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# **FOOD SECURITY ASSESSMENT REPORT**

**CHITTAGONG HILL TRACTS  
SAJEK UNION  
April 2008**



## **Acknowledgement**

This assessment was conducted and coordinated by Dr. Asish Kumar Das, MBBS, MPH with the valuable participation of Mr. Niladri Chakma, assistant Medical Coordinator, MPH and Mr. Sushanta Chakma, MPH together with a team of 15 outreach workers. We highly appreciate their commitment and dedication.

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## Executive Summary

The food crisis related to the flowering of bamboo and the rat invasion made the object of an in depth food security assessment in Chittagong Hill Tracts. The assessment was organized between 13<sup>th</sup> march and 13<sup>th</sup> april in Sajek union, Rangamati district, area inhabited by approx. 40000 people and occupying 607 sqmiles. This area was mentioned in several reports as one of the most affected and as well represents a region where MSF used to work in the past, therefore it was possible for us to gain quick access to the affected population.

Sajek union represents a very remote area, difficult to access (challenging from security and physical access perspective) with very little information available. The list of villages and the map of the area were crosschecked with the village leaders. All 6 administrative units of the union as well as the Kasalong reserve forest area were covered by the assessment. From each administrative unit a certain number of villages were randomly selected according to the methodology. Selection of the households in which the questionnaires were applied was as well done randomly at village level.

During this assessment the teams visited and collected information from 34 villages (25.3% from the total number of villages in Sajek Union), they performed 358 MUAC measurements in <5 children, they conducted 151 households interviews, 9 FGD and interviews with key informants.

The questionnaire used was adapted from a USAID Food and nutrition Technical Assistance (FANTA) tool measuring the degree of food insecurity at household level in terms of access to food in the past 4 weeks (30 days). This questionnaire was supplemented with questions assessing immunization status in children, health care access, status and health seeking behavior, access to water, socio-demographic information etc.

According to the assessment findings, **79.47% of the households are severely food insecure** (cutting back the meal size and the number of meals often and/or experiencing any of the following 3 most severe conditions-running out of food, going to bed hungry or going the entire day and night without eating), 11.9%of the households are moderately food insecure (sacrifice the quality by eating a monotonous diet or undesirable foods often and/or started to cut back on quantity by reducing the size of number of meals rarely or sometimes) and 4.6% of the households are mildly food insecure (they worry about not having enough food sometimes or often and/or being unable to eat preferred foods, and/or eat a more monotonous diet). Tripura community is significantly more affected in comparison with Chakma and Lusai communities, 92.68% of all the Tripura families being severely food insecure.

Despite of availability in the market, food is not accessible to most of the families mainly due to its high price.

Although 90.1% of the families were depending solely on Jhum cultivation, they didn't have any seeds to plant in the next season. The price of the jhum seeds, not available in the market, has gone up sharply since they are scarce. The price of the paddy seeds has tipped and in case of green chilly it was even more than four times higher. In addition to that, the number of rats is still high and is expected to increase even more in the rainy season (starting in may) therefore the farmers are hesitating to plant although jhum fields are prepared.

The severe scarcity of food at the household level forced people into adopting different coping mechanisms: cutting the number and the size of the meals, prioritizing some family members in terms of food access (children and male adults able to work), shifting the majority of the food intake towards jungle food, borrowing money, selling livestock and other valuables.

Other strategies of survival consist in channeling almost all available resources towards food, de-prioritizing health and education. As a consequence there is a high rate of drop out

from school and a high morbidity at community level in all age groups. In a normal year families spend in average 70% of their income on food while this year more than 95% is allocated for food. The incidence of child labor was found to be going up.

People had already started to move from one place to another. Both internal and external population migration were observed. More than 50 families had moved to other places and out of these more than 50% moved to the Tripura and Mizoram states in India.

We believe the current food crisis has a significant impact on health. **43.85% of the all the children aged between one to five years were found to be acutely malnourished or at risk.** Besides macronutrient deficiencies, the children had also been suffering from micronutrient deficiencies (thin, discolored hair, angular stomatitis, dull skin, skin ulcers etc) most likely a chronic problem.

The prevalence of different diseases was very high. **80.8% of the families reported that they suffered in the last 2 weeks from at least one of the following diseases/symptoms:** fever (68.2%), diarrhea (21.9%), cough (20.5%) and others (19.1%).

Although malaria is endemic in the hills, only 69% families had mosquito nets.

Due to chronic malfunctions of the health system, absence of any health facility in the remote areas as well as poverty and lack of awareness, getting proper treatment for a disease was always found to be a challenge. 34% of the families prefer to go to the traditional healers while 53% buy drugs from the medicine shops.

**The immunization coverage is very low,** 33.33% of all the children were vaccinated with an estimated drop out rate in this group of 48.39%.

Most of the villages are situated on the hills, which makes the access to water very challenging. More than 88% of the interviewed households had to collect the water from the narrow, dirty and almost stagnant streams and fountains, some of them located far away from the villages. Only 1.3% of the families had the access to tube well water.

**The food assistance given so far was very small and disproportionate to the magnitude of the crisis.** 58.9% of the families never received any food support until now, 35% received once and only 1% received thrice.

One potential aggravating factor is the rainy season, which will start in approximately one month (may 2008) and will make the access, especially to some pockets of population living in a remote and hard to access area, almost impossible.

Based on observation and data collected in the field concerning food availability, food accessibility, coping mechanisms, children undernutrition, prevalence of different morbidities, population migration etc the current situation identified in the Sajek union can be classified as a severe food crisis with potential to deteriorate even further if no proper intervention to address this aspects is put in place.

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## Operational definitions

**Household:** Group of people who eat and sleep in the same house (under the same roof).

**MUAC:** Mid Upper Arm Circumference, it is a screening tool commonly used to measure the nutritional status of the children aged between 1 to 5 years.

**Mouza:** old administrative unit in a union; each of the mouzas are a collection of villages.

**Headman:** Chief of the mouza. Supervises the karbaries and appointed by the circle chief.

**Karbari:** Karbaries are the chief of the villages, usually appointed by the Headman.

**Mohajan:** money lender at village level

**RUTF:** - ready to use therapeutic food

# Introduction

Chittagong Hill Tracts occupy an area of 13,181 Sqkm located in the south-eastern part of Bangladesh in the Chittagong Division and is divided into 3 districts, Khagrachari, Rangamati and Bandarban. Parallel with the government administrative system represented by upazillas (sub-district centers), unions and villages, a traditional system is perpetuated, with division of the region into three circles each of them corresponding more or less in their boundaries with the current districts. The circle is divided into a number of mouzas headed each by a headman. Mouzas are subdivided into paras (villages) headed by a karbari.

1-1.5 million people from different ethnic groups inhabit this region, more than 90% living in rural areas. According to the last population census done in 1991 approximately 50% of the population is represented by the indigenous group divided into 13 different tribes and the rest by non-tribal groups majority of them being Bengali muslim settlers brought from different parts of Bangladesh.

The CHT districts are post conflict areas that have been disadvantaged and isolated in the past decades. The root cause of conflict in the region derives from the politics of nation-building and ensuing conflicts between the minority and the majority population. Since Bangladesh's independence in 1971, armed conflict between the tribal population and the government as well as a government-sponsored transmigration programme of Bengalis from the plains have forced large numbers to flee their homes. Some 65,000 fled to India's Tripura state and an even larger number were internally displaced. A peace accord signed in 1997 enabled the refugees to be repatriated, but thousands of IDPs and returning refugees remain displaced due to un-resolved issues related to land and property restitution. Violent incidents still occur in the Chittagong Hill Tracts, occasionally causing further displacement of civilians. Clashes between tribal groups who either contest or defend the peace accord, anti-terrorist military operations and sporadic attacks by Bengali settlers against the Jumma population, allegedly with the support of the military, continue to create a general climate of insecurity.

The topography of the region is featured by hills, ravine and cliffs originally covered by dense bamboo forest, trees and jungle but presently bare in many places. The economy of the area is mainly based on agriculture and is the one of survival; whatever they produce is to meet their needs.

The agricultural potential of hill soils is low for field crops, but it ranges between low and high for tree crops (3.2 % of the land is suitable for all purpose agriculture, 15% for fruit garden and forestry and 77% is suitable only for forestation). Almost all soils of the region have low inherent fertility and a low water holding capacity. Because of impracticality of irrigation, rain-fed crop production is practiced in most hill land. The traditional mode of cultivation, practiced exclusively by the tribal people living in remote hilly areas, is the shifting cultivation (jhum). In January/February the jhumming area is selected, the jungle and the bamboo are slashed down and the lower parts of the trees are denuded. The chopped down vegetation is left on the spot to dry and then set on fire, process that fertilizes the topsoil as it gets burned along with the dried plants. Seeds are sown after the first rain in April and crops are harvested in succession as they ripen between July and December. The main crops generally grown in jhum include rice, sesame, banana, ginger, green chilly, turmeric and some vegetables (cucumber, pumpkin, melon).

Jhumming is a labor intensive farming method requiring constant guarding from wild animals and rats, enhances soil erosion and depletes fertility. In its original form there was a minimum 8 years rotation period between the farming in the same area, allowing the natural

vegetation to grow again and the soil to 'rest'. Population pressure, reduction of agricultural land due to building of the Kaptai reservoir and large-scale non tribal settlements enhanced the pressure on the land and reduced the rotation interval to 2-3 years therefore decreasing the soil fertility and the crops productivity.

Rice is the staple food for the indigenous communities. Together with that they eat meat fish and sufficient amount of vegetables. Since almost all families can't grow in most of the years enough rice for their own consumption, tribal people often supplement their meals with products from the jungle (wild potatoes and vegetables, snake meat, frog, etc.). They as well consume *nappi*, a semi-dried fish-paste with a powerful flavor and supposedly a high protein content.

Limited information is available on the health situation in the CHT due to lack of reliable health data.

The health facilities offered are mainly at the level of the *Upazila* (sub-district) centre. The villages have very few health facilities and many unions do not have any health facilities at all. Few referral possibilities exist. Low quality of the services resulting from lack of qualified medical personnel, high cost of treatment, insufficient health infrastructure and the high transport costs contribute to the poor access of the health service.

There are very strong beliefs in the traditional healers (boidu) from whom more than 70% of the rural population seek medical service. Also self-medication, supported by mushrooming commercial pharmacies (often run by untrained persons), is a common phenomenon.

Pregnancy related problems are common, especially in the rural areas due to very little knowledge about maternal care. 95% of all children are born at home and delivered by TBAs without or with little training.

CHT is located in the malaria belt of Bangladesh, which extends from the southeast in Chittagong division to the Sylhet division in the northeast. Malaria is the number one health problem for the population in the CHT, almost 80% is *Plasmodium falciparum* malaria. In 2007 Bangladesh was granted the 6<sup>th</sup> round of the GF to implement malaria treatment with Artemisinin combination therapy. The implementation is progressing slowly and access to treatment currently is still an issue especially in remote areas.

The immunisation coverage is lower than the national average, especially in remote villages.

There are contradicting publications on the nutritional situation in CHT. The Bangladesh Bureau of statistics mentions 2 % of the children < 5 yrs are severely malnourished which is lower than the national average. However, a BRAC-study<sup>1</sup> found that 13.6% male and 16.9% female < 5 yrs fall into this group, which is almost twice as high as the national average for rural areas. Data collected during a special survey of the NSP of Helen Keller International (HKI) and the Institute of Public Health Nutrition (IPHN) in May and June 2000, three years after peace was restored, revealed that the prevalence of chronic energy deficiency in mothers was 'serious' and the prevalence of underweight and stunting in children was 'very high' according to international criteria.

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<sup>1</sup> Socioeconomic and Health Profile of Chittagong Hill Tracts, August 1999. Research & Evaluation Division, BRAC



## Background

In the last 2 months more and more reports informed about a possible food crisis, affecting according to present data mainly Bandarban (Tanchi and Ruachari upazilla) and Rangamati (Baghaichari, Farua, Barkal, Juralachari, Bilaichari) in areas bordering the Mizoram state in India. The current situation started in 2006 but reached the peak around harvesting time for the jhum cultivation in November last year. Farmers and residents are hit by large infestations of rats that destroyed their crops. Rats number increased dramatically following the bamboo flowering on extensive areas. It is reported that the pest has affected 150,000 people in three of the districts.

The gregarious or simultaneous flowering of bamboo also known as mautam ('bamboo death' in mizo language) is a cyclic ecological phenomenon that occurs every 48 years in the northeastern indian state of Mizoram and in the bordering areas with Bangladesh and Burma, area which is thirty percent covered by wild bamboo forests. At this time, *Melocanna baccifera*, a species of bamboo, flowers at one time across a wide range, followed invariably by an increase in number of rats population from the species *Rattus rattus* and *Bandicota Bengalensis*, *Bandicota indica*.

After flowering, the bamboo dies and regenerates from the seeds. The rodents feast on these seeds which, as an indirect consequence, causes a sudden boom in its population. The action of the rats is thought to be an ecological control mechanism. The seeds of any species of bamboo that might flower off-cycle are all eaten up by rodents, thus reinforcing the rhythm of this extreme version of a mast year. Some experts believe that the flower has a positive effect on the fertility of the rats (eating bamboo flowers enhances estrogen secretion in rodents, causing early puberty and elevated sexual activity, a kind of "aphrodisiac lure"), as well as on increasing the viable size of a rat litter. All available explanations point to the fact that the increase in their numbers during the peak year is a natural after-effect of the flowering of the bamboos.

Records from the British Raj indicate that Mizoram area suffered famine in 1862 and again in 1911, after the region witnessed similar bamboo flowerings. In each case, the records suggest that the flowering of the bamboo leads to a dramatic increase in the local rat population. The increase led to raids on granaries and the destruction of paddy fields, and subsequently to a year-long famine.

The last time a plague of rat of this magnitude hit the area was in 1958 and the consecutive famine has played a significant part in shaping the region's political history. The 1958–1959 *Mautam* resulted in the recorded deaths of at least a hundred people, besides heavy loss to human property and crops. Some elderly villagers in the undeveloped more traditional region, recalling this event, have claimed that their warnings based on folk traditions were dismissed as superstition by the Government of Assam, which then ruled what is now the state of Mizoram. This negligence led to the foundation of the Mizo National Famine Front, set up to provide relief to the far-flung areas; the front later became the Mizo National Front, which, under former Chief Minister Laldenga, fought a bitter separatist struggle for twenty years against the Indian Army until an accord that guaranteed Mizoram's autonomy as a separate state was signed in 1986.

Sajek union is one of the most remote areas of Baghaichari Upazila in Rangamati Hill district and in the same time the biggest union in the above-mentioned district with 126 villages and more than 3000 households. The area is inhabited by Luchai, Tripura and Chakma and bengali population, some of them being internally displaced due to unresolved land and property restitution issues following the open conflict between the tribal leaders and the GoB which ended by signing the peace accord in 1997.

Many areas are difficult to access except by foot or country boats in the rainy season. People live in scattered villages frequently linked only by small mountain paths.

The economy of the region is predominantly agricultural. Because of the nature of the terrain the indigenous people of the CHT developed the system of cultivation called jhum which is also known as "shifting", "rotational", "slash and burn" agriculture. Population growth, settler influx and the loss of land have contributed over time to the decline of production; as a consequence the communities experience moderate to severe food shortages on a seasonal basis fact that reflects the dependence on agricultural cycles. Households have sufficient quantities of food from their own production for less than half year.

Indigenous communities living in remote areas are victims of exploitation and neglect. Various illegal groups tax any source of income, this practice continuing even now despite the current crisis.

Health services are unreliable, irregular or non-existent and malaria and diarrhea are endemic being the most common cause of child mortality.

## **Methodology**

### **Time frame**

The assessment was conducted in the interval of 13<sup>th</sup> March - 13<sup>th</sup> April 2008.

### **Background and number of assessors**

Considering the remoteness of the area and the time constraints, three teams were selected. Each team was composed of six members including one team leader. Before the assessment started, all team members were trained on how to apply the questionnaire, how to conduct a focus group discussion and MUAC measurement technique. The training included information about how to conduct an assessment, basics of food security, how to do proportional pilling, seasonal calendar, activity profile, year ranking etc. Team leaders were also trained in the simple random sampling technique.

All team members had to appear in the mock interview using the translated version (Bengali) of the questionnaire.

The team was engaged in collecting household information from the randomly selected households in the randomly selected villages.

### **Selection of the Villages**

Sajek union occupies an area of 607 square miles, has 126 villages and is divided in 6 administrative units called mouzas (Betling, Tui Chui, Shialdai, Rui Lui, Konglak, Longkhor). A separate unit is represented by Kasalong reserve forest, under special administration of the Forest Department and therefore not included in the normal administrative division. However, beside the special administrative regime there is no significant difference between this area and the others therefore, for an exhaustive coverage, it was assimilated in this assessment as the 7<sup>th</sup> administrative unit.

The list of the villages and the map of Sajek union was obtained from one of the local NGOs. This list was confronted and updated in the field with the information collected from community representatives (headmen and karbaris). The order in which villages were enlisted in the mouza was random and each village was assigned a number. For each of the 6 mouzas and the special unit (reserve forest area) a simple random selection of the villages was organized (lottery). If a mouza consisted of 10 villages, 3 villages were randomly (lottery) selected (30%). If the mouza had more than 10 villages more villages were randomly selected for the visit (from 20 villages in the

mouza 6 were selected for the interview, from 12 villages in a mouza 4 were randomly selected etc.). In mouzas with less than 10 villages, 3 were randomly selected. In total 34 villages out of 126 were selected.

## Selection of the Households

Minimum three households were randomly selected from each of the selected villages. The number of households to be interviewed was determined in the following way:

Number of HH in the village	Number of HH to be selected
Less than 15	03
15 to 24	04
25 to 34	05
> 35	06

*Table 1 – selection of the number of households*

Village mapping was done in all the villages and all the households were numbered. The total number of households was divided by the required number of households (which were to be interviewed) which yielded the household interval. The first household number was obtained through lottery and the remaining households were selected following the calculated interval technique. For example, if the calculated interval is 7, a lottery was done among the numbers 1 to 7 and the household number was found to be 4 this meant that the interview would start with the 4<sup>th</sup> house and would be followed by number 11, 18 and so on with an interval of 7. In total 151 households from 34 villages were interviewed.

In one of the mouzas (Betling) this rule did not apply. Team could not reach due to geographical inaccessibility and time constraints. The villagers were interviewed when they passed by the place where the investigation teams were based (convenience sampling).

## Target Group

- Children aged between 1-5 years
- Women in the Household (if not available, men) for the household interview.
- Adult males and females: for the focus group discussion.
- Key informants in the village (karbaries, headman, mohajan, tradition healers etc)
- Officials from Govt., non Govt and International organization
- Local newspaper reporters
- Local traders

## Data collection methods and analysis

- **Document review:** Published reports in the local and national newspapers.
- **Observation**
- **Focus group discussions:** In total 9 homogenous focus group discussions were conducted of which seven with male group and two with women group having almost similar socioeconomic background. Due to information saturation and unavailability of the male members, more FGD had not been conducted. Each of the FGD group consisted of 6-10 participants. A checklist was used in the FGDs and some basic techniques were applied such as year ranking, proportional pilling, seasonal calendar, daily activity profile etc in order to have a better insight into the crisis.

- **Interview of the key informants**
- **Household interviews:** An open ended semi structured questionnaire was used for the household interview. The questionnaire was translated in Bangla. Household Food Insecurity Access Scale (HFIAS) part of the questionnaire was adapted from Food and Nutrition Technical Assistance Project (FANTA) Indicator guide, version 3.
- **MUAC measurement:** The MUAC of the children aged between 1-5 years was measured.
- Quality of the data was strictly maintained by crosschecking the collected information right in the field. Informal team meeting was done almost everyday.
- The collected quantitative data were analyzed using SPSS version 13 and Microsoft Excel. Qualitative data has been analyzed manually.

# Results

## Constraints

- Access to the villages was extremely difficult since it is a hilly place (approx. 900 meters high) and the villages are scattered.
- Language barrier
- Time constraints
- The micronutrient deficiency issue was not assessed
- Nutrition status in adults was not assessed.
- Sample size was not big.
- In few cases (in Bethling mouza) random sampling technique was not possible to apply since the villages were far away. Convenience sampling technique was used in order to overcome the problem.

## Findings

### Description of the population

Majority of the interviewed families (70.2%) belonged to Chakma community, followed by Tripura (27.2%) and Lusai (02.6%) communities.

The average family size was 6 (5.90 ±2.19) with an average of 4 (3.59±1.919) children per family irrespective of the ethnic background. However, the average number of under five children per family was found to be significantly higher in the Tripura community (1.26±1.14) in comparison with the Chakma community (0.87±0.92) (P<0.05). The average number of children of all age groups was not significantly different between the communities (P>0.05).

The Lusai community was not included in the comparative analysis since they were only 4 (2.6%) in number.

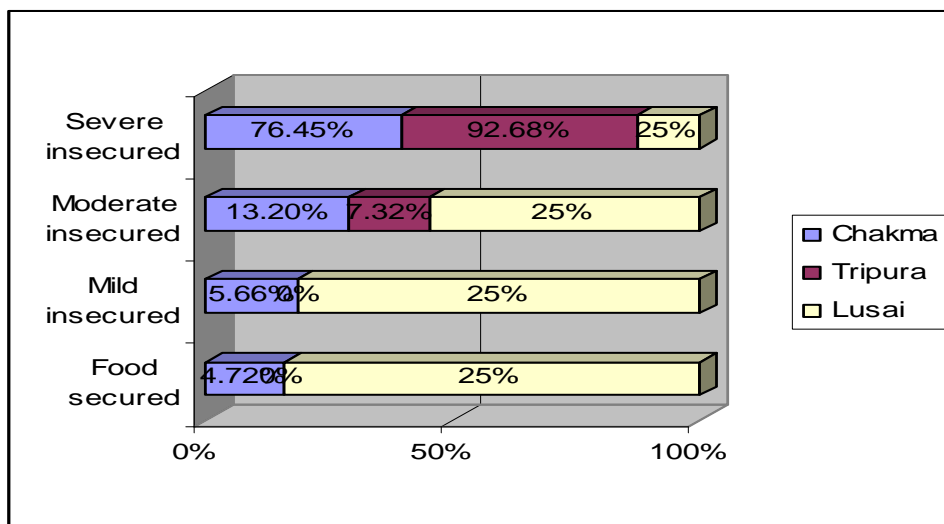
	<b>Chakma</b>	<b>Tripura</b>	<b>P- value</b>
<b>Family size</b>	5.849 (±2.09)	5.82 (±2.33)	0.96
<b>Number of under five children per family</b>	0.867 (±0.92)	1.26 (±1.14)	0.02
<b>Number of children per family</b>	3.424 (±1.85)	3.87 (±2.07)	0.20

*Table 2 – family size and number of under 5 children per family*

33.8% of the interviewed households reported that the reason for which they shifted in the remote areas was internally displacements. This phenomenon happened in the last 50 years due to building of the Kaptai dam and the Bengali settlements.

### Description of households in terms of food security

Of all the interviewed households 79.47% were identified as severely food insecure while only 3.97% were found to be food secured irrespective of ethnicity. The Tripura families were significantly more food insecure than the rest ( $P < 0.05$ ).



Graph 1 – repartition of households and ethnicities in terms of food security

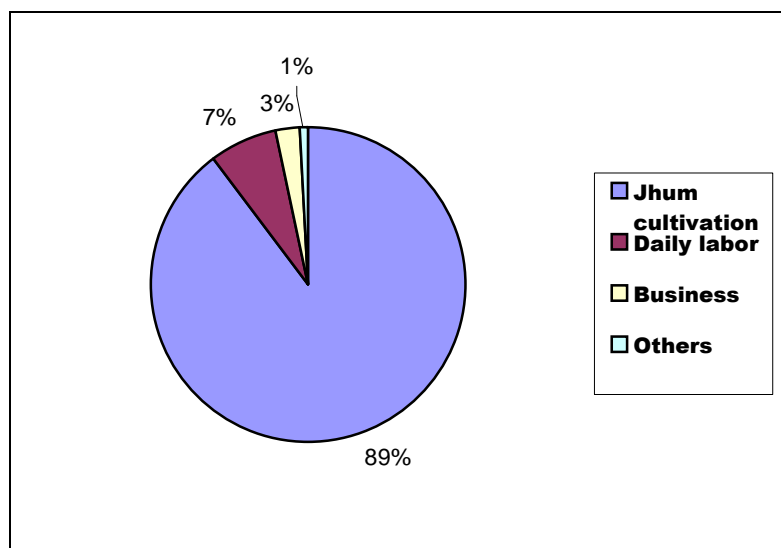
Ethnicity	Secured	Insecured (Mild)	Insecured (Moderate)	Insecured (Severe)	P-value
Chakma	5 (4.72%)	6 (5.66%)	14 (13.20%)	81 (76.45%)	0.02
Tripura	0 (00%)	0 (00%)	3 (7.32%)	38 (92.68%)	
Lusai	1 (25%)	1 (25%)	1 (25%)	1 (25%)	

Table 3 – repartition of households in terms of food security

### Livelihood analysis

Like other parts of the Chittagong Hill Tracts (CHT), most of the families are dependant on agriculture (jhum cultivation) irrespective of their ethnicity. For 89.1% of the families the main source of living is represented by jhum cultivation, daily labor represents 6.6%, business 2.6% and others 0.7%.

Each of the interviewed households had an average of 2 bread earners ( $1.74 \pm 0.76$ ) irrespective of ethnicity.



Graph 2 - sources of income

The villagers grow both food grains (rice) and cash crops (chili, turmeric, ginger, sesame, and vegetables) in the same piece of land (on the hill slopes) ensuring their food and seed requirement for a while (several previous assessments and surveys pointed out that households in CHT have sufficient quantities of food from their own production for less than half the year).

A portion of the harvest is sold in order to purchase essential items and repay loans taken for purchasing inputs. Taking money in advance from the lender results in fail of the price of the crops because they are forced to sell at lower rates to repay the debts.

Daily labor, although accounts for 6.6% of the source of income, is as well connected to agriculture. Working in somebody else's jhum is the most common activity and the amount of money that a day laborer use to earn was 120 taka/day. Currently the amount paid is lower, 40 taka/day or in some areas food for work is practiced. Daily labor is a seasonal phenomenon related to plantation and harvesting periods. Usually the male in the family works as day laborer.

The same explanation goes for business as well. The business is related solely to bamboos and extremely seasonal in nature.

### Impact of the current crisis on the livelihood

People in the Sajek area are facing a severe food shortage following the recent rat invasion on their jhum crop fields. The most crucial invasion took place just before the harvest season, resulting in complete destruction of both the food grains and cash crops.

Crops	Amount of seeds planted	Amount harvested in a normal year	Amount harvested this year
Rice	1 kg	40-50 kg	4-5 kg
Chili	1 kg	50-60 kg	6-7 kg
Ginger	1 kg	10-12 kg	2-3 kg
Turmeric	1 kg	10-12 kg	5-7 kg

Table 4 – amount harvested by comparison

Following the rat invasion, the villagers lost the crops in the field as well as the majority of the food stored in the granaries.

In a normal year, the farmers keep a certain portion of grains as seeds for the next jhum season since the seeds for jhum cultivation are not available in the market. In the current



situation the villagers used all the grains as foods and hence they don't have any seed stock for the next season.

Not entire CHT area was equally affected, therefore some seeds are still available in other villages. However the amount is too small to cover the requirements for the planting season and as a consequence the prices of these seeds have gone up dramatically. The seeds of the Jhum crops differ from the seeds used in plain land, since water requirement is minimum in case of the Jhum crops.

Prices of all products increased since crisis started, only turmeric price is still stable, this being the least affected crop.

<b>Crop</b>	<b>Unit of measurement</b>	<b>Cost per unit (Last year)</b>	<b>Cost per unit (This year)</b>
Rice	1 tin	100-120 tk	400 – 500 tk
Chili	1 kg	100-120 tk	400 - 450 tk
Ginger	1 kg	12-15 tk	25 - 30 tk
Sesames	1 kg	15-20 tk	100 – 120 tk
Turmeric	1 kg	7 – 8 tk	10 – 12 tk

*Table 6 – cost of main food products by comparison*

Other means of livelihood are affected as well. The daily laborers hardly can find any potential work and the few households depending on bamboo business lost their source of income as well since the adult bamboo plants died after flowering and it will take some time until the new plants will reach the adult stage.

## **Coping mechanisms**

### ***1. Diverting majority of the resources towards food***

The following table shows the comparison between a normal year and this year, since crisis started, regarding the allocation of the resources in the family.

<b>Category</b>	<b>Normal year</b>	<b>This year</b>
<b>Food</b>	70%	95%
<b>Medicine</b>	10%	3%
<b>Education</b>	10%	2%
<b>Cloths</b>	5%	0%
<b>Others</b>	5%	0%

*Table 7 – allocation of resources by comparison*

In the current crisis, health, education and clothing are not perceived as essential, food provision becoming the top most priority. Expenditure on food had been increased by 25% in the current year (crisis year), resulting in diminished medical and educational expenditures. The medical expenses had gone down by 7%. This in conjunction with inadequate quantity/quality of food increases the risk of diseases and complications.

Children had been engaged in different jobs (collecting potatoes, carrying bamboo etc) that resulted in high rate of drop out from the school.

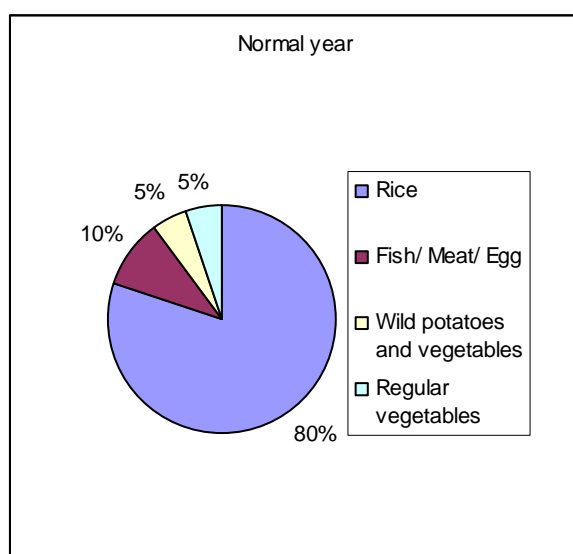
## 2. *Change in food habits*

Several points were highlighted in the interviews and FGD regarding the change in food habits:

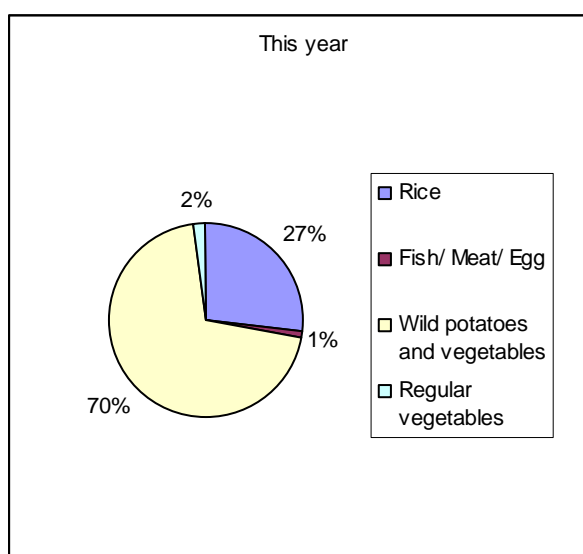
- **Eating smaller meals** - 93.7% of the respondents (or any of the family members) said that they had to eat smaller meals than normal. Out of them, 46.4% experienced it very often (more than ten times in last one month).
- **Eating less frequently** - 85.4% of the respondents in the interview and their family members had to cut short the number of meals frequently in the last month.
- **Starvation** – 55% of the investigated families indicated that at least one of the family members, usually the adults esp. women (children and male which are working being prioritized) had to starve at least one full day (24 hours) in the last month. From this group 9.9% had this experience more than ten times in the last month.
- **Quality of food** – prior to the crisis, rice represented 80% of the normal diet, 10% was represented by fish, meat or eggs and a very small amount of wild foods (wild potatoes and vegetables). Currently, 70% of daily diet is represented by jungle food (roots, wild potatoes, core or roots of the banana trunk) some of them rarely consumed before and potentially unfit for human consumption (many interviewees reported symptoms like "swelling of the body", possible edema, after consumption). Increased pressure on this coping strategy will soon result in the exhaustion of these resources. Already interviewees related that the wild vegetables are not available in the vicinity of the village; therefore they have to walk, sometime for several hours, in search of new points. Moreover, some of these alternative sources of food (esp. banana roots) can be classified as hunger suppressors rather than nutritious alternatives to the regular diet.

Types of food	Normal year	This year
Rice	80%	27%
Fish/ Meat / Eggs	10%	01%
Wild potatoes and vegetables	05%	70%
Regular vegetables	05%	02%

Table 8 – sources of food by comparison



Graph 3 –type of food consumed regularly



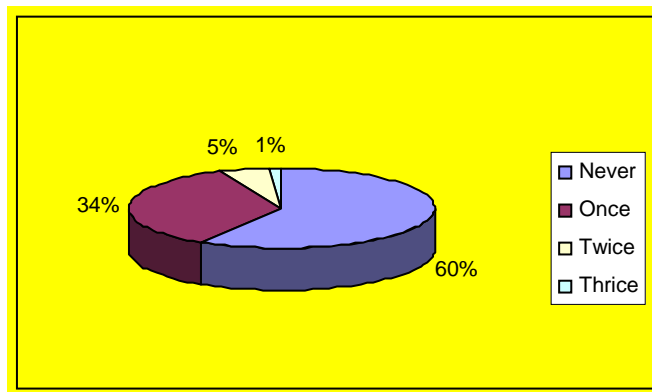
Graph 4 –type of food consumed since crises onset

### 3. Other coping strategies

- **Selling of livestock:** 28.5% of the respondents never had livestock. From the ones who own livestock (71.5%), 48.3% had to sell them.
- **Borrowing money:** 86.1% of all the respondent households had to borrow money within last three months. It should be noted that the remaining 13.9% includes those households that needed to borrow money but failed to find it.

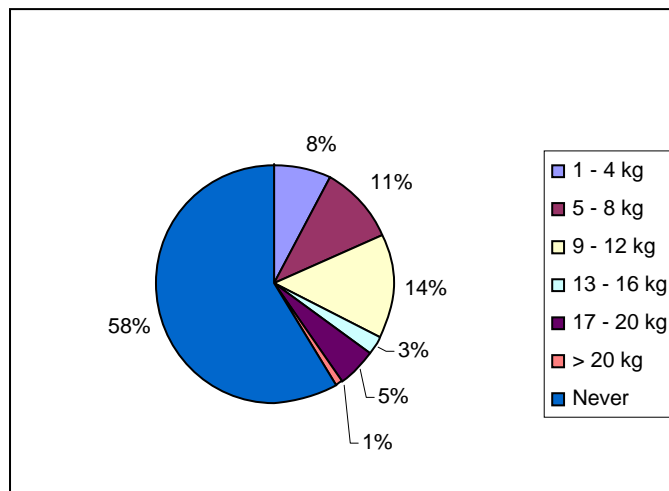
#### Food Assistance

Although food support has been given by few organizations (UNDP, Green Hill, Christian Mission), the amount and frequency are very small. 58.9% of the interviewed households never received any kind of support. From the one that received majority received only once since January.



Graph 5 – percentage of families receiving assistance since crises onset

The food ration given consisted in almost all the cases of rice and fish paste, traditionally consumed by the indigenous population. However, the amount distributed per family varied largely. Due to inconsistencies in planning, inner constrains and lack of awareness about the number of families affected the initial planned amount was inadequate and therefore shared between a higher number of recipients.



Graph 6 – amount of rice received by the assisted families since crises onset

## Population Migration

Following the current crises population started to move (both inside and outside the country) looking for alternative means of survival.

Village	Families migrated	Migrated to			
Tuichui	9	Tripura (India) (4)	Bethling (2)	Kasalong (3)	-----
Arun Para	6	Kasalong (2)	Tripura (India) (2)	Mizoram (India) (1)	Khagrachari (2)
Shialdai	7	Masalong.9 (5)	Masalong.7 (3)	-----	-----
Rainna Para	13	Tripura (India) (6)	Kanglak (3)	Kacchhya Para (2)	Debachara (2)
Kacchhya Para	7	Tuichui (3)	Bethling (2)	Shialdai (2)	
Noa Para	1	Mizoram (1)	-----	-----	-----
New Jopui	18	Tripura (India) 18	-----	-----	-----
Old Jopui	10	Tripura (India) 10	-----	-----	-----
Udal Chari	7	Mizoram (India) (10)	-----	-----	-----

Table 9 – displaced families and place of shifting

## Social disruption

Several cases of stealing of cash crops and looting of food were reported in Gangaram and Talchara area since the crisis started.

## Health Situation Analysis

Malaria and diarrhea are endemic in the area and constitute the most common causes of child mortality. Health services are unreliable, irregular or non-existent for people inhabiting remote areas. Villagers living close to the border with India might require 2-3 days to reach the health complex. During the rainy season this villages are cut off from the rest of the world after the rain onset.

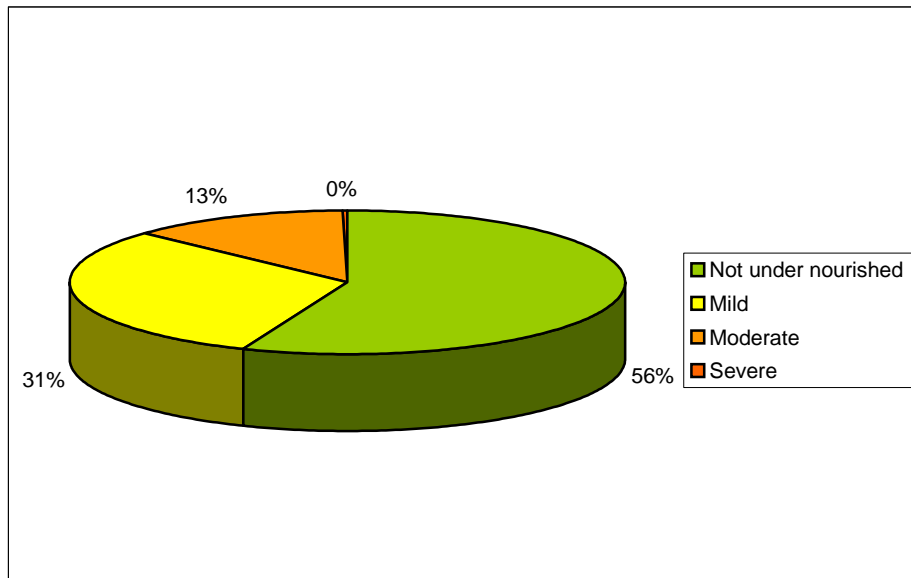
The health complexes do not have sufficient staff to serve the population and the few ones that are more or less adequately staffed can be accessed by the villagers only if they can afford to pay for the services.

Failure to access medical structures had increased the dependence of traditional healers and TBAs, majority of them untrained.

Implementation of the GF provisions regarding access to quality diagnostic and treatment for malaria is progressing slowly and unsatisfactory. In the remote areas there is virtually no access to rapid diagnostic test (RDT) or Coartem and the bed nets distribution did not target yet some of the most vulnerable areas.

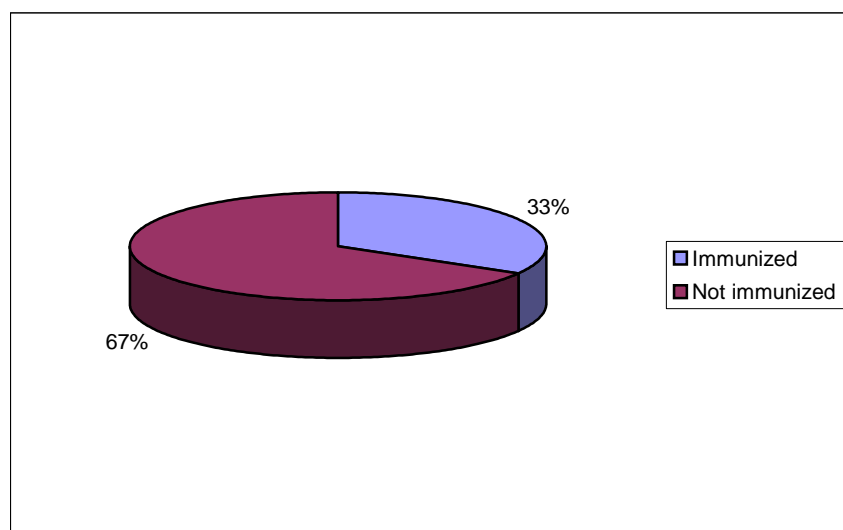
**Child under nutrition** – Following the MUAC screening at village level, 43.85% of all the children (358) aged between 1 to 5 years are acutely undernourished. As shown in the pie diagram, 31% are at risk (MUAC yellow), 13% are moderately malnourished (MUAC orange) and 0.26% are severely malnourished (MUAC red). Until now children were “protected” by being prioritized in terms of access to food but it is expected that in the coming month, without any support, the current situation can further deteriorate resulting in increased morbidity and mortality.

Beside the macronutrient deficiencies, almost all the children had been suffering from micronutrient deficiencies as well, manifested as rough skin with ulcers, discolored and thin hair, angular stomatitis etc.



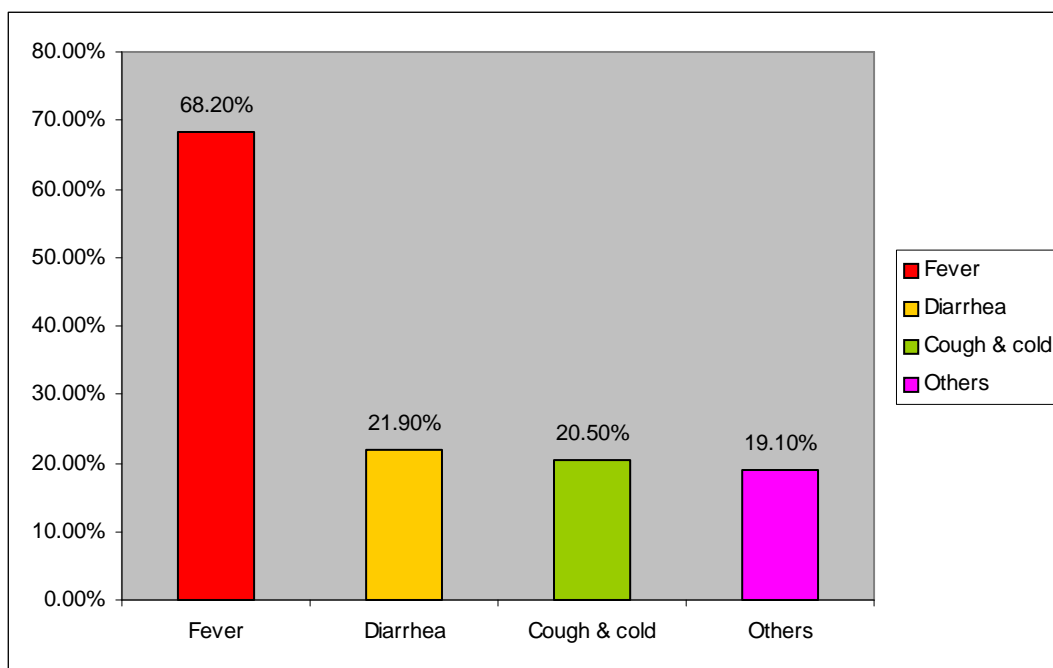
*Graph 7 – nutritional status in under 5 children*

**Child Immunization** - 66.67% of the under five children were not immunized and of the remaining 33.33% who were immunized, many of them missed one or more scheduled vaccine shots. The dropout rate was extremely high and was estimated to be 48.39%.



*Graph 8 – immunization status in under 5 children*

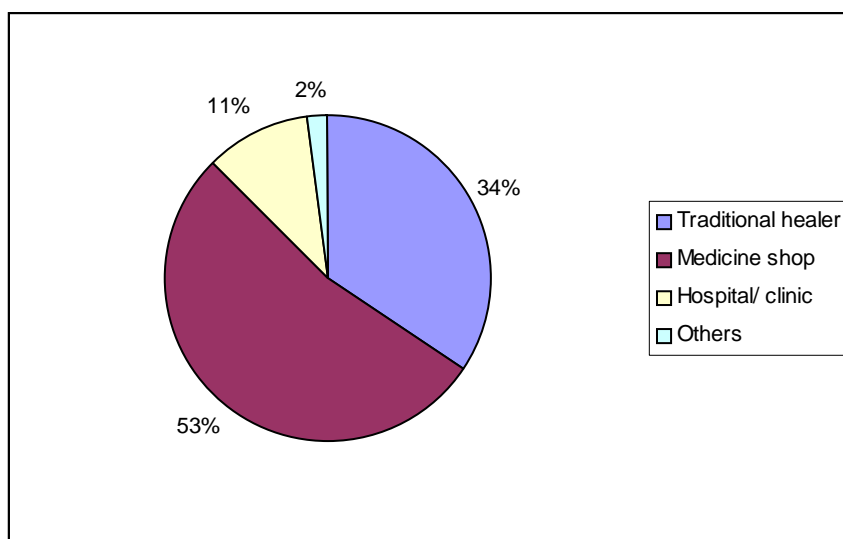
**Morbidity** - in 80.8% families, one or more members reported that they experienced diseases/symptoms in the last 2 weeks. Fever was the most commonly reported morbidity constituting 68.2%, followed by diarrhea (21.9%), cough & cold (20.5%) and other morbidities (19.1%).



Graph 9 – morbidity in assessed area in the last 2 weeks

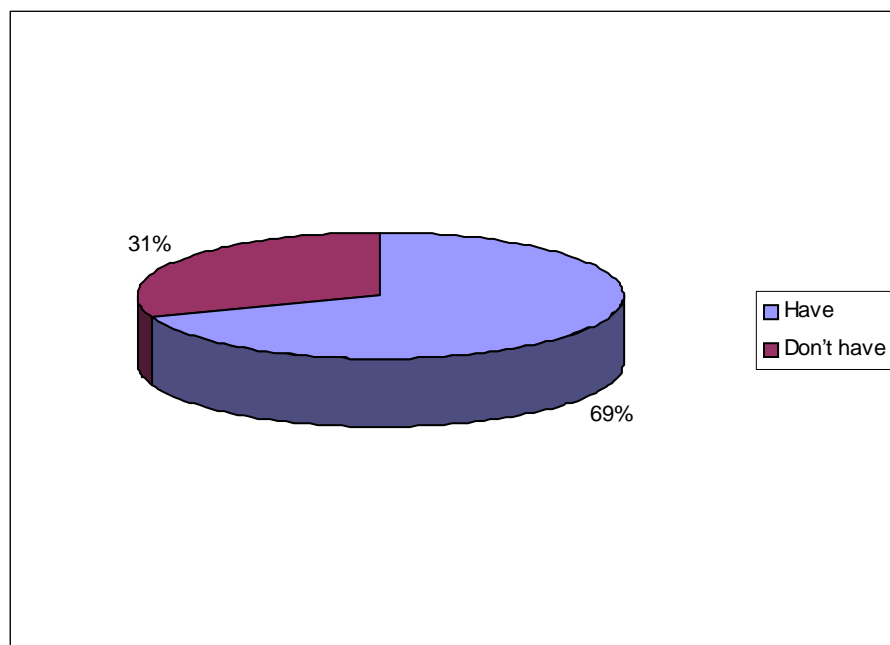
**Mortality** – Of the 4 reported cases of death, 3 adults and one newborn baby, two cases had been investigated. One of them was attributed with certainty to starvation. In the other case there was an association between lack of food and fever in the week prior to death.

**Health seeking behavior:** Very few interviewed households had access to proper treatment of different diseases including malaria. 53% of the households seek treatment from the medicine shop, which usually involves 5 to 6 hours walk. Only 10.6% had the financial capability to see a doctor in the hospitals or clinics. 34.4% of the households are going to the traditional healers because they cannot afford the expenses of the medical treatments or because of lack of awareness, trust and understanding.



Graph 10 – health seeking behavior patterns

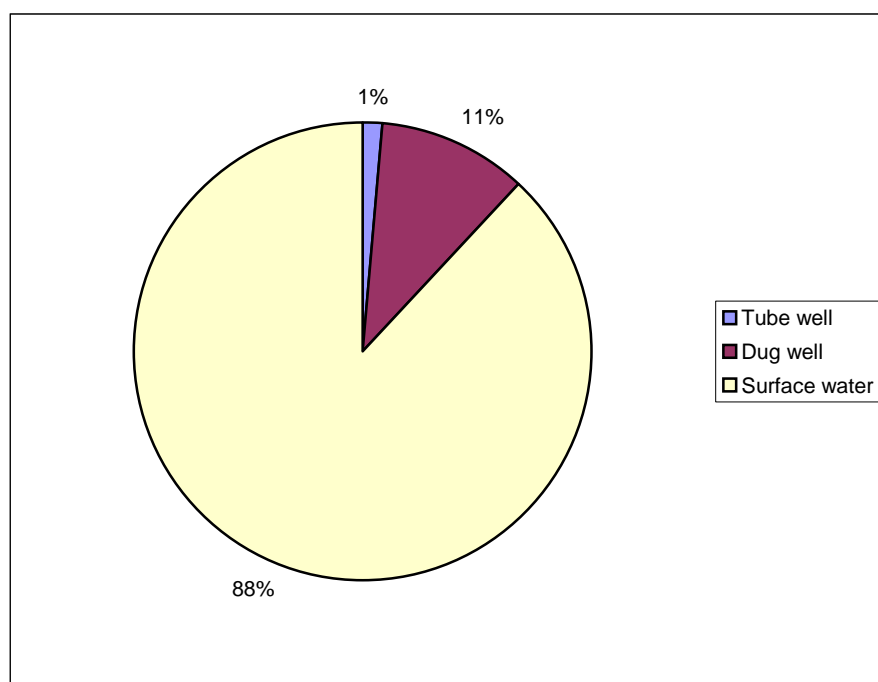
**Mosquito net** - The assessment was carried out just after BRAC (a national NGO) had distributed impregnated mosquito nets in the areas. Even though, only 69.5% of the interviewed households owned at least one mosquito net (majority of them from previous MSF bed nets distributions).



*Graph 11 – percentage of families owning mosquito nets*

### **Source of drinking water**

Since most of the villages were situated in the very remote places on the hills, access to water is challenging. 88.1% of the households had to collect water from the fountain or narrow dirty stream (almost stagnant) while merely 1.3% families had the access to the tube wells.



*Graph 12 – sources of drinking water*

## Conclusions

Based on indicators regarding food availability, food accessibility, available food aid, population migration, child undernutrition, household expenditure etc, Sajek union is currently experiencing a severe food crisis with potential to deteriorate even further to famine especially in the most remote and inaccessible areas.

There is a huge food shortage at the household level, 97.03% of the households in the Sajek area were food insecure, of what 79.47% were found to be severely food insecure. At least one member of more than 55% of the households had starved for a whole day and night (24 hours) in last one month. Most often this was the case for female members of the family.

Although food is available in the market, it is not accessible due to its high cost and remoteness of the villages. Finding no other alternative, people are currently depending on the jungle food, which can't provide all the daily requirements of nutrients. Moreover the pressure on this limited resources is increasing and they are as well becoming scarce.

The food assistance given so far by different organization was very small comparing to the needs.

More than 89% of the households were completely dependant on the Jhum cultivation, very few of them had seeds for plantation in the next season. Seeds were scarce and the price was high.

Moreover bamboo flowering process and rat population is still present in the area reducing substantially the chance for any harvest in the coming season. Except turmeric all the other cultures are vulnerable towards rat destruction.

Most of the resources are directed towards food, 95% comparing to 70% in a normal year. Health care and education are de-prioritized resulting in high drop out rate from the school, increasing trend of child labour, increased vulnerability towards diseases.

43.85% of all the children screened, aged between 1 to 5 years are acutely undernourished. The situation is expected to deteriorate in next few months since the villages will be disconnected from rest of the country during rainy season.

Immunization coverage was found to be only 33.33% and of the children who were immunized 48% dropped out therefore practically inexistent.

Low immunization coverage associated with increased undernutrition rates and food crisis increase dangerously the vulnerability of the population and the potential of an outbreak of communicable diseases.

There is virtually no access to safe drinking water in the remote hilly areas and no access to health care. 80.8% of the households experienced different diseases/symptoms in last two weeks. Only 69.1% of the households were found to possess mosquito nets, given by MSF-H and BRAC.

Mortality rate, even if seem to be low in the investigated area, can deteriorate progressively if appropriate measures to address the crises are not put in place.



## Recommendations

1. Addressing immediately the current severe food crisis and preventing a potential famine by supporting affected families the entire vulnerable period through widespread food supplementation or general food distribution.
2. Continue monitoring the situation as long as it is required, until current crisis is over.
3. Prevent mortality and morbidity in all vulnerable groups and in malnourished children under 5 years of age by implementing specific nutrition programmes using RUTF.
4. Improve access to safe drinking water through specific programmes.
5. Improve access to basic health care and speed up the implementation of the GF provision for access to quality diagnostic and treatment for malaria especially in the remote areas.
6. Advocate for middle to long term tailored strategies addressing food security and restoration of livelihoods including distribution of seeds for replanting, vector control, consultancy in terms of rotation of crops etc.