

Options for livelihood programme Input to the designing of Chars Livelihood Programmes



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Executive Summary

This report covers an analysis on preferred livelihood options expressed by the male and female of the different well being groups across the four different category of chars based on the DVLA exercise. This also includes some other necessary assessment and indication based on the understanding and empirical observation of the study team, which might be useful for the design team while working on the livelihood options. At the end of the report, a section on institutional aspect is also included to consider during the design phase.

The analysis in this report has gone through two levels:

- Community assessment by using PRA tools, especially matrix scoring and semi structured interview.
- Synthesis of the data by the study team, also involving other expertise

A wide variety of livelihood options traditionally exist in the char areas based on people’s asset base, local recourses, knowledge/technology, capacity of the people and institutional support. On the other side, wide range of risk and associated vulnerability are also existing. However, people do develop and practice variety of livelihood and risk management strategy, which are closely associated with people’s asset base and knowledge and experience. However, important issues, lack or absence some those constitute inability to undertake the most suitable livelihood options that could make their livelihood sustainable.

The preferred livelihood options for development intervention are suggested in the following table, which is primarily based on the people’s preference and analysis. Three key indicators and consideration have been taken into account during the analysis by the community, are: a). suitable for income generation, b). provide security during crisis and c). vulnerability associated with preferred options. However, in the final analysis by the study team includes few others important consideration, based on the date analyzed by the different groups of people: a). option that address their immediate needs and requirement b). reduce their vulnerability and strengthen their risk management strategy c). based on local knowledge and recourses d). empowerment and rights of gender, generation and different groups, and e). economically viable o profitable [marketing opportunity exist for the surplus.

Based on the above consideration, the following table present the most preferable livelihood options by different well being groups and gender across the chars:

Group	Gender	Livelihood option	
Most vulnerable	Female	<ul style="list-style-type: none"> • Poultry rearing • Rearing of goat 	<ul style="list-style-type: none"> • Rearing of cow • Homestead gardening
	Male	<ul style="list-style-type: none"> • Cultivation [share cropping] • Petty trade 	<ul style="list-style-type: none"> • Goat raring • Cow raring
Middle	Female	<ul style="list-style-type: none"> • Rearing of cow • Homestead gardening 	<ul style="list-style-type: none"> • Poultry rearing • Rearing of goat
	Male	<ul style="list-style-type: none"> • Petty business • Rearing cows and goats 	<ul style="list-style-type: none"> • Cultivation own land • Sharecropping
Rich	Female	<ul style="list-style-type: none"> • Poultry rearing • 	<ul style="list-style-type: none"> • Cow and goat rearing • Homestead gardening
	Male	<ul style="list-style-type: none"> • Cultivation • Petty trade 	<ul style="list-style-type: none"> • Poultry & cattle farming • Operating grocery shop

The few institutional and consideration in relation to approach are:

1. The study: brief overview with key features

- The DVLA, diversity and livelihood assessment study was taken place as part of DFID chars livelihood design process. The study was designed by number of people and institutions including Chars livelihoods design team, University of Swansea and ActionAid Bangladesh..
- The methodology seeks to assess the following:
 - A set of PRA tools, based on the as minimum as possible, was suggested, piloted and finally readjusted after having a pilot study. A gender balanced field research team was put together comprising experienced PRA and development parishioners, academicians [some of them were the member of ActionAid vulnerability analysis team]. Operationally, four PRA facilitator and 4-note takers execute the exercise with an active supervision of a livelihood and PRA expert. The overall coordination of the study was also done by an ActionAid focal point on Livelihood and disaster management.
 - The study was undertaken in four Chars in the Gaibandha district, in four upzila. In a view to take into account the char based differences, the locations were selected based on the criteria: island chars, attached chars and east and west bank of unprotected mainland.
 - In terms of population, the study covered the cross section of the population in terms of gender, different well being groups and occupation, to have wide range of variety [please see annex for details sampling procedures and frame].
 - The study was taken place between 28 January to 18 of February 2002. The data synthesis workshop, the filed research team, expertise from ActionAid and DFID and some others invited expertise generated the preliminary analysis.

2. Livelihoods options and pattern

3. Factors affecting livelihoods options and strategy

This is important to understand; especially for the readers who have not been to the char areas, the livelihood pattern, risk, vulnerability and institutional aspect of chars to get an overview on char based livelihood options. This will also provide the readers an understand based on what the livelihood options are suggested by the different section and groups of the chars dwellers.

- A range of wide and diverse risks occurs and anticipated by the different section of population. No significant difference in nature of risk in different chars except the intensity and degree of affect that caused by the risk. , However, there has differential impact and recovery pattern by the different groups of people. Regular occurrence of flooding, river erosion, storm, crop failure due to seasonality, drought, seasonal food shortage, diseases both human and livestock, unemployment and violence against women frequently mentioned by the participants in the exercise.
- Different groups of people have different level of vulnerability and recovery potentials. A wide range of factors, system and structures constitute people's vulnerability, which in tern determine the degree of impact of a particular risk on a particular individual or groups.
- The asset base is most important issues limitation of witch make people vulnerable. In our analysis, people's asset base and ability to use these determine the successful outcome of livelihood and risk management strategy. Issues are: people's asset base [access, control, diversity and ..].
- People's relationship with diverse social and institutional linkages also very importantly comes out in relation to livelihood options. For example, people who do have good relation with Mahajan, likely get easy access to credit, or only the NGO members are getting credit. The relationship also depends on people asset base, directly or indirectly.

- In chars, the differences between middle and the poor is not very significant in terms of asset base. This is number [around 20-25 per cent] of total population, particularly in the island chars, are women headed HH. The women HH households are the most vulnerable in terms of asset base, vulnerability and livelihood options.
- There is diverse and wide range of livelihood and risk management strategy and arrangement found in the chars. The common features of RMS and LS are that these are linked with asset base and institutional linkages. People continuously do take higher risk to manage a relative lower level of risk—which is the key factors that erode their asset base. For example, the getting loan from various sources is very common. People do sell asset and take another credit to repay the existing one. This has been termed as ‘Taltibulty’ strategy by the people. The migration is one of the important and most popular livelihoods coping strategy particularly for the male, and a section of female. Key analysis on the livelihood and risk management strategy is that these are associated only with survival strategy and hence no strategy found clearly lined with their upward mobility and development, particularly for the most vulnerable and middle well being groups.
- No major differences observed in livelihood options by the different type of chars. However, in terms of cultivation, grazing land and marketing opportunities, the mainland chars are better off.
- Rights, the important aspect of livelihood, have been perceived differently by different groups of people. The denial and violation of rights is very common because of lacking of institutional presence and care. However, there is evidence that people do organised themselves and claim their rights, particularly in relation to social protection schemes. However, exercise has also been confirmed that their voices are not recognized.

4. Suggested principle and approach for livelihood diversification

4.1 Recommended key principles

Principles are important in the question of sustainable livelihood analyses and intervention. Here is some of the principles, based on what livelihood options are analyzed by the study team.

- Designed livelihood options must meet the current need and requirement of the different well-being groups including gender and generation. This must also be lined with people’s upward mobility and developmental needs.
- The options [knowledge, technology and variety] should be based on the local recourses and also increase local money flow. Other considered factors includes low input cost, surplus marketing, households consumption etc.
- Address vulnerability context including empowerment of most vulnerable, particularly women.
- Multiple use of a particular option’s outcome must be looked at.
- Rights—institutional aspect: policies that affected or likely to affect the successes of the livelihood outcomes should take into account. There must be interventions that promote and organize people’s ability to claim rights.

4.2 suggested Approach for programme design

As a support mechanism for the livelihoods options, the following issues should be considered:

Key considerable issues	Existing situation	Suggested approach/operations
Marketing the surplus	In the attached and island chars communication	<ul style="list-style-type: none"> • Communication facilities should be enhanced and increased considering the

Key considerable issues	Existing situation	Suggested approach/operations
	facilities hardly exist, this become difficult during flooding time.	<p>seasonality.</p> <ul style="list-style-type: none"> • Small scale cooperative could be piloted in one or two places • Linkages with big concern like milk vita and Aarang dairy.
Input cost	<ul style="list-style-type: none"> • People are unable to manage input cost 	<ul style="list-style-type: none"> • Local variety should be promoted since these require low input cost • Policies of input cost and crop purchase
Variety	<ul style="list-style-type: none"> • No system of curative and preventive measures for livestock's 	<ul style="list-style-type: none"> • Local variety should be promoted as this requires less input cost • People knowledge goes with local variety • Price is good. • Adoptive with the local risk factors
Savings and credit	<ul style="list-style-type: none"> • NGO provide loan only to their members • No access to Krishi bank as they do not have land • The mahajan interest is very high and needs collateral. 	<p>Two different type of credit could be provided, based on the seasonal calendar:</p> <ul style="list-style-type: none"> • Both savings and credit should be encouraged • Agriculture credit: should be low interest and easy installment as high risk involved • Credit size and repayment installment should be computable with the enterprise • Linked with public services available • Should be linked with enterprise development and adequate training based on the preferred options • Should be sufficiently analysis with the local power structure
Micro insurance	<ul style="list-style-type: none"> • People's asset base and harvest are highly vulnerable to seasonal risk, and there is no formal risk mitigation arrangement 	<ul style="list-style-type: none"> • Micro insurance, considering risk no risk mitigation strategy and arrangement, could be piloted by NGOs
Risk factors	<ul style="list-style-type: none"> • There are diverse risks • Asset base is being eroded to absorb a risks 	<ul style="list-style-type: none"> • Bamboo cultivation should be promoted [Forest research institute, Ctg.]
Rights	<ul style="list-style-type: none"> • Differential understanding • Voices are not organised and recognized by the supply end 	<ul style="list-style-type: none"> • The right dimension should inform analysis and programme design • The programme and intervention should design in such a way that should promote the rights of poor and marginalised.
Land reforms	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Further analysis needed in relation to land policies and practices
Flood shelter/proofing	<ul style="list-style-type: none"> • Flood shelters are not adequate and are not 	<ul style="list-style-type: none"> • Shelters in close proximity • Effective early warning system, develop

Key considerable issues	Existing situation	Suggested approach/operations
for people and livestock	<ul style="list-style-type: none"> compatible for livestock No early warning system exist for chars 	<ul style="list-style-type: none"> local level early warning system Flood proofing to cope with small scale flooding.
Distress sealing	<ul style="list-style-type: none"> Due to lack of ability to buy fodder people do sell livestock during flood Do sell livestock due to regular crisis 	<ul style="list-style-type: none"> Measure should be taken to distribute fodder during flood so that distress sealing can be prevented
Local economy	<ul style="list-style-type: none"> Local business and money flow is not adequate 	<ul style="list-style-type: none"> Intervention should be design in such a way that promote local economy through increased money flow
Training	<ul style="list-style-type: none"> People are not adequately equipped with the management of asset during risk Existing disaster management understanding is unable to face the risk 	<ul style="list-style-type: none"> Develop a training package on 'live stock management during crisis' in the context of chars and disseminate this trough NGO and government departments Develop local resources for treatment and vaccination

4.5 Matrix of the Preferred livelihood options by well being groups across all type of chars

Well-being Groups		Preferred options	Possible risk involved	Potential solution
Most Vulnerable	Male	<ul style="list-style-type: none"> Goat rearing Cow rearing Cultivation [share cropping] Petty trade 	<ul style="list-style-type: none"> Shrinking of grazing land and crisis of fodder during flooding time. Also treatment is not available. Distress sealing of cows and goats during risk period. Unable to manage input cost for cultivation and difficult to get land for sharecropping. 	<ul style="list-style-type: none"> Provide agriculture loan for the share cropping—interest free or low interest. Crop insurance. Establish linkages with agriculture bank. Ensure support from block supervisor and agriculture extension department. Paddy, whet, groundnuts, banana, jute, potato and sweet potato, etc. Seeds, fertilizers etc. should also be considered. Linked with livestock—as if people have cows likely to get. Most poor do not concern with surplus marketing—for consumption.
	Female	<ul style="list-style-type: none"> Poultry rearing Rearing of goat Rearing of cow Homestead gardening 	<ul style="list-style-type: none"> Disease [<i>Ranikhet</i>, boil etc] of poultry, some cases difficult to market by the women [for women headed HH]. Problem of shed during floods. Diseases of goats [because treatment is not accessible], and fodder during floods. Difficult to keep during floods. Price goes down during flood. Diseases and lack of quality medicine. Fodder crisis during floods. Lack of good quality seeds [??], pesticides and marketing. 	<ul style="list-style-type: none"> Vaccination should be integrated and training of the selected members, make available the good quality vaccine. Make available medicine and training selected members on treatment. Lao make the livestock department responsive. Flood protection for the cows. Develop and deliver training on livestock management during flood. Block supervisors to be responsive to advice train the people and take appropriate measures.

Well-being Groups		Preferred options	Possible risk involved	Potential solution
Middle	Male	<ul style="list-style-type: none"> • Cultivation own land • Sharecropping • Petty business • Rearing cows and goats 	<ul style="list-style-type: none"> • Very limited male of this group have land of their own • The major constrains are as they haven't have their own STW so irrigation is a big problem, they do not have much crops after subtracting the production cost like fertilizer, seeds, pesticide etc, • In harvesting time the moneylender compel them to sell crops to him at very lower price as repayment of the loan so when the market price is up they have little to sell in market. • Beside of these infertility of land, inability to manage agro loan, pesticides, fertilizer, seeds and over all the natural calamity are the major constrains 	<ul style="list-style-type: none"> • Agriculture loan should be ensured from formal sources at an affordable condition. • Easy installment loan for STW, quality seeds, pesticides and other facilities related with production that will be most helpful for them • Development of transportation facilities for enhanced marketing opportunities. • Proper vaccination, treatment and keeping facilities should be ensured for livestock rearing • Review the existing policies related with sharecropping, land and crop procurement in context to chars—policy advocacy from the perspective of chars dwellers
	Female	<ul style="list-style-type: none"> • Poultry rearing • Rearing of goat • Rearing of cow • Homestead gardening 	<ul style="list-style-type: none"> • Disease is the major constrain (Ranikhet, boil etc) of poultry, and problem of shed and food during floods. • Goats are vulnerability during risk period: shelter problem. Cows are less vulnerable during crisis but this female group mentioned some seasonal diseases of cows and also there is limitation of getting proper treatment • Diseases and lack of quality medicine. Fodder crisis during floods. • Lack of good quality seeds pesticides, availability of water supply and marketing. 	<ul style="list-style-type: none"> • Proper vaccination, training regarding poultry rearing that must be ensured • Improved communication facilities can bust up their access to good market. • Flood protection for the cows. Develop and deliver training on livestock management during flood. • Homestead gardening could be improved if bock supervisors are responsive to advice train the people and take appropriate measures.

Well-being Groups		Preferred options	Possible risk involved	Potential solution
Rich	Male	<ul style="list-style-type: none"> • Cultivation • Petty trade (paddy and rice business, selling vegetable in bazar) • Poultry & cattle farming • Operating grocery shop 	<ul style="list-style-type: none"> • Sandy and unfertile soil condition in all most all of the char, which also limit their ability to access loan from bank. • Insufficiency of irrigation facilities peasants can not produce high yield variety such as IRRI , other seasonal crops, vegetables and can not diversified there cultivation . • The people who does not has enough relation with UP bodies can not get agricultural assistance sanctioned from UP. • Most often they do not get reasonable price because they have to sell these in local market. They often cheated by the middleman traders • People who have grocery shop most of the time they sell goods on credit and some time they do not get back the credit amount 	<ul style="list-style-type: none"> • If agro loan is available and all the constrains of getting lone are solved it will benefit them most • If proper authority makes it easy to get STW facility, quality seeds, pesticides and other facilities related with production that will be most helpful for them • Development of transportation facilities would benefit them, as they will be able to make marketing better of the surplus production. • If they get loan in time they can stock the crops and during off season they can sell it in higher price • As the local NGOs provide training the literate juvenile of this group can raise poultry and cattle firm if they get loan.
	Female	<ul style="list-style-type: none"> • Poultry rearing • Cow and goat rearing • Homestead gardening 	<ul style="list-style-type: none"> • In time of flooding time, keeping place and fodder appeared as a problem. The seasonal diseases and epidemic cause death of chicken. • Cows are affected by several diseases such as ulcer, Diarrhoea etc, • Goats are vulnerable during natural disaster. Get diseases of several types such as having water-soaked grass goats suffer from severe Diarrhoea and this time no treatment in available. Proper treatment and vaccination is hardly found. 	<ul style="list-style-type: none"> • Livestock production can be improved by making available vaccination, treatment and keeping facilities are improved • Most of them are willing to have local species of these livestock • Proper training and support from government and NGO needed for homestead gardening, treatment and pest control.

Livelihood options for development intervention with rationale

4.6 Livelihood options for the most vulnerable women groups

4.6.a. Rearing of poultry

- Rearing of poultry is very common in the chars and across the different well being groups. Because of no input cost and its relative suitability for marketing. Poultry can be sold any time in case of any sudden sickness or illness or to bear education expenses of children. This is very important to consider that, chars people do not have regular income, and have no or very tiny savings to bear such expenses. However, the commercial or large-scale project might not be possible in the chars, particularly with this group. Women have control over poultry and the income from that.
- To maintain the poultry during flood, low cost cage could be piloted. On the other side, especial emphasis must be given on treatment of poultry both curative and preventive term.
- Emphasis should be given for local variety, because these are adoptive with local environment and require no input cost.
- There is no major constrain in marketing. In unprotected mainland, this is not a problem since there is good communication with growth centers, and in the chars, eggs and chicks can be sold locally through local middleman.
- In terms of institutional arrangement, microfinance, training input should be provided to boost this up. Programme should also target the local government livestock department to ensure vaccination and treatment.

4.6.b. Goat rearing

- Goat has been seen as one of the most preferable livelihood options because of its relative low cost input. And no problem of rearing, even children can take this to the field.
- Goats give birth twice in a year and can be sold any time. No problem of marketing.
- Only problem associated with goat rearing is crisis of fodder during flooding period and no availability of vaccination and treatment. According to the people, there is no treatment for goat; therefore this issues required further inquiry by a specialist. Find potential solution and develop community-based expertise on vaccination. Large-scale *Dyancha* [local wild variety of plant that grows even in the flood] cultivation and other suitable species of planed as fodder during flood.
- Develop and introduce [if not exist] training package on “livestock management during crisis’ and make this available for community use. Strengthen and linkages with Thana livestock department, especial emphasis should be on chars.
- Variety: cross of local variety and Ram chagal.

4.6.c. Rearing of cows

- Cow has been seen as most suitable and profitable livelihood option in the both category of chars. The cow, as important asset also gives security during crisis. Cow is also been considered as a basis to obtain credit from local moneylender. Also, another important issue related with cow is that this is treated as important factor to get land for sharecropping.
- The cow and bullock have different uses and has multiple uses. The bullock can also be given rent for plowing to others. Can be sold for meat during Eid of sacrifices. Production form cow has multiple uses: the cow dung as important source of fuel, plowing, milk etc.
- The milk cow has been seen as profitable for two reason: cow milk and for the calf. The ilk can be marketed locally in all the chars.

- Cow also has been seen as important buffer /security during crisis like daughter marriage, treatment and buy land etc.
- Fodder has become a problem during floods. The social protection programme should look at this important aspect for consideration.
- Though cow gets sick frequently, the treatment is available and accessible. However, the livestock department must extend their support to chars, and programme design should look at this aspect.

4.6.d. Homestead gardening

- Small-scale homestead gardening is a popular and regular business in the chars. Usually, the roof of houses has been used for a number of vegetables. This is major source of family consumption and very little is being marketed. However, not all the vegetables commercially profitable grow in the chars [in fact this is not scientifically tested out]. There is some specific verity: pumpkin, bottle gourd, banana, papaya and guava are popular and grown by the char dwellers.
- Other than the roof based vegetable gardening, no other option is popular because of limited homestead land, and most vulnerable people make their dwelling on other land. However, is potential if sharecropping is explored. The major problem people told about the quality seeds, pesticides and irrigation. The potential solution would be to develop seed preservation and distribution system the tube well could be provided, would be used as source of irrigation and drinking purposes.
- The surplus can also be marketed easily.
- Leaf and steams can also be used as fodder for livestock.
- Pesticide. ...Pest management—winter vegetables???
- The agriculture extension divisions should explore the possibility and suitability of variety for homestead gardening.

4.7. Livelihood options for the most vulnerable male groups

4.7.a. Goat rearing

- Rearing of goat is popular in the chars because of few particular reasons and found as one the most preferable options by the male in the most vulnerable groups. The goat gives birth twice a year, and can be sold in any sudden crisis like treatment and bear daily expenses during floods.
- Key problem associated with goat rearing is the diseases and crisis of fodder during floods. According to the groups there is no treatment for goats, which needs further investigation by scientific and technical point of view. The crisis of fodder during flood occur because of inundation of grazing land. That time leaf of some wile plant like daincha is most reliable. But, these are disappearing, therefore, needs to taken into account. These tall plants can grow and survive even in big floods.
- The marketing opportunity do exist for goat and can be sold in the chars to the middleman.

4.7.b. Cow rearing

- Cow rearing has been found as the most important and suitable livelihood option for development intervention in all the terms and indicators. This has also been found as the single important buffer for any sudden crisis and needs like marriage of daughter, treatment and education expenses. Having a cow also give prestige to the community. The products from cow have also multiple uses.
- The bullock can be rented to other for plowing purposes. If they have bullock they can easily do plowing to other land can earn tk. 100-140 a day.

- This becomes easy to get a land for sharecropping when one has a bullock. This requires minimal input cost for fodder, as cow can relay on grass and plant grows in the chars.
- Other product, like cow dung and milk can be used for domestic and agriculture use and consumption respectively. Also, can be marketed easily through local businessmen. The cow dung, specifically, has been treated an important source of fuel during floods.
- The calf can be sold any time at a good price.
- The cow becomes vulnerable during crisis because of crisis of fodder and limited place to keep them. In the normal flooding, people make high the level of places to keep cow, however, this is not possible in big flood like 88 and 98. In that case, distress sealing increased. To prevent this, relief packages should also include fodder and flood shelter should be adequate to keep cows, the most important asset of the people.

4.7.c. Cultivation [share cropping]

- This is most important and preferred option by the poorest male group. Because, this gives them consumption production and best use of their labors.
- The difficulties they face are: inadequate fertile available land, since they do not have bullock the land owners are not interested to give them land for share cropping, high price of input and regular occurrence of various disaster i.e. flood, storm, erosion etc.
- This can be over come by providing soft loan during the season of cropping for certain period with easy installment. Also, if the livestock intervention is targeted them, they would easily get land for sharecropping.
- Irrigation facility is also a problem in the chars. However, soft loan for agriculture could help them to overcome this. The taddle pumps, popular in the northern region could also be piloted.
- Quality of seeds should also be ensured by the public services.

4.7.d. Petty trade and grocery shops

- Petty trade is common and popular option for the male in chars. Many do not do this because of lack of capital. Many of them asked for credit [Tk. 5,000-6,000] to build a boat, which can an important source of income during rainy season. Also asked for 10,000-12,000 for petty trade and grocery shops. The boat can also be used during the flooding time as mobile grocery shop.
- Gives social prestige of having pretty business and an owner of grocery shop.
- No seasonal disturbance even could be operated during flood if they could manage boats.

4.8 Livelihood options for male in the middle well-being groups

4.8.a. Cultivation own land/ Sharecropping

- The cultivation on own land and through sharecropping has been found the single most important and preferred livelihood options for the middle well being groups. However, very limited male of this group have land of their own. The major crops are: paddy, jute, cown, maize, wheat, sugarcane, sweet potato, groundnut and vegetables. However, this is not that these variety of crops are grown in all the chars. A few fundamental factors determine the cultivation: deposition of sand that determines the fertility of a particular soil, intensity and time of a particular disaster and availability of irrigation. The unprotected mainland is advantageous for all these indicators. The middle well being groups cannot afford STW of their own, so they have to relay on rich farmers or have to pay for irrigation.
- The input cost like water, fertilizer, seeds, pesticide etc have also been seen as major constrain, because of unavailability of credit facility form formal sources. Most of the time they borrow money from moneylenders to bear the expenses for inputs. In harvesting time the moneylender compel them to sell crops to them at very low price as repayment of the loan so when the market price is up they have little to sell in market. These constrain can be overcome through providing soft loan with easy installments in time of cultivation.
- In sharecropping, the sharecropper bears all production cost and get only half of the crops, so actually he has nothing for the year long
- Making STW facility easy to access, quality seeds, pesticides and other facilities related with production will be most helpful for them
- Development of transportation facilities would benefit them, as they will be able to make marketing better of the surplus production.

4.8.b. Petty business (selling paddy, rice, vegetable, egg etc)

- Petty business mostly involves paddy, which is prepared by the women and male take this to the market places. However, this has been seen a profitable business option by the male in the middle-well-being groups. In most cases, they buy the raw paddy, and then steam and dry this, and sell in the market. They also involved in other business like: vegetables, eggs etc.
- The major constrain of this business is lack of capital, limited production for processing in the locality [therefore they are required to buy all these from outside].
- Risk involved with petty business is heavy flooding when this is hardly possible to continue , because road communication remains difficult and carrying goods by boat becomes expensive.
- Small loan and developed communication facilities can improve the petty business.

4.8.c. Rearing cows and goats

- Rearing cows is most preferred option for the middle class male group, because most of them are involved in cultivation. Whatever the means, cultivate own land or sharecropping, cows are the only means of plowing, or it is most important to have a pair of bull-ox for sharecropping. Rearing cows not only for the plowing beside this they get multiple use and utilities of cows. For the example one can earn money by selling milk.
- The livestock like cow and bullock are the most important buffer to manage crisis. Cow has been treated as good as cash.
- The goat is also preferred because this gives birth twice a year, and can be sold any sudden crisis like treatment and bear daily expenses during floods.

- Major problem associated with goat rearing is the diseases and fodder during floods. There are less treatment facilities for goat. The crisis of fodder during flood because of land inundation. That time leaf of some wild plant like dhuncha is most available and the goat takes that.
- The marketing opportunity is possible for goat and there are middlemen who might come to them and purchase.
- Livestock rearing can improve if proper vaccination, treatment and keeping facilities are developed.

4.9 Livelihood options for female in the middle well-being groups

4.9.a. Poultry rearing

- Most of the female member of this group is interested in rearing poultry, as part of their regular business. It gives support during crisis such as: they can meet instant treatment fees, to bear the children's education cost or to overcome sudden crisis by selling eggs. Poultry rearing directly benefits women as they control it, can sell this without consulting their husband can make savings by selling eggs and also can help their husband if needed. Marketing opportunity is also within their reach as they can sell this to local middleman. Price obtain from each chicken ensure two day's expenses of a family.
- The major constrains of poultry are: keeping and feeding problem during rainy season specially in flooding, sudden attack by diseases, insufficiency of vaccination and treatment, proper knowledge of rearing. Therefore, emphasis should be given for local variety and proper vaccination should be improved.

[Same as other issues, related with poultry mentioned in other sections]

4.9.b. Rearing of goat

- As like poultry, the women also control goats. It is profitable because it gives birth twice a year. If they are able to care and feed the goat properly they could get milk for their family consumption.
- Rainy season and flood is the main constrains for goat rearing. During flooding keeping place remains difficult. Major problem associated with goat rearing is the diseases and fodder during floods.
- Treatment facilities for goat are not available in the char areas.

[Same as other issues, related with rearing of goat mentioned in other sections]

4.9.c. Rearing of cow

- Rearing of a milk cow has been identified as suitable option for income generation, diversified utility and also in terms of providing security during crisis. Selling of milk could be a major source of income for the family. If they have cows their husband or male member can easily manage to have sharecropping, and cow-dang could be use as fuel for cooking [regular and in the flooding time if stocked] and also it could be sold out.
- Severe crisis like repayment of loan, dowry during daughter's marriage repairing of houses etc could be managed by selling of cows.
- Beside these when a calf becomes a bull it could be sold in market at higher price especially during Eid.
- There are some keeping places and health constrains associated cow rearing, such as: during rainy season cow becomes unhealthy due to mosquito bites, scarcity of food during flood. Proper vaccination and treatment could make the cow rearing most important options.

4.9.d. Homestead gardening

- Some of them do small-scale homestead gardening in the chars. Usually they use the roof for some particular vegetable. This is major source of home consumption and very little is being marketed.
- Usually this production is consumed by the family member but the surplus can be marketed
- Many of the families do not have land their own. Therefore, the vegetable cultivation, at marketing purpose may not be possible at a large scale. However, the shared based homestead gardening could be explored.
- The agriculture extension programme should explore the possibility for homestead gardening

4.10 Livelihood options for male in the rich well-being groups

4.10.a. Cultivation

- This group is basically dependent upon their own land and it is their primary source of income. Cultivation at least ensure the food despite of any adverse situation, natural disaster etc. By selling the surplus they can bear education of their children, loan re-payment, treatment cost, purchase the daily necessities
- People who have land give their land for sharecropping and can get half of the crop.
- However, for cultivation, sandy soil condition is the major constrain in all most all of the char. Because of sandy condition of soil they need comparatively more irrigation. Insufficiency of irrigation facilities peasants can not produce high yield variety such as IRRI , other seasonal crops, vegetables and can not diversified there cultivation . More over, they have to pay bribe the officials to manage agro loan.
- Development of transportation facilities would benefit them, as they will be able to make marketing better of the surplus production.
- If bullock, STW facility, quality seeds, agro loan provide them, pesticides and other facilities related with production that will strengthen cultivation.

4.10.b Petty trade

- People who have no land of their own do some small-scale business: purchasing cash crops and vegetable locally from peasants and sell those to the market. Basically they work as a local middleman.
- Most often they do not get reasonable price because they have to sell these in local market. They often cheated by the middleman traders or broker.
- Most of the time they face some adverse situation like additional transport cost, cost remains double during drought and flooding
- As they have not enough cash in hand they cannot maintain their business all the yearlong.
- Suggestion came out that if they are facilitated by soft loan say as Tk. 5000- 7000 that could be helpful for the business

4.10.c. Poultry and cattle farming

- This group can raise poultry and cattle firm if they get loan from formal sources. Emphasis should be given for local variety and proper vaccination should be ensured
- The major constrains of poultry are: keeping and feeding problem during rainy season specially in flooding, sudden attack by diseases, insufficiency of vaccination and treatment, proper knowledge of rearing.

- Cow rearing/ farming is more profitable to them. As they mentioned: from milk cow monthly they can earn Tk. 3000-4000, bull calf could be sold after two years at Tk. 5000-7000
- During Eid-ul-azha cows can be sold at higher price and they could easily get Tk.1000-1500 by selling goat. According their voice if they get soft loan at Tk. 10000-15000 they can do it well.

4.11 Livelihood options for female in the rich well-being groups

4.11.a. Rearing of poultry

- Besides looking after the household work, the female in the rich well-being groups are interested to rear poultry as they think it will create additional income for the family. Poultry rearing can mitigate the family demand. Selling of eggs brings some money that can meet the need such as cost of schooling of their children, sudden treatment fees, and small purchases for day-to-day consumption etc.
- They can enjoy freedom in selling poultry and can make some savings.
- Some constrains of poultry rearing are, in time of flooding keeping place and fodder appeared as a problem. The seasonal diseases and epidemic cause death of chicken so inadequate treatment and vaccination is main problem.
- If road communication specially in dry season and in rainy season is improved marketing is not difficult as they can send eggs and poultry to market by the male member of the family

4.11.b. Rearing of Cow

- They can be benefited if they have milk cow. They enjoy freedom in selling milk
- It reduce the burden of dowry of their daughter's marriage, meet up the loan payment, reduce the burden of medical treatment, can use and sell cow dung as fuel for cooking.
- Several diseases such as ulcer, Diarrhoea, affect cows and in rainy season and in the month of *Falgun* cows become seeks due to mosquito bite.
- There is some threat of theft during flooding time.

4.11.c Goat rearing

- Goats are vulnerable during natural disaster. Get diseases of several types such as having water-soaked grass goats suffer from severe Diarrhoea and this time no treatment in available. Proper treatment and vaccination is hardly found.
- Livestock production can be improved by making available vaccination, treatment and keeping facilities are improved
- Most of them are willing to have local species of these livestock.

4.11.c. Homestead gardening

- Mainly the female member of the house make a few sort of vegetable plantation at home and most of the time these are consumed by themselves
- Proper training and support from agriculture department and NGO needed for homestead gardening, treatment and pest control.

5. Institutional and policy aspect for livelihood options

The institutional and policy aspect for livelihood options are suggested here. These are important consideration in relation to the principle suggested in the beginning of this report.

- 5.1. **Vaccination:** community based vaccination expertise can be developed through proper training and credit support to start business [buy good medicine]. This will help the char dwellers to get the easily accessible treatment for livestock. On the other side, this will be income for the group.
- 5.2. **Micro finance:** since credit has been come up associated with different livelihood option, the approach might be in line as outlined in the section-4.2. As institutional arrangement, an expert on microfinance should contextualised the program based on the char based priority, seasonality and other issues. The MF should include savings, credit and institution building. Training could be provided through the groups of male and female. Training should include enterprise development and right perspective, so that people can rise their voices.
- 5.3. **Seed preservation:** since seeds have been come up as an important issue, especial emphasis should be given on seed preservation. Experience from other NGOs [UBINIG, SAP Bangladesh, JJS and COAST] in Bangladesh could be sought I this purpose.
- 5.4. **Responsiveness of local government:** the data analysis confirmed that the chars dwellers lack services and care form local government. The local government are responsible to deliver services for all the prerequisite for the livelihood options suggested. The thana and union health center, thana agriculture extension services, livestock department, assistant commissioner land are the most important services people urgently required. The Union Parisad Chairman and members are also not responsive to claim the services in fervor of the people. Therefore, this issues should be linked with right perspective form both ends: demand and supply. The intervention should address to enhance the capacity of people's claiming rights as well as strengthen the efficiency and accountability of the local government.
- 5.5. **Monitoring, evaluation and impact assessment:** the downward accountability should be promoted programme intervention. The 'social audit' as a process of ensuring this can be introduced.
- 5.6. **Cooperatives:** Cooperative marketing and production could be piloted keeping in mind of marketing constrain faced by the most vulnerable, particularly the women headed HH.
- 5.7. **Policy issues:** there are policies that have direct implication in the chars. The most urgent policies are: social protection, land management, agriculture, livestock and disaster management, which need to be reviewed in relation to Chars livelihood. The empirical observation suggests that, the above-mentioned policies are not compatible with chars.
- 5.8. **Institution building:** the important of appropriate institutions to have an organised voice of poor and marginalised in the chars is seriously lacking. However, the right to services and other essentials are routinely denied, not only because non-responsiveness of duty bearer, but also people's lack in capacity to articulate and organised their voice. Another important issue is that NGOs have very limited presence in the chars areas, particularly those who have microfinance dominated programme. The federated structure of the proposed groups would be one solution.

6. CONCLUSION

5.1. Five important livelihood options are suggested for development intervention to be considered by the Chars livelihood design team:

- a) Livestock: rearing of cow and goat
- b) Rearing of Poultry
- c) Homestead gardening mainly vegetables
- d) Cultivation and sharecropping
- e) Petty business

There are no significant differences found in the different category of chars, particularly in relation to livelihood options. However, the mainland chars received advantage for marketing their products.

- 5.2. However, associated risk, like regular disaster, crisis with fodder, diseases of livestock and poultry, shade and place for livestock, input cost for cultivation etc must be part of overall design
- 5.3. Training for enterprise development with adequate credit support could boost up the livelihood option in the chars.
- 5.4. Health aspect of char dweller must be considered with added emphasis, since the body fitness has been seen as most important asset of the people. Thana health complex and union health center should be extended to chars.
- 5.5. The communication facilities should also be a part of the overall development of livelihood options and diversification. However, the structural development [if any] should be well informed by the vulnerability of the most vulnerable and poorest section of the chars.
- 5.6. Institutional aspect should be looked at very carefully, as suggested in the section-5. Because, much of the success in making the suggested options sustainable is dependent on those issues.
- 5.7. Nursery and handicraft, although have not appeared as preferable options, might be examine further. The study team is not confident to suggest this, however, though that this would be an option for the women in the community since nursery has good market locally and handicraft locally and internationally.
- 5.8. There is genuine need of having an integrated programme, where right perspective should be seen with added emphasis.