



Uttar Dinajpur Krishi Vigyan Kendra

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INNOVATIVE TECHNOLOGY

Large scale adoption of skill oriented market linked Technology on low cost weaning food for malnourished children

Innovative technology Conceptualised by Dr. Bikash Roy, Sr. Scientist & Head, Uttar Dinajpur KVK, Dr. F. H. Rahaman, Principal Scientist, ICAR-ATARI, Kolkata, Dr. A. K. Singh, Director, ICAR-ATARI, Kolkata, Prof. P. K. Pal, DEE, UBKV.

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“Critical Mass leads to Critical Action” this quote is being proved by the members of Self Help Group of Uttar Dinajpur District of West Bengal. Malnourishment amongst the pre-school children (0-5yrs age group) in Uttar Dinajpur district is alarming. As data reveals from District Project Office, ICDS, Uttar Dinajpur that around 10 percent children enrolled with 3737 numbers of Anganwari centres of the district are severely under weight and defined as **“Red-Children”**. The Integrated Child Development Service (ICDS) Uttar Dinajpur project through its 3737 service centre although provides different services including **“supplementary nutrition”** to the children. Keeping this alarming situation in view and considering the poor economic condition of a large section of community, Uttar Dinajpur Krishi Vigyan Kendra since its inception has taken rigorous activities for protocol development (Standardization) of various low cost nutritious weaning food utilizing locally available ingredients (Wheat, maize buckwheat, green gram, peanut, drumstick leaves etc.) through its mandated activities of On Farm Trials. After rigorous trials



SHG Women are engaged in Weaning Food Preparation



Processed Sishu Aahar Packet

through several years Uttar Dinajpur Krishi Vigyan Kendra has been able to develop and standardize several formulations of low cost weaning foods. The calorie measurement and nutritive value of the feed formulations has been tested at CFTRI, Mysore. All the feed formulations passed the criteria on calorie measurement and nutritive value as per national standards.

Up Scaling of Technology:

After standardization of feed formulation through On Farm Trials Uttar Dinajpur KVK started wide scale adoption of the technology through training of the SHG members and anganwari workers for capacity building and sensitization, Frontline demonstrations, case studies, awareness campaigns, field days etc. Three SHGs after getting trained from KVK, started producing low cost weaning food



Low Cost Weaning Food is given to child

under direct supervision of KVK and selling it in the name of **SHISHU AAHAR** in the local Mela, rural haats, Krishi Mela, SwanirbharMela, KanyashreeMela, SabalaMela etc. As a result of which the brand name of **SHISHU AAHAR** got a wide spread popularity and preference amongst the resource poor farm families.

Wide Scale Adoption:

Revealing the results of different low cost nutritious weaning food formulations developed by KVK in child health development in different forums and meetings, the Uttar Dinajpur District Administration decided to incorporate the low cost nutritious weaning food **developed by Uttar Dinajpur Krishi Vigyan Kendra** in a project called “**PUSHTI**” – An initiative for providing additional nutritional supplements to the malnourished pre-school children through SHG networks of the district. Skill development training on preparation and quality control of low cost nutritional food was imparted to the selected SHG members by the KVK. DRDC was in need to supply 3007 packets of food supplement for the children and 2054 packets for the pregnant mothers in the district per week. DRDC negotiated the matter with 10 SHGs one each from ICDS block of the district to produce and supply required numbers of food packets to the concerned ICDS centre of the block. On the other hand DRDC remitted the fund for the cost of the food packets in the account of the concerned SHGs. The process has been established and running smoothly since October, 2014 to combat malnourishment among children and pregnant mothers. The positive impact of the food supplements provided to the malnourished children is revealed from the chart (Fig.1).

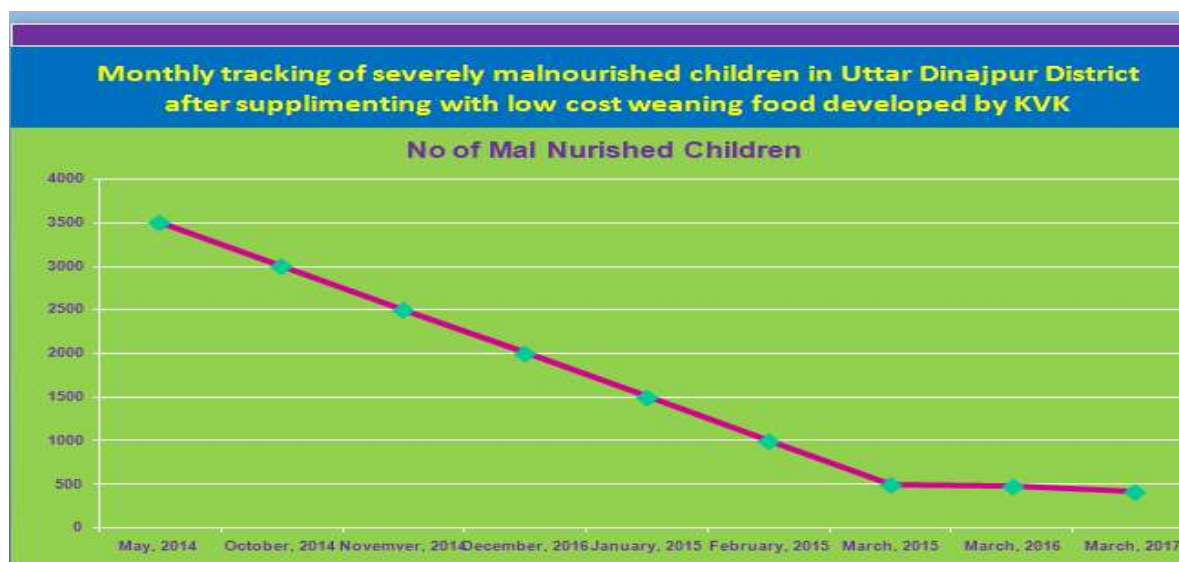
Economic Configuration:

As per latest data from District project Officer, ICDS, the number of the target Group viz. **“severely under weight (0-5 yrs.) children”** termed as **“Red Children”** in ten (10) ICDS Blocks of the district is 3007 numbers. As assumed to provide **“Additional Nutritional Supplement”** of 500 g per child per week a total quantity of 3007 pkt.x500g i.e. 1503.5 Kg weaning food is required per week. The district administration has fixed the cost of weaning food @ Rupees 60.00 per Kg. Thus, a total revenue of 72,168 Kg x Rs. 60.00 i.e. **Rs.43,30,080.00 (Rupees forty three lakh thirty thousand eighty only)** is being revolved through the 10 SHGs selected by district administration for preparing and supplying the weaning food supplements for malnourished children. Keeping a profit of 20 percent on the total cost of production an amount of Rs. 8,66,016.00 (Rupees eight lakhs sixty six thousand sixteen only) is being generated to the selected SHGs.

Additional Role of KVK in end term Implementation:

As requested by the District Administration, Uttar Dinajpur Krishi Vigyan Kendra also acted as a resource centre to impart hands on training to the aspiring SHG members of each ICDS Blocks in preparation of low cost weaning food and sensitizing them in keeping hygiene and quality of the weaning food as per specification.

Fig 1. Monthly tracking of severely malnourished children in Uttar Dinajpur District after supplementing with low cost weaning food developed by KVK



Source : District ICDS Cell, Uttar Dinajpur, WB

Though Pusthi project is going in whole district, but Uttar Dinajpur Krishi Vigyan Kendra selectively worked in Tribal villages for eradication of malnutrition among children under its Frontline Demonstration programme. Details are following.

Sr. No.	Name Of Village	No. of Children	Adoption rate of technology
1.	Dhuliagacch	12	65%
2.	Gulamigacch	16	58%
3.	Jhitka Tutikata	18	65%
4.	Machol	25	78%
5.	Moulanigachh	18	75%
6.	Taalbari	10	50%
7.	Dangi Aliganj	18	72%
8.	Maheshpur	18	60%

Case study of Parbati Murmu who was born on 31st July, 2012

in a tribal family, middle child among three siblings at village Dhanoygacch of Chopra block of Uttar Dinajpur district of West Bengal. Unfortunately, she was a case of malnutrition and was residing with her parents and grandparents. Her father and mother was tea garden labourer. Family was scantily able to survive on hand to mouth income.



Plate1. Parbati with her mother and young sister

Uttar Dinajpur Krishi Vigyan Kendra came into contact with Parvati Murmu while conducting an on farm trial entitled 'Assessment of nutritional weaning food on children health'. Her birth weight was 2 Kg and 150 grams which was below Indian standard birth weight. She was depicting the clear signs of protein energy malnutrition viz. oedema, depigmentation of the hair, thin sparse hair, moon face and diffuse depigmentation of skin along with below standard of reference of anthropometric measurements due to growth retardation and low body weight for height etc.) Supplementary food 1 (Wheat: Green gram: Ground nut: Jaggery 30:20:8:20) was provided to girl who was just 9.5 kg at the age of three years. Per day 200 gm weaning food was given thrice a day in milk/water according to availability. After 20 days tremendous change in Parvati's condition was revealed and she had showed 200gm increase in body weight with little healthier body. Supplementary foods which were rich in essential dietary elements i.e. carbohydrates, protein and minerals etc. contributed to child's good health and significant increase in weight. Within six months of trial Parvati has gained 2.50 kg extra weight to her earlier weight along with no signs of oedema, no sparse hairs and gradually regained good health. Now she is 12.2Kg at the

age of three years and eight months and was upgraded to normal grade. Training on homemade low cost weaning food was



imparted in the village itself to Parvati's mother and other SHG members so that farm women would be able to make low cost weaning food on their own and would be able to fight malnutrition to some extent. Her mother is now at least able to manage and make weaning food at her home using locally available ingredients which cost only rupees 60.00 per kg.