

Food Security Assessment at Household Level in Rudraprayag District of Uttarakhand

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Abstract

Food Security Assessment is a very important component to assess the level of preparedness of a community to deal with fore coming disaster as communities become vulnerable to meet their alimentary needs. The Study area faces natural disasters very frequently and villages are remotely located. Hence the villages get cut off for days and they have to deal with it. This paper presents a food security assessment at household level in 20 villages of Rudraprayag district of Uttarakhand. Food security assessment has been classified into three categories i.e. daily, weekly and monthly. With the help of this study an account of households is done which needs immediate assistance if any disaster strikes. This is an approach through which effective disaster management is done by assisting the one who needs it first.

Keywords: Food Security, Assessment, Preparedness, Household, Natural Disasters.

Introduction

A food Security assessment is the need of today with the increasing frequency of disasters which are increasing the vulnerability of communities. The situations of disasters give the precarious food situations and hinder communities to meet up the nutritional needs. Disasters lead a community to the state of food insecurity, as it threatens the availability of food, access to food, utilization of food (in terms of nutritional concern) and the most important food stability, which controls all the three mentioned dimensions of food security. A food security assessment is the one foundation's key for enhancing the preparedness of community and increasing their resilience to cope up with disasters.

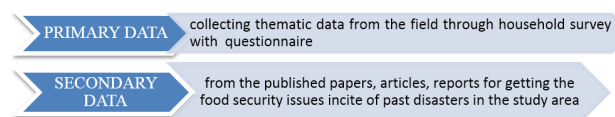
The present study has been conducted to assess and make account households which need immediate assistance if a disaster occurs in the study area.

Objectives

1. Assessing the duration of stockpiling at household level,
2. Identifying the household which needs immediate assistance,
3. Providing the required calories for survival ration based on different age groups.

Methodology

1. Two sources of data are used:



2. **Purposive sampling** method was used for site selection and then Stratification sampling, for conducting interviews.
3. **Data presentation:**
 - a. General information about responders is presented by using MS Office that in MS word and excel,
 - b. Generation of map through Arc GIS-10.1 version.

Study Site

The communities of Rudraprayag district are dealing with disasters since history due to its geophysical location, geological structures, and climatic diversity. The whole district is sensitive for the seismic activities, from June to September highly prone to landslides, cloud burst in high lands, steep valley and mountain slopes, hailstorm during April and October, Avalanches at Kedarnath, Madhyamaheshwar, Tungnath during January to April, Drought and floods due to irregular patterns of rain and forest fire near pine tree forest during summers. Lake on the peaks poses the threat of Glacial Lake Outburst Flow (GLOF).

The evidence of food insecurity in the study area has been traced from the papers and reports conducted to assess the food security of the community at the village level after 2013, flash flood disaster.

Household assesses to food depends on tourism (providing transports and lodging services to pilgrims), animal husbandry, agriculture which is very subsistence in remote villages selected for study and daily wages. Tourism is seasonal from May to October which was worst affected the income and livelihood sources of village communities. On the basis of analysis it is seen that there are 39 % households which earn less than 3000 per months, with this small amount it is very difficult to meet the nutritional needs on day to day basis but if a disaster occurs and they lose the mode of earning or producing food then the situation becomes very crucial and communities are forced to go through the situation of food insecurity.

According to the Uttarakhand Floods 2013: Joint Food Security and Livelihood Assessment Report, households belonging to the Scheduled Castes (SCs) and Muslims were not able to get two times meal a day during that time and even they did not get proper compensation for their loss.

Households that have the big composition, plus low income linger for external assistance when a disaster occurs. There is a need to mark these families and provide assistance if disaster strikes to prevent the situation of food insecurity.

Based on a survey 9 % households maintain food stocks daily; hence their vulnerability stretch period for food security is of 11 months 29 days. 30% of households having weekly food stockpiling have the vulnerability stretch period for 11 months 23 days and 61% of households having monthly food stockpiles have 11 months of vulnerability stretch period. If there are no disturbances occur to their sources to income then they will get utilization of food and stability but if there will be any disaster through which their source of access to food gets hinder than there will be a scenario of food insecurity. Households that have been recorded to stock food on a daily and weekly basis; needs urgent external assistance during disaster and later the households which stockpile their food monthly.

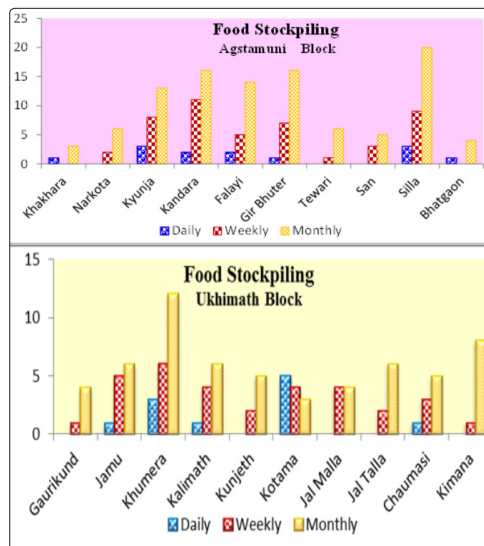


Figure 3: Village-wise food stockpiles

In Kotama village households which come under SC caste group is the one who stocks food daily and comes under the income category of below 3000 INR per month followed by JalTalla village. In the rest of the villages i.e. Kunjeth, Chaumasi, Jamu, Khakhara, Kandara, Gir Bhuter, Tewari, Silla and Bhatgaon are under income category

of below 3000 INR per month. Households pose Socio-economic vulnerability in terms of Food Security in the study area.

Food Security for animals depends on fodder availability. During disasters, people become very afraid that they do not step out of homes for days in those conditions animals do not get proper food and faces the situation of food insecurity. In the Study, there are 67% of households that obtain the fodder daily and if disaster strikes they are unable to provide fodder to their cattle. There is no provision of fodder stockpiling in households which has a large number of animals during rainy season and summers while people stocks fodder for winters. If a disaster occurs during the rainy and summer season then the cattle will be vulnerable to fodder security. It is very important to ensure food security of cattle as they are an important mean of assessing food for village households.

According to an analysis of Uttarakhand Floods 2013: Joint Food Security and Livelihood Assessment Report, households had reported a decline in daily food consumption which impacted their nutritional intakes. Disaster Mitigation and Management Centre, Dehradun has provided the Survival ration list with calories required in daily food consumption per person.

Table 1: Survival Ration

Food Item	Quantity(in grams)
Grain	250
Pulses	50
Milk Powder	15
Fat	15
Sugar	15

Source: DMMC, Dehradun.

Survival Ration must be in the relief kits in the prescribed quantity by Disaster Mitigation and Management Centre (DMMC), Dehradun. Assessment of food habits of the community should be done before deciding the grain either wheat and rice as in study area communities prefers rice on wheat in day to day life. Same in the case of selection of pulses for survival ration. There are many examples when communities get relief kits from external assistance but they are not as per their food habits then the attempt of providing relief creates chaos and communities do not eat that food and their nutritional level sufferers. The number of food items in survival kits should increase gradually, grain 300 grams, pulses 60 grams, fat 20 grams and sugar 20 grams based on the phases of response. One the basis of a joint report of UNHCR, UNICEF, WFP and WHO, 2100 kcal/person/day is required initially. Some factors influence the calories /person/day upward or downward. Temperature of a place, if the temperature is below 20°C than there is need readjust the quantity of food which increases 100 calories for every 5°C below 20° C. Economic status of population, community which are poor and unable to store sufficient food to deal with the situation that causes malnutrition needs to provide ration which has 100 to 200 calories/person/day. The demographic distribution includes age-wise data of households as different age groups require a different quantity of calories. For example, As per the DMMC guidelines 0-15 age groups requires 1500 kcal/person/day, 15-45 age group requires 2300 kcal/person/day and 45+ people require 1800 kcal/person/day. Activity level, depending upon the activities done by the community, they require calories on that basis.

Table 2: Seasonal Calorie Chart for Different Age Groups

Month	Temperature	Calories/Person/Day (as per temperature) for age group 0-15		Calories/Person/Day (as per temperature) for age group 15-45		Calories/Person/Day (as per temperature) for age group 15-45	
		Maximum	Minimum	Minimum	Maximum		
January	8° C (maximum) to 0° C (minimum)	1740	1900	2540	2700	2040	2240
February	18° C (maximum) to 2° C (minimum)	1540	1820	2340	2620	1840	2120
March	25° C (maximum) to 10° C (minimum)	1500	1700	2300	2500	1800	2000
April	32° C (maximum) to 20° C (minimum)	Calories are consider constant as there is no drop in temperature					
May	35° C (maximum) to 25° C (minimum)						
June	40° C (maximum) to 26° C (minimum)						
July	36° C (maximum) to 27° C (minimum)						
August	37° C (maximum) to 26° C (minimum)						
September	36° C (maximum) to 22° C (minimum)						
October	26° C (maximum) to 16° C (minimum)						
November	16° C (maximum) to 13° C (minimum)	1580	1640	2380	2480	1880	1940
December	10° C (maximum) to 0° C (minimum)	1700	2100	2500	2700	2000	2200

***Note:** temperature data is taken from source: <http://weather.ournet.in> and calorie assessment is done on the basis of formula provided by joint report of UNHCR, UNICEF, WFP and WHO.

Calorie/ person/day is calculated to enhance the quality of survival ration if a disaster strikes in a particular month then the survival ration should include food quantity which provides the calories/person/day mentioned in table-2. Initial calorie has been kept stagnant (as per age group recommended by DMMC) in the above table in the months of high temperatures as it is taken as a minimum required calorie. It will prevent situations of food insecurity and malnutrition in communities. Through this approach, effective food assistance will be given which will prevent the development of other disasters which are malnutrition and food insecurity among the community.

Conclusion and recommendation

With the threat of almost every hazard except cyclone of India, the district Rudraprayag faces disaster almost every year on high to low scale. From the lesson learned through assessments and published reports of the 2013 Flash Flood disaster, it is seen that access to food, utilization of food and availability and stability of food was impacted at households level which represents the need of household food security assessment and accounting. If there will be any scenario as 2013 or any disaster strikes then the target group needs the immediate external assistance. At the time of the disaster, it is very crucial to ensure the adequate amount of basic ration for the community in need. If there will be the quick provision of supplying the adequate ration to the needy that not only saves a life but makes the provision of disaster management institutions meaningful and purposeful.

For effective food security assessment, there is a need for joint food assessment with Vulnerability Analysis and Mapping (VAM), Households food economy Assessment and Household Stockpile Assessment. Combining all these approached will help in ensuring the food security of the community during the situation of emergency. It will also help in providing the immediate and better response to deal with the disaster.

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