

COMBATING MALNUTRITION & UNDER-5 MORTALITY IN NAGAON DISTRICT OF ASSAM THROUGH ICT

Launched on October 2, 1975, the Integrated Child Development Service (ICDS) Scheme today represents one of the world's largest and most unique programmes for early childhood development. In the case of Nagaon District, the mortality rate of children below 5 years has been higher than the average for Assam. To deal with the situation, Dr. P. Ashok Babu, IAS, Deputy Commissioner, Nagaon, envisioned a plan to introduce systematic monitoring. His idea has been given a concrete shape by the NIC Nagaon team, and the project has been running successfully for almost one-and-a-half years now. The State Government of Assam and UNICEF have supported this program. After successful implementation, the Social Welfare Department of Assam has replicated it in four more districts in the current year.



ARABINDA DUTTA
Technical Director
dutta.a@nic.in



P.J. MARAL
DIO, NIC, Nagaon
nagaon@nic.in



SAYANTAN SAHA
Scientific Officer/Engineer-Sb
asm-sayantana@nic.in

Edited by
RUBAIYAT ALI

FUNCTIONS & OBJECTIVES

The main objective of the system is to decrease and combat under-5 mortality. Striving towards this goal, the system aims to:

- Combat the malnutrition problem effectively and to reduce resultant Under-5 mortality in the district
- To make Anganwadi Centers oriented towards a working system that addresses the malnutrition problem rather than simply providing some nutrition in the centre
- Establish synchronized effort between the Social Welfare Department and the Health Department wherein a malnourished child is acknowledged immediately by ground level health workers, ensuring medical advice either through a Primary Health Centre (PHC) or Nutrition Counseling and Management Centre (NCMC) or Nutrition Rehabilitation Centre (NRC)
- Initiate and expand model Anganwadi Centers in each CDPO Block which serve to stand as models for other Anganwadi Centers both in work environment and work culture, and
- Involve mothers and the society as a whole in the efforts to combat malnutrition as mothers have to take care of the nutrition of the child beyond Anganwadi Centers.

THE SOFTWARE WORKFLOW

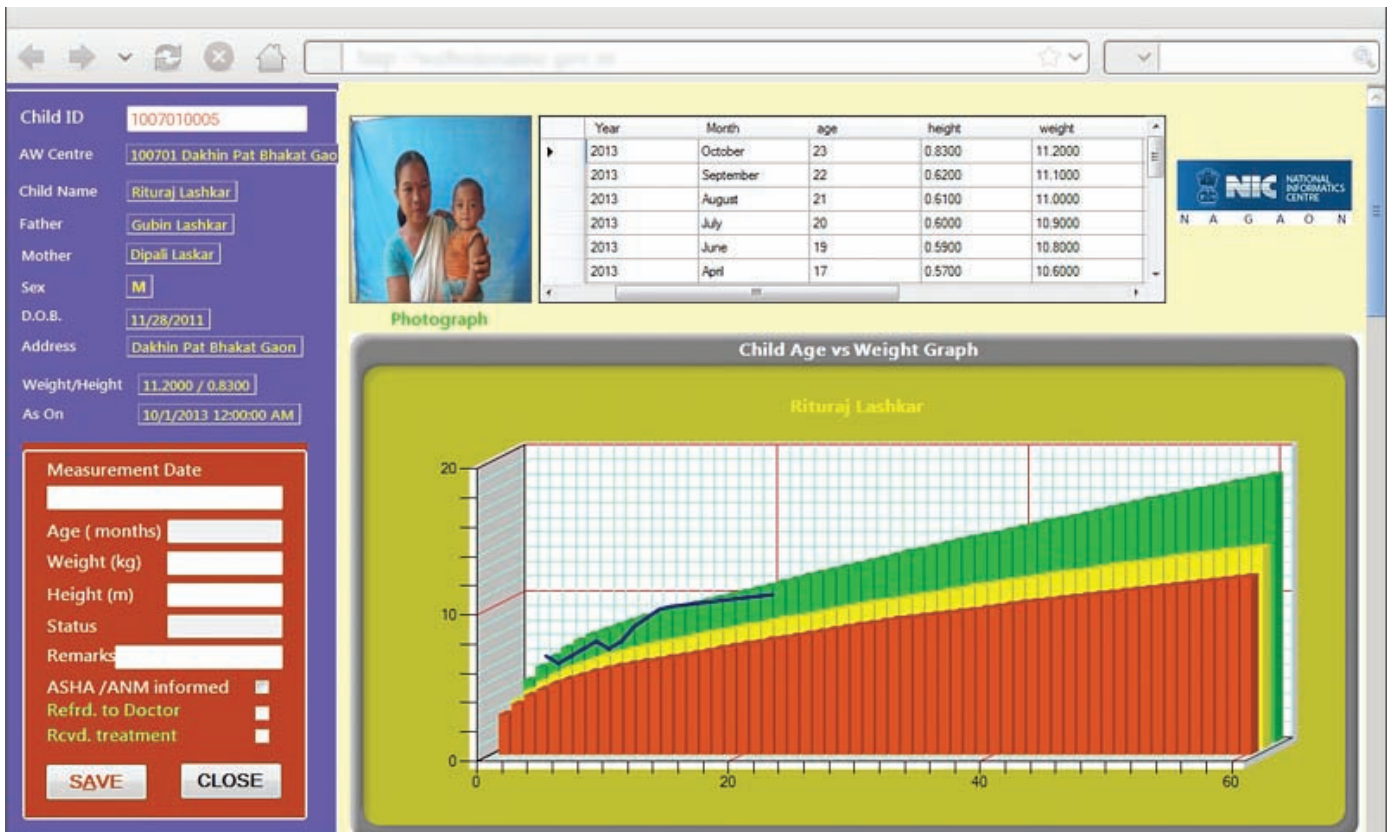
• Registration

Initially, the details of all the CDPO



Dr. P. ASHOK BABU, IAS
Deputy Commissioner, Nagaon

Monitoring a scheme and its benefits is best possible when each and every beneficiary is monitored. It is a Herculean task in a district like Nagaon with a population of about 3 millions. Implementation errors in the ICDS program implementation, if not closely monitored, may lead to child malnutrition, morbidity and mortality. The existing sampling systems just provide the severity of the problem of malnutrition but does not pin point the suffering children. NIC Nagaon, Assam made this possible by devising a system which can provide auto Generated WHO Standard growth charts for each child, pie diagrams of performance of each field level functionary and auto alerts to mothers concerned. Thus, it is possible to plot malnutrition geographically in a live' manner in the District and integrate it with the Health Department work system to address the problem. The active role played by the Mothers Societies and Anganwadi Workers contributed significantly to the success of the project.



Monthly Update Module showing Growth Chart of each child. Red zone is severely malnourished, yellow is moderate and green is normal.

Blocks, Supervisors, Anganwadi Centers and individual child is entered into the system. Each child is assigned a 10-digit code number. The first 6 digits of this code correspond to the code of the Anganwadi Center. The first 4 digits of these 6 digits are the Supervisor code. The remaining 2 digits represent the Blocks. This way, each child can be tracked from the Block level to the Center, just by deciphering the child's code. After the initial registration, when a new child is born or moves into the district, he or she is registered in the system every month.

• **Updating**

Once registered, the growth of each child is monitored monthly in terms of height and weight and is classified into 3 categories:

- a) Normal
- b) Moderately Malnourished
- c) Severely Malnourished

This classification is done based on the lines of Growth Charts provided by the World Health Organization. The growth of the child is plotted against age and is shown as a graph (Figure 1).

• **Intimation and Action taken**

Children who are severely malnourished are marked, and their parents are intimated by a letter about the criticality of their child's health. These children are then taken to the Counseling Centers and Rehabilitation Centers for proper medical treatment.

Thus, mapping of malnutrition on a live manner, pinpointing each and every child, is made possible. The data is dynamic and changes every month.

MODULES

The system is broadly divided into three functional modules:

• **Data Entry**

This is the basic foundation of the

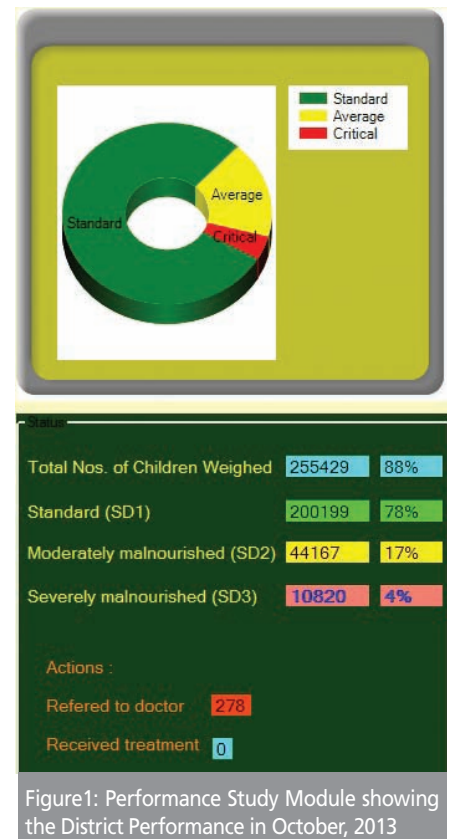


Figure1: Performance Study Module showing the District Performance in October, 2013

whole project. It has two main sub parts:

- a) Registration of new children.
- b) Monthly updating of the data of existing children.

There is also a module for correction of registered data such as name, parents' name and date of birth. It is a massive task considering the huge inflow of data (roughly 2.8 lakhs every month). To accomplish the task, eight data entry operators have been engaged on contractual basis initially funded by UNICEF.

• Performance Monitoring

This module shows the performance at each level viz. District, Block, Supervisor and Center in terms of actual numbers and percentage of children registered – normal, moderate and severely malnourished. This helps in evaluating the performance of every CDPO, Supervisor and Worker. Also, from this module, it is possible to pin-point the areas with higher concentration of malnourished children which eventually leads to proper action.

• Report

The report module generates various reports such as list of severely malnourished children in a Block in a month or children referred to doctor in any Block for any given month.

• Letter to Parents

This module generates the letters to inform the parents of the severely malnourished children.

RESULTS

From its inception in April, 2012, this project has yielded great results, both tangible and intangible.

• The Tangible

Among the effects of the project that can be readily quantified are:

- a) Accurate plotting and monitoring of weight of 90% of the children of the



district using WHO Growth chart of WHO-Anthro 2011 package.

- b) Reduction of about 43,000 beneficiaries through the inbuilt duplicates checking system of the software.

- c) The count of severely malnourished children has decreased from 10% to 4% in the whole District.

- d) More than 50% of the Anganwadi Centers in each block have been converted to Model Centers.

• The Intangible

Besides the above measurable results, there are other effects of the project which are nonetheless very important. Some of them are:

- a) Betterment of service delivery quality of the ICDS scheme as a result of regular monitoring and review.

- b) Creation of a huge and accurate database which will help in the study of different factors affecting nutrition of children below five years of age. We are proud to announce that, according to representatives from UNICEF, "The data generated so far

through the individualized child-centered tracking system shows significant improvement in growth monitoring and promotion activities at the Anganwadi level, leading to better identification of at risk children and action to address malnutrition at family and community level".

THE NEXT STEP

After its phenomenal success in Nagaon district, the Government has decided to implement this system in other districts in Assam. Requests are also coming in from other states for the software.

However, these are only the first steps. With the available datasets and the data collection system firmly in place, it is now possible to include parameters besides just height and weight to monitor the nutrition level of each child. This will open up a new direction in combating malnutrition.

FOR FURTHER INFORMATION:

P.J.Maral
 DIO, NIC, Nagaon
 E-mail: nagaon@nic.in