

Nutritional Surveillance Project

Helen Keller International, Bangladesh

Nutritional and Socioeconomic Implications of Low Rainfall in the Northwest Region: Pirganj and Chilmari



Photo - M. Mann Uddin

For information and correspondence contact:

Mr. Shawn K. Baker, Country Director
Ms. Mya Kirwan, Project Officer
Mr. Ravi Loganathan, Project Officer
Helen Keller International, Bangladesh
P.O. Box 6066 Gulshan
Dhaka - 1212, Bangladesh

Telephone: 880 - 2 - 814234/816156
Fax: 880 - 2 - 813310

Dr. Martin W. Bloem, Regional Technical Director
Helen Keller International, Indonesia
P. O. Box, 4338
Jakarta, Indonesia

Telephone: 62 - 21 - 526 - 3872
Fax: 62 - 21 - 525 - 0529

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Special Report on the Status of Low Rainfall in Northern Areas

SUMMARY

Increased attention has been focused on the north-western region of the country because of low rainfall during 1994. Looking at longitudinal data collected since April 1990, in the two northern thanas of Chilmari and Pirganj, the NSP found that by October and December there was a return to levels of nutritional status expected as measured by prevalences of MUAC, wasting and underweight. Seasonal increases in malnutrition continue to be a problem in this area between March and August; low rainfall serves to amplify these seasonally worsening rates of undernutrition.

INTRODUCTION

There has been increased attention on the status of the northern areas due to a period of low rainfall in 1994. The Nutritional Surveillance Project (NSP) has been collecting data on nutritional and socioeconomic status throughout the country since its inception in April 1990. Of the 32 sentinel thanas from which data is collected, Chilmari and Pirganj lie in the geographical region of concern. This longitudinal data therefore serves as a reference for the results that are being obtained in this year's regular rounds of data collection. The data contained in this report comes from the normally occurring bimonthly data collection. The methodology of the NSP has been detailed elsewhere (1)

NUTRITIONAL FINDINGS

The three nutritional indicators used in this report, mid-

upper arm circumference (MUAC), wasting and underweight are relevant for assessing the consequences of short term inadequate food intake (as opposed to long term insufficiency). MUAC, (a known indicator of predicted mortality in Bangladesh) is a direct measure of muscle mass, while wasting and underweight look at a child's weight compared with the height and age respectively.

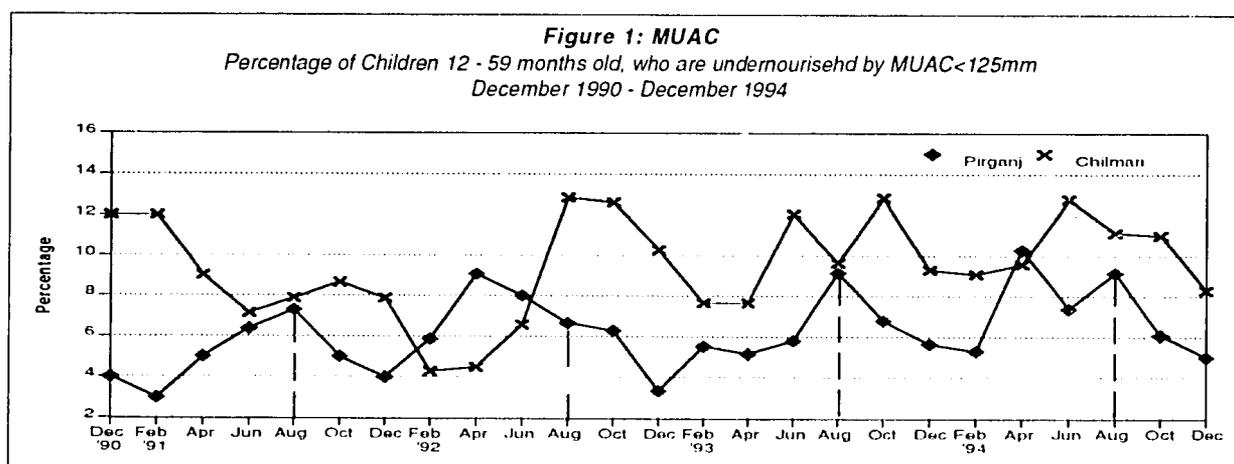
February - August

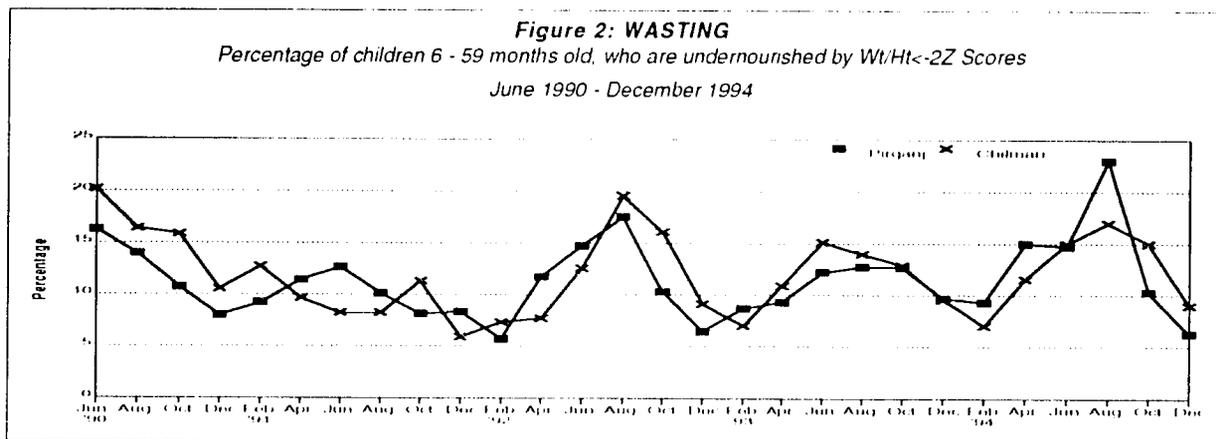
It should be noted that levels of nutritional distress in the northern areas consistently start getting worse following February's round of data collection, especially by wasting. This is corroborated by villagers who traditionally describe mid-March (*Chaitra* in the Bengali calendar) as one of the times when hunger is common.

The August NSP round 27 report discussed some preliminary findings on the drought prone region. Overall levels of MUAC, wasting and underweight had risen in Pirganj and Chilmari. The rise was especially acute in Pirganj; MUAC was at the highest levels recorded for any August (Figure 1). Wasting exhibited the highest levels found since the NSP started and underweight had risen to the highest level found in the previous two years. Chilmari also recorded rises in wasting and underweight indicators; but these did not exceed levels found in previous years. MUAC, however, reached the highest level in two years. As noted in the report from round 27, the rural thanas as a whole experienced increasing distress by these indicators; the months between February and August often being a period of worsening nutritional status.

October - December

The October and December rounds of the NSP show that levels of nutritional stress have returned to rates that, although high, are typical for this time of year (Figures 2 and 3). For example, in Chilmari, the level of wasting at 9% is not dramatically different from wasting levels found during previous Decembers. Both MUAC at 8.3% and underweight at 65.4% exhibit prevalences that fall mid-range for levels found at this time of year. However, in





Pirganj, for both wasting and underweight the prevalences at 6.3% and 52.7% are the lowest figures for any December recorded by the NSP. Of particular concern in both thanas, is the overall increasing trend displayed in the rates of undernutrition by MUAC, despite the seasonal fluctuations.

Market Information - Prices of Essentials

Rice prices usually peak in March-April and September-October, representing the traditional pre-harvesting periods. However, in 1994, rice prices have continued to rise since June. For instance, rice prices in Chilmari and Pirganj have risen from Tk 12.10 and Tk 11.60 per kilogram in October, to Tk 12.75 and Tk 12.00 per kilogram in December. In December 1993, rice prices in Chilmari and Pirganj were at Tk 8.50 and Tk 8.10 per kilogram respectively. Prices of other essential commodities such as flour and dal also show moderate price increases in the December round of data collection.

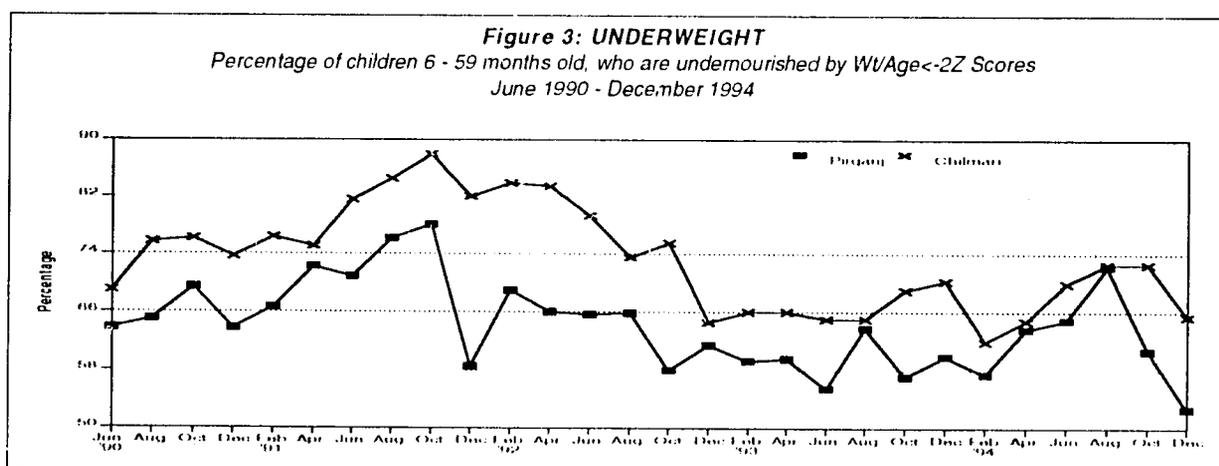
SOCIOECONOMIC INDICATORS

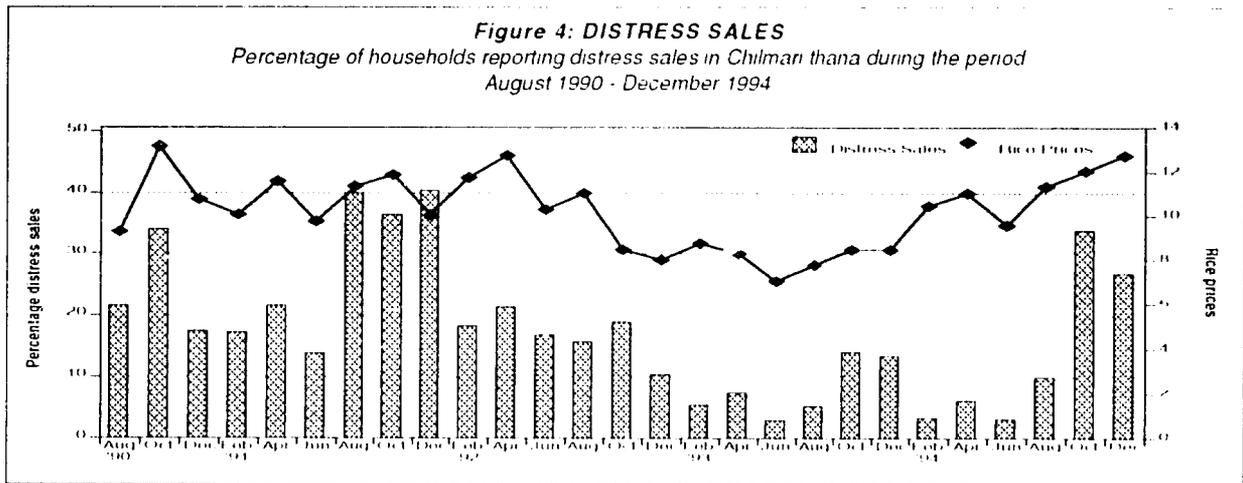
Indicators of distress, defined by the percentage of families taking loans for food and the percentage of families who have made a distress sale in the last two months, were high in October but dropped in the December round of data collection in Pirganj and Chilmari. However, there appears to be a considerable level of difference between the two

thanas. In the October 1994 round of data collection, 28.7% of respondents in Pirganj indicated that they had taken a loan for food in the previous month compared to 21.5% in October 1993 and 25% in October 1992. In Chilmari, 32.5% of families reported a distress sale which is almost twice as high as the previous two October rounds but lower than the rate reported during 1991 (period of drought followed by flooding) (Figure 4). By the December round of data collection, 24.2% of respondents in Chilmari indicated that they had taken a loan for food in the last month and 26.9% of families reported distress sales. However, in Pirganj, 2.4% of the families reported distress sales and 1.4% of respondents took out a loan for food (Figure 5).

Special analysis was undertaken to determine how the drought affected children from families with different size land holdings. Not surprisingly, children from families with under .5 acres of land were nutritionally more compromised than children from families with larger land holdings. However, children from families with larger holdings (greater than 2.5 acres) also experienced a sharper deterioration, especially in underweight status starting in February than has occurred in the last three years. Again, the increase was on a smaller scale than occurred in 1991.

Absence of employment before the Aman harvest makes the second lean season (September - October) especially acute particularly for the landless, who depend on wage





labor for their income. Children from households where the principal wage earner is dependent on casual or short-term labor were also, as expected, more nutritionally distressed than in households where the primary wage earner is either self-employed or has some form of permanent wage income. However, indications from the December round are that nutritional levels have returned to seasonally expected rates which may be in part due to efforts to respond to the low rainfall situation. For the longer term perspective, data from upcoming rounds requires continued monitoring.

In conclusion, it appears that the period of increased rates of malnutrition has now lessened in the northern areas as represented by the two thanas included in the NSP. Of special note is the seasonality of nutritional distress; this generally starts before the yearly rains. Low rainfall serves to exacerbate already existing conditions. Programs to address the chronic seasonal deterioration of nutritional status, and mitigate the impact of low rainfall, need to be discussed. The strategies being adopted by households to cope may have a delaying effect on seeing increased malnutrition. Further, the thana-specific socioeconomic behaviors in response to market prices will be addressed in

detail in upcoming reports. December's data has clearly shown that distress has indeed returned to "typical" levels. Obviously, as often reported by the NSP, these levels are far beyond acceptable levels even if they are "normal".

(1) See Methodology section in Helen Keller International, Nutritional Surveillance Project for Disaster Preparedness and the Prevention of Nutritional Blindness, Handbook 1992.

Mid-upper Arm Circumference : A child 12-59 months with a MUAC < 125 mm is considered malnourished.

Wasting : The percentage of children 6-59 months with weight-for-height < -2 Z scores, acute malnutrition.

Underweight : The percentage of children 6-59 months with weight-for-age < -2 Z scores.

Standard deviation scores : Measure of how far a child's nutritional status deviates from the internationally accepted reference population (NCHS). Malnutrition is defined as less than -2 standard deviations from the reference mean (< -2 Z scores).

