

REPORT ON
FOOD SECURITY AND NUTRITION STUDY
IN RANGAMATI AND BANDARBAN DISTRICTS

November 2013

**Report on Food and Nutrition Security in Rangamati and Bandarban districts,
Bangladesh**

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Perspective and the findings represent the personal views of the study respondents and do not necessarily reflect the position of the MJF.

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Abbreviations

AFSP	Agriculture and Food Security Project
ANC	Ante Natal Care
BADC	Bangladesh Agriculture Development Corporation
BBS	Bangladesh Bureau of Statistics
BARD	Bangladesh Rural Development Board
BBF	Bangladesh Breastfeeding Foundation
BDHS	Bangladesh Demographic and Health Survey
BNF	Bangladesh Neonatal Forum
CBO	Community based Organization
CC	Community Clinic
CED	Chronic Energy Deficiency
CHT	Chittagong Hill Tracts
CHTDF	Chittagong Hill District Development Facility
DAE	Directorate of Agriculture Extension
DH	District Hospital
DoF	Department of Fisheries
DoL	Department of Livestock
EU	European Union
FAO	Food and Agricultural Organization
FGD	Focus Group Discussion
FNS	Food and Nutrition Security
FWC	Family Welfare Centre
GSK	Gram Shurokha Komity
HDC	Hill District Council
HFIAS	Household Food Insecurity Assessment Survey
HH	Household
IGA	Income Generating Activities
IYCF	Infant and Young Child Feeding
KII	Key Informant Interview
LGI	Local Government Institutions
MJF	Manusher Jonno Foundation
MoCHTA	Ministry of Chittagong Hill Tracts Affairs
MOWCA	Ministry of Women and Children Affairs
NGO	Non-governmental Organization
RB	Rice Bank
RC	Regional Council
SSNP	Social Safety Net Programme
SUN	Scaling Up Nutrition
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
VGD	Vulnerable Group Development
VGF	Vulnerable Group Feeding
WASH	Water, Sanitation, and Hygiene
WFP	World Food Programme
WHO	World Health Organization

Executive Summary

Chapter I: Background

1.1 Introduction

The Chittagong Hill Tract (CHT) is joining three hilly districts of Rangamati, Khagrachhari and Bandarban districts mainly the living place for indigenous people. It is an area of 13,184 square kilometers, about one-tenth of the total area of Bangladesh with a population of over 1.3 million (BBS, 2006). It is the southeastern part of Bangladesh and it adjoins Arakan and Chin States of Myanmar, and Tripura and Mizoram states of India. This area is geographically distinct from any plain land which is covered with lush green hills, with a relatively larger proportion of afforested areas. Until 1984, the CHT was a single district of Bangladesh. In that year, it was divided into three separate districts. Bandarban district comprises of 7 upazilas (sub-districts), 29 unions (smallest administrative units), 97 mouzas (revenue units) and 1501 paras (villages). There are 8 upazilas, 34 unions, 120 mouzas and 1581 paras in Khagrachhari; and 10 upazilas, 48 unions, 162 mouzas and 1344 paras in Rangamati district.

However, The CHT districts are post conflict areas that have been disadvantaged and isolated in the past decades. The people in this unique region of Bangladesh suffered years of civil conflict between 1973 and 1997, with stability 'restored' with the signing of the CHT Peace Accord in late 1997. In December 1997, the Chittagong Hill Tracts Accord was signed between the Government and Parbattya Chattagram Jana Sanghati Samity (PCJSS) which stopped these years of conflict and established a decentralized administrative setup for this region. Various political issues, delegation of authority to local government institutions, food security, land scarcity, access to resources, health facilities especially for mother and children and market infrastructure are still in critical situation results poverty, internal tension over authority, limited economic opportunities, food insecurity, mal nutrition, limited knowledge, illiteracy and unemployment. With the purpose of improvement of socio-economic status of the people especially of marginalized and deprived people since 1997 CHT became focus of some development organizations or partners and they have been extending their activities for the improvement of livelihoods of the people.

1.2 Local Governance System

The local governance system is different from other part of Bangladesh. The CHT has a dual local governance system known as decentralized local governance system and another one is traditional administrative system. Alongside there exists general state administration which is the part of central government regulated by Deputy Commissioner with other respected administrative officials. In the decentralized governance system there are four tier local governance systems. The highest tier of local governance is Regional Council (RC) headed by one chairperson and twenty four members (CHT Regional Council Act 1998). Next to it second tier is Hill District Council (HDC) which is also comprised by one chairman and thirty three members [as amended after the 1997 CHT Accord- Hill District Council (amendment) Act 1989]. All these bodies are selected in practice but according to law members and chairpersons of all councils are to be elected where these councils are functioning by the ad hoc appointees.

However, all these three types of administrative system including general administrative system are interlinked and interdependent in case of functional relationship. In some cases the functions which are vested are overlapping. A decentralized local government system is also in effect, where the responsibilities for the management of public services are delegated to the Regional Council and the three HDCs. According to Hill District Council Acts of 1989, a total of 33 subjects are expected to be transferred from the Ministries to each of the three HDCs. Of these, over half have already been transferred, including health and education. The Hill District Councils with their own funds or funds

from the Government may formulate and implement development plans on the subjects and departments transferred to them. The concerned Ministries, Divisions or Departments are expected to implement all development work through the HDCs undertaken by the Government at the national level on subjects transferred to the HDCs (*UNDP annual Report 2011*). However, the next hierarchy as same as plain land comprising Upazila Parishad headed by one chairman and two vice-chairman and Union Parishad which is set up with one chairman and thirteen members.

On the other hand, there are traditional local governance system alongside the decentralized system which is based on the tradition, customs and values of indigenous communities. Under this system there are three administrative circles i.e. Mong, Chakma and Bomang in each hill district. Each of the circles is headed by their own chief or raja. Each circle is consisted of several Mouzas headed by Headman while Mouzas are again consisted of villages headed by Karbari. Hence chiefs or rajas are engaged formally with government network by holding the position of advisor of their respective hill district councils. The leaders play a vital role in natural resource management and social justice, and in maintaining peace and social harmony in the CHT. The Union Parishad mainly performs the development functions and partly revenue functions such as collecting taxes of the Hat/bazaar, etc. The “Headman”/“Karbari” is mainly responsible for collecting land taxes..Besides these administrative institutions, there are certain institutions serving people such as Family Welfare Centre (FWC), Sub-assistant Agriculture Office, Forest Department/Bit/ Range offices, Department of Livestock (DoL), Department of Fisheries (DoF), Bangladesh Agriculture Development Corporation (BADC), Bangladesh Rural Development Board (BARD) and so on (UNDP. 2009).

1.3 Population

The various ethnic groups in CHT are closer, in appearance and culture, to their neighbours in north-eastern India, Myanmar, and Thailand, than to the rest of Bangladesh. Most of them have their own languages in both oral and written form. The indigenous people of CHT are often identified as *Jumma* people, derived the word *jhum*¹. The proportion of non-indigenous (Bengali speaking) population in CHT has been increasing over time. Over the last 30 years, Bangalee settlers from other parts of Bangladesh have been allocated land in the CHT districts and now represent approximately 50 percent of the CHT population.

The Jumma people are distinct and different from the majority Bengali population of Bangladesh in respect to **language, culture, religion, and ethnicity**. The indigenous inhabitants of CHT also exhibit a degree of diversity based on eleven different identities. They are: Bawm, Chak, Chakma, Khumi, Khyang, Lushai, Marma, Mro, Pankhoa, Tanchangya, and Tripura. The Chakma, Marma, and Tripura are the major communities in terms of population.

1.4 Land Ownership

The land ownership patterns, as well as types of land in CHT differ from that of plain regions. These can be understood along with three major types of ownership: (i) individual registered ownership, (ii) traditional ownership (recorded and/or not recorded with headman) under usufruct rights, and (iii)

¹ Jhum cultivation is an age-old, rain-fed cultivation method, practiced by the Indigenous people on the hills and slopes of the Chittagong Hill Tracts, because of the lack of flat land suitable for farming. This system involves cutting back and clearing large areas of the hillside through fire, which also acts as a fertilizer, to obtain clean, fresh soil to farm, and why it is sometimes referred to as a ‘slash-and-burn’ method. This agricultural system is practiced by the individual or family, however on occasion may involve an entire village. Seeds of different crops are mixed together and sewn in this ‘field’ after the first rain shower has fallen, usually during the months of April to May. Plants on the slopes survive the rainy season floods. Typically, upland rice and vegetables are harvested within a few months after sowing, whereas cotton, turmeric and arum are harvested after 8 or 9 months, during December.

usufruct rights to ownership of common property (different from that in plain land). Conservative estimation considering only registered ownership category reveals that only one-third population of the CHT enjoy land ownership with a significant variation between the indigenous people. Despite its lower population density compared to the rest of Bangladesh, the CHT region is actually **land-scarce in terms of availability of land for cultivation** (only 23 percent of the land is arable).

Despite having approximately 3 million acres of land, CHT is one of the most land scarce regions of Bangladesh in terms of availability of land for cultivation (UNDP, 2011). Plough cultivation is extremely difficult except in flat valley bottoms. Out of an estimated 364,000 acres of available cultivable land, 27 percent is used for *Jhum*, 20 percent is under plough cultivation, 18 percent is set aside for homesteads and 35 percent is used for plantations. Most of the land is either non-inhabitable due to its topography, or its usage is restricted by law (reserve or protected forests).

1.5 Poverty and Livelihoods

According to socio-economic base line survey of CHT identified over 62 percent household are living below the absolute poverty line where as about 36 percent are hardcore poor and in rural CHT, almost all households possess own house. Overall based on these and secondary information reported in Table 1, around 65 percent of the population are poor. Crop Sales (paddy and vegetable other crops), livestock sales (sale of pigs, cows, buffaloes), livestock product sales (meat, fish and eggs), sale of fuel woods, labor (house repairs of others, work in others' *Jhum* land, tobacco fields and for drying tobacco leaves labor for seedling timber, limited work in market places if these are in close proximity). More than half of average household income (including transfers received) originates from crop sector – with *Jhum* accounting for more than half

Table 1: Poverty Status by Communities in Chittagong Hill Tracts

Community	Poverty Status		
	Hardcore poor	Absolute poor	Non-poor
Indigenous community	39.4	65.1	34.9
Bawm	64.8	90.7	9.3
Chak	63.3	83.7	16.3
Chakma	33.9	60.1	39.9
Khyang	59.6	80.9	19.1
Khumi	48.8	60.5	39.5
Lushai	66.7	93.3	6.7
Marma	40.9	61.2	38.8
Mro	30.4	66.7	33.3
Pangkhua	26	80	20
Tanchangya	35	63.3	36.7
Tripura	42.2	71.9	28.1
Bangalee	31.4	58.7	41.3
All CHT	35.8	62.2	37.8

Source: Socio-economic Baseline survey of Chittagong Hill Tracts. UNDP. 2009

of it; 8 percent from wage/labor equally contributed by agriculture and non-agriculture labour; 10 percent from petty trade and salaried jobs; 7 percent from stipends and social security programmes; and more than 9 percent from selling forest produce that includes bamboos. Sources of other supports to livelihood/coping mechanisms are: loans in kind and cash, safety net programmes (rice, salt, *ngapi*, etc.), other relief, sale of property rights. The people of different indigenous groups have their own unique food culture and habit. Major sources of food are: own crop production (rice, maize, vegetables, spices, potato, etc.), livestock products (meat, milk, eggs from own livestock/poultry), fish (fish caught and consumed), market purchases (all foodstuffs purchased from open market), leaves/tubers/roots from forest.

In case of household income, primary source of the household income was *jhum* cultivation (58 percent), day labour (13.5 percent), and agriculture (11.5 percent). Other sources of household income were small business (7 percent), service (4.5 percent), and work in the forest (2.6 percent). Poultry and gardening constituted the rest of primary source of income. For most of the households, *jhum* cultivation was the secondary (40 percent) and tertiary (17 percent) source of household income. (Save the Children 2008). The majority of the houses of indigenous communities are kutcha

followed by machan. Among them, more than half (55 percent) uses straw/jute stick/leaves/chaan as the main roof construction material.

This region of the country had experienced a **unique phenomenon of bamboo flowering in 2007** which increased the **rodent outbreaks**² caused **food insecurity** of the local people. Some of the areas of this region were affected with rat infestation i.e. Baghaichhari, Kaukhali, Longodu, Naniarchar and Kaptai of Rangamati resulted high food scarcity. Due to the rodent attacks, *jhum* crops were totally damaged domino effects to people be workless, migrated from one hills to another hills. After rodent attack the concept of rice bank was applied widely to ensure food security in CHT. At present in this region to overcome seasonal food shortage and food crisis both UNDP and MJF have Rice bank (RB). In the rice bank, the community contributes by providing materials such as wood, bamboo etc. to set up the warehouse to store rice. 10 ton (1000ari) of rice is initially purchased with money from project fund to stock the RB. This rice is distributed to poor *jhum* cultivators in the lean period every year and is recovered during harvest. An interest rate is also charged to account for loss and damage. Rice stored in the bank is treated as a revolving fund. Every family who receive rice during the lean period has to return two additional *ari* during harvest. A management committee has been trained to run this bank on a regular basis. Guidelines for operating these banks were developed in consultation with the community, which included systems of management and maintenance. Rice bank operations are very effective to reduce food insecurity. MJF has 56 rice banks in both Rangamati and Bandarban district and UNDP has 1670 rice banks in Banderban, Khagrachhari, and Rangamati. A survey on rice bank supported communities by UNDP shows the number of months of food deficit has decreased from 2.6 months to 1.8 from baseline data (UNDP, 2011).

Table 2: Percentage of Household that borrowed and paid back by district

District	HHs borrowed from rice bank	HHs paid back rice with interest
Khagrachari	68.2	18.3
Rangamati	63.3	0.0
Bandarban	98.9	0.0
All	76.7	5.4

Source: Result Assessment Report, UNDP, 2011

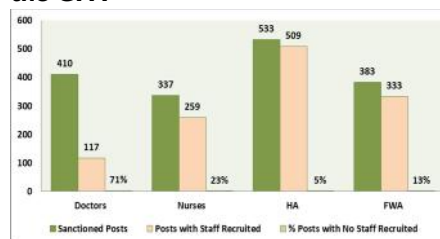
1.6 Education

The CHT have historically **low enrolment rates** (12 percent in some communities) and even **worse drop-out** rates (between 56-65 percent). Access to primary schools remains difficult for many paras in the CHT and not all children have enrolled at school. The challenging terrain, the lack of qualified teachers and the lack of adequate learning spaces for children are major challenges. Efforts to support multilingual education of different agencies are underway.

1.7 Health and Nutrition

Health and nutrition service structure is quite different than any other plain land of Bangladesh. In CHT, three hill district councils are delegated the authority of overseeing the operations of health service system. According to Hill District Council (amendment) Act 1998 transferred responsibilities along with other of delivering health services to councils though Ministry of CHT Affairs is responsible for monitoring the activities and

Figure 1: Government Health Staff in the CHT



²Within a week of pollination, the flowering led to fruit setting, provided an abundant and nutritious supply of food for rodents. Subsequently there was a remarkable increase in breeding frequency among certain rodent population, which they gave birth up to eight times during the period of food abundance. The rodents demolished the bamboo crop and moved on to feed off agriculture crops in fields.

staffing. CHT **lags behind of health indicators** compared to other parts of the country. The human resource situation in different government health facilities of three districts is alarming as 71 percent doctors' positions are vacant (figure 1).

1.8 Safe Drinking Water and Sanitation

A healthy environment largely depends on having hygiene knowledge and practice, access to safe drinking water and sanitation, and hand washing. Access to safe drinking water in the CHT has been difficult due to the topography of the area. Often the safe water options available are costly and require specific technical support not easily found in the CHT. Major sources of water in CHT for drinking water include springs, streams, tube wells, ring wells and hand dug wells. Some communities fully depend on streams and some depend both on streams and hand dug wells. The sources of drinking water and cooking water are almost similar. Statistic shows about 36 percent of indigenous people are using tube-well, 27 percent reported to use dug well and 28 percent of reported to use stream (UNDP 2009).

Again in the case of sanitation condition because of geographical characteristics and geo-hydrological situation the disposal of household waste is not satisfactory. Only 44 percent of indigenous people are using sanitary latrine and 43 percent of indigenous household are using non-sanitary latrine (UNDP 2009). Many of the "paras" (villages) continue to use open hanging latrines or open defecation, increasing the prevalence of faecal borne and other communicable diseases.

1.9 Transportation

Transport system of the three hill districts is mainly dependent on roads and waterways. From other part of the country roads are only one option to visit the headquarters of the three districts. From the district headquarter of Rangamati it is easy to transport people and goods to upazila level by boats. From Bandarban sadar people use both river and roads to go to the upazila sadar. Road transport is only one option to go to the upazila sadar in Khagrachari. Most of the people walk for visiting places beyond the upazila level.

1.10 Culture

All indigenous communities have individual cultural characteristics. They practice their own languages, literature, traditional rumors, manners and customs, superstitions, dances and songs. The people of CHT celebrate some events and practice traditions which are a symbol of their culture. Chakma, Marma, Kiang, Tanchangya. Chak and Khumis practice Buddhism, and celebrate a variety of religious events across the year. The temple (Kiong in local language) is main place for their worship. "PrabaranaPurnima" and "KathinCibardan" are the main events for the communities. During the three month long rainy season, known in Chakma and Marma as "Wah", the spiritual guides of the Buddhist people practice meditation in a silent space". After three months they celebrate Prabarana Purnima and then Kathin Cibar Dan for one month. The Tripura community is mainly Hindu. They celebrate Durga puja, Swaraswatee puja, Ker puja, Goraia Puja, Laksmi puja. Bawm, Pankhu, Lushai, Mro are animist and they have different Gods. They have their own tradition to make all types of cloths including dress, blankets, towels, shawls and stoles. The **process of weaving** is very hard and they have no modern technical equipment and everything must be handmade. The people collect the equipment from forest, and then prepare it themselves. The most important **annual event** of three main indigenous communities is to **celebrate Bangla New Year** from 13th -15th April³.

³Tripura call the festival Bwisu, Marma call it Sangrai and Chakma call it Biju.

1.11 Organizations working on Food Security, Nutrition, and Livelihoods in CHT

Chittagong Hill Tract Development Facility (**CHTDF**) of UNDP works with the collaboration of MoCHTA, CHT religion council, three HDCs; International and National CHT based NGOs. The name of the programme (since 2009) was Promotional and Development of Confidence Building in CHT. The geographical coverage of this project is 20 upazilas in Rangamati, Bandarban and khagrachari Districts. The types of intervention are on health, agriculture and food security (rice bank).⁴ World Food Programme (**WFP**) currently implements National School Feeding Programme in Bandarban district. This project has been started from 2011. The type of beneficiaries is children and the focus area is Child Nutrition (Micronutrient fortified biscuits on each school day). WFP also works in all three districts when an emergency occurs which food and non-food items. Food and Agricultural Organization (**FAO**), with an aim to attain food security and increased income generation, provides agriculture input support to 2700 families of Thanchhi upazila of Bandarban district and 3500 of Sajek union of Baghaichhari upazila of Rangamati district who are fully dependent on Jhum. The organization also works in horticulture and vegetables in these areas through distributing fruits saplings, seeds and providing training. has also distributed y **MJF** works in CHT in collaboration with local NGOs. The geographical coverage is 21 upazilas in Rangamati, Bandarban and khagrachari Districts. The number of beneficiaries is about 55397 (district project participants). The types of intervention are Rice Bank, Seed Bank, Eco friendly jhum cultivation, IGA (income generating activities), SMC Block Grants.⁵ **CARITAS** with the collaboration of Management Agency of UKaid from DFID and Harewelle International Ltd is the name of the organization. The name of the programme is Ensuring Sustainable livelihood of extreme poor of CHT (ESLEP-CHTO).The duration of the project is 1st September 2011 to 30 September 2015. The geographical coverage is 481 villages of 19 unions in five upazila under Bandarban district. The number of Beneficiaries is 10000 Beneficiaries households. The types of input is Cash crop and rice seed distribution, livestock support, support for irrigation, fertilizer and vaccine, support for improvement for nutritional status of targeted mother and adolescent girls and children. **Toymu** works with the collaboration of Management Agency of UKaid from DFID and Harewelle International Ltd. The geographical coverage is Lama Upazila under Bandarban district. The beneficiaries are 400 extreme poor household. The focus area is about asset transfer (livestock's, Sewing machine, materials for small shop), Skill training, improve livelihoods and supply for protein reach food, pigeon farming.

⁴ Annex 4

⁵Annex 5

Chapter 2: Objectives and Methodology

The objectives of the study were to understand (a) existing community food security, (b) food habits and dietary intake by 24 hour recall method and (c) local practices at achieving food and nutrition security that can be strengthened. The study was conducted among populations that have a history of low nutritional status and are below poverty line/ ultra-poor.

2.1 Methodology

2.1.1 Survey Design

The study was based on two procedures namely content analysis through documents analysis and field level data collection. Below are the descriptions of the both:

Documents Review: Reviewing the existing literatures on food security and nutrition status of CHT was one of the most integral components of the study. At the beginning, documents, contents and review of the literature took place to finalize the instruments and the guidelines of study tools.

Field Data Collection: Along with documents review, the study was mostly based on real time data collection from the actual field. To collect data from the field the study adopted both quantitative and qualitative research technique including structured questionnaire, FGD, facility mapping, mobility mapping, case study, KII, and food market analysis.

2.1.3 Survey Area

The survey covered two rice bank executing districts of MJF – Rangamati and Bandarban. Total 8 upazilas – four (4) upazila from each of the district – will be covered. From these eight (4) upazila, 16 (sixteen) unions will be selected based on remoteness, composition of population. Table 3 provides a pen picture on the survey areas that was covered by the study.

Table 3: List of the Survey Area

District	Upazila	Union
Rangamati	Jurachhari	Sadar, Moidang
	Bilaichhari	Sadar, Farua
	Barkal	Aimachhara, Bhushanchhara
	Baghaichhari	Rupkari, Sajek
Bandarban	Sadar	Soalek, Tangabati, Rajbilla
	Thanchi	Sadar, Bolipara
	Rowangchhari	Sadar, Taracha
	Ruma	Sadar, Gulenga

2.1.4 Survey Population

The study took place among 12 population group (11 indigenous population and Bangalee) living in Rangamati and Banderban districts of CHT. The study population were: household, pregnant women, lactating and mothers of under two and five years of age, primary school going children, and key informants.

2.1.5 Survey Respondents

The respondents for the survey were as follows:

Table 4: Survey respondents by response type

Respondents	Response Type		
	Quantitative information	FGD	KII
	1	2	3
Women of the household	354	8	-
Primary school going children	85	-	-
Service provider (Health, Agriculture extension, MOWCA, and WASH)	-	-	12
LGI representative	-	-	4
NGO partners	-	-	6
Headmen/ Karbari	-	-	4
Petty Traders	-	-	4
UNDP-CHTDF, WFP, FAO staff	-	-	8

2.1.6 Quantitative Sample Size Calculation

The sample size was determined according to the following formula: []

$$n = \frac{NZ^2 pq}{(N-1)e^2 + Z^2 pq}$$

N is population size

Z is standard normal variate (value of Z square is 1.96 with 95% confidence interval)

p is probability of happening (assumed 0.5)

q is (1-p) that is probability of not happening

e is the margin of error (5% that is .05)

Table 5: Quantitative sample size calculation

District	Upazila	Union	#HH in Union	# of sample HH in union	#of sample Primary school student	
Rangamati	Jurachhari	Sadar	2057	21		
		Moidang	1435	14		
	Bilaichhari	Sadar	1780	18		
		Farua	2958	29		
	Barkal	Aimachhara	1625	16	7	
		Bhushanchhara	3053	30	14	
	Baghaichhari	Rupkari	1062	11	5	
		Sajek	5461	54	25	
	Total in Rangamati			19431	194	51
	Banderban	Sadar	Soalak	2293	23	5
Tangabati			1068	11	2	
Rajbilla			2257	23	5	
Thanchi		Sadar	1193	12	3	
		Bolipara	1204	12	3	
Rowangchhari		Taracha	1989	20	4	
		Sadar	1988	20	4	
Ruma		Guelga	1034	10	2	
		Sadar	2646	26	6	
Total in Banderban			15672	156	34	

Note: Number of households in a union has been taken from Community Series, Government of Bangladesh

The total sample size of **households** for the survey data collection was **350** and **primary school going children** was **85** which were collected from 17 implementing unions of MJF. Among 350 households, the snow-ball method was used to get pregnant women, lactating mother, mother of

under 2 and under 5 children as exact number of these categories among the households are not found. The households belong to both rice bank beneficiaries and non-beneficiaries.

2.1.7 Qualitative Sample Size Calculation

Unlike quantitative survey, qualitative procedure cannot have too many numbers and does not yield any additional advantages. The idea was to do in-depth exploration and try to cover as much heterogeneity as possible through smaller samples, ensuring that the heterogeneity of the universe – in terms of ethnicity, socioeconomic background, were well represented. Open ended focus group discussions by field supervisors and core team, and semi structured checklist were used. Wherever feasible, audio documentation was done.

The main tools for qualitative part of this survey were:

- Focussed Group Discussions: Total eight (8) set of FGDs were conducted from eight upazilas. The set includes: women food manager of the households, pregnant women, lactating mother, mother of under 2 and under 5 children.
- Key informants interviews (38): Total thirty eight KII were conducted from eight upazilas. The set included Service provider (Health/ Agriculture extension/ WASH, etc), aged women (age between 60-70 years with experience of 1952 rodent attack, conflicts, migration, etc), person resettled after peace accord (man/woman), LGI representative, NGO partners, Headmen/ Karbari, Petty traders (food market) and Ethnic leaders. In addition, representatives from UNDP-CHTDF, WFP, FAO in the district and Head office, local NGO staff, were also interviewed.
- Case Studies (2): Two (2) case studies were collected from the districts.
- Facility Mapping and mobility mapping (8): Eight facility mapping and mobility was collected from two districts
- A list of wild food items was collected which are being consumed in different ethnic communities.

2.1.8 Survey Tools

Both pre-coded and open-ended questions were used to collect data. Pre-coded questions were asked to ascertain the respondent's knowledge, attitudes and practices, while open-ended questions were asked to ascertain the underlying causes of the reported knowledge, attitudes and practices. Trained interviewers conducted interviews following interview guide. Both at the training stage and in formulating the guides, adequate emphasis was given on in-depth probing. The response was recorded and noted down by the enumerators. Pre formulated questionnaires, checklists and guidelines were used for the purpose.

2.2 Analysis Plan

The consultant, with the help MJF staff and partner NGOs staff followed the standard data processing procedure using its cutting edge logistics and data processing techniques. After screening was over, editing was undertaken to ensure that questionnaires were correctly filled-in, interviews conducted to the right respondents, items of information recorded or responses to questions obtained were consistent with one another. For identifying individual and household level dietary diversity, the study followed FAO guidelines (Gina Kennedy et al, FAO 2010). FAO uses a reference period of the previous 24 hours. Using one 24-hour recall period does not provide an indication of an individual's habitual diet, but it does provide an assessment of the diet at the population level and can be useful to monitor progress or target interventions. The recall period of 24 hours was chosen by FAO as it is less subject to recall error, less cumbersome for the respondent and also conforms to the recall time period used in many dietary diversity studies. Moreover, analysis of dietary diversity data based on a 24-hour recall period is easier than with longer recall periods.

The dietary diversity questionnaire can be used to collect information either at household or individual level. The decision on which level to collect information depends in part on the purpose and objectives of the survey. If assessment of the nutrient adequacy of the diet is of primary concern, it is best to collect information at the level of the individual.

Another important consideration for the choice between household and individual is the frequency of meals/snacks purchased and consumed outside the home. If meals/snacks are purchased and consumed outside the home on a regular basis by one or more family members, administering the questionnaire at the individual level is more appropriate as it is not possible to capture accurately meals/snacks purchased and eaten outside the home at household level.

During data collection, the respondents described the foods (meals and snacks) that they ate or drank yesterday during the day and night, whether at home or outside the home. They started with the first food or drink of the morning. Then the field enumerators wrote down all foods and drinks mentioned. When composite dishes were mentioned, they were asked for the list of ingredients. When the respondent finished, there was a probe for meals and snacks not mentioned. [For example, include foods eaten by any member of the household, and exclude foods purchased and eaten outside the home]. When the respondent recall was complete, the enumerators filled in the food groups based on the information recorded above. For any food groups not mentioned, they asked the respondent if a food item from this group was consumed.

Editing also involved categorization of the responses to the open-ended questions. The data from the questionnaires was entered into computer, with double entries, using a specific computer programme developed by the programmer responsible for the work. One data entry operator was engaged for data entry from the questionnaires into computers. They worked for a week for editing, coding, entering and cleaning the data. For quantitative data statistical analysis was undertaken using statistical tool according to the objective of the study. After statistical analysis data was presented into different graphical presentation such as bar chart and pie chart.

Since qualitative analysis differs from quantitative analysis, special ways was followed to analyse qualitative information. The outputs of the FGD were analysed with MSExcel.

2.3 Logical Framework

Table 6: Logical framework for the survey

Indicators	Sl	Measurable Variables	Sources of information/means of data collection
Food security	1.	% of HH access to food grown and/or purchased) throughout the year	SQ + FGD
	2.	% of HH food consumption throughout the year	
	3.	% of food deficit months in the year in targeted households	
	4.	% of HH with access to rice banks	Mobility mapping + Facility Mapping + SQ
	5.	% of HH access to local market opportunities	Mobility mapping + Facility Mapping
	6.	Availability of staple foods in the area	Secondary Information, FGD
	7.	% of HH access to the food due to any hazard or crisis situation	FGD
	8.	Types of income generating activities of HH	SQ
	9.	Definition of food and food security to pregnant and lactating women, mother of under two and under five children	SQ+FGD
	10.	Incidents of food insecurity situation in the area	SQ+FGD

Indicators	SI	Measurable Variables	Sources of information/means of data collection
Food Consumption (Household, Pregnant and Lactating Mother)	11.	% of HH, pregnant and lactating consume different types of food	SQ
	12.	Total food intake by HH, pregnant and lactating mothers (in gms) (24 hours recall)/ calorie consumed by HH in a day)	SQ
	13.	List of food items not consumed during pregnancy and lactating period	SQ+FGD
	14.	Reasons for taking and not taking few food items during pregnancy and lactating period	FGD
Food Consumption for Children (0-6 months, 6-23 months, 2 to 5 years)	15.	% of children ever breast-fed	SQ
	16.	% of children exclusively breast-fed	SQ
	17.	% of children who started breastfeeding within 1 hour of birth	SQ
	18.	% of children who started breastfeeding within 1 day of birth	SQ
	19.	% of children who received a prelacteal feed	SQ
	20.	% of children under 2 by breastfeeding status	SQ
	21.	% of children under 2 currently breastfeeding	SQ
	22.	% of children under 2 by type of foods consumed in the day or night preceding the interview	SQ
	23.	% of children age 6-23 months who are fed according to three IYCF feeding practices	SQ
	24.	% of children age 6-23 months consumed vitamin A rich and iron rich foods	SQ
	25.	% of children age 6-59 months who were given vitamin A and iron supplements	SQ
	26.	% of children age 6-59 months who were given deworming medication	SQ
	27.	% of children age 6-59 months are tested for iodized salt	SQ
Maternal Nutrition	28.	% of pregnant women, mother of 0-6 months, 6-23 months, 2 to 5 years understand the importance of nutrition during pregnancy	SQ+FGD
	29.	% of pregnant women receive antenatal care and delivery care	FGD
	30.	Working hour of lactating mother during jhum	SQ+FGD
	31.	% of women age 15-49 years with a child received vitamin A dose postpartum	SQ
Nutrition for Children and mothers	32.	% of Children stunting	Secondary information
	33.	% of Children wasting	Secondary information
	34.	% of Children Under-Weight	Secondary information
	35.	% of mothers with BMI, anaemia, night blindness.	Secondary information
Access to services	36.	Access to health care for children <2 and 5	Facility & mobility mapping
	37.	Access to antenatal care and delivery care	Facility mapping, stakeholder consultation
Cooking practice	38.	Cooking practice and use of cooking pot for general, pregnant and lactating, children under 2 and under 5	KII, FGD

Moreover, in order to consolidate the knowledge, variety of practices and beliefs that affect maternal and child nutrition, the following topics of relevance to maternal and childhood nutrition have also been taken into account: a) Food Production; b) Food Consumption Patterns; c) Caloric Intake; d) Intra-Household Food Distribution; e) Food beliefs and practices of Mothers and Infant and Young Child Feeding (IYCF) Practices, Including During Childhood Illnesses; and f) Beliefs, Practices, and Treatment of under nutrition.

2.4 Confidentiality Policy

The safeguarding of the personal data of the respondents/participants in the survey was of utmost importance. Since this study aimed to collect primary data, privacy of the respondents and participants of the survey was carefully maintained. Identity of the respondents/participants and all the data and information provided by the respondents/participants was kept confidential. Proper rules of coding were followed to ensure the confidentiality of the data and respondents. Before collection of data and/or interviewing any respondents, permission was sought and objectives of the study were explained.

2.5 Limitations

- The sample is small to analyse the findings by education status, asset quintile, ethnic community, beneficiaries of rice bank, etc
- Most of the crops, vegetables, and food items consumed are found in local and ethnic language, not in Bengali language. As a result, within survey time, it was not possible to translate all of them in English to get nutritious value of the food items.



Chapter 3: Findings

The main focus of this study was to explore the knowledge and practice of attaining community food security and nutrition status through analyzing household dietary pattern and food availability of CHT citizen with especial attention of pregnant and lactating mother. Considering this we have conducted our survey in two districts i.e. Rangamati and Bandarban i.e. 55 percent of respondent from Rangamati and 45 percent of respondent is from Bandarban.

3.1 Socio Demographic Information

Social, demographic and economic factors are closely linked to each other. Social norms and politics may enhance or hinder efforts to achieve sustainable solutions. Different groups of people will have varying needs and desires as to what makes a community sustainable. The identification of population and demographic characteristics will help to provide a better understanding of the community that is being served. Characteristics that may be helpful in creating a community profile include: Population, ethnic minority representation, religion, household composition, education status, marital status, hygiene practice, etc.

Household Representation: The quantitative survey covered mainly four types of respondents: pregnant mother (n=71), mother of less than two year old children (n=155), mother of more than two year old children but less than 5 years old children (n=122), and mother of less than two year old child and mother of 2-5 year child (n=6) (Table 7). Among 354 households, 33.6 percent are MJF beneficiary households (Banderban: 11.5 percent; Rangamati: 51.3 percent).

Table 7: Percentage distribution of households by type of members

SI #	Type	Frequency	Percentage
1	Pregnant mother	71	20.1
2	Mother of less than two years old children	155	43.8
3	Mother of more than two years old children but less than 5 years old children	122	34.5
4	Mother of <2 years child and mother of 2-5 years child	6	1.7
N		354	100.0

Age-Sex Structure: The age-sex structure of the population is shown in population pyramid in Figure 2. The pyramid is wider at the base than the top and narrows at the youngest age group. It is interesting to note that unlike national scenario child death is higher in CHT and the trend is increasing for older girl children.

Ethnicity: Ethnic minority presence in CHT the household population of the survey comprises both indigenous community and Bangalee community which are 97.5 percent and 2.5 percent respectively. In CHT, among the indigenous people it is found that majority of indigenous people are from Chakma community (nearly 43 percent). Marma community is second highest community in CHT (Annex Table I.2).

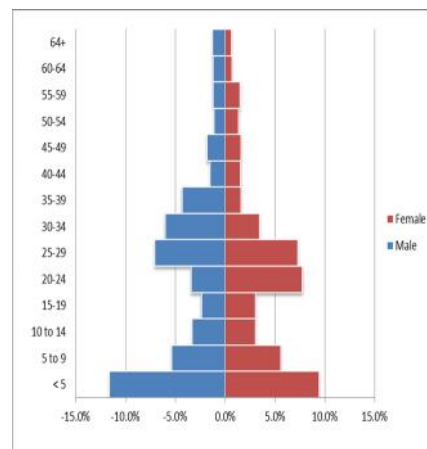
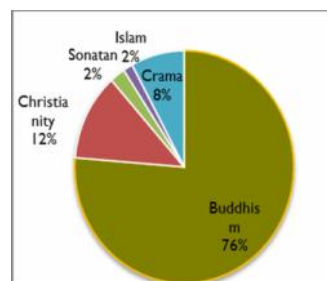


Figure 2: Population Pyramid

Religion: In order to identify the household distribution by religion it is found among the household that majority population in CHT are the follower of Buddhism (77 percent). Data shows that 8 percent of people are the follower of Crama which is third highest and it is the religion of Mro community. It is noted that more than one-tenth of the households belong to Christianity (12 percent). Rest of people is the follower of Islam and Sonatan.



Living in CHT: Information collected from households shows that more than 90 percent people are living more than 30 years in CHT and very few are living less than 30 years.

Figure 3: Household by religion

Household composition and size: The household distribution by sex is similar. Both are almost 50 percent. If we compare this with national data it is found that 11 percent of household member are women which is 38 percent less than CHT and 89 percent are man in countywide (BDHS 2011) 37 percent more than CHT. The household comprises 4 members is highest in CHT (27 percent). The mean age of CHT population is 22.38 years. Again distribution of the household members according to their sex and age group shows the mean age of man and women in CHT is 22.97 years and 21.74 years respectively (Annex I.1. and I.3).

Marital Status: Analysis of distribution of household population by marital status (10 years or more) shows more than half of household population is currently married, nearly 35 percent are never married and very few are formerly married (figure 4). On the other hand, the mean age of household population who are currently married is 32.91 years, formally married is 42.45 years and never married is 16.56 years (Annex I.4).

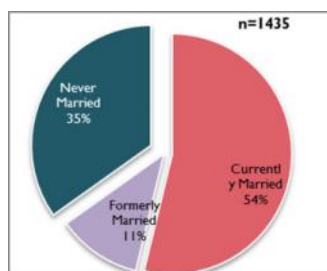


Figure 4: Household population by marital status (10 years or more)

Educational Status: Analyzing the educational standing at CHT shows that women are without no education than man about 21 percent less. Comparing with countrywide data, half of CHT women are without education whereas national figure is less than 30 percent. In case of man, 29 percent respondents are reported for having no education whereas one-fourth is nationally. More than one-third reported to complete primary education and 27 percent women reported in this regard. Very few both man and women are found to complete secondary education. About highest 16 percent of household population reported to primary complete under age group 30-34 years old, highest 14 percent of household population reported to secondary complete under age group 35-39 years old and only 8.5 percent reported to above secondary under age group 15-19 years old and 30-34 years old (Annex I.5). On the other hand considering educational attainment by ethnicity less than half of all CHT population have no education, less than 90 percent Lusai population have completed primary level which is highest than other communities and near to 15 percent Tripura population have completed secondary level and highest one third Chak population go for above secondary (Annex I.6). Analyzing educational status by district it is found that people of Bandarban district highest in number (6 percent) in case of above secondary than Rangamati (3 percent). On the other hand, only one-tenth households in Rangamati reported to complete primary

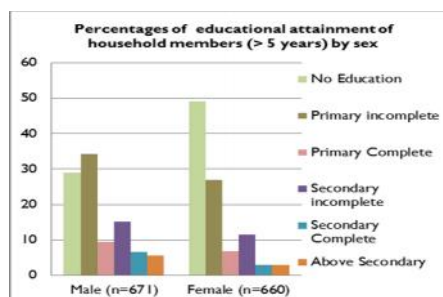


Figure 5: Education status of household member by sex

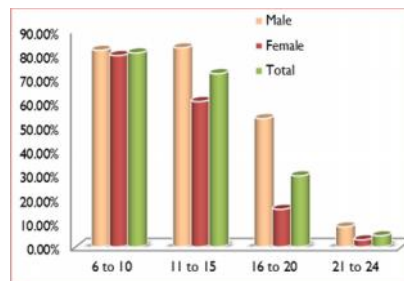


Figure 6: HH member attending school by sex by age group

whereas it is only 5 percent in Bandarban. The ratio of secondary complete is almost same in both districts. Data demonstrates educational attainment of household head by wealth quintile. We observed almost half of them without education belong to lowest quintile, and one-third belong second and middle quintiles and there are not much variation between fourth and highest quintile in attainment of education. Likewise, primary and secondary completed are highest in fourth quintile (18.2 percent). In attainment of above secondary education highest quintile is in the top position and others are in very low position (Annex I.7). Considering the age group highest 6- 10 years age group population at CHT attain school, age group 21-24 years are lowest in this regard.

Safe drinking water and hygiene: Drinking water and hygiene status is considered the important indication for Information about healthy life. Household nutrition status largely depends on it. In CHT considering sources of drinking water only one third household population is using tube well which is more than 80 percent nationally (BDHS 2011). Well-maintained well is found only in one-fifth cases and more than 19 percent are dependent on surface water (figure 7).

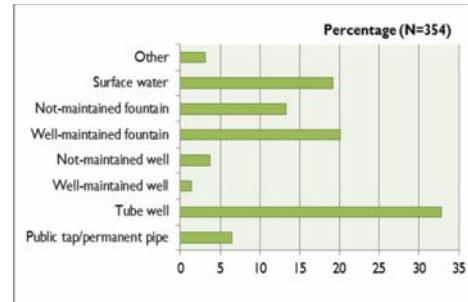


Figure 7: Sources of Drinking Water

Hygienic **latrine practice** is rare in CHT nearly 2 percent households are reported for Sanitary Latrine (Pacca) which is lowest. Among CHT people highest one fourth population are using pit latrine and around 19 percent are reported to use ring slab (without water sealed) (figure 8). On the other hand, in the place of hand wash near to half of them are reported to presence of water.

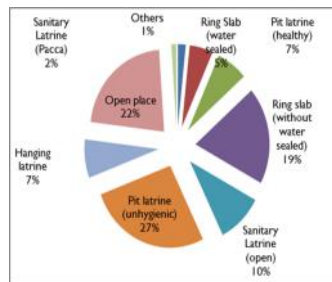


Figure 8: Latrine use by household

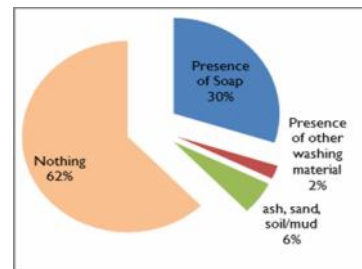


Figure 9: Handwash practice by households

Only 30 percent are reported to use soap and two third of population are reported to use nothing (figure 9).

3.2 Household Economic Information

Household economic information includes current occupational involvement, types of earning categories, household assets. Most of the people related to *jhum* cultivation which is 46 percent and the other agricultural work is one fourth and poultry rearing is .8 percent (Figure 10). More than half of population in CHT man is involving in **economic activities** whereas women are 44 percent in this regard. If we analyze this by ethnicity it is observed that majority of Tripura man are involved in economic activities and Khyang is lowest in this regard which is one third of population. Oppositely Khyang women are highest in number in this case about two third of population. On the other hand, Tripura women have little involvement. Again analysing the types of **earning by household** it is found that nearly two third of man earn in cash and 43 percent of women earn respectively. About 16 percent of man reported for food and labor whereas one third of women reported for labour.

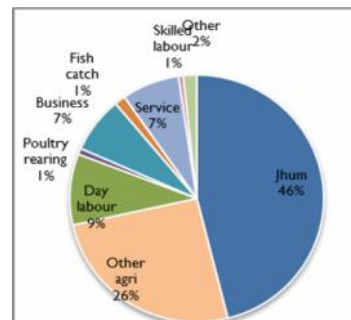


Figure 10: Primary Occupation of households

In case of having **poultry and livestock** less than 80 percent have duck or hen which is highest, more than half of population have pig and around 45 percent have cow. Buffalo is the lowest reported (0.8 percent). Raising goats, chicken, pigs, dogs are for different communities' religious and social purpose rather for eating meat. Eighty percent have mobile phone, next to it 57 percent have reported to have jewelry which is second highest and 43 percent have reported to have solar electricity (Annex 1.8).

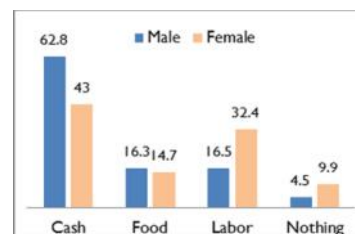


Figure 11: Types of Earnings by Sex

3.3 Household Food Security

The cultivation technologies practiced in CHT for crop culture are plough and *jhum* depending upon the suitability of the land. Nearly two-thirds of rural households are farming households who cultivate various types of crops in their farms (UNDP, 2009). One-third households are involved in field cropping only, about one-fifth are involved in *jhum* only, and a small portion (9 percent) does both field and *jhum* agriculture. Plough and *jhum* cultivation has been found in more than half of all indigenous households, while most Bangalee households depend on plough agriculture.

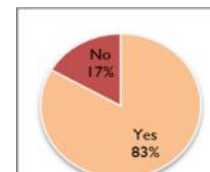


Figure 12: Own production of main food of house hold

More than 35 types of different crops were cultivated with major crops limited to 7 types including paddy, turmeric, ginger, arum, *binny* paddy, and banana. The productivity of paddy (34 maunds per acre) under field cropping is substantially higher than the average national scenario (27 maunds per acre). Productivity of field cropping is higher than that in *Jhum* culture (15 maunds per acre). As for other food items, such as, milk and dairy products, livestock, and poultry, though showing a gradual increase in recent years as reported by the community elderly people, are a relatively smaller proportion of the total food production and thus a smaller part of the diet of the people. More than 80 percent of household population has been reported for self food production (figure 12). The survey shows that two third of households sometimes sell their self-cultivated product to market and one fourth of households never go to market for selling their products.

Food Secure Months: With purpose of identifying food insecurity status of CHT population this section has explored number of food insecure months and their coping strategies to overcome this situation. The survey investigated the food security status by months. Empirical data on number of food insecure months shows that averagely 7.47 months are insecure months in relation to unavailability of food. On the other hand, analyzing the number of months adjusted with food insecure months we can found that in an average five months can be adjustable with food insecure months by the household (figure 13).

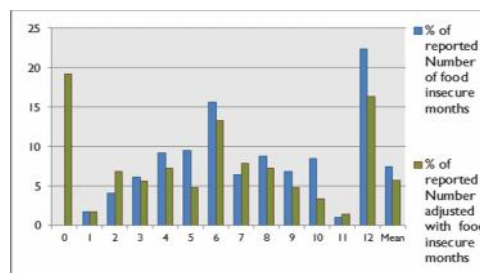


Figure 13: Food Insecurity at CHT in months

Analyzing the food insecure months we can divide these into three categories according to percentage of household reported where empirical data shows Boishakh to Asar (April-July) are most food insecure months (more than 60 percent population reported, Annex table 1.9). The survey reveals that during food insecurity, more than 60 percent people move other place for working opportunities and half of the household take loan from neighbors and relatives. However, rice bank takes place in fourth position in ranking of coping strategies during food insecure months. Rice bank⁶ is a better option to struggle against food insecurity in CHT.

⁶ For detail about Rice Bank please see Annex 4

Number of rice banks in CHT supported by MJF is presented in Table 8. Nowadays, there is a growing tendency to depend on rice bank during food insecurity among the people and get involved into income generating activities.

Table 8: Rice Bank of MJF in Banderban and Rangamati

Partner Organization	District	Upazila	Union	Number
CIPD	Rangamati	Belaichhari	Farua	5
			Kengrachhari	2
			BelaichhariSadar	3
		Jurachhari	JurachhariSadar	5
			Bonjugichhara	4
			Moydong	1
			Dumdumia	3
Hilehili		Barkal	BarkalSadar	2
			Aimachhara	2
		Baghaichhari	Rupkari	1
TOTAL in Rangamati				28
Humanitarian Foundation	Banderban	Thanchi	Remaccrri	5
		Rowangchhari	Tarachha	1
		Sadar	Soalak	1
			Tonkabati	1
MROCHET		Rowangchhari	Tarachha	6
		Sadar	Tonkabati	13
		Ruma	Galengya	1
TOTAL in Bandarban				28

During food insecure months receiving of food aid is low. One-third households reported of getting food outside from household. On average, 56 kg rice, 3 kg salt and 1.5 kg flour and sugar have been received by household (Annex 1.10).

Case Study I:

“A self-help woman depending upon Golagohar (Rice bank)”

A Golaghar was made in 2007 in East Kengrachhari village of 2 no. Kengrachhari Union of Bilaichhari Upzilla under the project of “Empowerment of Jumia Community and Preservation of Culture” with the assistance of ‘Indigenous Development Center’ funded by Manusher Jonno Foundation. It was made for ensuring food security of Jumia community. The Jhum cultivator of this pathless area faced food scarcity in a specific time of a year which is called “Bhadrat” in local language. About six rice banks have made to get rid of people from money lender and scarcity of food. Near about 200 beneficiaries have taken benefit from each Golaghar.

Mayarani Chakma is a beneficiary of Kengrachhari Golaghar. She is a widow of no wealth. She lives in Shamukchhari village with her only son. Her husband Ratan Chakma died on Malaria in last two years ago. She borrowed money from money lender and many other people to maintain her family and for treatment of her husband. She carried out the funeral and other ritual activities of her husband with the assistance of ‘Gram Shamaj’. She was deprived from all government support like compensation of widow, VGD, relief etc. after her husband’s death. In this situation she engaged in domestic help besides doing work as a day labour. She maintained her family with this minimum income. In the meantime she involved in Golaghar under the project of EJCPC that was carried out by



'Indigenous Development Center'. After taking rice from such distress situation now she has been able to overcome her critical condition. She borrowed 15 'Ari' rice, out of it she sold few rice and maintained her child education with the selling money. Now she is cultivating in 3 acres (kani) of land that she hired from another party. At present she is totally free from loan. Maya Rani thinks that Golaghar is a friend of jeopardy and dependable shelter of her family. She said " if she face any trouble she would be able to tackle the situation of borrowing rice from Golaghar. Because, people of the village have been able to solve any of their problems through Golaghar.

In CHT, a good number of non-government organizations are working side by side local government institutions, government service delivery institutions. These organizations provide assistance regularly to vulnerable people and also during any emergencies. In the analyzing of **special assistance** (except food aid) status from government and non-government, it is found that from our empirical data, the percentage distribution of household receiving special assistance from government and non-government by both indigenous is one fourth (figure 14) and by surveyed upazila of two districts in Annex table I.11. The assistance received by ethnicity it has been found that, near to 18 percent of all CHT people receive cash where indigenous people is 17 percent of and one third is Bangalee people. Among the indigenous people, highest one third of Tanchynga community reported to receive cash where as one forth of Chakma community reported in this regard which second in position. However, the mean amount of cash received by all CHT people is Tk. 1213 where Tk. 300 is received by Bangalee. However, all Mro and Bawm community reported to receive income generation assistance. Again only Chakma community has got housing materials assistance among all communities.

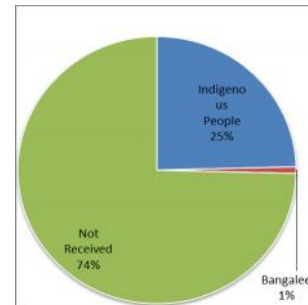


Figure 14: Special Assistance status from government and non-government

Case Study II:

Bimal Chakma- A Fighter against Poverty with the help of Rice Bank

Kushumchhari, a inaccessible, backward, neglected and disadvantaged village of Jurachhari Upazila of Rangamati. The people of this area are comparatively totally out of reach of Government's development work. Lack of awareness and due to poverty children of this village cannot go to school. Poverty accompanied with the 'Jumia' community round the year. Taking the advantage of extreme poverty the headman, money lender had fulfilled their interest by giving them advance loan with high interest. They bankrupted the 'Jumia' community entirely. Tackling this situation CIPD had extended their hands in 2007 and tried to improve the poor people's condition. This 'Jumia' community has established and maintaining the 'Golaghar' (Rice bank) with the assistance of CIPD, funded by Manusher Jonno Foundation. They stored up rice near about taka two lac in this Golaghar (rice bank). People have become free from poverty.

Bimal Chakma is free from poverty and distress. His father died in Hepatitis and Malaria few years ago due to lack of treatment as they were unable to bear the medical cost. Now Bimal is leaving with his wife and three daughters with happily. In the last two years he has taken rice without interest from Golaghar and faced the time of scarcity of food with no tension or stress. In that time he spent his time in cultivation and took a fruitful result. After harvesting paddy he repaid the rice of Golaghar that he had taken for tackling the scarcity of food situation.

On the other hand he took training about vegetable gardening and already he generated a fruit garden in two acres of land that he achieved in heir. There are varieties of fruit trees in his garden such as Amrapali, Lichi, and Pineapple etc. He earned taka fifty thousand in selling fruits in the last year and extended his income generation. He told "this Golaghar has ensured our food security. In the past we had taken loan from headman, money lender with high interest. At present we are free from those bloodsucker men as a part of CIPD project. Now when we require we can discuss with GSK and get a benefit from Golaghar. I thing, me and other beneficiaries of CIPD project have able to contribute in socio economic sector after taking the advantage of Golaghar. Apart from cultivating paddy I have earned taka fifty thousand in last season by selling fruits like mango, lichi, pineapple, gooseberry (Amlaki) etc. that I yield in my two acres of land after taking advantage of Golaghar."

Social Safety Net Programme (SSNP): SSNP is very popular government programme which are distributed by Local Government Institutions. In CHT, proportion of SSNP distribution according to districts is almost similar (Table 9).

Table 9: SSNP programme by district

District	% of reported
Rangamati	48.3
Bandarban	51.7
N	147

Similar to plain land of Bangladesh in CHT there are major 7 types of SSNP i.e. Old age allowance, Allowance for Widowed, deserted and destitute women, Allowance for physically challenges people, Allowance for employment generation programme, Scholarship for primary education, VGD and VGF. According to our empirical data 55 persons are reported to get VGD which is highest in number, next to it, 53 persons are reported to get scholarship for primary education. However, number of persons reported in allowance for physically challenges people are lowest (Table 10).

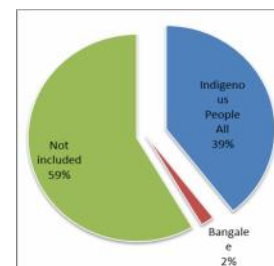


Figure 15: Household included into SSNP according to ethnicity

Table 10: Number of all households according to types of SSNP [multiple response]

Types of SSNP	# Indigenous People reported	# Bangalee reported	# of CHT Reported	N
Old age allowance	11	1	12	12
Allowance for Widowed, deserted and destitute women	8	1	9	9
Allowance for physically challenges people	1	--	1	1
Allowance for employment generation programme	10	2	12	12
Scholarship for primary education	50	3	53	53
VGD	52	3	55	55
VGF	9	1	9	9
Others	11	1	12	12

3.4 Household Food Consumption Patterns

In order to improve the nutritional status, both availability of foods and better utilization through proper distribution and consumption among women and children needs to be prioritized. The physical quantity of daily food intake per person in CHT is about 781 gm (UNDP, 2009). Gender disaggregated data on daily food intake reveals that an average women member of household gets 17 percent lesser amount of food as compared to her male counterpart. The report also reveals that the food intake of an average member of a rural CHT household is 1798 k.cal which is lower than the level of the extreme poor (1805 k.cal) in Bangladesh. Based on the pattern of food production, it is clear that the major staple of the CHT populations is rice regardless of their ethnic belongingness. The items consumed by the indigenous people and the Bangalees have appeared to be similar except some specific items such as, ngapi⁷, bamboo shoots, and dry vegetables. In the survey, daily food intake by the sample households is based on last 24 hours recall with special attention on pregnant women, lactating mother and mother of children age 2 to 5 years.

⁷ Ngapi is a common ingredient used in almost all curries and sauces of indigenous communities in CHT. It is often an ingredient in dip for fish or vegetables. It is made from fermented ground shrimp mixed with salt. Shrimp paste continues to be made by fishing families in coastal villages. Usually it is prepared in Cox's Bazar and exported to different markets in CHT. After being caught, small shrimp are unloaded, rinsed and drained before being dried. Drying can be done on plastic mats on the ground in the sun, on metal beds on low stilts, or using other methods. After several days, the shrimp-salt mixture will darken and turn into a thick pulp. If the shrimp used to produce the paste were small, it is ready to be served as soon as the individual shrimp have broken-down beyond recognition. If the shrimp are larger, fermentation will take longer and the pulp will be ground to provide a smoother consistency. The fermentation/grinding process is usually repeated several times until the paste fully matures. The paste is then dried and cut into bricks and ready to be sold. They sell it to vendors, middlemen or distributors who package it for resale to consumers. Dried shrimp paste does not require refrigeration. Shrimp pastes vary in appearance from pale liquid sauces to solid chocolate-colored blocks. The paste has a pungent aroma and it also varies in smell, texture and saltiness. Sometimes, in less affluent families, ngapi is the main source of protein.

This survey explored **different types of food items** consumed by household of CHT. The food security and nutrition status of CHT largely depends of the diversity of food items intake by household. For understanding the real picture of sharing of food consumption among the household members we have divided household members into four groups and explored the food diversity on the basis of this group i.e. pregnant women, lactating mother and mother of children age 2 to 5 years, and other members of household, considering **16 food items** groups. **Cereals** includes corn, rice, wheat, sorghum, millet or any other grains or foods made from these (e.g. bread, noodles, porridge or other grain products) + insert local foods e.g. rice, porridge, **White Roots and Tubers** includes white potatoes, *pila* potato or other foods made from roots, **Vitamin A Rich Vegetables and Tubers** includes pumpkin, carrot, squash, or sweet potato that are orange inside adding other locally available vitamin A rich vegetables , **Dark Green Leafy Vegetables** includes dark green leafy vegetables, including wild forms adding locally available vitamin A rich leaves, **Other Vegetables** includes other vegetables (e.g. tomato, onion, eggplant) adding other locally available vegetables, **Vitamin A Rich Fruits** includes ripe mango, ripe papaya and 100% fruit juice made from these + other locally available vitamin A rich fruits, **Other Fruits** includes other fruits, including wild fruits and 100% fruit juice made from these, **Organ Meat** includes liver, kidney, heart or other organ meats or blood-based foods, **Flesh Meats** includes beef, pork, lamb, goat, rabbit, chicken, frog, monitor lizard, dog, duck, tortoise, other birds, **Eggs** includes eggs from chicken, duck or any other egg, **Fish and Seafood** includes fresh or dried fish and snail , **Legumes, Nuts and Seeds** includes dried peas, dried lentils, nuts, seeds or foods made from these, **Milk And Milk Products** includes milk, cheese, yogurt or other milk products, **Oils and Fats** includes oil, fats or butter added to food or used for cooking, **Sweets** includes sugar, honey, sweetened soda or sweetened juice drinks, sugary foods and **Spices, Condiments, Beverages** includes spices (black pepper, salt), condiments (soy sauce), coffee, tea, alcoholic beverage.

The percentage of households that consumed *dal*, eggs and fish regularly is lower although these differences may partially reflect different dietary practices among the ethnically diverse population of the CHT and the rest of Bangladesh. It is found that the surveyed household members consume more than **300 different food items** in their breakfast, lunch, dinner and snacks. The basket covers: cereals; white roots and tubers; vitamin A rich vegetables and tubers; dark green leafy vegetables; other locally grown vegetables; vitamin A rich fruits and other fruits including locally grown; organ and fresh meat; eggs; fish and seafood; legumes, nuts and seeds; milk and milk products; oils and fats; sweets; spices, condiments and beverages. The cereal captures large proportion of the basket although the variation in proportion of food intake in other categories is noticed among different ethnic communities.

Table 11: Food groups consumed in last 24 hours

Food Group	% of pregnant women	% of lactating mothers	% of mother of children age 6m-5 years	% of other HH members
Cereals	20.9	60.5	47.5	91.2
White roots and tubers	15.4	22.6	17.5	33.6
Vitamin A rich vegetables and tubers	15.9	27.7	18.1	35.6
Dark green leafy vegetables	10.7	36.4	24.9	54.2
Other vegetables	13.0	35.6	26.8	58.5
Vitamin A rich fruits	1.7	7.1	7.9	12.1
Other fruits	2.3	1.8	2.5	3.7
Organ Meat	3.6	.8	2.3	4.5
Fresh Meat	5.1	1.4	12.4	28.5
Eggs	3.1	5.2	10.7	15.8
Fish and seafood	17.6	6.9	23.4	42.9
Legumes, nuts and seeds	2.5	9.6	9.9	14.7
Milk and milk products	.3	2.0	2.3	1.7
Oils and fats	7.9	5.4	20.3	41.2
Sweets	2.0	5.4	6.5	11.6

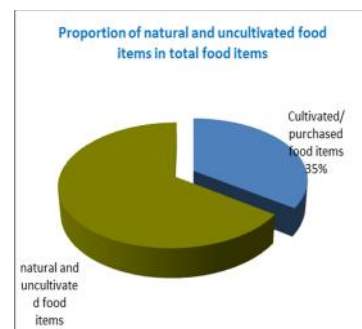
Spices, condiments, beverages	15.5	11.4	33.9	70.6
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The mostly reported food group belonged to cereals: pregnant women (21 percent), lactating mother (31 percent) and mother of children age 2 to 5 years (48 percent), and other members of household (92 percent). On the other hand, milk and milk products are consumed by all household members is lowest in position including 0.3 percent of pregnant women, 2 percent of lactating mothers, and 2.3 percent of mother of children age 2 to 5 years and near to 2 percent of other household members (Table 11).

The study shows that proportion of food intake of specifically from food groups of organ and fresh meat, eggs, fish and seafood, milk and milk products is lower for pregnant and lactating mother compared to other household members. Fish curry is the most consumed food item in time of lunch and dinner whereas vegetables are popular food items with rice to other household members and pregnant women and potato curry is popular to lactating and mothers of children age 2 to 5 years. Tea and biscuit is most consumed food item during snacks hour by all household members.

The findings show that there is a diverse set of food consumption patterns depending on the ethnic community and food availability. However, for the overwhelming majority of women eating next to no red meat and/or receiving inadequate iron supplements during and after pregnancy, high consumption of green leafy vegetables represents one positive counterbalance for maintaining maternal and child health, as these foods provide a good source of iron, vitamin A and other micronutrients. However, the dietary pattern clearly points towards generalized protein deficiency among the group. The most reported source of protein is fish and seafood which have been eaten by almost 18 percent pregnant and 7 percent lactating mothers (Table 11). The overwhelming majority have consumed no sources of high quality of animal protein (eggs, chicken, or other meat) during the day. Less than 5 percent have eaten chicken or eggs, despite the fact that nearly 80 percent of the women are involved in raising poultry.

It is noted that in CHT most of the people are dependent on natural but uncultivated food items. The survey data shows that **65 percent of households** consume at least one item from **natural and uncultivated agricultural products** in their daily meal. These products have high nutritional and market value. Some of these (e.g. jungle potato) also act as coping strategy during food insecurity. Bamboo shoot is the most popular food items consumed by CHT household. It is about to one third of the people. Other reported items were: tokpata (one type of fern), edible fern, acid fruit, water amaranth, banormarfa and stem amaranth.



Qualitative observation shows that people think people need to **spend more money** to get **food with calories** and they suffer from calorie inadequacy. It indicates that educational programmes to promote budgetary management of food will help the population consume sufficient calories at a lower cost. Designers and implementers of nutrition programmes will have to collect related information through formative research in order to identify a correct approach to handling this issue. Furthermore, the use of available products is also very important to understand and could be potentially harmful, for example, giving ngapi to the children of less than six months old. Therefore, programmes aimed at improving the nutritional status of women will have to consider these diverse consumption patterns in order to inform recommendations on diets.

Some of the most popular uncultivated agricultural products are presented below:



Figure 17: Some of the most popular uncultivated agricultural products

3.5 Nutritional Knowledge

The studies show that mothers' level of knowledge helps find ways to enhance the nutrition of the community, which will consequently lead to a healthier society, as the children and women form the main body of the families. Nutrition related knowledge of pregnant and lactating mothers and mothers of children of more than two years old but less than 5 years old is not satisfactory in the study area. Majority of them are not aware about the harmful effect of micronutrients deficiency and their nutritional requirements (Table 12). The mothers' knowledge on breastfeeding and complementary practices is also poor. Only one-third of mothers know that a child should be exclusively breastfed for six months, 38 percent give incorrect answers and 26 percent do not know. Only 41 percent of mothers know that a child should begin complementary feeding at 6 months of age, 36 percent give incorrect answers, and one-fourth are not aware of the issue. Regarding provision of family food, only 13 percent of mother mention that a child should be given family food from six months of age, nearly 70 percent from seven months or later, and less than 2 percent below six months age. In addition, 15 percent of mothers are not aware of the correct month from which her child can start family food. In addition, most of the mothers were convinced that the traditional cereal-based complementary foods were nutritious for their babies.

Table 12: Nutritional Related Knowledge of Respondent

Indicators	Percentage
Food intake during pregnancy and lactation period	
Less than normal	63.7
Same as normal	8.8
More than normal	22.6
Not aware	4.9
Special nutrient required during pregnancy and lactation period	
Cereal, grains	1.7
Pulses and legumes	4.5
Milk and meat products	5.6
Fruits and vegetables	17.3
Fats and sugars	2.7
Not aware	68.2
Adverse effect of iron deficiency	
Causes anaemia	1.5
Not aware	98.5
Adverse effect of iodine deficiency	
Causes goiter	11.8
Not aware	88.2
Adverse effect of vitamin A deficiency	
Causes night blindness	8.5
Not aware	91.5
Number of months a child should be exclusively breastfed	
<4	2.6
4-5	33.9
6	32.9
7+	4.4
Not aware	26.2
At what month of age a child should be given complementary food	
<4	1.5
4- 5	14.2
6	38.5
7+	20.5
Not aware	25.3
At what month of age a child should be given family food	
<4	0.2
4-5	1.8
6	12.7
7+	69.2
Not aware	16.1

3.6 Nutrition and Health of Children and Mother

Good nutrition is a prerequisite for the well-being of individuals and national development of a country. A woman of poor nutritional status (indicated by a low body mass index, short stature, anemia, or other micronutrient deficiencies) has a heightened risk of obstructed labour, having a baby with low birth weight, producing low quality breast milk, and dying from postpartum hemorrhage. The benefits of breast-feeding diminish when women's own calorie and micronutrient needs are not met. In particular, for women consuming inadequate food sources of vitamin A (such as eggs), supplementation with vitamin A capsules within six weeks (42 days) of delivery is essential to reduce the risk of maternal mortality and night blindness and support reproductive processes. The nutritional benefits are also transferred via breast milk to the developing child, dramatically

reducing the risk of blindness, severe morbidity, and mortality, especially from measles and diarrhea. In this section, the source of anthropometry information of the children and mothers is HKI, 2010 and information on vaccination coverage, vitamin A and iron supplementation, iodized salt, deworming was collected in this survey.

a) Nutritional status of under-5 children: The indicators used to determine the nutritional status of under-5 children are: percentage of children aged 0-59 months with low height/length-for-age ratios (stunting), percentage of children aged 0-59 months with low weight-for-age ratios (underweight), percentage of children aged 0-59 months with severely low weight-for-age ratios (wasting), and consumption of vitamin A, iron, and deworming. The prevalence of child **stunting** in children aged 0-59 months in the CHT (39 percent) was somewhat lower than in rural Bangladesh (41 percent) but was nevertheless 'high'. The prevalence **wasting** in children aged 24-59 months was 'very high' in both the CHT (53 percent) and in rural Bangladesh (52 percent). The prevalence of child **underweight** in the CHT was 'very high' (43 percent in children aged 0-23 months and 58 percent in children aged 24-59 months), albeit 4-5 percent lower than in rural Bangladesh.

The data shows that the children who are in danger categories of moderate-to-severe underweight and/or wasting are extremely vulnerable to childhood morbidity and mortality and require intervention. Equally significant, the proportion of children who fall into more moderate categories of underweight or malnutrition-risk can also slip into more extreme stages of deprivation. The poor water and sanitation conditions in the surveyed areas (where 80 percent of the households obtaining water from unprotected sources and only 2 percent demonstrate the sanitary practices that are the pre-requisite for good health) compound vulnerabilities of compromised children to morbidity and mortality from diarrhea and other preventable diseases.

Micronutrient deficiency is a major contributor to childhood morbidity and mortality. Children can receive micronutrients from foods, fortified food and direct supplementation. Vitamin A is an essential micronutrient for the immune system. Severe vitamin A deficiency (VAD) can result in childhood blindness. VAD can also increase the severity of infections such as measles and diarrhoeal diseases in children and can slow recovery from illness. An important strategy in overcoming vitamin A deficiency in Bangladesh has been the distribution of vitamin A capsules to children age 6-59 months. Children under 6 months are not covered primarily because most children in this age group are expected to be exclusively breastfed and should receive adequate vitamin A through breast milk. Children 6-59 months receive supplementation once in six months during the National Immunization Days and vitamin A campaigns. The mothers were asked if their children under age five had taken a vitamin A capsule in the six months prior to the survey. **Forty percent** of children age 6-59 months received a **vitamin A supplement** in the six months preceding the survey.

The mothers were asked if their children under age 5 had taken an iron tablet in the seven days prior to the survey. Only two percent of children age 6-59 months received **iron supplements** in this period. Fortified salt that contains 15 parts of iodine per million of salt (15 ppm) is considered adequate for the prevention of iodine deficiency. Interviewers asked households to provide a teaspoon of salt used for cooking. A recheck solution was used when the salt showed no change in colour. One-fourths children live in households that use **iodized salt**. Periodic deworming for organisms such as helminthes can improve children's micronutrient status. The field enumerators asked mothers if their children under age 5 had taken deworming medication in the six months prior to the survey. One-third children age 6-59 months received **deworming** medication in this period. The percentage of children who received deworming medication increases with age.

b) Maternal health: The indicators used to determine the maternal health of the mother are: percentage of mothers with BMI < 18.5 kg/m², anaemia prevalence for adolescent, night blindness, and vitamin A supplementation within six weeks of delivery. Nearly one-fifth of the women are at least moderately **underweight** (BMI < 18.5 kg/m²) (HKI, 2008). While not as high as the rate of

underweight among <5 children, maternal underweight has direct correlations with their children's nutritional status and micronutrient intake. It is found from the FGDs and KII that women's nutritional needs (and subsequently the quality of their children's feeding) are compromised by their reduced food intake and the increased energy demands required for breast-feeding as well as jhum cultivation and food gathering. Women and children in the CHT are anaemic. **Anaemia** prevalence for children (6-59 months) and for adolescents (13-19 years) was noted to be 61.9 percent and 43.4 percent respectively, considerably higher than the national average. The prevalence of **night blindness** among children aged 18-59 months in CHT (0.4 percent) was below the threshold considered to be a public health problem but was three times higher than in rural Bangladesh, while the **prevalence in mothers (1.1 percent)** was about two times higher than in rural Bangladesh. This survey shows that one-fifth of women have received vitamin A supplementation within six weeks of delivery.

c) **Vaccination Coverage:** The indicators used to determine the vaccination coverage of children are: percentage of children who received BCG at birth; percentage of children who received DPT 1 and Polio 1 at age 1.5 months; percentage of children who DPT 2 and Polio 2 at age 2.5 months; percentage of children who received DPT 3 and Polio 3 at age 3.5 months; and percentage of children who received Measles vaccine at age of 9 months.

According to WHO guidelines to prevent the majority of serious childhood diseases, all children should receive one BCG vaccine (to prevent tuberculosis), three doses of DPT (to prevent diphtheria, pertussis, tetanus, hepatitis, and Hib), three doses of polio, and a vaccination against measles before their fifth birthday. Data on childhood immunizations were collected for all surviving children born during the five-year period before the survey. In Bangladesh, immunizations are routinely recorded on a child's health card. For each child, mothers were asked whether they had the health card for the child and, if so, to show the card to the interviewer. When the mother was able to show the health card, the dates of vaccinations were transferred from the card to the questionnaire. If the health card was not available (or a vaccination was not recorded), mother were asked to determine whether the child had received each vaccine. The Health, Population, and Nutrition Sector Development Programme (HPNSDP) 2011-2016 has set a target of 90 percent of measles vaccine by age 12 months by 2016.

Type of vaccination	Percentage
BCG at birth	72.4
DPT 1 and Polio 1 at age 1.5 months	72.4
DPT 2 and Polio 2 at age 2.5 months	69.8
DPT 3 and Polio 3 at age 3.5 months	66.7
Measles at age 9 months	64.3

Only 72 percent of the children had received all of their vaccines. This figure is much lower than Chittagong Division as a whole (where 82 percent of children have received all vaccines) and significantly lower than national coverage of 84 percent, according to 2011 BDHS. These extremely low immunization rates are particularly worrying because a National Immunization Days (a principle vehicle for advertising and delivering vaccinations) hold regularly and it again reflects the inadequacy of both public, private, and NGO-led service delivery to the hard-to-reach, marginalized communities in the CHT. Taken together with the general deficiency of vitamin A (which can help children recover from measles), generalized malnutrition, and poor sanitation, inadequate vaccination coverage completes the preconditions for a population health disaster in the event of an outbreak of measles, polio, or other acute communicable diseases.

3.7 Belief and Practice

Culture has a strong impact on the food behavior of people. The food habits and practices are closely related to the typical behavior of a particular group of people or **culture**. Such behaviour follows codes of conduct in relation to food choice, methods of food preparation and eating, number of meals eaten per day, time of eating, and the size of the portion eaten (Barasi et al, 1990).

The women in a focus group discussion argue about fruit and vegetable consumption patterns that “no one has to teach us to eat fruit and vegetables as we eat them during seasons.” Similarly, vegetables were also regarded as a part of their meals. Field observations demonstrate community’s beliefs in superior or inferior foods. Wildly growing vitamin A rich leafy vegetables are considered inferior foods and are considered fit for very poor people and for food insecure months. The people also hold the beliefs about pure and impure food; hot, cold, and neutral foods; beneficial or harmful foods; or curative foods. This categorization is applied on women during their pregnancy and lactation. However, there was no consensus about the nature of a food items across the different ethnic communities. In addition, foods that are classified as hot in one community are not necessarily classified as such in another. Such beliefs seem to be carried on apparently without any logic. It is important to understand these beliefs and their sources before any advice regarding their use can be commented upon. Most of the stakeholders agree with the suggestion that nutrition education is necessary to help the community make proper use of locally and wildly available foods with an understanding of their role in nutrition.

Different nutritional studies show that there is a link between **nutrition and pregnancy**. The women who consumed minimal amounts over the eight-week period had a higher mortality or disorder rate concerning their offspring than women who ate regularly, attributed to the fact that the children born to well-fed mothers had less restriction within the womb. Not only have physical disorders been linked with poor nutrition before and during pregnancy, but neurological disorders and handicaps are a risk that is run by the mothers who are malnourished, a condition which can also lead to the child becoming more susceptible to later degenerative disease(s). Proper nutrition is also important after delivery to help the mother recover, and to provide enough food energy and nutrients for a breastfeeding mother.

It is revealed that in different ethnic communities, 71 food items are prohibited during pregnancy. In addition, pregnant mothers consume less food than other members of the household, particularly during pregnancy. Some communities seem to have some beneficial practices of gifting nutritious food to their daughters in pregnancy, but such practices do not meet the extra dietary needs during pregnancy. Lower hierarchy when it comes to food distribution, less access to food of animal origin, and taboos among certain ethnic groups all act against mothers consuming appropriate and adequate food during pregnancy. There is also practice eating less during pregnancy in order to have an easy delivery. This should be taken into account in a community where a nutrition programme will be implemented. Because, the concerns of mothers and her families worried about **an obstructed, difficult labour** should also be addressed through **improved delivery services**. These could be the questions for designers of new nutrition programmes.

Foods prohibited during pregnancy
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<p>Monkey, Monitor lizard, Poisonous food, Tortoise, Python, Hedgehog meat, Gourd, Wild animal meat, Bear, Rat, Fish from electric net, Puti fish, Pork meat, Hilsha fish, Arum, Beef Curry, Shark fish, egg, Sour/sour food, Wallago fish, Salted hilsha, Pork meat, Dried shark fish, Barna greens, Indian river shad fish, Meat from cruel animal, Shidhol, Khana/Fonagula, Betel areca nut, Egg plant, Sea fish, Garlic, Tiger meat, Pahari Potato, Ngapi, Chicken curry, Edible fern, Spicy chili, Water melon, Salted fish, Ozan leaves, Lelom leaves, Dog, Slippery foods, Red amaranth, Fish, Pumpkin curry, Crab, Paste of chill, Okra, Papaya, Yellow-tail cat fish, Coral fish, Amroth leaves, Shrimp, Mutton curry, Snake meat, Chili, Salt, Mushroom, Loho leaf</p>
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Some of the foods are also prohibited during lactation period. Certain taboos against foods, such as green leafy vegetables, and poor access to food of animal origin work against proper feeding during lactation. Most of the studies on micronutrient intake have shown that it is inadequate during lactation. Programmes addressing maternal nutrition will have to gather community-specific information in order to design specific interventions for this group.

Foods that prohibited during lactation

Hilsha fish, Spicy chilli, Chilli, Mashroom, Khana/Fonagula, Bitter Gourd/Balsam apple, Sour/sour food, Salted hilsha, Indian Spinach, Eggplant, Arum, Beef Curry, White Pumpkin, Puti fish, Wallago fish, Snake gourd, Edible fern, Crongasasi, Pork meat, Tokpata, Gourd, Tortoise, Fat, Teasel gourd, Cucurbit, Elephant foot yam, Mrigal fish, Bamboo shoot curry, String beans, Indian river shad fish, Spicy fish, Wild Mashroom, Amila/gula, PahariPotato, Barna Greens, Mihinga, Spicy curry, Excessive chili, Snail, Monitor Lizard, Acid Fruit, Meat from animals, Longfin snake eel, Lemon, Drumstick, Crab, Pork meat, Potato leaf, Taro, Venison, Egg, Sweet pumpkin leaves, Shrimp, Shidhol, Snake meat, Salt, Curry, Climbing perch fish, Loho leaf, Wild cat meat, Poisonous food, Vitamin tablets, Burred salt, Star fish, Oil, Wild animal meat, Lelom leaves, Hedgehog meat, Ginger, Slippery foods, Bigol

In addition, indigenous practice and belief also affect their food consumption during this period. For example, in Chakma community, there is a tradition of preparing a number of nutritious foods for lactating mother after child birth, while in other communities (such as, Mro and Marma), just after child birth, the mother is only given salt, water and rice for at least two weeks. Whether there is an impact of the food intake practice during lactating period on the children of ethnic communities even at the later stage (physical and cognitive development) is yet to be known.

Breastfeeding is universal. Nutrition of children is largely depends on breastfeeding. Early initiation of breastfeeding is necessary for both mother and children's health. Initiation of breastfeeding just after birth of child is highly nutritious and full of antibodies for children. Initiation of breastfeeding in both CHT and countrywide is similar. From data it is found that 98.7 percent of households reported for ever breastfed which is close to national figure (98.6 percent in BDHS 2011). However, the initiation of breast-feeding within one hour of birth is low (48.7 percent). Mothers are counseled to breast-feed their newborns as soon as possible and not to give anything than breastmilk for the first six months. The indicators of colostrums feeding and exclusively breastfeeding are positive indicators for the healthy development and weight gain of children, as nutrient-rich colostrums is considered as the first 'immunization' for newborns and can provide protection against early childhood infections.

Table 14: Breast Feeding Status of the Children

Indicators	Percentage
Children aged 0-59 months ever breastfed	98.7
Children aged 0-5 months fed colostrums at birth	80.1
Children aged 0-5 months who were given breast milk within 1 hour of birth	48.7
Children aged 0-5 months who were exclusively breastfed during the last 24 hours	72.4

The study could not capture that women increase or prolong breast-feeding during food insecure months and extreme situation (e.g. rodent attack, etc), as women in the CHT tend to breastfeed predominantly for a longer period (up to age 4-5 years) than woman in other regions of Bangladesh.

Infant and young child feeding (IYCF) practices include initiating timely feeding of solid or semi solid foods at age 6 months and increasing the amount and variety of foods and frequency of feeding as the child gets older, while maintaining frequent breastfeeding. Guidelines have been established for IYCF practices for children age 0-23 months (PAHO/WHO, 2003; WHO, 2005; WHO, 2008). IYCF practice includes three components: 1) continued breastfeeding or feeding of milk or milk products; 2) being fed (solid/semi-solid foods) a minimum number of times per day according to age and breastfeeding status; and 3) being fed the minimum number of food groups per day according to breastfeeding status.

Appropriate nutrition includes feeding children a variety of foods to ensure that nutrient requirements are met. A breastfed child of age 6-8 months should receive two or three meals a day, while those of ages 9-23 months should receive three or four meals a day. Non-breastfed children should receive four or five meals a day at ages 6-23 months. "Meals" include both meals and snacks (other than trivial amounts). Children 6-23 months should receive animal source foods and vitamin A-rich fruits and vegetables daily. Therefore, four food groups are considered as the minimum

appropriate number of food groups for these children. Non-breastfed children 6-23 months should also receive milk products to ensure their calcium needs are met.

Table 15 shows the IYCF practices for the youngest children age 6-23 months living with the mother. The percentage of children who are fed with appropriate feeding practices is calculated taking into account current guidelines on the number of food groups and the number of times a child should eat during the day or night preceding the survey. Feeding according to IYCF recommendations is quite low during ages 6-8 months (3.3 percent), increasing to about 20 percent among 18-23 months old children.

Table 15: Percentage of the children age 6-23 months living with their mother who are fed according to three IYCF feeding practices based on number of food groups by age⁸

Age group	Among all children aged 6-23 months percentage fed		
	Breast milk, milk or milk products	4+ food groups	Number of all children 6-23 months
6-8	98.0	3.3	15
9-11	95.9	9.5	16
12-17	92.0	12.3	55
18-23	89.0	19.7	35
N			121

Care-seeking behavior during common **childhood illnesses** is an important determinant of nutritional status. There are strong feelings about the do's and don'ts when it comes to feeding a sick child. Again, there is no uniformity in these practices. This diversity in beliefs needs to be studied and messages developed to promote beneficial practices and prevent harmful behaviors. The mothers are encouraged to continue feeding children with diarrhea normally and to increase the amount of fluids they offer. This survey asked mothers who had a child under age 5 with a recent episode of diarrhea how much they gave the child to drink and eat during the diarrhoeal episode compared with usual practice. IYCF practices encourage mothers to continue feeding and give more **fluids during diarrhea**. One tenth increased the feeding and one third gave the same amount of food during episodes of diarrhea. However, 60 percent mothers did the dangerous practice of curtailing fluid intake when her child had diarrhea. This information would have implications for nutrition programmes. Specific questions regarding **feeding of a sick child** and **counseling for correct behaviour** in this area should be an integral part of integrated nutrition programmes.

Households' access to available food is a less important determinant of nutritional status than how food is **distributed among members of households**, particularly children and women. There are not many studies reporting on this aspect of food utilization in CHT. However, the qualitative information of this study point to a hierarchy existing in the distribution of food within households that is detrimental to women's food intake. Similarly, **children sharing a food plate** with a man or woman member of the family have a different intake of micronutrients.

There are a variety of mechanisms by which some individuals are favoured over others through household food distribution. This includes serving order, serving method, refusing to serve foods, channeling foods, and distributing low-status food for higher-status foods. The **adult women** were **less likely** to meet their **nutrient requirement** for energy, beta-carotene, riboflavin and vitamin C than men of the same age as their late position in household serving order, channeling of special foods to males and children, and lower intake of foods.

How a child is served food also seems to influence the intake. It reveals that the amount of food available within one household is no guarantee that women and children will have adequate consumption and meet their dietary needs. The lower position of women in the **hierarchy of access to food distribution** seems to influence women's eating practices. For children, this

⁸ Note: Food groups: a. infant formula, milk other than breast milk, cheese, or yogurt or other milk products; b. foods made from grains, roots, and tubers, including porridge and fortified baby food from grains; c. vitamin A-rich fruits and vegetables (and red palm oil); d. other fruits and vegetables; e. eggs; f. meat, poultry, fish, and shellfish (and organ meats); g. legumes and nuts. Breast milk, milk or milk products includes two or more feedings of commercial infant formula, fresh, tinned, and powdered animal milk, and yogurt.

hierarchy also influences their intake, depending on the hierarchy of whom the food is shared with during eating times. Though these are just few small examples, their implication in understanding how culture influences food consumption is critical. **Communication strategies** aimed at improving maternal and child nutrition will have to show **awareness** of such realities at the household level.

Summarized findings on food beliefs and practices during pregnancy and lactation and IYCF practices from qualitative data are as follows:

- Many believe that pregnancy is a natural condition that does not need any particular attention.
- Any special treatment of mothers tends to be for the protection of the unborn child rather than for her own health and well being.
- One widely held belief is that if a woman eats more during pregnancy she will have a bigger baby which can cause problems during labour.
- Social factors also influence the diet of pregnant women; women and girls usually eat after men members and children have eaten and have less access to food from animal sources and other special foods.
- Mothers who have recently delivered a baby are considered impure and are not allowed to eat with other family members until the purification ceremony has been held. In some communities, mothers' food intake is limited during this period.
- In some cultures, it is believed that a connection between stomach and womb exists and stomach and womb are rested together by not giving food to the mothers.
- The diet for a lactating mother is further restricted when her baby is ill.
- Nutritious foods such as pulses, milk products, meat/fish/eggs, green leafy vegetables, vegetables, and fruits were missing from the diet of mothers. Their food consisted of cereals—mainly rice—and some pulses.
- The period of exclusive breast-feeding is shorter than four or six months. Many mothers give liquids or solids within a few months of birth.
- Some babies are fed complementary foods earlier than the recommended age because mothers have to go to work. Some mothers start early complementary feeding because they think their breast milk is not sufficient. However, there are some mothers who feel that the breast milk alone is sufficient in the first year of life and infants should be given solid food once they show interest in it.
- The complementary feeding for infants and young children is mostly infrequent and unsupervised. Infants and children suffer both from indulgence and neglect in their feeding. The children are allowed to eat what they want, but are not encouraged to eat if they don't want to.
- Many children are given a family diet without any special preparation. The complementary foods generally lack variety: they are often based on rice. Potatoes, yam, radish, and colocasia roots were consumed, and children were given potatoes most of the time. Meat,

fish, or eggs are infrequently given to the children. Green leafy vegetables were seldom given to the children. Similarly, children seldom received other vegetables and fruits. Most of the mothers fed traditional, cereal-based foods, which lacked essential nutrients.

- Constraints to appropriate and adequate infant and child feeding include maternal malnutrition; seasonal food insufficiency, mostly during monsoon; and maternal workload.
- Except in a few cases of commercial foods, there was no practice of fortifying complementary food with micronutrients.
- It was observed that the traditional complementary foods were cheaper than commercially available ones.

The cooking process also varies for different food items and ingredients. Usually, they do not use packaged oil in their cooking rather use sesame seed, mustard seed, animal fat in different curries. It is also observed from the primary school going children that there is a tendency of buying cheap packaged snacks and juices from the shop. It is obvious that food beliefs and practices are composites of seasonal moods and availability, ritual values and emotions, social customs and values, and symbolic representation of events. Modern food analysis on the other hand, relies on food composition and the physiological and chemical processes and properties. There is therefore a big scope for understanding the two systems and judiciously combining them for the holistic benefit of human beings-socially, emotionally and physiologically.

3.8 Key Findings

- More than 60 percent people move other place for working opportunities during food insecure situation. Rice bank becomes a popular option to cope this situation.
- Cereal based food items are mostly consumed among all members of the household. Only 0.3 percent of pregnant women, 2 percent of lactating mothers, and 2.3 percent of mother of children age 2 to 5 years consume milk and milk products. Although there is dietary diversity among the ethnic communities but dietary pattern clearly points towards generalized protein deficiency among the pregnant and lactating mothers. The most reported source of protein is fish and seafood which have been eaten by 18 percent pregnant and 7 percent lactating mothers. The majority have **not consumed** sources of **high quality of animal protein** (eggs, chicken, or other meat) during the day. For example, less than 5 percent have eaten chicken or eggs, despite the fact that nearly 80 percent of the women are involved in raising poultry.
- Sixty five (65) percent of households consume at least **one natural but uncultivated agricultural** food items in their meal which have high nutritional and market value.
- Nutrition related knowledge of pregnant and lactating mothers is not satisfactory. Majority of them are **not aware** about the **harmful** effect of **micronutrients deficiency** and their nutritional requirements. The mothers' knowledge on breastfeeding and complementary practices is also poor. Only one-third of mothers know that a child should be exclusively breastfed for six months, 41 percent of mothers know that a child should begin complementary feeding at 6 months of age, and only 13 percent of mother mention that a child should be given family food from six months of age.
- The prevalence of child **stunting** in children aged 0-59 months is 39 percent, **wasting** in children aged 24-59 months is 53 percent, **underweight** in children aged 0-23 months is 43 percent and 58 percent in children aged 24-59 months).
- Nearly one-fifth of the women are at least moderately **underweight** (BMI<18.5 kg/m2).
- **Anaemia** prevalence for children (6-59 months) is 61.9 percent, the prevalence of **night blindness** among children aged 18-59 months is 0.4 percent and that of mothers is 1.1 percent. One-fifth of women have received vitamin A supplementation within six weeks of delivery.
- **Forty percent** (40 percent) of children age 6-59 months received a **vitamin A supplementation** in the six months preceding the survey.
- Most of the ethnic communities believe that a number of foods (which are nutritious) **should not be eaten** during **pregnancy and lactation**. Indigenous practice and belief also affect their food consumption during this period. For example, in Chakma community, there is a tradition of preparing a number of nutritious foods for lactating mother after child birth, while in other communities (such as, Mro and Marma), just after the child birth, the mother is only given salt, water and rice for at least two weeks.
- **One in five** children comply with the **IYCF recommendations** of consuming breastmilk or other mild products, having the minimum dietary diversity, and having the minimum meal frequency. Feeding according to IYCF recommendations is quite low during ages 6-8 months (3.3 percent), increasing to about 20 percent among 18-23 months old children.
- One tenth mothers increased the feeding and one third gave the same amount of food during episodes of diarrhea. However, **60 percent** did dangerous practice of **curtailing fluid intake**.
- About **98 percent** of households reported for **ever breastfeeding** of the children. However, the **initiation of breast-feeding** within one hour of birth is **low (48.7 percent)**.
- Existing lower hierarchy during food distribution, less access to food of animal origin, and taboos among certain ethnic groups act against mothers consuming appropriate and adequate food during pregnancy and lactation period.

Chapter 4: Recommendations

The analysis shows that the region lags behind the rest of the country. Progress towards better food security and nutrition will require a combination of policies and programmes that together improve household food security, a healthy environment, access to basic health and social services, and care for children and mothers. If interventions are to have their intended goals they must be sensitive to the special needs and problems of this region, including the unique socio-cultural characteristics of each ethnic group and the difficulties in delivering services to a remote and widely dispersed population. The findings have an implication for future nutrition intervention in this region.

Comprehensiveness and nutrition agenda: Underlying the fractured institutional response to FNS are competing interests and priorities within and between government, non-state actors and development partners. Understanding the political economy and the incentives/disincentives for uptake of evidence based FNS policy by key interest groups is critical. The future planning should be comprehensive and cover food availability, access and utilization in an integrated manner. The key goal of the agriculture and livelihoods interventions of different agencies can be to enhance the food and nutrition security of the CHT population through all development components, including increased availability of nutrition rich food. The interventions can be reviewed, discussed and finalized in align with different nutrition agenda⁹.

Information System: Nutrition and food security surveillance is vital so that needs can be identified, sound policy and program decisions made, progress monitored, and strategies modified to meet the changing needs in this region. The surveillance should continue to provide the data needed to formulate advocacy material; to design, monitor and evaluate policies and programmes; and to track progress towards regional, national and international targets for nutrition and food security.

Structured and co-ordinated exploration of knowledge and practice: Local knowledge, wisdom (including some of popular agroforestry and cropping technologies), and practice should be analysed, documented, disseminated and considered in designing an intervention. This would be useful to identify food and nutritional value of uncultivated agricultural products consumed by the people in the region. Both short-term (such as wider social safety-nets) and long-term (such as economic or livelihoods security) interventions are also needed to minimize the gap in consumptions of quality (animal protein and fat-rich) foods.

Designing multi-sector nutrition interventions: The study findings demonstrate that pregnant and lactating mothers consume less food than other members of the household. Existing lower hierarchy during food distribution, less access to food of animal origin, and taboos among certain ethnic groups all act against mothers consuming appropriate and adequate food during this time. The interventions addressing maternal and child nutrition will have to gather **community-specific information** in order to design specific interventions for this group. In order to succeed, nutrition interventions will have to work with community members who are convinced that the goal of improving nutrition is a worthwhile activity with long-term benefits. **Advocacy** that demonstrates the **undesirable status** of their **children's nutrition** could be the **entry point** for a nutrition intervention. Collection of information on nutritional status through anthropometric assessment,

⁹ Bangladesh is a signatory and active participant in several global campaigns (Scaling Up Nutrition, SUN; REACH) which call for a multi-sectoral approach to undernutrition prevention and feature enhanced commitment and coordination between stakeholders. Informal and other networks of nutrition professionals and agencies including public sector exist (Alive and Thrive (YCF), Bangladesh Breastfeeding Foundation (BBF), Bangladesh Neonatal Forum (BNF), UNICEF, Save the Children. which can be built on as a problem solving platform to share knowledge and expertise, and enhance capacity.

including pictorial comparison of the weight and height of children of the same age, would be one of the approaches for advocacy. The feeding during illnesses receive insufficient or no attention during common childhood illnesses such as diarrhea. Again, there is no uniformity in these practices. This diversity in beliefs needs to be studied and **messages developed** to promote **beneficial practices** and prevent **harmful behaviours**. Overall, as knowledge directly impacts health and nutrition, often for better sustainability, there is a need for multi-sector approaches to improve the situation of the community, specifically pregnant and lactating mothers and the children.

Sustainability, with a particular focus on environment, local practice and habit: The activities should be designed and implemented in ways that ensures quality, impact and sustainability. Serious attention must be paid to ensure that all interventions are environmentally sustainable. Serious attention must be paid to ensure that all interventions not degrade the environment, local practice and habit.

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Tables

I.1: Percentage distribution of Household population by age and Sex

Age group (in years)	Man	Woman	Total (Column %)
< 5	22.5	19.4	21.0
5-9	10.4	11.5	10.9
10-14	6.4	6.3	6.3
15-19	4.6	6.3	5.4
20-24	6.6	16.0	11.1
25-29	13.7	15.0	14.4
30-34	11.7	7.1	9.5
35-39	8.4	3.3	5.9
40-44	2.9	3.2	3.0
45-49	3.5	3.3	3.4
50-54	2.1	2.8	2.5
55-59	2.3	3.1	2.7
60-64	2.3	1.4	1.9
64+	2.4	1.3	1.9
Mean Age	22.97	845	22.38
N	896	21.74	1741

I.2: Percentage distribution of households by ethnicity

Ethnicity	Frequency	Percentage
Bawm	12	3.4
Chak	1	0.3
Chakma	150	42.4
Khiang	1	0.3
Khumi	19	5.4
Lusai	4	1.1
Marma	65	18.4
Myrong	30	8.5
Pangkhoa	1	0.3
Tanchyanga	45	12.7
Tripura	17	4.8
Indigenous People	345	97.5
All		
Bangalee	9	2.5
All CHT	354	100.0
N	354	

I.3: Percentage distribution of households by household size and mean size of the households

Indicator	Percentage
Sex	
Woman	48.5
Man	51.5
N	1741
Household Size	
1	0
2	2.5
3	19.5
4	26.8
5	21.2
6	11.9
7	8.5
8	5.4
9+	4.2
N	354
Mean size of the household	4.92

I.4: Percentage distribution of household population by marital status and age group

Age (in years)	Currently Married	Formerly Married	Never Married	Number (survey)
10-14	--	--	100.0	110
15-19	18.1	5.3	76.6	94
20-24	73.2	12.4	14.4	194
25-29	86.9	7.4	5.7	244
30-34	90.7	7.5	1.9	161
35-39	88.3	9.7	1.9	103
40-44	74.5	25.5	--	51
45-49	70.2	26.3	3.5	57
50-54	62.8	37.2	--	43
55-59	48.9	51.1	--	47
60-64	67.7	32.3	--	31
65-69	60.0	40.0	--	15
70-74	20.0	80.0	--	5
75-79	20.0	80.0	--	5
80 +	60.0	20.0	20.0	5
Mean Age	32.91	42.45	16.56	
N	771	162	232	1165

1.5: Educational attainment of Household Members by Age (above 5 years)

Age group	No Education	Primary incomplete	Primary Complete	Secondary incomplete	Secondary Complete	Above Secondary	Number (Survey)
6-9	17.1	79.5	2.7	0.7	--	--	146
10-14	11.8	60.9	9.1	17.3	.9	--	110
15-19	28.7	25.5	4.3	23.4	9.6	8.5	94
20-24	41.8	21.6	11.3	18.0	2.1	5.2	194
25-29	30.4	19.6	11.6	22.8	8.4	7.2	250
30-34	31.5	22.4	15.2	14.5	7.9	8.5	165
35-39	50.5	16.5	3.9	12.6	13.6	2.9	103
40-44	66.0	20.8	3.8	3.8	1.9	3.8	53
45-49	69.5	22.0	3.4	3.4	--	1.7	59
50-54	74.4	18.6	4.7	2.3	--	--	43
55-59	72.3	21.3	4.3	2.1	--	--	47
60-64	75.8	18.2	6.1	--	--	--	33
65+	73.5	23.5	2.9	--	--	--	34
Total	38.9	30.7	8.2	13.3	4.7	4.2	1331

1.6: Percentage distribution of household members by ethnicity according to school attainment

Ethnic Group	No Education	Primary incomplete	Primary Complete	Secondary incomplete	Secondary Complete	Above Secondary	Number (Survey)
Bawm	37.8	15.6	6.7	37.8	2.2	--	45
Chak	--	33.3	0.0	33.3	--	33.3	3
Chakma	28.1	34.6	11.0	15.5	5.9	4.9	555
Khiang	66.7	33.3	--	--	--	--	6
Khumi	65.8	30.1	--	4.1	--	--	73
Lusai	--	--	87.5	12.5	--	--	8
Marma	37.3	27.5	7.3	12.0	6.9	9.0	233
Myrong	76.7	21.9	.7	--	.7	--	146
Pangkhoa	50.0	50.0	--	--	--	--	2
Tanchyanga	45.0	33.9	5.3	12.3	2.9	.6	171
Tripura	16.3	26.5	8.2	24.5	14.3	10.2	49
Indigenous People All	39.5	30.4	7.9	13.1	4.9	4.3	1291
Bangalee	20.0	40.0	17.5	20.0	--	2.5	40
All CHT	38.9	30.7	8.2	13.3	4.7	4.2	1331

1.7: Percentage distribution of household according to educational attainment of HH Head by wealth quintile

Quintile	No Education	Primary incomplete	Primary Complete	Secondary incomplete	Secondary Complete	Above Secondary	N
Lowest	49.5	31.7	3.0	10.9	3.0	2.0	101
Second	29.3	24.0	13.3	20.0	8.0	5.3	75
Middle	29.3	36.6	14.6	12.2	2.4	4.9	41
Fourth	19.7	22.7	18.2	18.2	15.2	6.1	66
Highest	14.5	34.8	15.9	14.5	8.7	11.6	69
All HH	30.4	29.5	11.9	15.1	7.4	5.7	352

I.8: Percentage of Household by possessing Assets (Multiple Response)

Types of Assets	Percentage
Electricity	11.6
Radio	5.9
TV	24.3
Mobile Phone	78.8
Paddy Machine	9.0
Bain Textile	30.5
Solar Electricity	42.9
Motor Cycle	3.4
Jewelry	56.5
Ware drop	26.6
Table	52.5
Chair	57.6
Electric Fan	16.7
DVD/VCD	10.7
Water Pump	2.5
Power Tiller	2.0
Engine Boat	3.1
Boat	11.3
Sampan	-
Fishing Net	21.2
Sewing Machine	12.1
N	354

I.9: Food Insecurity Status by Months

Food insecure months	% of households
Boishakh	60.9
Jaishtha	62.6
Asar	60.1
Sraban	44.9
Bhadro	28.0
Aswin	18.9
Kartick	9.9
Agrahayan	6.6
Poush	8.2
Magh	5.3
Falgun	6.2
Chaitra	37.0
N	243

I.10: Percentage distribution of household according to types of food assistance and amount

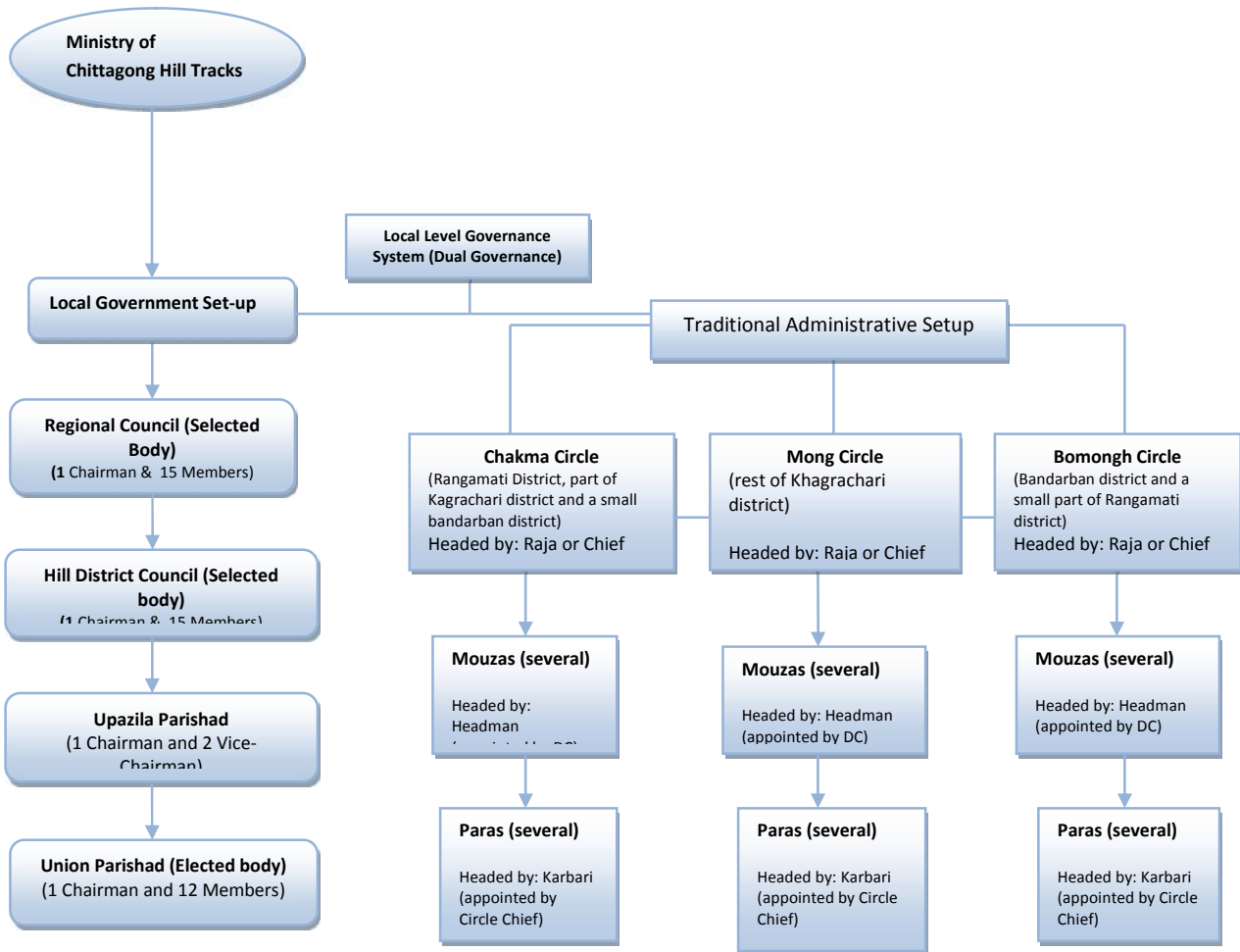
Types of Food items	Amount (in kg)
Rice	
Mean	55.37
Maximum	4
Minimum	480
N	100
Dal	
Mean	1.50
Maximum	1
Minimum	2
N	2
Sugar	
Mean	1.43
Maximum	1
Minimum	3
N	7
Salt	
Mean	3.05
Maximum	1
Minimum	6
N	20
Oil	
Mean	1.29
Maximum	1
Minimum	3
N	14
Others	
Mean	3.05
Maximum	1
Minimum	7
N	19

I.11: Percentage distribution of household receiving special assistance from government and non-government by upazila

District	% of reported received assistance
Rangamati	
Jurachari	4.2
Bilaichhari	.6
Barkal	1.7
Baghaichhari	2.3
Bandarban	
Sadar	3.1
Thanchi	2.8
Rowangchhari	2.5
Ruma	8.2
N	354

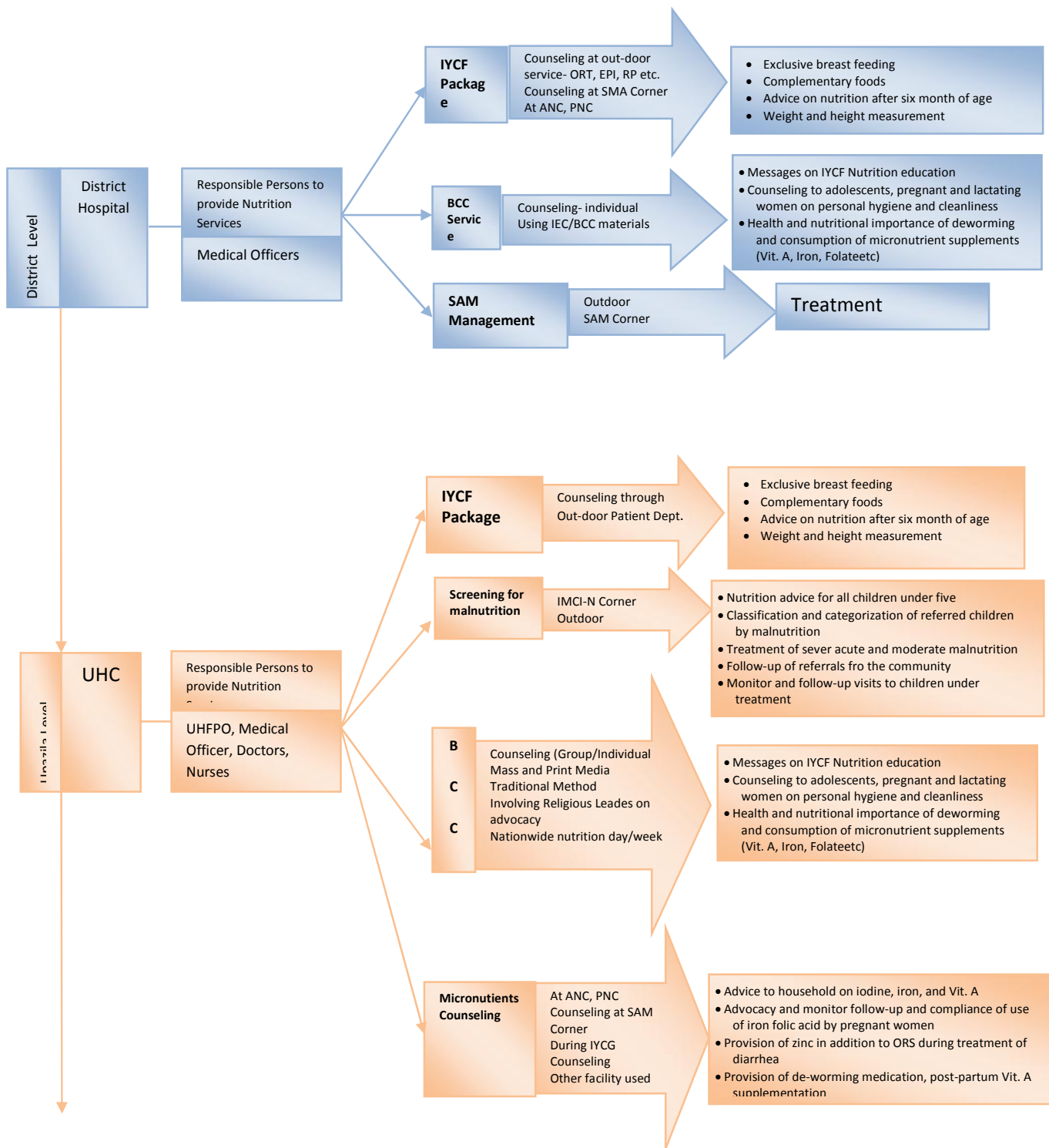
ANNEX-2

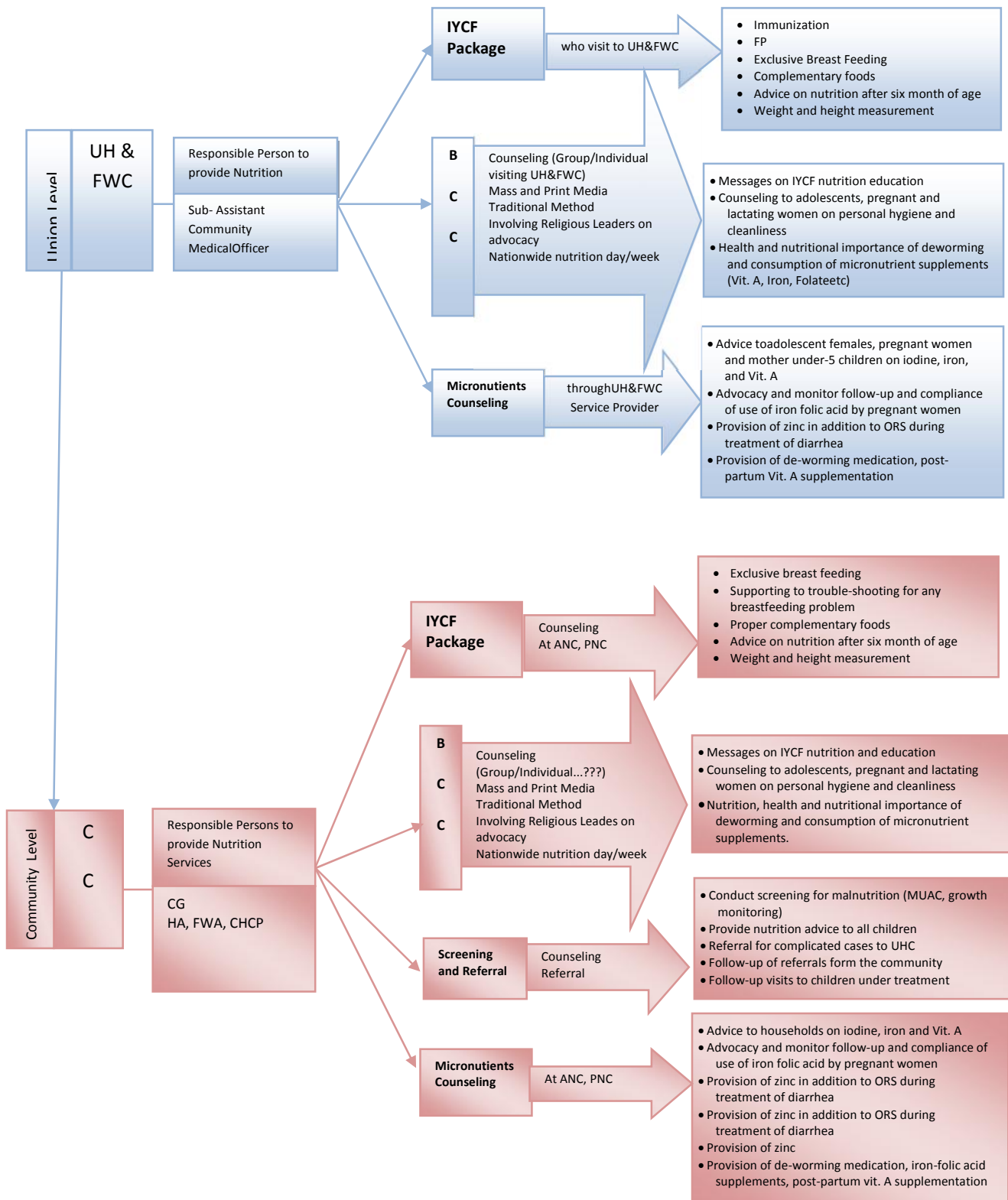
Governance System of Chittagong Hill Tracts



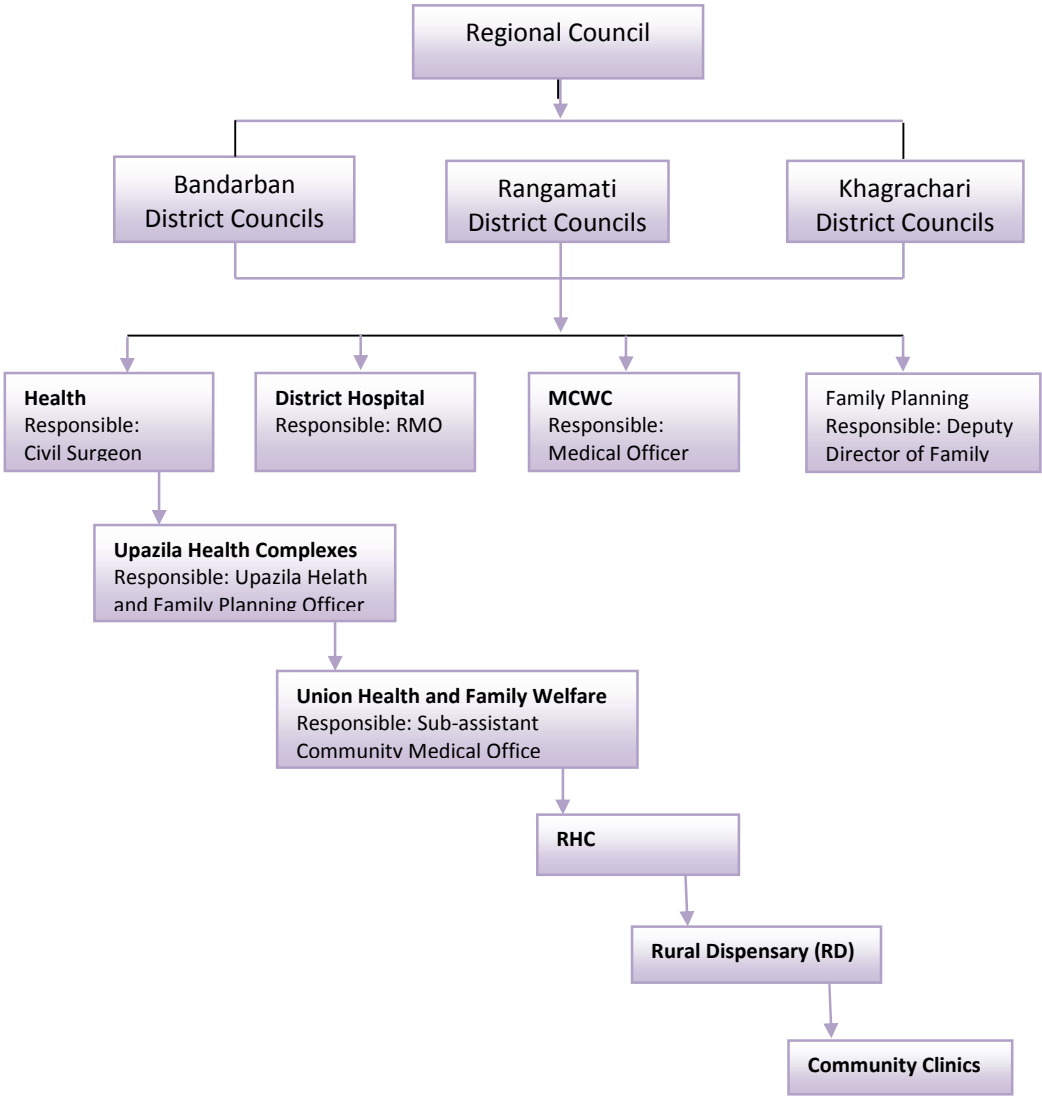
ANNEX-3

Nutrition Service Delivery at Local Level (District to Union)





ANNEX-4
Health Service Delivery at CHT



Annex 5

Implementation Guideline of Rice Bank

Background

Chittagong Hill Tracts (CHT) is the backward region than any other region of our country. About 11 communities (mostly indigenous) are living in this area. Lack of medical, education, and government facilities, extreme poverty and unawareness of citizen rights and human rights have been threatening the socio economic culture of this neglected area. In this connection some NGOs are working with the purpose to improvement the living standard of people in this region. Among these CIPD is playing major role especially in case of food security throuding managing rice bank. Rice Bank is the innovative technic to support people's livelihood especially during food insecure months. CIPD funded by Manusherjonno foundation has been working since 2007 in Bilaichhari and Jurachhariupazila to raise the voice of underprivileged community of Jumia under the project of "Empowerment of Jumia Community& Preservation of Culture".

Here Jumia community means those who are involved in Jum cultivation or besidesjum cultivation who are involved in vegetable gardening in their homestead, depending on paddy cultivation, planting fruits and valuable trees. This Jumia community faced food crisis in the month of April - June (Chaitra – Baishak, Bangla month) every year. However, this situation turned acute in the month of Ashwin – Kartick. Their livelihoods have totally been collapsed and they have passed a miserable life. In local language this situation called "Bhadrat" and in Bangla it is called "Monga".

To face this "Bhadrat" period, Rice Bank (Golaghar) has established in 6 unions of Jurachhari and Bilaichhariupazilla. In this rice bank people gathered rice in accordance to their budget.

The Jumia community will take interest free rice from this rice bank during the "Bhadrat" period according to the decision of GSK committee and they will return the taken rice after harvesting paddy.

Beneficiaries' selection process under Rice Bank

- *Jhum* cultivators
- Families who could not get rice due to pest attack in paddy field or manifestation of various diseases in paddy field.
- Farmers who spent their labour in others land or hire land from another person.
- Poor families, day labours.
- Considering those families who are suffering from food crisis due to natural disaster or any other reason.
- Women headed families, disable families.
- Marginal farmers

People who are not considering for Rice Bank facilities

- People who did not get crops for round the year but have the capacity to buy paddy or rice.

Rice Bank management policy

- The Rice Bank Management Committee will supervise the 'Golaghar' and be responsible for any damage or loss of rice bank.

- CIPD will approve the decisions of conducting the rice bank.
- Near about 200 'Ari' rice (quite ripe) will be collected and gathered in a rice bank. It will be done with the presence of 1/3 GSK members and Management committee.

Policy of buying rice

- If you get better-quality of rice you will gathered near about 200 'Ari' in 'Golaghar'. But before buying rice you need to validate the quality of rice.

Allocation of rice

- Each family will get 20 ari/tin of rice but in case of a large or joint family it will be considered from the approval of GSK or Mtg. Committee.
- Rice will be distributed only in two seasons of a year, one in April-May and another time in July- August when acute food crisis is prevailing.
- Each person's name and amount of rice will be enlisted in register book those who will take rice from rice bank.
- At least three GSK members are needed as guarantee to distribute rice among the beneficiaries. In this case if any beneficiary has failed to return rice in due time the guarantees will come forward to solve the problem.

Collection

- If any person failed to return the borrowing rice, with the assistance of social representative like U.P Chairman, member, woman member, karbari and other respected person of society, GSK or Management committee will force him/her to get back the rice. If they failed then guarantees will be responsible for that and GSK and Management committee will create pressure to them.
- If any person has failed to return rice in due time for causing accident, GSK and management committee will consider time in such case.
- A person have to be prepare mentality to return more than 1 or 2 'ari' of rice that he had received from golaghar. Such as – A person received 10 ari of rice from Golaghar but he have to return 12 'ari' of rice as maintenance cost of Golaghar (rice bank).
- To conduct rice bank, beneficiaries will return 6 'ari' of rice if he got 5 'ari' of rice from rice bank. It will be 'revolving fund' of rice bank.
- Beneficiaries will prepare themselves that it is a 'scheme' and they have to pay 5/10 tk each month to maintain this bank. This amount of money will be deposited in a Bank Account. From the agreement of all beneficiaries this money will be spent for rice bank development, maintenance and supervision.
- If any beneficiaries will break the rules and regulation of Rice Bank

Policy, GSK and management committee jointly take a decision with the consent of CIPD. If needed they can cancel the membership of a beneficiary from Rice Bank.

Monitoring

The community mobilizer will monitor rice bank related activities regularly such as preservation, quality, distribution and collection of rice, to protect rice bank from pest attack or natural hazard and all documents of rice bank which are registered in registry book.

Annex 6

MJF supported livelihood Projects

ALO:The project title was Integrated Sustainable Hill Farming and the goal was to Improved resilient livelihood opportunities and enhanced capacity of communities to restore human dignity and the objective was to improve the economic condition of poor farmers in remote rural areas of Khagrachari Hill District through integrated sustainable hill farming and market linkage and To restore culture and heritage, and promote human rights for ensuring human dignity. The outputs were

1. To Enhanced capacity of the 1500 producers on production, group management and their rights.
2. Increased income (75% of increase) and market linkage potentiality in the rural areas.
3. Increased unused land (80% of increase) in the project is planted with trees, fruits and a variety of crops adapted by the beneficiaries.
4. Increased practice of traditional culture and project participants are mobilized for protesting human rights violation. specific
5. Increased access to local services.
6. Availability of local variety of seeds through Seed Bank
7. Groups are mobilized to protest VAW and girls.

ASHIKA : The project title was upgrading Sustainable household's affordability (USHA).The goal was to improve livelihood opportunities of marginalized communities through enhancing economic capacity to restore human dignity. The objective was to increase average household income through proving supports or IGA and to increase the capacity of community for protecting violence against women. The output was the monthly average 600 household income increase from 3000 to 500 and the groups are capacitated and motivated to perform against VAW.

N. Z. EkataMohilaSamiti: The project title was Integrated Initiative for Ensuring Food Security. The goal was to Ensure food security through increased livelihood alternatives of poor community through eco-friendly cultivation of crop-diversification and self-employment opportunities the objective was to Introduce eco-friendly agriculture diversification for Ethnic Community engaged in Jhum cultivation, Continuation of daily earning round the year of targeted community through diversified crop cultivation, Bring the ethnic community in settled living through production of crop diversification. Family income (50%) of all targeted households will be increased, Reduce migration of earners in search of new shifting (Jhum) cultivation by 50% of targeted beneficiaries, 60% households will have access to the market and effective market linkage ensure competitive price of product and to Reduced land-sliding due to cutting of hills and soil erosion.

Hilehili: The name of the project was Promotion of Alternative Household Actions for Returns (PAHAR). The goal was to Improved livelihood opportunities and enhanced economic capacity of communities to restore human dignity. The objective was to Established resilient livelihoods through practicing technically feasible and socio-economically viable agriculture options and increasing access

to quality primary education and basic services for CHT communities. The objective was to Established resilient livelihoods through practicing technically feasible and socio-economically viable agriculture options and increasing access to quality primary education and basic services for CHT communities and the output was

1. 30 CBOs are capable of producing technically feasible and socio-economically viable diversified crops, IGA options and food securities for the poorest.
2. Community Children have increased enrollment to improve primary level education.

Humanitarian Foundation :- The name of the project was Sustainable livelihood improvement through secured earning and the goal was to Improved livelihood opportunities and enhanced capacity of community for life skill development and restore human dignity .The objective was to Improved livelihood through economically viable agricultural options and food security, ensure human rights and practicing traditional culture. The outcome was

1: Poor hill people are organized to improve their economic condition to enjoy better livelihood security.

2: Ethnic cultures and traditions preserved and promoted.

Eco-Development: The name of the project was Sustainable Initiative for Development Reformation the goal was to Secured livelihood of disadvantaged CHT communities through environment friendly agricultural diversification and technology, integration of indigenous practices and upholds human dignity. The object was to Poor and disadvantaged households in Bandarban hill district have successfully increased their income and livelihood through adopting agricultural diversification and best practices to promote human rights. The output was

- a) 80% of households improved household assets, expenditure and savings over 30 – 60%,;
- b) 80% of women and children with improved food security and nutritional status.

BDPOD:The name of the project was Sustainable Livelihood Development for Disabled and Ethnic Minority in Bandarban. The goal was to Improved livelihood condition and human dignity of PWDs and small ethnic communities in Bandarban hill district. The objective was PWDs and Chakcommunity are enjoying basic wellbeing through increasing access to life skill, safety net, preserving traditional culture and practices. The output was:

Output 1: Increasing accessibility, acceptability and mobility of PWDs to meet up their needs of rehabilitation and income generation through sustainable self help group. .

Output 2: Organize and capacity building of Chak groups for improved and diversified agriculture, income generation and preservation of the traditional practices.

TrinomulUnnayanSangstha : The title of the project was Coherent Action on Natural-Socio-Economic Resources for Decent Livelihood. Resilient livelihood through improving life skills and utilisation of associated natural-socio economic resources, promoting human dignity. The goal was to Increased productivity and income opportunities of target population by transferring skill and increase access to natural resources promoting rights and core cultural elements the objectives are to

Increased agricultural production and agro forestry of 1000 HHs by providing technical support for optimizing use of natural resources in eco friendly and sustainable way.

Enhanced income generation activities and employment opportunities of 500 HHs by transferring technical skills and knowledge on entrepreneurship development, agro business, handicrafts, hand loom, and processing of agro products. The outputs are

The sub-partner organization is capable to implement the program activities efficiently and achieve organization development.

CIPD: the title of the project was People's Empowerment for Accessing Rights to Livelihoods (PEARL) and the goal was to Improved livelihood and human dignity of marginalized community of Rangamati Hill District through increased life skills and preservation of cultural heritage. The objective was

- To increase average household income through providing supports for IGA and ensure food securities for the poorest populations.
- To raise awareness on violence against women

The output was Practical application of traditional knowledge and preservation of traditional items to ensure Identity

- Monthly average 4300 household income increased TK. 3000 – TK. 5000
- Increased use of herbal garden product of indigenous medicinal plant by traditional healers
- Established 23 Rice banks are managed by the community and used for divers income generation
- Groups are capacitated and motivated to perform action violence against women
- 80% Jumia family adopted modern technique and increased average production per acre.

Enhanced one (1) partner's capacity to run the project in the delegated areas effectively.

BNKS:The goal of the project was to empower ethnic hilly women of Bandarban economically and socially by ensuring greater control over their incomes and legal rights. The objectivel was to enhance technical capacity, skills, and knowledge and increase incomes amongst targeted 600 ethnic hilly women through establishment and enabling women rights. the outputs are to

1. Strengthen the skills and capacity of 600 (20 women groups) members to generate income from handicrafts, livestock and horticulture sector.
2. Strengthen the access of 600 (20 women groups) members to potential markets and networks.
3. Increase knowledge of 600 (20 women groups) women's on their rights (including specific issues like prevention of child marriages & violence against women and full economic rights for women)
4. Increase capacity of trained members to provide paralegal support to ethnic hilly people that are victims of violence and discrimination.

Summary of Agriculture and Food Security Project (AFSP) of UNDP

Summary upon (AFSP)

The Agriculture and Food Security Project (AFSP) was a project implemented by UNDP through Chittagong Hill Tracts Development Facility (CHTDF) with funding support from the European Union. AFSP is a 18 months long project funded by the European Union (EU) for the period of 1 April 2010 to 30 September 2011. The geographical coverage of the AFSP includes 20 out of 25 Upazilas in Khagrachari, Rangamati and Bandarban. The objective of AFSP was to improve food security and poverty reduction in 1,000 remote communities in CHT, affected by high food prices and insecurity.

The assessment of the project shows that there were - Improvement food security and production yields, Farmers access to decentralized extension services and research and knowledge transfer of new technologies and practices which occurred by the established of Para Development committees (PDCs), rice banks, saving schemes of PDCS, field farmer school (FFS) and agricultural learning plots.. An increase in household income and a decrease in the number of months of food storages were observed for the food security and production yields. The longer had the community benefited from the existence of a rice bank to the farmer field community increase in income. Although the rice banks are benefitting the community and are perceived to be functional. All types of agricultural crops in all three hill district have shown as increase in their annual value, it revealed that 74.8% of the total survey household access to extension service offered by the Government. Market oriented production and participation in the market forces increased that contribution to increase income of the weaver group and food security in the household level. Agricultural learning plots were introduced and utilized the training received from the AFSP projects increased farmers knowledge and capacity on modern agricultural cultivation.

In the implementation of the project participation of women in meetings, prioritizing women in trainings and in ensuring their participation in decision making process gender has been mainstreamed.

Annex 8

Jhum Cultivation

Jhum cultivation is an age-old, rain-fed cultivation method, practiced by the Indigenous people on the hills and slopes of the Chittagong Hill Tracts, because of the lack of flat land suitable for farming. This system involves cutting back and clearing large areas of the hillside through fire, which also acts as a fertilizer, to obtain clean, fresh soil to farm, and why it is sometimes referred to as a 'slash-and-burn' method. This agricultural system is practiced by the individual or family, however on occasion may involve an entire village. Seeds of different crops are mixed together and sown in this 'field' after the first rain shower has fallen, usually during the months of April to May. Plants on the slopes survive the rainy season floods. Typically, upland rice and vegetables are harvested within a few months after sowing, whereas cotton, turmeric and arum are harvested after 8 or 9 months, during December.

Process of cultivation

Baishakh:-Cleaning up the weeds, build up 'Monghor', cultivating paddy after rain.

Jaistha: - Clean up the weeds and seed plantation.

Ashar: - After seed plantation Clean up the weeds.

Sraban: - Taking care of the harvesting sapling and clean up the grass creepers.

Bhadra: - Get into the hut with family.

Ashin: - Stay with the family into the hut.

Kartik: - Pluck out the cultivated Jhum.

Agrahayan: - Celebrating the new paddy festival and dry out the paddy.

Poush: - Selecting the place for jhum cultivation.

Magh: - Check out the soil and find out lake nearby.

Falgun: - Clean up the jungle.

Chaitra: - Burn up the jungle and clean up those ashes.