

Minutes of the State Consultation on 'Wheat Flour Fortification'

Venue: Hotel Madhuban, Dehradun, Uttarakhand

6th August 2011

The State consultation on wheat flour fortification was held on 6th August, 2011 at Dehradun. This consultation was jointly organized by Indian Flour Fortification Network (IFFN) and World Food Program (WFP) in collaboration with the Govt. of Uttarakhand, Roller Flour Millers Federation of India (RFMFI) and Uttarakhand Roller Flour Mills Association. The main objective of the consultation was to build awareness amongst various stakeholders including roller flour millers, government officials and health and nutrition experts and after having acquired the knowledge on flour fortification, the state should be able to initiate the process of developing a flour fortification program. State Government officials and local milling industry representatives recognized flour fortification as an important intervention should be taken up in the state. About 60 participants from the State Government, milling industry, academic and developmental institutions participated in the state consultation.



Mr. Rajesh Jamua, State Representative, World Food Program (WFP), welcomed all guests, key speakers and participants on behalf of the organizers. In his welcome address, Rajesh recognized several efforts of the UN, international and Indian development agencies including the food aid and fortification programs supported by WFP and further retreated that because of the efforts of IFFN and its partner agencies, flour fortification programs had been initiated in several states of India. This State Level Consultation, he mentioned, was an attempt to bring together all the key stakeholders from the Uttarakhand State Government, intra-government and non-government agencies to adopt flour fortification strategy for eradication of micronutrient malnutrition. He emphasized that Uttarakhand state should start flour fortification program which is cost effective and provide larger impact on the state population.

Dr. GNV Brahmam, Deputy Director, National Institute of Nutrition (NIN), in his key note address highlighted the significant aspects of micronutrient and macronutrient malnutrition, under-nutrition and over-nutrition. He described the adequate nutrition is greatly associated with

the normal growth, cognitive development and body functions. Epidemiological data suggest strong linkages between under-nutrition, morbidity and mortality. Chronic degenerative disorders such as coronary heart disease, hypertension, Type-II diabetes, certain types of cancers, etc. are primarily related to diet and nutritional status. Under-nutrition in early childhood, for instance, is closely associated with chronic degenerative disorders in later life, he informed.

He further reiterated that nutrition is very important and critical component of health but least attention has been given on it as a major public health issue. Government of India through state governments have been implementing several strategies and data show that we could not been able to improve the status of health and nutrition of the population. Dr. Brahmam suggested adopting more focused strategies rather than one strategy to address the problem of micronutrient malnutrition.

Mr. Subardhan, Secretary, Department of Food and Civil Supplies, Govt. of Uttarakhand in his remarks said flour fortification as a concept is new to the state but a good strategy. Uttarakhand as one of the front-runner states is already in the process of implementing food security bill and acclamation of this initiative goes to the Chief Minister and Food Minister of the state. The biggest challenge for the state is distribution of food-grains in the high-hilly terrains, and then providing foods—enriched with micronutrients like fortified flour ---to the populations. He emphasized on identification of important locations where fortified wheat flour could be distributed and assured that the proposal of flour fortification would be placed before the Chief Minister and Food Minister for their consideration. He also conveyed that state government would continue its dialogue with WFP and IFFN for developing an innovative strategy on wheat flour fortification.

Before this, he discussed key successes of the state government particularly the decision of distributing subsidised food grains including wheat and rice. All BPL cardholders have been receiving wheat grain at subsidised rate at Rs. 2/ kg and APL cardholders at Rs. 4/kg. State government's decision to increase transportation rate from the previous of Rs. 6 /km to the existing Rs.18/ km has actually benefited the ration-shop owners through whom state government distribute million MTs of food-grains to the state populations. The state government spends Rs. 1200 crores towards food grains distributed to millions of poor and needy people.

Mr. Om Gopal Rawat, Member of Legislative Assembly, and representative of Mr. Diwakar Bhatt, Minister, Food & Civil Supplies, Govt. Uttarakhand, mentioned that flour fortification should be implemented in the state. People are not consuming adequate vitamins and minerals through normal regular diets. Wheat flour enriched with vitamins and minerals, if consumed, will meet the additional quantities of vitamins and minerals required for the state populations.

Rawat emphasized for identification of few urban and semi-urban locations (for eg. Dehradun Haridwar and Udham Singh Nagar) for initial implementation of the program and, gradually can be extended to other places of the state. The fortification cost is very minimal and it can easily be born. Fortification will not affect much to the overall price of wheat flour. However, the transpiration cost has to be worked out and it is likely to be high in the state, he informed.

Dr. Subrata Dutta, Coordinator, India Flour Fortification Network (IFFN) presenting the status of wheat flour fortification in India discussed the concept, technology and sustainability of the flour fortification programs. Fortified wheat flour, if consumed, addresses public health problems and cereal fortification is safe because a person cannot eat enough fortified flour meal to exceed the upper safety levels of micronutrient intakes, he informed. He shared various models of flour fortification adopted by the state governments and highlighted some of key aspects of these models.

The flour fortification in the State of Gujarat was first introduced in the open market in 2006 followed by BPL and AAY distributions and, later on, in ICDS and MDM programs. All that had shown tremendous potential to address problem of micronutrient malnutrition in Gujarat. In the PDS model, BPL and AAY beneficiaries are entitled to receive 13 kg and 19 kg of packed fortified flour per month respectively at a government subsidised rate. The flour mills had taken the responsibility of distributing fortified wheat flour to all ICDS and MDM centres. The mills lift wheat grain from the FCI warehouses and after processing, fortification and packaging, they directly distribute packed fortified flour to the ICDS and MDM centres.

In Punjab, APL beneficiaries are receiving fortified flour bag against a cost of Rs.12 per kg. Per beneficiary is entitled of 35 kg of flour. Under the public-private partnership model, roller flour mills have taken the responsibility of lifting the wheat grain from the FCI warehouse to distribution of fortified flour at ration shops against which mills receive an incentive of Rs. 1.50 for per kg towards grinding, packaging, fortification and transportation. In Delhi, wheat flour fortification program started in November, 2009 and the Delhi State Govt. is providing fortified wheat flour to populations under an open market scheme. The flour mills lift wheat grain from FCI and make payments to State Civil Supplies Corporation as per the Govt. rate. The 10 kg bag of fortified atta is being distributed at *kendraya bhandars* across Delhi with a price pegged at Rs. 139/ per 10 kg of fortified flour. He also discussed the joint advocacy initiatives of the IFFN members in Rajasthan and how it helped to start the flour fortification program and fortification models of Tamilnadu and West Bengal.

Mr. R. K. Garg, President, Roller Flour Millers Federation of India (RFMFI) informed that earlier studies showed people were not getting adequate nutrients through normal foods. Wheat flour is consumed all sections of the society making it ideal vehicle for providing micronutrients to the populations who are deficit in them. The uniformity of premix-mixing is only possible at flour mills and mills are equipped with all equipments required for fortification. Mills do not require any up-gradation or massive investment for starting flour fortification. He informed that flour fortification program first started in West Bengal in 2000 and study reports showed good results and increased hemoglobin status of the populations.

He further informed that fifty percent PDS wheat grain was not reaching to the beneficiaries and usually diverted. Justice Wadhwa Committee and Govt. of India recommend fortified wheat flour to be provided to the PDS beneficiaries instead of wheat grain. The order observed that some of the states were distributing fortified wheat (atta) flour which would provide nutritional security. It would also stop diversion in the public distribution, he informed. He further stated that fortified flour should be provided to all beneficiaries of the PDS that would benefit them in many ways. Processing of wheat grain is a big problem in hilly areas and if state government provides

fortified wheat flour, it will reach to the actual beneficiaries for daily consumption. He also requested state millers to look into quality of flour they produce. Packaging is very important that increases the shelf-life of atta. Ensuring at least 45 days shelf-life of the fortified flour will intensify public distribution.

The presentation made by **Mr. Vinod Kapoor** on wheat flour fortification process & technology emphasized on the technology requirements at mills for flour fortification. The major equipments needed for flour fortification are flour collection conveyer, premix feeder with adjustable feed system, discharge system, scale to measure addition rate of premix to flour and laboratory chemicals for testing of flour. He also discussed basics of flour fortification, restoration of nutrients, nutrients loss during milling and enrichment of flour. Enough vitamins and minerals contain in the outer layer of bran lost during milling process of the flour. Even after milling of refined wheat flour, eleven known vitamins and six nutritionally significant minerals as well as essential fatty acids are removed. Therefore, restoration of the nutrients is important. By addition nutrients into flour to a level required can improve the nutritional quantity and quality of diet in a community. As per WHO guidelines, iron, folic acid, Vitamin A, Vitamin B₁₂, Zinc can be added to flour and average levels of these nutrients have been clearly defined in the guideline, he informed.

Ms. Manshi Shukla, Program Officer, WFP Country Office, shared WFP's village level flour fortification project initiated in Shivpuri, Guna and Sheopur districts of Madhya Pradesh. The goal of the project is to reduce the prevalence of anaemia amongst Sahariya tribal community through the consumption of regular flour fortified with iron and folic acid produced at local chakki mills. Under this project, all the village chakki mills were identified for flour fortification and they were provided all necessary support and training for maintaining quality and standards. Simultaneously, WFP had undertaken capacity building and monitoring measures for accurate production of the fortified flour in the locality. The core activities already initiated are developing IEC materials, campaigns, capacity building, monitoring, quality assurance, documentation and advocacy. The major challenges, according to her, are intense monitoring in the vast project area, achieving 100% buy-in from the target beneficiary group of Sahariyas to allow addition of premix in their wheat grains and maintaining the motivation levels of millers who are not getting monetary benefits from the project.

Mr. Arvind Agarwal, President, Uttarakhad Roller Flour Mills Association, briefly mentioned that state government had resolved most of the problems related to food distribution in the state and as result of that, state rice millers have become most active and dedicatedly involved with the State Government. All flour millers in the state are very keen to associate with the State Government for distribution of fortified wheat flour and he has assured that millers will take whole responsibility of timely delivery of fortified flour at all distribution centers. He was on the opinion that flour fortification program be started from the urban and semi-urban areas and then expanded in the whole state.

Dr. Raj Bhandari, a Public Health Consultant, in his presentation on benefits and cost effectiveness of wheat flour fortification discussed "India Micronutrient Investment Plan", a report clearly outlined the likely benefits for the beneficiaries against investments made on wheat flour fortification. While sharing the Gujarat experience, he mentions that the effects of

wheat flour fortification are much larger among the BPL and AAY beneficiaries. The flour fortification impact can only be traced when consumed for a substantial period. He presented a comparison chart of inadequate iron intake prior and after wheat flour fortification and its estimated impact on the beneficiaries of all government programs BPL, AAY, ICDS and MDM.

He, however, discussed the cost structure and efficiency of different types of mills. Roller flour mills, according to a study findings presented by him, have greater efficiency and lower operational cost than the chakki mills. But the fortification costs are identical in two types of mills.

Mr. Ramesh Saraf, Former President, Gujarat Roller Flour Mills Association, discussed the successful public-private-partnership flour-fortification model of Gujarat. He said that Government of Gujarat had led implementation of the flour fortification program with initial support from Micronutrient Initiative (MI) for technical assistance including program monitoring.

The flour fortification program was first introduced in the open market and subsequently introduced in public distribution system. Today, state government introduced the program in all government programs including ICDS and MDM. He, however, observed that labourers working in various factories, who regularly consumed fortified flour, were not affected by any such diseases and reduced their average yearly expenditure on health care and increased their productivity. Likewise, any state government if introduces this flour fortification program that can actually reduce the overall state budget on health care expenditure by more than 30 percent. But this program should not be implemented with the only intension to prevent diversion of the food grains in the public distribution. The main objective of the program should be to reduce burden of micronutrient malnutrition, he opined.

He further stated both the state government and milling industry needed to understand public-private-partnership model and their limitations as well. The state millers should extend all possible support to the state government and ensure flour produced by the millers is also fortified for open market distribution.

Mr. Naresh Ghai, President, Punjab Roller Flour Mills Association, discussing on Punjab flour fortification program informed that they had ensured to the officials of the State Government for quality production and smooth supply of the fortified flour. The state Food Minister and Secretary could understand importance of the program and decided to introduce the program in Punjab.

Punjab Government has appointed a monitoring agency which collects samples regularly from flour mills every fortnightly and analyze in local laboratories. Government takes appropriate actions against the flour millers for discrepancy. Ensuring good quality fortified flour is the primary responsibility of the flour millers and mills should have the facility to check the premix quality and fortified flour.

In concluding remarks, Dr. G.N.V Bhahman and Rajesh Jamuar highlighted the following points:

- Public private partnership model should be adopted for promotion of flour fortification in Uttarakhand and whole objective of the program will be to reduce burden of micronutrient malnutrition

- The state should start a pilot project selecting few urban and semi-urban places in the state. It was suggested to take one block of each district for pilot project or may start with few blocks with having high malnutrition rate such as Chakrata (Dehradun), Mori, Purola & Naugaon for Uttarkashi and part of Tehri district at Kumaon division part of Champawat, Pithoragarah and Almora.
- Mr. Subardhan will discuss the flour fortification project with the Chief Minister and Food Minister, Govt.of Uttarakhand and after consultation with them he will take a decision on implementation of the program.
- Awareness campaign on wheat flour fortification should be initiated.

Ms. Manasi Shukla announced closure of the consultation with formal vote of thanks to guests and participants.

Main Guests & Speakers:-

Name	Designation/Org.	Name	Designation/Org.
Mr. Om Gopal Rawat	MLA & representative of Mr. Diwakar Bhatt, Hon'ble Minister, Food & Civil Supplies, GoUK	Ms. Manashi Shukla	Program Officer, CO-WFP, New Delhi
Mr. Subardhan	Secretary, Food & civil supplies, GoUK.	Dr. Raj Bhandari	Public Health Consultant
Mr. Rajesh Jamuar	Head of Dehradun State Office, World Food Programme, UK & UP	Mr. Ramesh Saraf	Ex. President, GRFMA, Gujarat
Dr. G.N.V. Brahmam	Deputy Director, National Institute of Nutrition, Hyderabad	Mr. Naresh Ghai	President, PRFMA, Punjab
Mr. Arvind Agrawal	President, UK Roller Flour Mills Association	Mr. MS Bisht	JD-MDM, GoUK
Dr. Subarta Dutta	Coordinator, Indian Flour Fortification Network, New Delhi	Mr. SK Tripathi	DPO-ICDS, Dehradun
Mr. R. K. Garg,	Presedent, Roller Flour Millers Association of India	Dr. Wahi	Health Department, GoUK
Mr. Vinod Kapoor	Technical Expert- Flour Fortification, IFFN	Millers & others	

