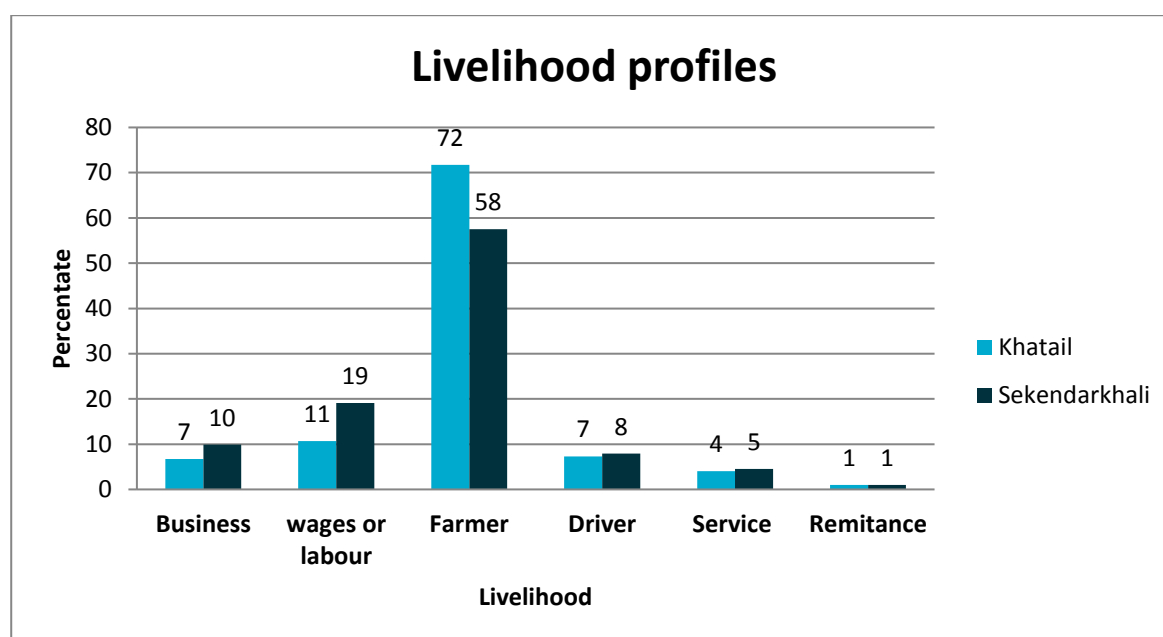


Figure 3: Livelihood profile of both villages

Although great number of households in both villages are dependent on a single source of income for their livelihood, the percentage is comparatively slightly higher in Sekendarkhali of Amtali sub-district. Interestingly, a more diversified livelihood has been found in Khatail compared to Sekendarkhali. A

higher percentage of households in Sekandarkhali village compared to Khatail depend on non-farming activities, such as business, wage labour, driving and services. Like Sekandarkhali, agriculture farming is more predominant in Khatail village.

Figure 4 shows that the majority of the households with multiple sources of income are dependent on agriculture, wage labour and business in both villages. Moreover, the highest percentage of households in both villages are dependent on agriculture.

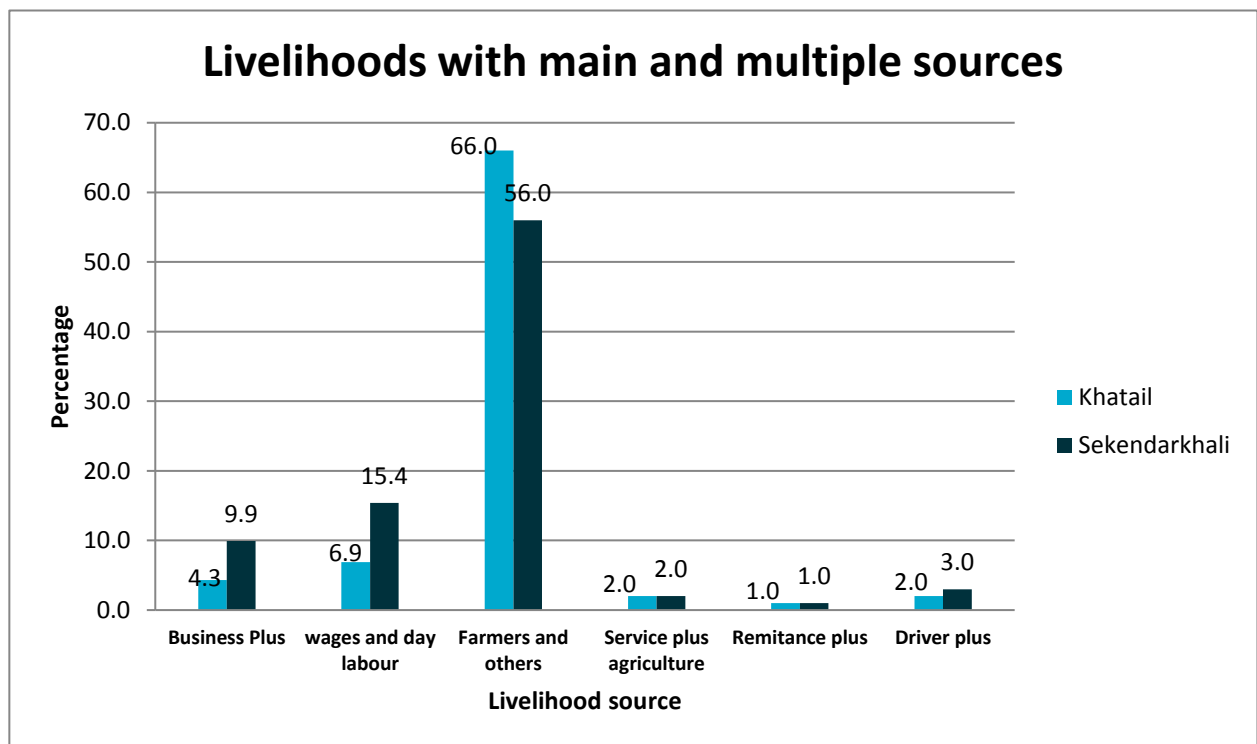


Figure 4: Livelihood with one main and multiple other sources

Figure-5 shows that agriculture is the main livelihood source for all household categories in Khatail village. For the landless and medium farmers category, many households also have driving as a source of income.

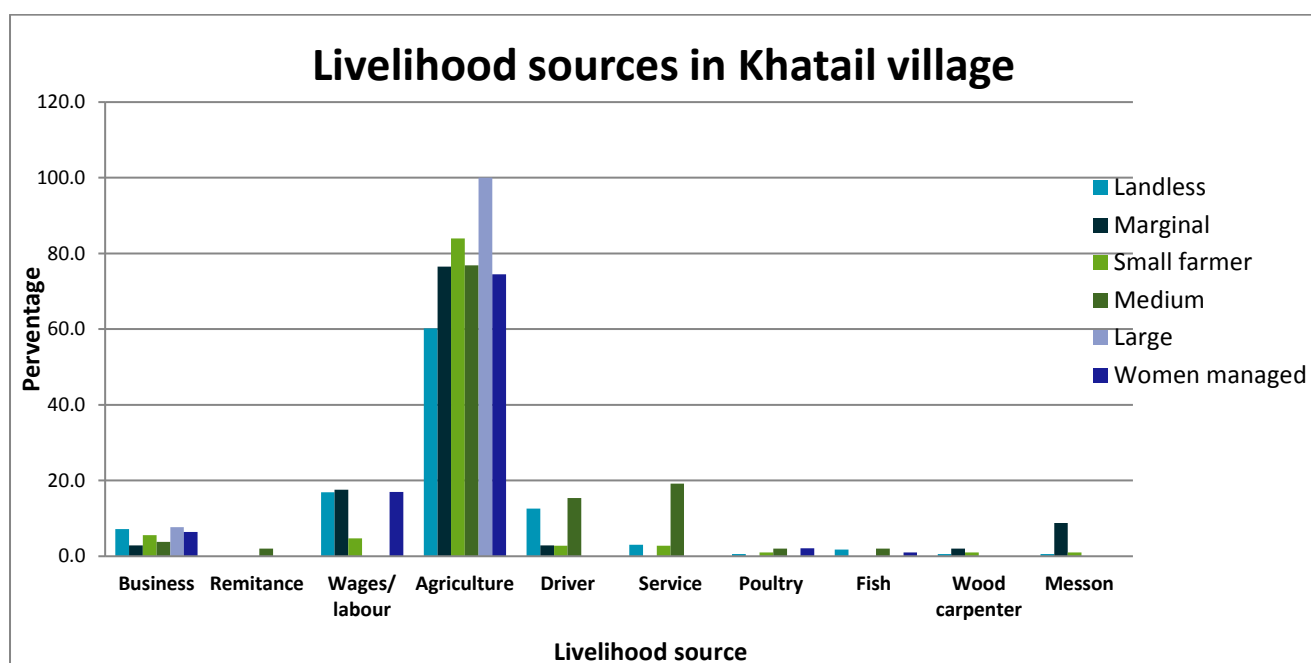


Figure 5: Livelihood source of different household category in Khatail Village

Like Khatail, Figure-6 shows that agriculture is the major income source for all types of household categories in Sekandarkhali village. Wage labours, business and driving after agriculture for the category of landless, marginal, small and women managed households. Government and non-government services incomes are also seen in large and medium households in Sekandarkhali village. There are also some landless households who dependent on masonry, wood carpentry, driving and business.

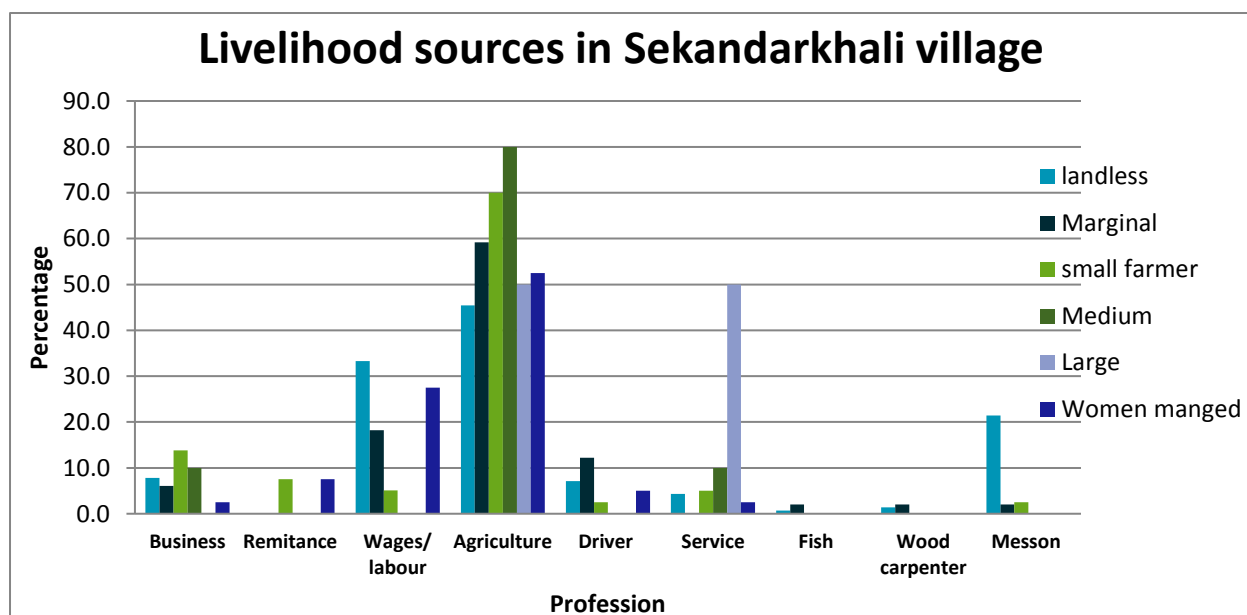


Figure 6: Livelihood source of different household category in Sekandarkhali village

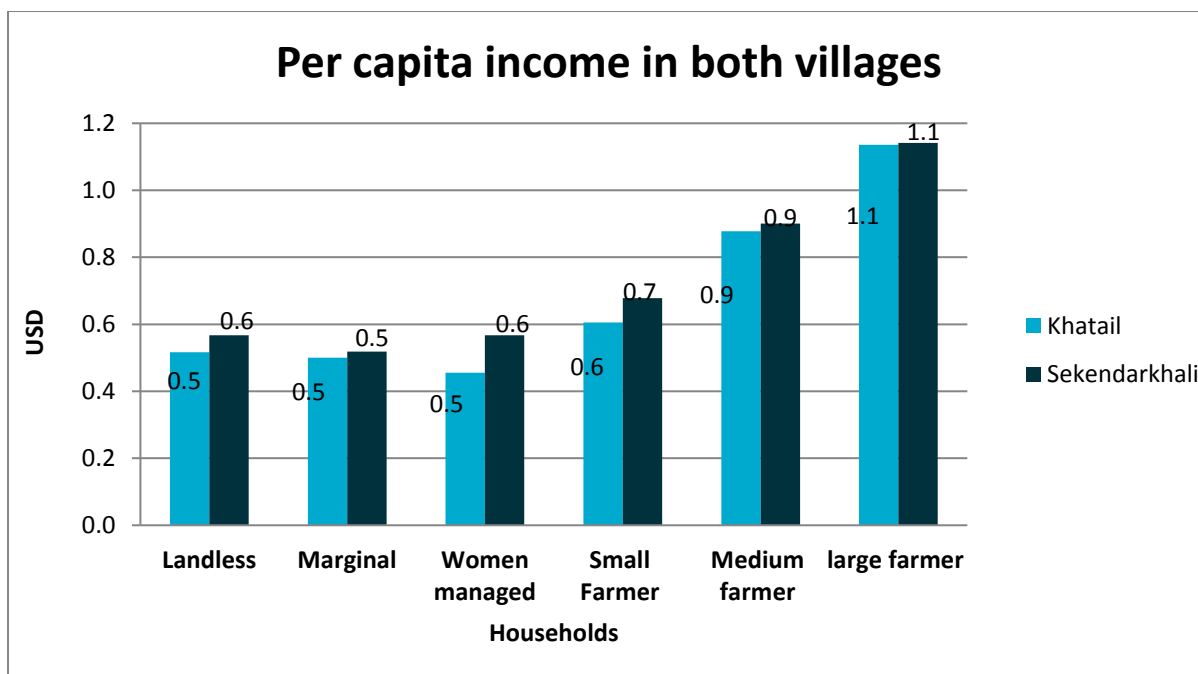


Figure 7: Per capita income in both villages

Figure 7 shows that the average per capita income per day of different households in both villages is not that high. The average per capita income of the large farmers is only over one US dollar. The average per capita income of other households is below one US dollar. Considering in the context the poverty line is above \$ 1.9 per head/day, only a few farmers of small, middle and large category have crossed the poverty line. In Khatail village only 10% of small farmers, 15% of middle farmers and 30% of large farmers live above the national poverty line of US\$ 1.9 per head/day. Like Khatail, only 10% of the middle farmers and 50% of the large farmers of Sekendarkhali village live above the poverty line. In both villages almost all households of landless, marginal and women managed category live below the poverty line (see Figure 8)

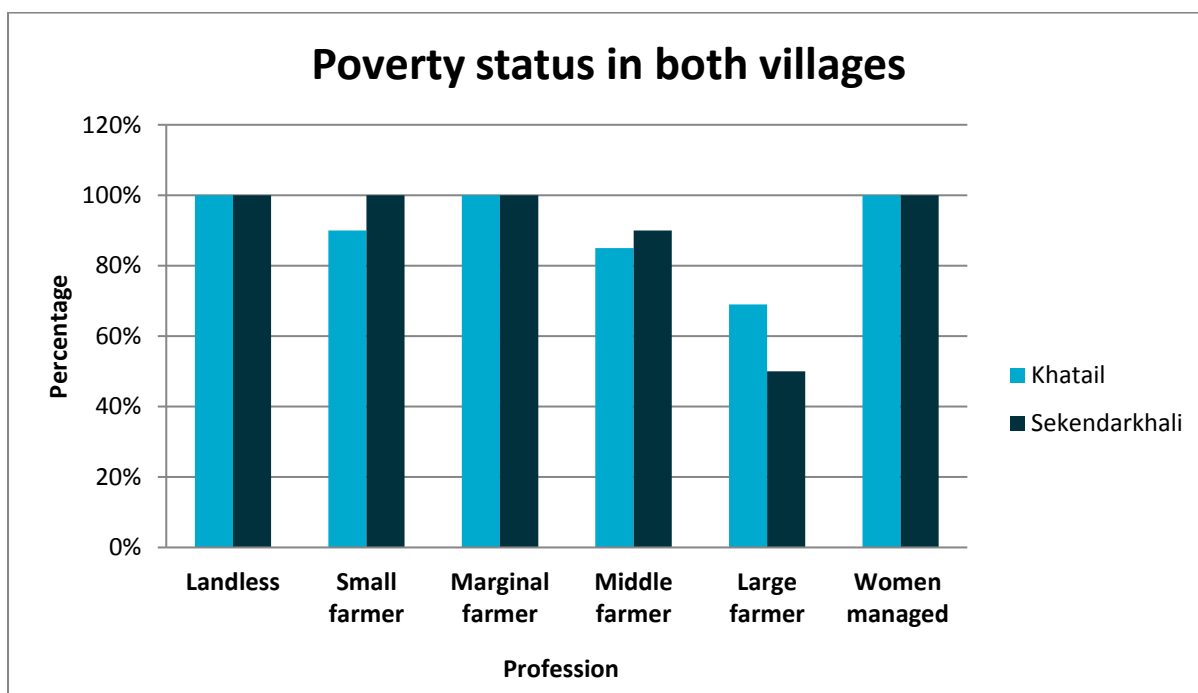


Figure 8: Poverty status of the households in both villages

Annual food security status in different household categories (where households are able to maintain their family through regular agriculture farming) is relatively better in Khatail village compared to Sekendarkhali (Figure 9). Food security of landless, marginal and women-managed households in both villages represented a concerning picture. Figure 9 also shows that from their regular livelihood activities, landless, marginal and women managed households category only four months are food secure in Sekendarkhali village. However, landless, women-managed and marginal households of Khatail village can ensure food for about seven, eight and nine months, respectively.

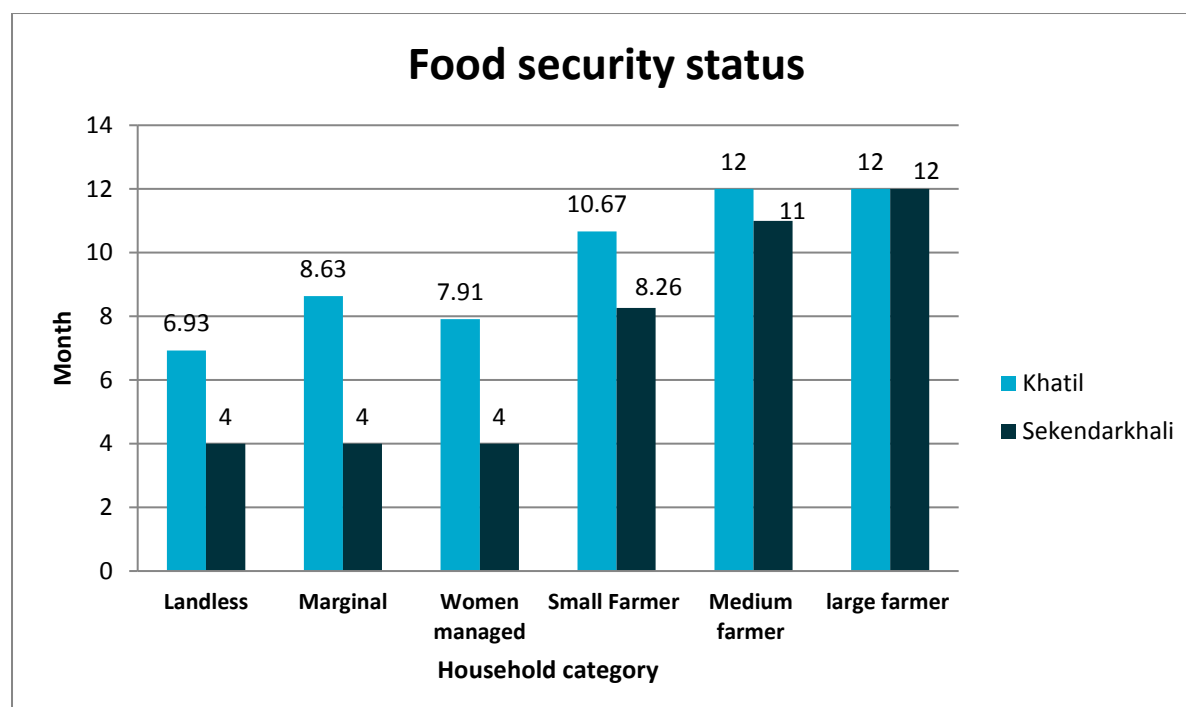


Figure 9: Food security status in both villages

Table 2 shows that land ownership of different households is comparatively better in Khatail village than Sekendarkhali. The average land ownership for landless, marginal and women managed household categories in both villages do not vary considerably. Households of small, medium and large categories in Khatail village relatively have higher areas of land for agriculture than Sekendarkhali.

Table 2: Land status (in hectare) in different household categories in both villages

HH typologies	Khatail			Sekendarkhali		
	Own land	Rent/lease	Total land	Own land	Rent/lease	Total land
Landless	0.00	0.31	0.31	0.00	0.39	0.39
Marginal	0.16-	0.20	0.37	0.11	0.35	0.45
Women-managed	0.11-	0.27	0.38	0.22	0.13	0.35
Small	0.57-	0.41	0.98	0.49	0.23	0.72
Medium	2.35	0.14	2.49	1.69	0.18	1.87
Large	5.80	0.00	5.80	3.64	0.00	3.64

SUMMARY AND CONCLUSION

Bangladesh is an agrarian society that provides employment for 45 percent of labour force. In general, rural livelihood mostly depends on land. However, land is unequally distributed and fragmented that lead

to smallholder agriculture domination. Small plots of land, lack of mechanization and limited access to extension advisory services make it difficult for smallholder to produce enough to feed themselves and their families. In addition, social and geographical disadvantages make their livelihoods more vulnerable particularly in the southern Bangladesh. Hence, villagers of Sekandarkhali from Amtali upazila and Khatail from Dacope upazila (southern Bangladesh) have sought alternative livelihood for their survival. Present study documents different household typology based on farm and non-farm categories through reviewing previous village level studies and field observation. Most of the village level studies were carried out in 1980s which may not be applicable now due to the significant change which have taken place in agriculture sector. The widely used classification of rural households is the Bangladesh Bureau of Statistics (BBS) which is based on farm and non-farm holdings. Therefore, this report re-designs household typologies in combination with the BBS approach and field observations. There are two broad classifications of the households: i) farm category; and ii) non-farm category. The farm category is mostly similar to BBS standard while non-farm category is classified based on field observation.

Farm household is classified into five categories similar to BBS. These are-i) **large farmer** (owned 7.5 acres or more, major income is generated from agriculture but may involve in job and business as secondary profession); ii) **medium farmer** (owned 2.50 to 7.49 acres of land, household income mainly depends on agriculture, a few of them are also involved in non-farm activities such as service and business); iii) **small farmer** (owned 0.50 to 2.49 acres of land, their major income comes from farming. They cultivate their own land by themselves and also rented/leased/mortgage in); iv) **marginal farmer** (owned 0.05 to 0.49 acre of land, cultivate their own land and rented/leased/mortgaged/shared in land. They mostly depend on farming however, sell labour during lean period); v) **Landless** (possess up to one half of an acre. They also classified into three different categories: Category-I have no homestead or cultivable land; Category-II who have a homestead but no cultivated area; and Category-III who have a homestead and cultivable land 0.001 to 0.04 acre). Additional category is **women managed farm**. The household may have own land or/ and rented in land but most of the household income come from farming activities. They involved in farming in inside or outside of the home to the family's land or wage labour by the women.

Non-farm category is classified into seven categories. Distinct feature of non-farm category from farm category is that more than 50 percent household income are generated through non-farm activities. It is noted that livestock and fish farming considered into non-farm category. i) **Livestock and poultry rearing** (household may involve other income generating activities but majority of the household income generates through livestock and poultry rearing); ii) **Fishermen** (majority of household income generated through fish farming including crab, white fish and shrimp); iii) **Wage labourer** (Wage labourer are those who sell their labour seasonally or year round to maintain their livelihood. They may sell their labour to farm and non-farm activities but above 50 percent of their household earning should come from wage labour). iv) **Petty business** (a person/household who is involved in selling and buying commodities and products at small scale can be considered under petty business); v) **Driver/motorcycle/easy-bike/motorized rickshaw** (if most of the household income generated through rickshaw/van pulling and riding motorcycle then the household consider under this category); vi) **Remittance receiving household** (if any household members live outside of residence and send money to the household that is above 50 percent of total household income consider under this category); vii) **Service-government/non-government** (if more than 50 percent of household earnings are generated through services/jobs then the household is considered in this category).

The identified household typology will help the policy planners to make appropriate development intervention that benefits marginalized group. Precisely, SIAGI project might find a way to have timely and appropriate intervention to a specific group of people that could extend the benefits of agricultural intensification and ensure food and nutritional security.

REFERENCES

- Arthur, W.B. and McNicoll, G. (1978). An Analytical Survey of Population and Development in Bangladesh. IIASA Professional Paper. IIASA, Laxenburg, Austria, PP-78-008. Available at: <http://pure.iiasa.ac.at/916/1/PP-78-008.pdf>
- Barkat, A., Shafique uz Z., Selim R. (2000). Distribution and Retention of Khas Land in Bangladesh, Human Development Research Centre (HDRC), available at: http://www.hdrc-bd.com/admin_panel/images/notice/1380013729.02.%20distribution%20and%20retention%20of%20khas%20land%20in%20bangladesh.pdf
- BBS, (2016). Yearbook of Agricultural Statistics, Bangladesh Bureau of Statistics, Ministry of Planning, Government of the People's Republic of Bangladesh.
- BER, (2017). Bangladesh Economic Review (Bengali), Ministry of Finance, Government of the People's Republic of Bangladesh.
- Bertocci, P. J. (1970). Elusive Village, Social Structure and Community Organization in Rural East Pakistan, Ph.D. Dissertation (Mimeo). U.S.A. Michigan state University.
- CARE, (2003). Land policy and administration in Bangladesh: a literature review, CARE rural livelihoods programme may, 2003. Available at: http://carebangladesh.org/publication/Publication_7013284.pdf
- Chowdhury, A. (1978). A Bangladesh Village: A Study of Social Stratifications Centre for Social Studies, Dhaka University.
- Herrera, A. (2016) Access to Khas land in Bangladesh: Discussion on the opportunities and challenges for landless people and recommendation for development practitioners, Available at: https://www.ethz.ch/content/dam/ethz/special-interest/gess/nadel-dam/documents/mas/mas-essays/MAS%20Cycle%202014%20-%202016/Essay_Aline%20Herrera.pdf
- Hossain, M. and A. Bayes (2009). Rural economy and livelihoods- insights from Bangladesh, AH development Publishing House, Dhaka, Bangladesh.
- Howes, M. (1981). Confessions of a Fieldworker: How I Stratified a Rural Population, IDS (Institute of Development Studies) Bulletin. Available at: <https://www.ids.ac.uk/files/dmfile/Howes12.4final.pdf>
- Makita, R. (2007). Livelihood diversification and landlessness in Rural Bangladesh, the university press limited.
- Sen, B. (2003). Drivers of Escape and Descent: Changing Household Fortunes in Rural Bangladesh, *World Development*, 31(3):513-534.
- Ullah, M (1996). Land, livelihood and change in rural Bangladesh, University Press Limited.
- Westergaard, K. (1983). Pauperization and rural women in Bangladesh, Bangladesh Academy for Rural Development, Kotbari, Comilla

Annex A: Characteristics of households and their interest in engagement

HH typologies	Brief Description	Level of interest to engage	Reasons of engagement	Present income level (annual)
Large	<ul style="list-style-type: none"> 7.50+ acres of agriculture land Major income from agriculture but service and business works as secondary profession Give rent/lease of land. 	Very low	Opportunity and increase income	Average 175,000 Min & max: Tk.100,000 – 350,000
Medium	<ul style="list-style-type: none"> Between 2.50 to 7.49 acres of agriculture land Major income depends on Agriculture a few of them on non-farming activities such as Service/business Practice agriculture farming and give rent and lease of land 	Low	Water management and giving rent/lease of land to the targeted HH (Livestock management-Khatail)	Average Tk 122,000 min & max: : Tk. 60,000 -400,000
Small	<ul style="list-style-type: none"> Between 0.5 to 2.49 acres of agriculture land Major income comes from farming Practice agriculture farming of own land, in addition take rent/lease/mortgage/share of land Very few of them involve with non-farming activities-wood-carpeting/meson/patty business/driving/service/remittance 	High	Increase food security and nutrition of HH - Diversified crops in Robi/Aman - Employment	Average Tk. 88,000 Min & Max: Tk. 24,000 -350,000
Landless	<ul style="list-style-type: none"> Although they are landless , major income depends on farming (share of cropping) and non-economic activities such as wage labour/driving/patty business /service/wood carpeting/boatman/etc Practice agriculture farming or experience on agriculture by rent/lease/mortgage/share of land 	High	- Increase food security and nutrition of HH - Diversified crops /horticulture round the year Employment -Opportunity and increase income	Average about Tk. 62,000 Min:12,000 Max:200,000
Marginal	<ul style="list-style-type: none"> Between 0.05 to 0.49 acres of agriculture land Practice agriculture farming or experience on agriculture by rent/lease/mortgage/share of land Major income of the households depends on farming or non-economic activities (such as wage labour/driving/patty 	High		Average about Tk. 63,000 Min: 24,000 Max: 200,000

HH typologies	Brief Description	Level of interest to engage	Reasons of engagement	Present income level (annual)
	business etc) give wage labour during lean period			
Women managed HH	<ul style="list-style-type: none"> Have specific land of the household (marginal/landless/small category of agriculture land) or rent/lease/mortgage or share cropper Practice or experience on agriculture by the women as a head or in absence of head of the households 	High		Average: Tk. 62,500 Min:30,000 Max: 200,000

Annex B: Basic household characteristics of Khatail village of Dacope sub-district (polder 31)

Characterization	Khatail village				
	Socio-economic groups				
	Large	Medium	Small	Marginal	Landless
Land status	<ul style="list-style-type: none"> - have 7.5 plus acres land for every single household and only 13 households are available in this area. -Inheritance property of their forefathers made them Resourceful -Decreased their land from before - Affluent and dominated farmers of the village - Generally give lease/rent/mortgage of their land to lower middle class and poor - Almost everyone cultivates only Aman crops except one or two plots for Robi (cultivate -Sesame, lentils and Sunflower are the common verities during Rabi season) 	<ul style="list-style-type: none"> - Have Agricultural land between 2.5-7.49 acres ,and there have approximately 26 households -Some of the farmers have become middle and lower middle class farmers due to separation from family from their parents. -Have increased agriculture land for buying land from rich farmers 	<ul style="list-style-type: none"> - Have 0.5- 2.49 acres land are a lower middle types family and there have almost 106 households -Take lease/rent and mortgage from rich and middle class farmers -During 1960 to 1990 they were day labour and worked under rich farmer. 	<ul style="list-style-type: none"> - About 34 households have less than 0.5 acre land and cannot ensure their food security properly. Generally involved with day labour due to shortage of land -Mainly marginal farmers are cultivating crops by renting or sharing land from rich & middle class farmers. 	<ul style="list-style-type: none"> -There have 10-15 % people whose have no own agricultural land for farming and housing. There are about 166 households - some of them built houses on relatives' land or common property of government -Migrated from different vulnerable sub-districts/Unions and settled in this village

Characterization	Khatail village				
	Socio-economic groups				
	Large	Medium	Small	Marginal	Landless
	<p>-Decreased amount of land then before due to separation of family and selling of land</p> <p>-Decreased tendency to cultivate land by family members due to profession diversification from farming to service and prestige/ social status</p>				
Profession	<p>- Engage with agriculture, service and business, fish farming in pond (integrated farming fish-vegetable)</p> <p>-Engage indirectly with agricultural activities (Some of them) whereas the main-source of income is business.</p> <p>-Cultivate some portion of lands and rest of lands give lease/mortgage/rent to the poor/landless and middle class farmers due to farming cost, labour cost and sometimes laziness</p>	<p>-Engage with agriculture, service, business, fish farming (integrated farming fish-vegetable)</p> <p>-Directly involve with agricultural Activities as a profession.</p> <p>-Also take lease/rent/mortgage from rich farmers and some of them gie lease/rent/mortgage to poor/landless farmers</p>	<p>-Directly or indirectly depends on agricultural activities.</p> <p>- Those peoples haven't enough agricultural land who take lease land from other farmers (rich/middle).</p> <p>- In addition work as a day-labour, van driver, easy bike, motorcycle drivers.</p> <p>-Women also assist their husbands/parents</p>	<p>-Work as a day labour (both agri. And non agri.), rickshaw van/motorized van/motorcycle drivers/shrimp fry collector/crab fattener.</p> <p>-Also take lease/rent of the land for agriculture activities.</p> <p>-Unable to meet the demand of the annul food security of the family.</p> <p>-migrate seasonally for work (Barishal, Khulna</p>	<p>Work as a day labour (both agri. and non agri.), rickshaw van /motorized van /motorcycle drivers.</p> <p>-Also take lease/rent of the land for agriculture activities.</p> <p>-Unable to meet out the demand of the annul food security of the family.</p> <p>-migrate seasonally for work (Barishal, Khulna</p>

Characterization	Khatail village				
	Socio-economic groups				
	Large	Medium	Small	Marginal	Landless
	<p>-engaged family members with business (big and middle types of business)</p> <p>-Involve them in business and services due to social prestige</p>	<p>-Involve with business (some of them particularly children)</p> <p>-involved women with household chores, and domestic level agriculture work (boiling paddy, drying paddy, taking care of livestock and poultry).</p>	<p>in agriculture both in the field and at home. Work as day labour also. Some of them have good quality vegetable garden.</p>	<p>and Faridpur, Gopalganj) , some in Dhaka (wage labour/garments, hotel/shop)</p> <p>-Women also work as a day-labour/agriculture labour of these families</p> <p>-Some of the women involved agriculture activities in absence of husbands/fathers</p> <p>-some women also worked as crab fattener/poultry/duck/ livestock rearing</p>	<p>and Faridpur, Gopalganj), some in Dhaka (wage labour/garments, hotel/shop)</p> <p>-Women also work as a day-labour/agriculture labour of these families</p> <p>-Some of the women involved agriculture activities in absence of husbands/fathers</p>
Trend of profession	<p>-During 1960 almost every family engaged with agricultural activities</p> <p>- In 1960 there was no embankment, farmers prepared 8 months temporary dyke with the help of contract labours to cultivate traditional T-Aman, but production was very low about 6-7 mounds per Acre due to salinity, flood and tidal surge.</p>	<p>-Depended on Agriculture from 1960s-80s</p> <p>- After 1980s some of the people shifted their profession towards business.</p> <p>- From 1980s-2000s involved with shrimp farming and gave rent/lease of rent to outsiders for shrimp</p>	<p>-During 1960- 1980 almost every family depended on agriculture and open fishing and day labour</p> <p>- After 1990 some of the household engaged with wage labour at different districts.</p>	<p>- Recently increased agricultural labour due to HYV (High Yielding Variety) and higher production of agriculture</p> <p>- Bricks field labour and rental vehicles driving is also remarkable profession at this group.</p>	<p>-During 1960 to till now almost every household directly or indirectly depends on physical labour.</p> <p>- Most of the people in this group are Agricultural labour.</p> <p>-Bricks field labour and garments worker rate also remarkable at present situation.</p> <p>-They have to migrate another region for work</p>

Characterization	Khatail village				
	Socio-economic groups				
	Large	Medium	Small	Marginal	Landless
	<ul style="list-style-type: none"> -Open fishing in 1960-70s - After independence (1970s) sifted their occupation towards small business -During 1980 some of the people joined as service holder. - From 1980s-2000s involved with shrimp farming and gave rent/lease of rent to outsiders for shrimp - Recently Business and service is the main occupation (Major earning come from business for some households) - Some of family members (children/relatives) have settled in town of Khulna, Chalna due to service and business 	<ul style="list-style-type: none"> - From 1990s few numbers of people engaged with service profession. -Recently after Aila (2009) involved with integrated farming (fish-vegetable) 			<p>after yielding Aman crops at their local area.</p> <p>-</p> <p>-Generally both men and women involved with different works for livelihood</p>

Characterization	Khatail village				
	Socio-economic groups				
	Large	Medium	Small	Marginal	Landless
	-Recently after Aila (2009) involved with integrated farming (fish-vegetable)				
Religions	5 households are Muslim and rest 8 households are Hindu	45% Hindu and 55% Muslim	45% Hindu and 55% Muslim	45% Hindu and 55% Muslim	45% Hindu and 55% Muslim
Basic needs- /Human 1. -Education status & skill training – where children goes for education 2. -Housing condition and investment in house construction /construction materials 3. -Food security 4. -Festival preparation 5. -Clothes 6. -Medical facilities enjoyment 7. food habits 8. drinking water and sanitation facilities	1. Have capacity to educate their children graduation and masters as well as job oriented courses, use city school and college for higher education 2. Some of their son/daughter migrate to Dhaka and Khulna for higher study 3. Have good house constructed in bricks and CI (corrugated iron) sheet. Bricks and concrete are the main materials of their building. Some of them have semi-Pacca types building. Bricks wall and tin shade is the main function of their building. Have annual food security for family. Have capacity to borrow	1. Able to educate their children up to high secondary and graduation education, but most of the women are illiterate. Able to educate their children in job oriented courses. 2. Use bricks and CI sheet for building materials (for half building construction). Unable to construct new house but capable to repair house. 3. Capable of meeting the demand of the 12 months food/annual food security of the family.	1. Able to educate their children up to school certificate, some of the families able for job oriented courses. 2. Use CI sheet, wood, bamboo for housing materials. 3. Capable of ensuring 8-10-month food security for family consumption rest of the time they depend on wage labour/motorized van/rickshaw van/motorcycle driving. 4. Unable to feed many people, but sometimes arrange food and others materials	1. Most of them are uneducated but recently their children are going to school because of government's free education system and school feeding. Unable to educate their children. 2. Housing condition is vulnerable, CI sheet and mud wall are the main material. Unable to construct new house and unable to repair house 3. Only 3-5 month they are capable of secure food for their family. Rest of the period head of the households either migrate another region as agricultural labour or	1. All of them are uneducated but recently their children are going to school but not satisfactory level after primary education most of the children are being drop out. Unable to educate their children 2. Housing condition is not so good. Mud and CI sheet is the main materials. Unable to construct and repair houses 3. During amon crops yielding they take paddy exchange for labour wage from the land lords. During Aman season to ensure their few months' food security (3-5 months). Insecurity of the regular

Characterization	Khatail village				
	Socio-economic groups				
	Large	Medium	Small	Marginal	Landless
	<p>costly cloth for each family member and buy their cloth from local market as well as city market</p> <p>4. All are the villagers are invited during festival. Have capacity to feed 500 to 700 peoples during festival.</p> <p>5. Enjoy better medical from Chalna Health Complex. In emergency case for better medical facilities they go to Khulna (40 km far away).</p> <p>6. 7. Capable to install deep tube-well and repair deep tube-well/have own tube-well and Rain Water harvesting tank. Capable to use hygienic toilet and good sanitation facilities. Use sealed and ring slab toilets</p>	<p>4. Capable to arrange festival foods for 200-300 guests for lunch/Dinner.</p> <p>5. Have capacity to borrow for moderate cloth for each family member and buy their cloth from local market</p> <p>6. Capable to visit Chalna Health Complex for medical service</p> <p>7. Unable to install tube-well or Rain water harvesting/ but some of the families are capable. Shared community tube well for drinking water</p>	<p>festival (marriage) with credit</p> <p>5. Able to buy essential clothes</p> <p>6. Capable to visit Chalna Health Complex for medical service, but unable to bear higher medical cost</p> <p>5. Unable to install tube-well, use community tube-well, able to buy ring slab toilet. (some of the families install rain water harvesting with the help NGO)</p> <p>6. share community tube well for drinking water</p> <p>-During dry season pond water is the main drinking water source</p>	<p>bricks labour at local bricks field.</p> <p>4. Unable to bear festival cost</p> <p>5. Unable to buy essential clothes.</p> <p>6. Capable to visit Chalna Health Complex for medical service, but unable to bear higher medical cost</p> <p>7. shared community tube well is the main drinking water source for them</p> <p>-During dry season pond water is the main drinking water source</p>	<p>food for 5-7 months). Sometimes, meat insufficient food for the family.</p> <p>4. Unable to feed the people during festival</p> <p>-5. Unable to buy essential clothes</p> <p>6. Unable to bear medical cost, visit community clinic, sometimes visit Government local hospitals</p> <p>7. shared community tube well for drinking water</p> <p>-During dry season pond water is the main drinking water source</p>

Characterization	Khatail village				
	Socio-economic groups				
	Large	Medium	Small	Marginal	Landless
Social aspects					
1. Agriculture related facilities 2. Access to micro-credit/NGO/UP/ Government facilities/Banks/Insurance 3. Access to Social safety net (SSN) (VGD, VGF, old allowance, freedom fighter allowance, widow allowance, school stipend, school feeding, agriculture (fertilizer, loan, oil, seed, instruments, bank account) 4. Members of different institutions/schools/mosque/committee/WMG/politics	1. Able to buy agriculture materials (power tiller, spray machine and irrigation pump). 2. Have access to Bank and bank account, enjoy bank loan. Capable to meet the demand of Bank. NGOs loan for agriculture purposes because of land certificate -Sometimes get seed and fertilizer from NGOs (BRAC) 3. Do not enjoy SSN facilities due to social prestige 4. Dominating School and college committee. Also have access to mosque/Temple committee. Some of them engaged as a political leader -5. Capable to move in town and city for higher education, business and medical services - Have easily access to take loan from bank by handling	1. Able to buy agriculture materials (power tiller, spray machine and irrigation pump. Most of the family are in this group get agricultural training facilities from NGOs. Sometimes they enjoyed some agricultural facilities like seed, fertilizer and irrigation from different NGOs. They can easily take loan from bank by exchange of land certificate .Most of the people in this group are engaged with NGOs committee 3. Majority of them have no access to SSN, but have access to old allowance, children enjoy stipend and school feeding 4. Have access to school and college committee. Dominating	1. Unable to buy agriculture tools, almost all of them use spray machine. Most of the family in this group get agricultural training facilities from NGOs. Sometimes they enjoyed some agricultural facilities like seed, fertilizer and irrigation from different NGOs. 2. Do not enjoy bank loan, but enjoy NGOs loan for agriculture and other purposes (such as business, home making). 3. Have access to UP and government body but do not get proper support from them. 4. Have access to SSN program	1. Do not get any agricultural support from government 2. Some of them are member of different NGO committee and they have access to micro credit 3. They have access to social safety net (SSN) (VGD, VGF, old allowance, freedom fighter allowance, widow allowance, school stipend 4. Have access to mosque committee and limited access to school, UP and Government committee, but good access to NGOs groups particularly for members 5. Almost everyone migrate seasonally for wage labour and garments work	1. Do not enjoy agricultural support because of no land 2. Have access to micro credit from different NGOs 3 Have access to local market to sale homemade products and agriculture products - They have access to social safety net (SSN) (VGD, VGF, old allowance, freedom fighter allowance, widow allowance, school stipend 4. Have access to mosque but not committee members of mosque, school 5. Most of the people in this group migrate seasonally to Faridpur, Khulna and Dhaka for wage labour, garments

Characterization	Khatail village				
	Socio-economic groups				
	Large	Medium	Small	Marginal	Landless
<p>5. Migration and reason of migration</p> <p>6. access to market</p>	<p>deed of the agricultural land to the bank.</p> <p>6. Have easy access to local, town and city market</p>	<p>mosque/Temple committee</p> <p>5. Capable to move in town and city for higher education, business and medical services</p> <p>- Migrate for business, education and sometimes permanent settle to the town</p> <p>6. Have easy access to local markets to sell homestead vegetable, fruits, eggs, poultry products</p>	<p>5. Migration for wage labour and garments work</p> <p>6. Have easy access to local market and sell homestead vegetable, fruits, eggs, poultry products</p> <p>Women also have mobility to local markets</p>	<p>6. Women's mobility to market is visible</p>	<p>work and driving rickshaw.</p> <p>5. Have access to local market to sell homemade products and agriculture products</p> <p>Women's mobility to market is visible</p>
<p>Financial</p> <p>1. Agriculture inputs (power tiller, irrigation, spray mission, trucktor, others)</p> <p>2. Micro finance access (MFI) – Bank/NGO/gov ernment</p>	<p>Annual earning is Tk. 165000 TK to Tk. 1000000 approximately. Have savings in Bank. But major earning comes from business and service</p> <p>- Most of them have power tiller, pump and spray mission for cultivation.</p>	<p>-Some of them have power tiller and power pump. Most of them have spray machine.</p> <p>-everyone have micro finance access.</p> <p>- Use day labour for agricultural activities or homestead work exchange male and</p>	<p>1. cultivate land by rented power tiller</p> <p>2. Most of them have spray machine but very few of them have power pump</p> <p>3. Have access to MIF from NGOs, Many of them have debt from</p>	<p>1. cultivate land by rented power tiller</p> <p>-Some of them have spray machine but none have power pump</p> <p>2. Able to be members of NGO and MFI for agriculture, small</p>	<p>1. Unable to use agriculture inputs</p> <p>2. Some have them have access to micro finance scheme</p> <p>3. Able to give labour to others land and get daily wages male Tk. 350 and female Tk. 250 daily. In</p>

Characterization	Khatail village				
	Socio-economic groups				
	Large	Medium	Small	Marginal	Landless
3. Debt status 4. wages	<p>- Capable to take loan from bank and NGOs through land certificate</p> <p>- Use day labour for agricultural activities or homestead work exchange male and female labour daily Tk 350 and 250 respectively.</p>	<p>female labour daily Tk. 350 and 250 respectively.</p>	<p>large farmers and NGOs</p> <p>4. Work in own land and work as day labours on others agriculture field.</p>	<p>business and house construction or repairing</p> <p>3. Able to give labour to others land and get daily wages: male Tk. 350-400 and female Tk. 250 daily. Go outside of village for day labour during lean period</p>	<p>lean period they go outside of village for day labour</p>
Natural aspects 1. Agriculture land (own, leased, share, rented, mortgage) land uses for Amon, Rabi, Aush 2. Homestead /Bhita status 3. trees/forest 4. drinking water 5. Irrigation facilities 6. cooking material uses	<p>1. Major land are one crop land for Aman, but high land is also usable for Rabi crops. Have own land and lease/rent agriculture land to other farmers -they give lease land to the poor famer and take 50 % production without spending money.</p> <p>2. Have enough land for housing, fruit cultivation and vegetation at homestead area</p> <p>- Decreasing rich farmers due to high cost of agriculture farming inputs and labour, but return is minimum.</p>	<p>1. One crop land (maximum), but cultivate Rabi crops (vegetables-for family consumption) in in homestead area or high land</p> <p>2. Major land are one crop land for Aman, but high land is also usable for Rabi crops. Have own land and cultivate themselves, in addition they take lease from rich farmers, some of them also lease or rent to poor farmers</p> <p>Cultivate BR-23, BR-41, BR-49 as main Aman varieties</p> <p>3. Most of the cases their homestead is surrounded</p>	<p>1. Have no enough land and take lease/rent from rich and middle class farmers.</p> <p>-basically everyone cultivate Aman crops at their land</p> <p>_Few are cultivate Rabi crops during Rabi season</p> <p>2. Recently Most of them here get Water Tank from an organization named AD-DIN for reserving drinking water during.</p> <p>3. Most of the time irrigation depends on natural rain. During dry</p>	<p>1. Almost every marginal farmer cultivates their own land besides taking land lease from rich farmer and gave 50 % production share to the rich farmer.</p> <p>- basically everyone cultivate Aman crops at their land</p> <p>_Few are cultivate Rabi crops during Rabi season</p> <p>2. For drinking water they have to depends on community tube well</p> <p>-Some of the cases they have to go 5-7km far from their household for collecting drinking water</p>	<p>1. No agriculture land</p> <p>2. Some families have own homestead some of them haven't</p> <p>-Depends on wage labour/rickshaw van driving.</p> <p>3. Collect drinking water from community tube-well. No access to rain water harvesting</p> <p>- Some of the cases they have to go by feet 6-7 Km far for household for collecting drinking water</p> <p>- During dry season pond water is the main drinking water source</p>

Characterization	Khatail village				
	Socio-economic groups				
	Large	Medium	Small	Marginal	Landless
	<p>3. Community tube well is the main drinking water source for them.</p> <p>-At dry season some of them bring water from Chalna bazaar with cost.</p> <p>Capable to buy tube-well and irrigation pump.</p> <p>4. Rent power tiller and also give rent of power pump for irrigation in dry season</p> <p>5. use cow dung, wood and straw for cooking</p>	<p>by big trees and various fruit trees.</p> <p>5. Most of the time irrigation depends on natural rain. During dry season some of them used power pump</p> <p>6. use cow dung, wood and straw for cooking</p>	<p>season some of them used power pump</p> <p>4. use cow dung, wood and straw for cooking</p>	<p>- During dry season pond water is the main drinking water source</p> <p>- some of them use to buy water jar from CHALNA municipality</p> <p>3. use cow dung, wood and straw for cooking</p>	<p>4. use cow dung, wood and straw for cooking</p>
<p>Physical</p> <p>1. Livestock (cattle, goat/buffalos/ hen/ducks)</p> <p>2. Electricity/solar facilities</p> <p>3. Motorcycle/ transports/ availability</p>	<p>1. Rear cows (two/three or more) by the domestic labour for mitigating demand of milk.</p> <p>2. Use solar connectivity</p> <p>3. Transportation facilities is good in this region and some of them have motorcycle.</p>	<p>1. Have livestock, rear poultry (hen & ducks) at homestead area</p> <p>2. Solar system is only option for electricity facilities no electricity connection in this village.</p> <p>3. Have motorcycle for some of them.</p>	<p>1. have domestic animals where goat, cattle and ducks (Received livestock, poultry, goat assistance from NGOs)</p> <p>2. Have solar system for electricity facilities</p> <p>3. Have own easy bike/motorized rickshaw van/rented motor cycle for earning.</p>	<p>1. Have domestic animals where goat, cattle and ducks. (Received livestock, poultry, goat assistance from NGOs)</p> <p>2. Have solar system of some families</p> <p>3. Have own easy bike/motorized rickshaw van/rented motor cycle for earning.</p>	<p>1. Unable to buy livestock, rear poultry (hens & ducks) at homestead area due to not owning land. But many of them received livestock, poultry, goat assistance from NGOs)</p> <p>2. Unable to use solar or electricity</p> <p>3. No own transportation facilities, but involve the family members in driving of</p>

Characterization	Khatail village				
	Socio-economic groups				
	Large	Medium	Small	Marginal	Landless
					motor cycle, easy bike for earning
Climate/environmental/disaster 1. Affected by disaster/environment 2. Assistance pre & post disaster from (NGOs/Government/Relatives/neighbours)	Some of them were affected during Aila at 2009. -Have capacity to assist emergency response to the helpless people during disaster but some of them did some didn't. -UNO office and UP response first after disaster - Didn't get any kinds of help from NGOs and other organization.	-Almost every one affected during Aila 2009 - From UNO office and UP they got first response after disaster -Everybody took shelter at cyclone center during Aila - didn't get sufficient support from the government Non-government organization	-Everyone affected during Aila - From UNO office and UP they got first response after disaster --Everybody took shelter at cyclone center during Aila -Received support from different NGOs but was not sufficient (as per comments of NGD participants) -Worked both men and women as day labour in road during rehabilitation activities of disaster (Received livestock, poultry, goat assistance from NGOs)	-Everyone affected during SIDR - From UNO office and UP they got first response after disaster --Everybody took shelter at cyclone center during Aila -Received support from different NGOs but was not sufficient (as per comments of NGD participants) -Worked both men and women as day labour in road during rehabilitation activities of disaster (Received livestock, poultry, goat assistance from NGOs)	-Everyone affected during AILA - From UNO office and UP they got first response after disaster -Everybody took shelter at cyclone center during Aila -Received support from different NGOs but was not sufficient (as per comments of NGD participants) (Received livestock, poultry, goat assistance from NGOs)

Annex C: Basic Characteristics of Sekandarkhali village, Amtali sub-district (polder 43/1A)

Characterization	Sekandarkhali village				
	Socio-economic groups				
	Large	Medium	Small	Marginal	Landless
Land status	<ul style="list-style-type: none"> -Have 7.5 plus acre of land of every single HH and only 2 HHs are available in the village -Resourceful due to inheritance property of their forefathers - Affluent and dominated farmers of the village - Generally they give lease/rent/mortgage of their land to lower middle class and poor - Almost all are one crop land except one or two plots for Rabi (cultivate chili, sweet potato and ground nut) -Decreased amount of land than before due to 	<ul style="list-style-type: none"> -Have cultivable land between 2.5 to 7.49 Acre and available HHs about 20 - In past they were small farmers and some were day labour. They worked under Rich farmers as a contract labour in 1960 to 1980s. -Some of the farmers have become middle and lower middle class farmers due to separation of family from their parents. -Have increased agriculture land for buying land from rich farmers 	<ul style="list-style-type: none"> -Almost 80 households of the village who have from 0.5 to 2.49 Acre of agriculture land - In 1960 to 80s they are poor and landless or day labour. They worked under Rich family as day labour or contract labour. -Increased their land due to buying land from rich farmers -Take lease/rent and mortgage from rich and middle class farmers 	<ul style="list-style-type: none"> Almost 49 household who have less than 0.49 acre of agriculture land. Some of them no piece of land for housing, build house to relative's land or -Generally they are involved with day labour due to shortage of land 	<ul style="list-style-type: none"> About 141 household who have no agriculture land and many of them have no land for housing. Build house on relatives' land or common property or government settlement

Characterization	Sekandarkhali village				
	Socio-economic groups				
	Large	Medium	Small	Marginal	Landless
	<p>separation of family and selling of land</p> <p>-Tendency to cultivate land by family members decreased due to prestige/social status</p>				
Profession	<p>-At present indirectly engaged with agricultural activates.</p> <p>-Lease/mortgage/rent land to the poor and middle and marginal farmers.</p> <p>-engaged with business and service from 1980s.</p> <p>- Engage their children & family members with business (big and middle types of business) and services because of social prestige.</p> <p>- Engage women with service (such as teaching in primary</p>	<p>-Actively involved with agriculture farming, but children and family members involved with farming and non-farming activities including business (small and medium type of business in kalapara) and service</p> <p>- Family members involved with commercial fish farming</p> <p>-Involve women with household chores</p>	<p>-Families involved with agriculture farming and some of them worked as an agricultural day labour</p> <p>-Children also involved with small business, driving of motorized rickshaw, easy bike, motorcycle etc</p> <p>- Some of the children go to Dhaka worked as Garment's worker and some go to Barisal, Patuakhali, Kalapara and Amtali for day labours or working in different shops and hotels</p> <p>- Some of the household members seasonally migrate for works</p>	<p>- Major income earning comes from day labour</p> <p>-Seasonally migrate to Dhaka, Barishal and Patuakhali to engage with Industrial labour.</p> <p>-At Aman season they worked at their land</p> <p>-At lean period (Rabi season) they worked in brick field, sand extraction, and construction works.</p> <p>- Migrate young women to Dhaka to work in garment's factory.</p>	<p>- Day labour is the main occupation.</p> <p>-Seasonal migrate to Barishal, Patuakhali and Dhaka</p> <p>--At aman season they worked as an agricultural day labour/Monthly contract. And rest of the time they shifted their profession to , Bricks field work, sand extraction etc</p> <p>- migrate young women to Dhaka and Barisal for working as garment's workers or home maids</p>

Characterization	Sekandarkhali village				
	Socio-economic groups				
	Large	Medium	Small	Marginal	Landless
	or secondary schools) and household chores.		- Women involved with household chores, but a few of them involved in day labours		
Trend of profession(1960 to till to date)	<p>- In 1960 there was no embankment, farmers prepared 8 months temporary dyke with the help of contract labours to cultivate traditional T-Aman, but production was very low about 6-7 maunds per acre due to salinity, flood and tidal surge.</p> <p>-Open fishing in 1960-70s</p> <p>-Farming was the main profession in 1960, but business and service started from 1980s</p> <p>-During 1960 most of the villagers gave labour at their agricultural land but now a day's Rich households are given lease/rent there lands to small and poor farmers</p>	<p>-In 1960s they households worked in dyke preparation</p> <p>-During 1960 -1970 they worked as a day labour at rich families and passed their life with poverty. However, after construction of embankment production of agriculture has been increased</p> <p>- They started to lease/rent/share farming from rich farmers from early 80s. Moreover, when their children started work in non-farming activities (business).</p> <p>- In 1960-70s the families' main profession were day labour or contract labour</p> <p>- After starting HYV in 2000s crops production increased and</p>	<p>- During 1960- Worked at rich farmer as day labour or monthly contract basis. Every month they took 6 maund rice (1 maund=40 kg) and a cloth. At that time they had no any agriculture land to cultivate.</p> <p>- From 1980 they were starting to improve their economic condition through agricultural activities</p> <p>- Since 2000 to till today they are cultivating own land in addition they also taking lease/rent/mortgage from rich and middle farmers</p> <p>- Some of them also engaged with small business in Kalapara of Patuakhali and Bandra bazar</p>	<p>- During 1960- Worked at rich farmer as day labour or monthly contract basis. Every month they took 6 maund rice (1 maund=40 kg) and a cloth. At that time they had no any agriculture land to cultivate.</p> <p>- Since 1990s they started to migrate another region for working when road communication system developed (Kuakata- Amtali Road)</p> <p>-Since 1990s young male children started work of motorcycle, van or rickshaw driving</p> <p>-Some of the families started small shops in Bandra Bazar of the village</p>	<p>- During 1960- Worked at rich farmer as day labour or monthly contract basis. Every month they took 6 maund rice (1 maund=40 kg) and a cloth. At that time they had no any agriculture land to cultivate.</p> <p>- Since 1990s Young children also started migration to Dhaka, Barisal for works such as day labour, garments labour, industrial labour.</p> <p>-Generally both men and women involved with different works for livelihood</p>

Characterization	Sekandarkhali village				
	Socio-economic groups				
	Large	Medium	Small	Marginal	Landless
	<p>-1980- starting shifting from agriculture to business and services</p> <p>- Some of family members (children/relatives) have settled at town of Dhaka, Barguna, Patuakhali due to service and business</p>	<p>they started to buy land and lease land.</p> <p>-Their children started different types of business in Kalapara and a few of them involved in service since 1990s/2000s</p> <p>-Families are very conservative, generally parents do not like that women work outside of the house.</p>	-	-Generally both men and women involved with different works for livelihood	
Religions	All of them are Muslim	All of them are Muslim	Almost all of them are Muslim	Almost all of them are Muslim	Almost all of them are Muslim
<p>Basic needs-/Human</p> <p>9. -Education status & skill training –where children goes for education</p> <p>10. -Housing condition and investment in house construction /construction materials</p> <p>11. -Food security</p>	<p>1. Able to educate their children - degree graduation and masters as well as job oriented courses, use city school and college for higher education</p> <p>2. Use good house made by bricks, CI sheet</p> <p>able to by housing materials and able to repair old house</p>	<p>1. Able to educate their children up to high secondary and graduation education, but most of the women are illiterate. Able to educate their children in job oriented courses. At early stage prefer religious education for children</p> <p>2. Housing condition is moderate but vulnerable. It's constructed by tin wall and also tin shade. Able to construct new house and able to repair house</p>	<p>1. Able to educate their children up to school certificate, some of the families able to provide job oriented courses. At early stage prefer religious education for children</p> <p>2. Housing condition is poor. Prepared by mud and CI sheet.</p> <p>3. Able to meet the food needs of the family. Able to</p>	<p>1. Most of them are illiterate but recently their children are going to school because of government's free education system and school feeding. Unable to educate their children.</p> <p>2. Housing condition is not so good. Use bamboo, mud and CI sheets for housing materials. Unable to</p>	<p>1. Most of them are illiterate but recently their children are going to school but not satisfactory level after primary education most of the children are being drop out. Unable to educate their children</p> <p>2. Housing condition is not so good. Mud and CI sheet is the main materials for their housing. Unable to</p>

Characterization	Sekandarkhali village				
	Socio-economic groups				
	Large	Medium	Small	Marginal	Landless
12. -Festival preparation 13. -Clothes 14. -Medical facilities enjoyment 15. drinking water and sanitation facilities	3. Have sufficient food for round the year. Able to buy two pair of clothes for each member of the family in each year. 4. During festival they invited all the villagers for lunch /Dinner. Able to feed 500 to 1000 people during festival (marriage) 5. Able to buy two pair of clothes each year and some of their children use modern dress in the occasions (Eid), Buy their clothes from local markets as well as city market 6. Able to visit local doctors and hospital sometimes they use city hospital and clinic (Barisal, Dhaka, Patuakhali) 7. Capable to install deep tube-well and repair deep tube-well, Capable to use hygienic toilet and good	3. Able to meet the food needs of the family. Able to take three meals a day and buy two pairs of clothing each year for the family 4. Able to feed about 300-500 during festival 5. Able to buy moderate type of clothes and buy clothes from local markets 6. Able to visit local doctors and hospital 7. Share tube-well/community tube-well, but some of them have capability to install tube-well -Capable to use hygienic toilet -Use ring slab for toilet	manage three meals a day for 6-8 months from Aman crops. Rest of the months they depend on physical labour or income of small business. (Sometimes, in lean period find difficulties to manage three meals of food daily. -After they have consumed their reserve crops they have to move another region for labour. 4. Unable to feed many people, but sometimes arrange food and others materials festival (marriage) with credit 5. Able to buy essential clothes 6. Able to visit local hospital and doctors, sometimes visit community clinic	construct new house and unable to repair house 3. Able to meet the food needs, but unable to meet three days meal daily, unable to prepare festival food - Rest of the time they have to depend on physical labour 4. Unable to feed the people during festival 5. Unable to buy essential clothes, sometimes depends on gifts during festival 6. Unable to bear medical cost, visit community clinic, sometimes local government hospital 5. Unable to install/purchase deep tube-well for drinking water, have ring slab	construct and repair houses 3. Food crises round the year (Able to meet out the food needs but not in sufficient 4. Unable to feed the people during festival -5. Unable to buy essential clothes, some of them depend on gifts clothes of rich, government supports 6. Unable to bear medical cost, visit community clinic, sometimes visit Government local hospitals 7. Share neighbour tube-wells and community tube-well installed by government, use ring slab for toilet, some of

Characterization	Sekandarkhali village				
	Socio-economic groups				
	Large	Medium	Small	Marginal	Landless
	sanitation facilities. Use sealed and ring slab toilets		5. Unable to install tube-well, use community tube-well, able to buy ring slab toilet	toilet from government support,	them have no proper sanitation
Social aspects 7. Agriculture related facilities 8. Access to micro-credit/NGO/UP/Government facilities/Banks/Insurance 9. Access to Social safety net (SSN) (VGD, VGF, old allowance, freedom fighter allowance, widow allowance, school stipend, school feeding, agriculture (fertilizer, loan, oil, seed, instruments, bank account)) 10. Members of different institutions/schools/mosque/committee/WMG/politics	1. Able to buy agriculture materials (power tiller, spray machine and irrigation pump. Capable to move Union and sub-district level agriculture office, but did not receive agriculture facilities 2. Have access to Bank and bank account, enjoy bank loan, Capable to meet the demand of Bank. NGOs loan for agriculture purposes because of land certificate 3. Do not enjoy SSN facilities due to social prestige 4. Capable to be member in different school, college and mosque committee, some of them involve in local politics 4. Capable to move in town and city for higher education,	1. Able to buy agriculture materials (power tiller, spray machine and irrigation pump. Capable to move Union and sub-district level agriculture office, and get some seed and fertilizer supports from agricultural office and NGOs. 2. Generally they did not get agriculture loan from Bank, but a few of them have access to loan bank and NGOs. Capable to meet the demand of bank 3. Majority of them have no access to SSN, but a few of them have access to old allowance, children enjoy stipend and school feeding 4. Have access to Government agriculture facilities (Fertilizer, seed) as well as from NGOs. Maintain good communication for SSN supports	1. Unable to buy agriculture tools, almost all of them use spray machine 2. Do not enjoy bank loan, but enjoy NGOs loan for agriculture and other purposes (such as business, home making). 3. Have access to UP and government body but do not get proper support from them. -Have access to school feeding, school stipend 4. Have access to be member of mosque committee, but limited access to the committees of schools, UP and community clinic. Have access to become member of NGO group 5. Migrate seasonally to Dhaka, Barishal, Barguna for	1. Do not get any kind of agricultural support from Government or NGO 2. Have access to micro credit from different NGOs but don't have access to bank loan. 3. Have access to SSN such as VGF, VGD, old allowance, widow allowance, free schooling for children and school feeding facilities 4. Have access to mosque committee and limited access to school, UP and Government committee, but good access to NGOs groups particularly for members	1. Do not enjoy bank support due to no own land certificate 2. Have access to micro credit from different NGOs 3. Have access to SSN and have access to school feeding, school stipend - Have access to mosque but not committee members of mosque, school 4. Migrate seasonally to different towns for work. Young children (men and women) migrate to city for working in garments or industries, brick field or construction work

Characterization	Sekandarkhali village				
	Socio-economic groups				
	Large	Medium	Small	Marginal	Landless
11. Migration and reason of migration 12. access to market	business and medical services 5. Have good access to local, town and city market, but unable to sale homestead vegetable, fruits, eggs, poultry products and milk to local market due to social prestige 6. Limited mobility of women in market due to social and religious customs	5. Use community mosque, capable to be member of mosque committee but limited access to committees of schools, UP or community clinic. Have access to become member of NGO 6. Have access to local markets for selling agriculture products, business purposes. Very few of them send their children to town for higher education. Most of them believe in religious education. 8. Limited mobility of women in market due to social and religious customs	day labour and return during Aman season. 6. Have access to local markets to sale agriculture products 7. Limited mobility of women in market due to social and religious customs	5. Migrate seasonally and young children (men and women) migrate town and city for day labour and work for garments 6. Limited mobility of women in market due to social and religious customs	5. Have access to local market to sale homemade products and agriculture products
Financial 5. Yearly earning and expenditure, saving habits 6. Agriculture inputs (power tiller, irrigation, spray mission, trucktor, others) 7. Micro finance access (MFI) –	1. Annual earning is Tk.200,000 to Tk. 500,000 approximately. Have savings in Bank. But major earning comes from business and service 2. Invest money Tractor, water pump and spray	1. Annual earning Tk. 125000 to 350,000 approximately. 2. Few farmers invest in power tiller. Two of them have power pump for irrigation at Rabi season.	1. Annual income Tk 850,00 to 200,000. Major earnings come from non-farming activities 2. limited capability to invest in agriculture, but many of them have spray machine only	1. Early income Tk 60,000 to 150,000. 2. Unable to invest in agriculture 3. Able to be members of NGO and MFI for agriculture, small	1. Early income minimum Tk. 12,000 and maximum 200,000. 2. Unable to invest in agriculture 3. Able to be members of NGO and MFI for agriculture, small

Characterization	Sekandarkhali village				
	Socio-economic groups				
	Large	Medium	Small	Marginal	Landless
Bank/NGO/government 8. Debt status 9. wages	mission. Have own business of the families. 3. Able to receive loan from Bank and NGO because of own land certificate 4. Have debt in Bank and NGOs and relatives 5. Use day labour for agriculture and other non-farming activities. However, pay wages for male and female labour daily Tk. 350 and 250 respectively.	4. Capable of taking loan from NGOs and Government. Sometimes, take loan from Rich farmers 5. Use day labour for agriculture. Pay wages for male and female labour daily Tk. 350 and 250 respectively.	3. Have access to MIF from NGOs, Many of them have debt from large farmers and NGOs 4. Work in own land as well as work as day labours to others agriculture field.	business and house construction or repairing 4. Able to give labour to others land and get daily wages male Tk. 350 and female Tk. 250 daily. In lean period they go outside of village for day labour	business and house construction or repairing 4. Able to give labour to others land and get daily wages male Tk. 350 and female Tk. 250 daily. In lean period they go outside of village for day labour
Natural aspects 7. Agriculture land (own, leased, share, rented, mortgage) land uses for Amon, Robi, Aush 8. Homestead /Bhita status 9. trees/forest 10. drinking water	1. Majority of land is one crop land for Aman, but high land is also usable for Rabi crops. Have own land and lease/ rent agriculture land to other farmers (Get 50% of the crops for share crop, take Tk. 30000 yearly for lease/rent per 240 decimals of land (about 2.5 acre)). If lease or rent farmers fail to pay yearly amount, have to pay extra Tk 10,000 to landlords as penalty	1. Majority of land is one crop land for Aman, but high land is also usable for Rabi crops. Have own land and cultivate themselves, in addition they take lease from rich farmers, some of them also lease or rent to poor farmers Cultivate BR-23, BR-41, BR-49 as main Aman varieties -In Rabi they cultivate green pear, sweet potato, ground nut.	1. They have own land but which is not sufficient for yearly food security so that most of the cases they lease/rent land from others. - cultivate only Aman crops , now a days robi crops is practicing - BR-23,BR-41, BR-49 are the main Aman varieties at Aman season. -Give 50 percent of production to the land	1. Cultivate own land as well as share/rent/lease land from rich and middle farmers - Cultivate BR-23, BR-41, BR-49 as main Aman varieties -In Robi they cultivate green pear, sweet potato, ground nut.	1. Have no own agriculture land, but work as a day labour 2. Some have own homestead, but some haven't. 4. Use community drinking water source 5. Use dry cow dung, wood and rice husk for cooking

Characterization	Sekandarkhali village				
	Socio-economic groups				
	Large	Medium	Small	Marginal	Landless
11. Irrigation facilities 12. cooking material uses	2. have piece of land for housing, cultivate fruits and vegetable in homestead areas 4. Capable of buying tube-well and irrigation pump. Rent power tiller for Tk 7,000 for 240 decimals of land, Rent power pump for irrigation in dry season Tk 150 for per hour 5. Use dry cow dung, rice husk wood for cooking, but capable to purchase LP gas	Demonstration of researchers generally goes to their field. 2. have piece of land for housing, cultivate fruits and vegetable in homestead areas 3. Capable of buying tube-well and irrigation inputs for agricultures. Rent power tiller for Tk 7,000 for 240 decimals of land. Rent power pump for irrigation in dry season Tk 150 for per hour 4. Use dry cow dung, wood and rice husk for cooking	owner from the total production for share crops and Tk 30,000 yearly for lease/rent per 240 decimals of land (about 2.5 acre)). Use dry cow dung, wood and rice husk for cooking	2. Most of them have own homestead land. 4. Have community drinking water source 5. Have limited access to irrigation facilities. hire power pump for irrigation 6. Use cow dung, wood, straw for cooking.	
Physical 4. Livestock (cattle, goat/buffalos/hen/ducks) 5. Electricity/solar facilities 6. Motorcycle/ transports/ availability	1. Rear cows (two/three or more) through the domestic labours for mitigating demand of milk. 2. Use solar connectivity 3. No own transport for mobilization	1. Have livestock, rear poultry (hen & ducks) at homestead area 2. Use solar connection 3. Capable of using motor cycle, a few families have motorcycle	1. Have livestock, rear poultry (hen & ducks) at homestead area 2. Use solar connection 3. Capable of using motor cycle, a few families have motorcycle	1. Unable to buy livestock, rear poultry (hens & ducks) at homestead area 2. Don't use solar or electricity 3. No own transportation facilities, but involve the family members in driving of motor cycle, easy bike for earning	1. Unable to buy livestock, rear poultry (hens & ducks) at homestead area 2. Don't use solar or electricity 3. No own transportation facilities, but involve the family members in driving of

Characterization	Sekandarkhali village				
	Socio-economic groups				
	Large	Medium	Small	Marginal	Landless
					motor cycle, easy bike for earning
Climate/environmental/disaster 3. Affected by disaster/environment 4. Assistance pre & post disaster from (NGOs/Government/Relatives/neighbours)	1. Slightly affected by disaster such as cyclone SIDR in 2007, Give shelter of the neighbours to their houses. 2. Capable to assist poor people during and after disaster for immediate response of food & clothes 3. Involved in different post disaster management committees of rehabilitation of agriculture and livelihoods Ironically they indirectly benefited from disaster response of Government and NGOs through politicization	1. Slightly affected by disaster such as cyclone SIDR in 2007 and took shelter in cyclone shelter. 2. Unable to assist the poor during and after disaster 3. Not involved in different post disaster management committees of rehabilitation of agriculture and livelihoods	1. Affected by disaster such as cyclone SIDR in 2007 and took shelter in cyclone shelter and houses of rich. 2. Vulnerable to disaster due to housing condition, lower purchasing power, and loss of works 3. Not involved in the committees of disaster management 4. Receive assistance	1. Highly affected by disaster such as cyclone SIDR in 2007 and took shelter in cyclone shelter, neighbour's house or houses of rich. 2. Very vulnerable to disaster due to housing condition, lower purchasing power and loss of works 3. Not involved in the committees of disaster management	1. Highly affected by disaster such as cyclone SIDR in 2007 and took shelter in cyclone shelter, neighbour house or houses of rich. 2. Very vulnerable to disaster due to housing condition, lower purchasing power and loss of work 3. Not involved in the committees of disaster management

Annex D: Basic statistics of Khatail village

Education:

- Literacy rate: 25%
- Children going to school: 95%
- Primary school: 5 (1 government school + 4 non-government schools)
- High school: 1 (distance 4 kilometer)

Farm category:

- Large farm: 2 % (7.5+ acres)
- Medium farm: 5% (2.50 to 7.49 acres)
- Small farm: 30% (0.50 to 2.49 acres)
- Marginal farm: 58% (0.05 to 0.49 acres)
- Land less: 5% (no cultivable land.)

Religion:

- Muslim: 60%, Hindu: 40%
- Social understanding very well between two religion's people.

Agriculture:

- The agricultural lands were mostly used for Bagda shrimp farming even 5-6 years ago
- But the situation has changed now. Following the strong protest against shrimp farming by community, the ghers (shrimp farm) have converted to crop lands gradually,
- Now, BINA 10 and BARI 23 is salt tolerant variety grown in the *Aman* season
- Cropping pattern: vegetable-rice (boro), fallow- rice.
- Producing different types of vegetable such as: ladies finger, brinjal, chili, sweet potato, taro, sweet potato, cucumber, potato etc.
- Vegetable production is not possible in all location due to low land. People who have high land are producing vegetable. The rich farmers make pit for growing vegetables; (this entails preparing high elevate land then making holes considering spacing for plantation. In the hole adequate composed/organic manure added for growing vegetables)
- Each and every household has about 15 to 20 chickens
- Each and every household has about 3 to 5 ducks
- About 40% household rearing goats and they have on an average 4 to 5 goat per household.
 - Almost all households have cows. Shushilan has distributed cows among 1700 households over the years.
 - One of the main characteristics of land use is rice-cum-fish farming.
 - Rice productivity: 1600 -2000 kg./ acre. And these lands are used for fish farming where per acre fish productivity 25 to 30 maund. (1 maund=40 kg)
 - Per kg fish price about 200 Tk.
 - Fruits: Mango, Jamrul, Lichi etc.

Livelihood:

- Almost all people depends on agricultural income
- Less opportunities for non-farm income
- Only 5 percent farmers work in their own land and about 80 percent farmers work on other land
- About 5% people culture rice-cum-fish farming
- About 10% people are fishermen
- About 50% day labour goes outside for work at lean period

- Wage Tk. 300-400/day for Man and women (Tk.200 /day).
- About 5% people are auto-driver
- Child labour observed - collecting snails for sell (Duck feed).
- Most of villagers houses are made of straw and tin-shed
- Limited household furniture is found

Sources of irrigation and drinking water:

- Both drinking and irrigation water are not readily available in the study location. For drinking water, they have to depend on rainwater harvest.
- Almost every family has to harvest rainwater but many of them cannot store much due to their poor financial situation and inability to afford the storing facilities. Usually, the harvest water can only meet their demand for about 5 to 6 months.
- Rest of the time of the year, they drink tube well water which they collected from 3 kilometer far away.
- For crop cultivation and vegetable cultivation, they depend on canal fresh water which is not readily available. Competition prevails to get access the canal water.

Marketing and market price:

- Total 5 local markets are present in the study villages
- Most of the people sell their product to Chalna market which is 3 kilometer away from study area.
- Price of rice: Tk. 600 – 630 / 40 kg. of paddy
- Egg : Tk. 32 – 40 per hali (4 eggs)
- Chicken : Tk. 250 / kg

Women situation:

- About 80% women work in the field
- Sometimes women work per hour basis and per hour wage is 25 to 30 Tk. This is a great disparity between men and women labourer. Women can earn maximum Tk. 150 per day. Men earn 300 Tk. (without food) or 250 Tk. (with food) per day

Physical Infrastructure:

- The villages are connected with road. There is a weekly Haat about 3 Km. away. However, the village does not have the access to electricity.

Institutional arrangement:

- The village has an IPM club.
- There are some microfinance service providers (BRAC, ASA Proshika, BRDB and A-din) provide microcredit.
- Shushilan also works there towards awareness building and implementing some development intervention.

Main problem:

- Scarcity of fresh water for irrigation as well as for drinking
- Less job opportunity / industry to work
- Storm and cyclone are common, devastating cyclone also occur on a regular interval
- Lack of capital.