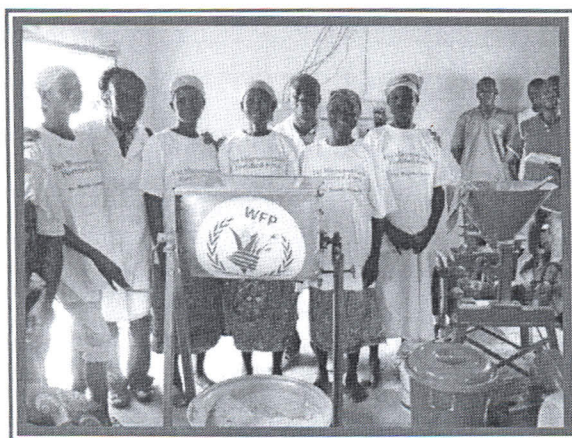


CIDA/WFP/UNICEF
'TACKLING MALNUTRITION IN NORTHERN GHANA'
PROJECT

**SCALE UP OF COMMUNITY- BASED MILLING
AND FORTIFICATION IN NORTHERN GHANA**



**Report on Workshops to Introduce Fortification of Cereal
Flours with Micronutrients in Twelve Communities
in the Three Northern Regions of Ghana**

By

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Held: 12th – 28th August, 2010

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List of Acronyms

CHN	Community Health Nurse
CIDA	Canadian International Development Agency
CSIR	Council for Scientific and Industrial Research
DNO	District Nutrition Officer
FM	Frequency Modulation
FRI	Food Research Institute
GHP	Good Hygienic Practices
GHS	Ghana Health Service
MFP	Maize Flour Premix
MNM	Micronutrient Malnutrition
UDS	University of Development Studies
UNICEF	United Nations Children's Fund
WFP	World Food Programme
WHO	World Health Organization
WVI	World Vision International

Summary

This is a report on twelve workshops held in twelve communities in the Upper-East, Upper-West and Northern Regions of Ghana to transfer the technology of flour fortification with micronutrient premix. The workshops were held as part of WFP/UNICEF joint project on Tackling Malnutrition in Northern Ghana using fortification/enrichment of flours with vitamin-mineral concentrate as a means of addressing the low intake of micronutrients through consumption of indigenous foods such as *tuo zaafi* with the prospects for increased utilization in other foods. To facilitate the distribution of micronutrients through good mixing, a hand operated portable batch mixer commissioned by WFP and designed and fabricated at the CSIR-Food Research Institute was employed.

The communities that benefited from the technology were drawn from twelve districts of the three Northern Regions. They included Gorogo, Zorko Goo, Tangasia, Chuchuliga Namosa in the Upper-East Region, Woribogu-Kukuo, Yilonayili, Gortani, Yankazia, Nansoni in the Northern Region and Lam-Uollo, Ketuo and Dahile-Kpanagaan in the Upper-West Region.

The workshops were also facilitated by the use of a mixing protocol developed into a poster to explain the stepwise blending of micronutrient premix thoroughly into flour to ensure effective fortification. A participatory approach was adopted to help the beneficiaries understand and appreciate the intervention to tackle malnutrition in the communities.

The WFP Project Support Officer at Tamale, four Community Health Nurses and seven Nutrition Officers from the Ghana Health Service (GHS) in the twelve districts were in attendance. They are expected to monitor the adoption and sustained patronage of the fortified flours and income generation by the women groups. In all twelve (12) women based groups, four Community Health Nurses, Nutrition Officers, opinion leaders and mill operators were introduced to the technology.

1.0 Introduction

The process of adding vitamins and/or minerals to foods to increase its overall nutritional content to achieve a particular dietary purpose is referred to as fortification. It involves adding micronutrients which are naturally present in the food to levels higher than naturally occurring (Nalubola and Nestel, 2000). Micronutrient fortification of cereal (maize, millet, sorghum e.t.c) flours was selected as an intervention strategy to improve the nutritional status of micronutrient malnourished food-insecure populations in rural communities in the northern parts of Ghana. This exercise was selected for scale up following a successful pilot and also because it has been proven to be relatively easy method of dietary supplementation. In addition, it can be sustained over long period of time and is cost effective.

The training workshops to introduce the technology of fortification of maize flour (or other cereal flour) with micronutrient premix to twelve women-based groups in twelve districts in the Upper-East, Northern and Upper East Regions of Ghana is part of the scale-up of the Milling and Fortification Project run by WFP in six communities in the three Northern Regions of Ghana between 2008 and 2009. The communities and the districts that are benefiting from this up-scaling are presented in Appendix1. Fortification is a food-based strategy that has the advantage of delivering nutrients to a larger section of the population without necessarily, changing the consumption pattern of the people. It is a means of restoring micronutrients that are lost during processing of food (e.g. milling of cereals) and also for the prevention of diseases.

Under the Milling and Fortification Project one of the components was the provision of fortificants by WFP to the women groups for the flour enrichment process. Fortificant procured from suppliers for use by beneficiaries during the pilot phase was highly concentrated (17.5g to 50kg of flour). As part of the recommendations given during an inception assessment appraisal prior to the scale up, less concentrated fortificants in smaller units for 10kg or maximum of 20kg flour was suggested to facilitate household use. As part of the lessons learnt, the report proposed that community members be made to understand and appreciate the

process of fortification and utilization of fortified flour as necessary for improved health of children, women, and the elderly and to see it as a cheaper option to paying for medical bills and drugs when family members fall sick from micronutrient deficiencies. The role of behavioral change communication is therefore fundamental for the achievement of the goals, objectives and expected outcome of the project, (WFP, 2009). CSIR-Food Research Institute having provided fortification training under the pilot was recommended to also provide refresher training in flour fortification emphasizing on quantity for mixing for all groups that are to benefit from the up-scaling. Another recommendation was for FRI to look at the possibility of redesigning and improving the quality of the mixer to make its use less laborious and more user-friendly.

2.0 Background

Fortification is the practice of deliberately increasing the content of an essential micronutrient, i.e. vitamins and minerals (including trace elements) in a food, so as to improve the nutritional quality of the food supply and provide a public health benefit with minimal risk to health (Lindsay Allen, *et al*, 2006). Fortification of foods for mass consumption is an important strategy for improving the nutritional situation of populations, (Sunny Kim and Wilma Freire, 2003). Fortification of food contributes to the reduction of micronutrient malnutrition where existing food supplies fail to provide adequate levels of certain nutrients in the diet. Food fortification can take several forms; mass fortification where foods that are widely consumed by the general population is fortified, targeted fortification where specific food for population subgroups, such as children is fortified and market-driven fortification where food manufacturers are allowed to voluntarily fortify foods available in the market place, (Lindsay Allen, *et al*, 2006). In a number of countries ways of adding micronutrients to foods at the household level (Household and Community Fortification) is being embarked upon. One such approach involves the addition of a commercial micronutrient premix, available in sachets, to small batches of flour. An appropriate food vehicle that is widely consumed frequently by

a large portion of the population is normally chosen to ensure that a target population benefits from a food fortification programme. Under the WFP Community Based Cereal Milling and Fortification, cereal flour was selected as a vehicle for the micronutrient fortification to improve the nutritional status of the beneficiary communities in northern Ghana due to its wide usage in the preparation of many traditional foods. Table 1 presents some of the health benefits of the micronutrients in the MFP and some health implications when deficient.

Table 1. Health Benefits/Deficiency Implications of Micronutrients in the MFP

Micronutrient	Summary of health benefits	Health implications if deficient
Vitamin A	Keeps eyes and skin healthy Boost the immune system	Increased risk of mortality among children and pregnant women Causes night blindness and xerophthalmia
Vitamin B1 (Thiamine)	Helps cells obtain energy from food Keeps nerves healthy Promotes appetite and digestion	Beriberi Wernicke-korsakov disease associated with alcoholics
Vitamin B12 (Cobalamin)	Promotes normal growth Protects against anemia	Anemia Neural tube defects Impaired cognitive function or brain development
Vitamin B2 (Riboflavin)	Helps cells use oxygen to release energy from food Maintains healthy skin and tongue	Anemia, dermatitis, fatigue, eye changes
Folic acid (B9)	Produces normal red blood cells Prevents neural tube defects	Anemia, heart disease and stroke, depression, neural tube defects
Iron (Fe)	Combines with protein in the blood to form hemoglobin	Anemia Reduced brain performance Lower work performance Reduced iodine and vitamin A metabolism, High mortality
Zinc	Assist in wound healing, blood formation Growth and maintenance of tissues	Poor pregnant outcomes Stunted growth Diarrhea Decreased resistance to infections
Nicotinamide	Helps cells to use Oxygen to release energy from cell Maintains healthy cells	Pellagra or dermatitis Diarrhea and vomiting Loss of memory, depression

3.0 Methodology

3.1 Redesigning and Fabrication of Hand-operated Batch Mixer

As per the recommendations made in the WFP Inception Assessment report, the manually operated batch mixer used under the Cereal Milling and Fortification Project was redesigned to improve on the quality to make its use less laborious. Using stainless steel sheets of 2 mm thickness, twelve (12) mixers were fabricated using a new design at the FRI for the training. The mixer was made up of a mixing chamber mounted on a metallic stand about 1m high. The chamber was equipped with baffles fixed on a 0.5 m long horizontal stainless steel shaft of 0.05 m diameter. The horizontal shaft revolves on two plummer bearings fixed outside the chamber. The horizontal shaft revolves on two plummer bearings fixed outside the chamber. The mixing chamber was designed to hold about 15 kg of cereal flour. At one end of the shaft is a handle that is used to propel the shaft which in turn twirls the baffles in the chamber to effect mixing operation. A locking device at one side of the mixer is used to lock it into position during a mixing operation. Its unlocking facilitates the transfer of fortified flour into a suitable receptacle. It also has a sliding cover that prevents flour from falling during mixing operations. Figure 1 depicts an isometric drawing of the mixer.

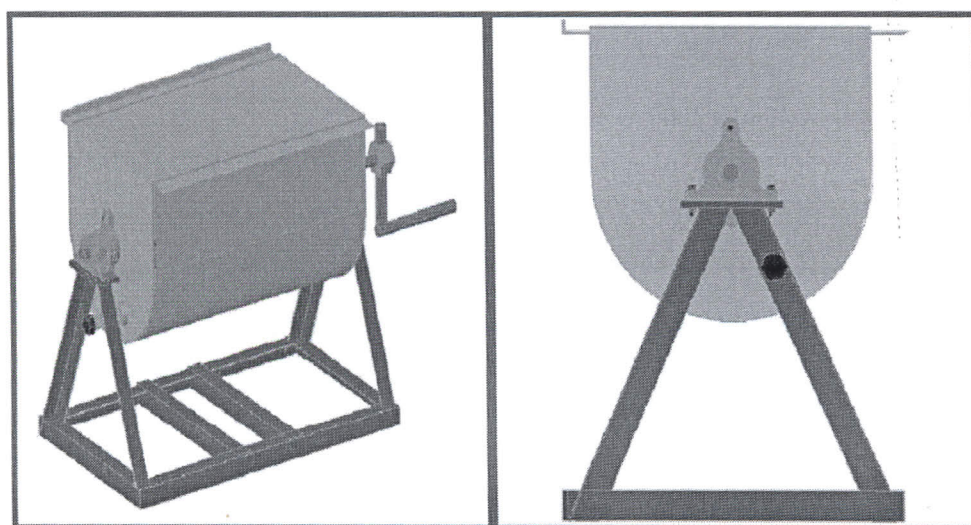


Fig. 1: Isometric drawing of the redesigned batch mixer

3.2 Vitamin-Mineral Concentrate

The Vitamin-Mineral Concentrate (IS 576) manufactured by DSM Nutritional Products, South Africa (Pty) Ltd and supplied by the World Food Programme country office in Accra, was used for the cereal flour fortification exercise. The nutritional information on the premix concentrate is as follows;

Table 2. Composition of the Micronutrient Premix Used

Vitamin/Mineral	Per 100g fortified maize/cereal meal
Vitamin A (IU)	650.56
Folic Acid (mcg)	96.95
Vitamin B12 (mcg)	10.00
Vitamin B1 (mg)	0.39
Vitamin B2 (mg)	0.38
Nicotinamide (mg)	4.0
Iron (mg)	4.5
Zinc (mg)	2.03

According to the manufacturer's recommendation, 17.5 g of the vitamin-mineral concentrate is prescribed to enrich 50 kg of maize/cereal flour. After a thorough mixing it is expected that the levels of the various micronutrients will be those stated in the last column of Table 2.

3.3 Premix Preparation

A premix is a blend of single or multiple micronutrients used in the enrichment or fortification of foods. Where bulk flour is fortified with multiple micronutrients, the advantage of using a premix rather than adding micronutrients singly is that there is a greater likelihood of ensuring the correct concentration and even distribution (Nalubola and Nestel, 2000). To prevent the women groups from handling the

micronutrient concentrate directly, the micronutrient concentrate was blended with maize flour and packaged in 0.25 kg sachets. These units were supplied to the beneficiary groups to be used to enrich 10 kg batch of cereal flour. The production of Maize Flour Premix (MFP) required a couple of unit operations to achieve a quality product as presented in the process flow chart below;

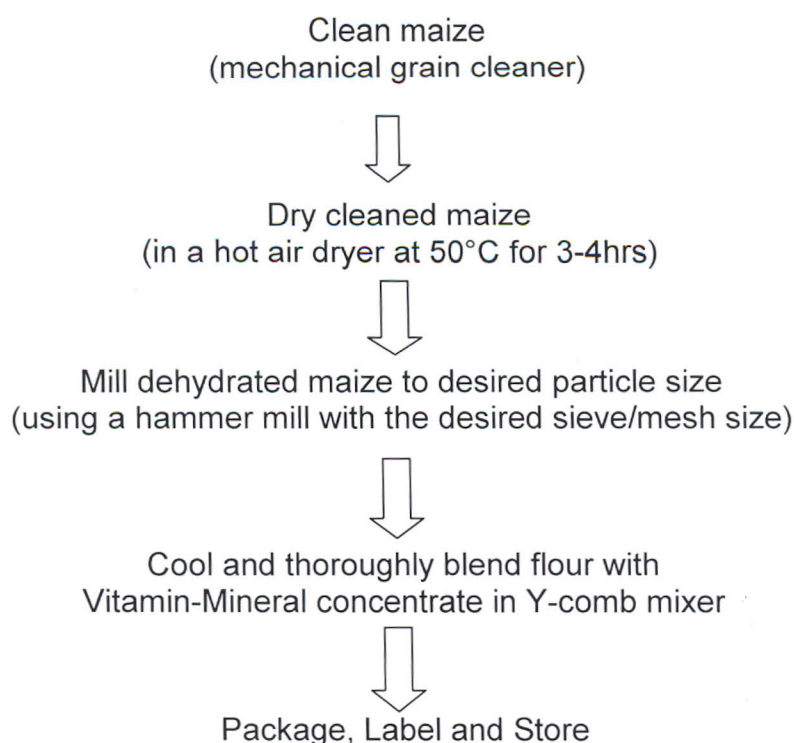


Fig. 2: Flow chart for the production of MFP

3.3.1 Production Process

The processing of maize into MFP involved cleaning, drying, milling, blending, packaging and storage. Grade 1 quality (as per Ghana standard for maize) maize was used for the processing. Cleaning was done by using mechanical grain cleaner to get rid of dirt, chaff, immature and damaged grains. The maize was spread evenly on drying trays and dried in a hot air mechanical dryer at 55°C for 3-4 hours. The maize was milled with a hammer mill fitted with mesh/sieve size of 400 microns. Packaging of the MFP was done in units of 0.25 kg sachets using

polyethylene (200 microns density) packaging material and labels. Adequate packaging material was used to avoid moisture uptake by the MFP during storage.

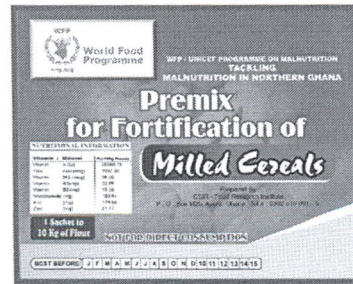


Fig. 3: Label used in the packaging of the MFP

3.4 Determination of Optimal Mixing Time

The determination of the mixing time was done by milling maize and using food grade colour to evaluate the performance of the mixer and to also establish the optimal mixing time to ensure an even distribution. The scaling up technique of mixing was employed (Johnson & Plahar, 2003). Two food grade colours were used to assess the mixing. Two grams of food-grade yellow colour pigment, E160 a beta carotene 1% powder (Roha Caleb UK Ltd), was accurately weighed and added to 200 g of fresh maize flour. The two were blended together thoroughly in a bowl and 20 cm³ of clean water was added until a wet dough was obtained. This was done to fully reconstitute the colour and to enhance its intensity/brightness. The dough was then dried at 50°C. After drying, the mass was milled into fine powder and 50 g introduced into 2.5 kg of fresh maize meal in the mixer. At the end of 5, 10, 15, 20 and 25 minutes of mixing, samples were taken from the mixer and triplicate measurements of the L*a* and b* uniform colour space values based on the CIE system were carried out using a colour meter (Minolta CR310). 2.5 kg of fresh maize meal was added to the mixer and the process repeated. The stepwise mixing was run using another food grade colour E122 Carmoisine powder (Roha Caleb UK Ltd), with greater colour intensity, taking samples and measuring colour at specific times of mixing similar to the above process.

3.5 Developing of Teaching Aid

Data established in 3.4 was used to develop a poster (Fig. 4) that spelt out both in text and graphic outline, the various steps needed for an effective mixing of the MFP with cereal flour. The posters were handed over to the women groups after the training. In all the communities it was recommended to the groups to fix them at a central point (in the mill houses) where cereal flour-premix concentrate mixing was to be done, to allow for reference whenever necessary.

WFP / UNICEF PROGRAMME ON MALNUTRITION TACKLING MALNUTRITION IN NORTHERN GHANA

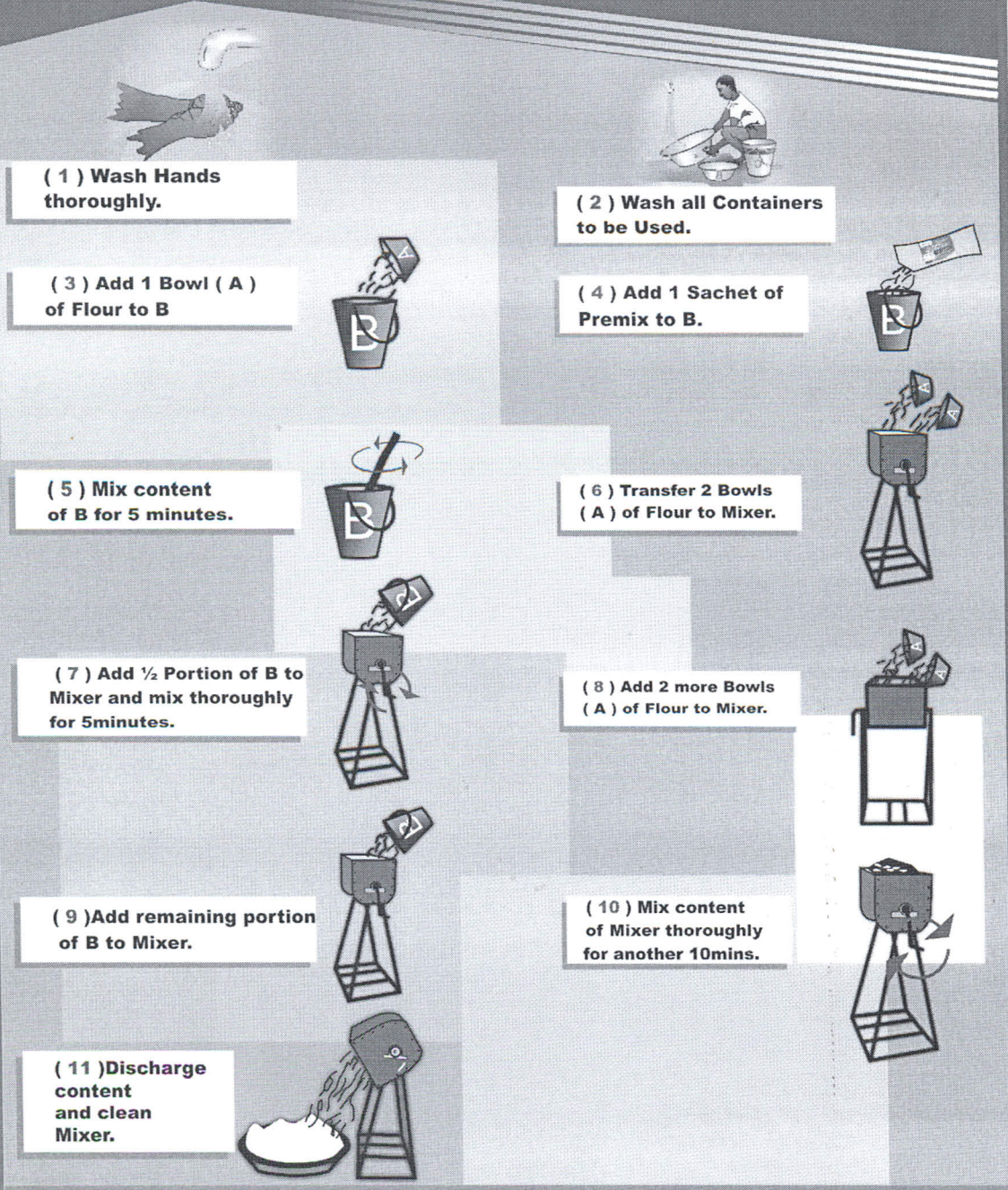


Fig. 4: Poster showing the various stages of the mixing protocol

4.0 Training Sessions

The training sessions were held in the communities from August 12 -28, 2010 as per training programme guide and schedule presented in Appendices 2 and 3, respectively. The training in each community began with an introduction of the women groups and the WFP/FRI team. This was followed by a brief address that emphasized the rationale behind the exercise and encouraged the trainees to fully participate in the exercise and to make every effort to understand the process. In the end the beneficiaries were not only expected to patronize the use of fortified cereal flour, but to also help popularize the use of the fortified flour in their communities and immediate environs to help address micronutrient malnutrition (MNM).

The reasons and the basic principles underlying food fortification were explained to the trainees. All trainees were encouraged to observe Good Hygienic Practices (GHPs) and were made aware of their role and responsibility in protecting food from contamination or deterioration by handling food hygienically. Emphasis was placed on personal hygiene, cleanliness of processing environment and processing equipment before and after use. This was followed by a demonstration of the various parts of the mixer, mode of operation and general maintenance rules and the fortification process. Participants were then taken through the various steps of the mixing process as depicted in the poster developed (Fig.4).

The attention of the participants was drawn to the fact that the MFP premix does not affect the colour, taste, odour, and appearance of the cereal flour that is fortified or food prepared from it. Each 0.25 kg sachet of MFP concealed in 200 microns polyethylene bags was worked out to be added to 10 kg of cereal flour (or approximately 5 "koko" bowls). Due to the concentrated nature of MFP it was stressed to participants not to directly consume it and under no circumstance should it be further divided into smaller fractions for fortification of smaller portions of flour. To effect the fortification the flour must have been finally milled and cooled to room temperature. Consequently, fortification of flour right after milling cereal was discouraged. Though the fortificant is meant for fortifying maize and wheat flour, it has been extended to millet, sorghum, rice and cassava flour which is

consumed frequently in different dishes in the communities. It is imperative to also note that, the MFP is not to be used to fortify or enrich legume (and other pulses) flour such as cowpea, soy and bambara beans because of their apparent good nutritional composition. It is also important that the current premix is not added to wet cereals as in dough and slurries because it is not designed for such but rather dry flour.

Figures 5 to 39 capture some of the scenes during the practical sessions in the twelve communities.

UPPER-EAST REGION

Gorogo



Fig. 5: Participants being introduced to mixer at Gorogoro

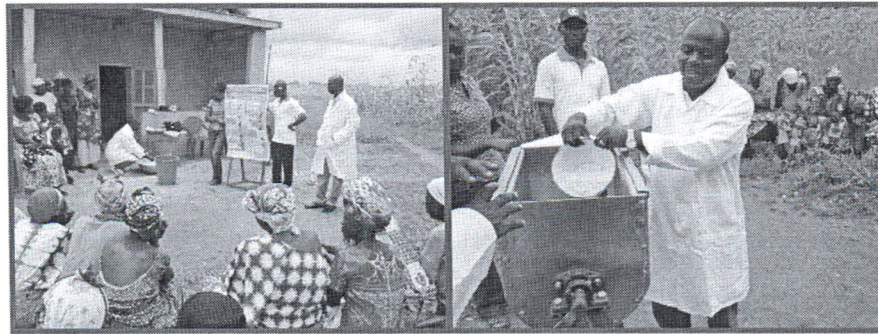


Fig. 6: Participants being taken through the mixing protocol at Gorogoro

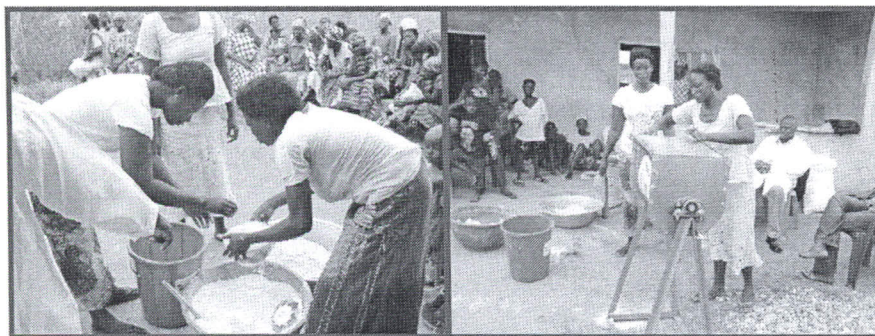


Fig. 7: Participants at Gorogoro trying their hands at the mixing process

Zorko Goo

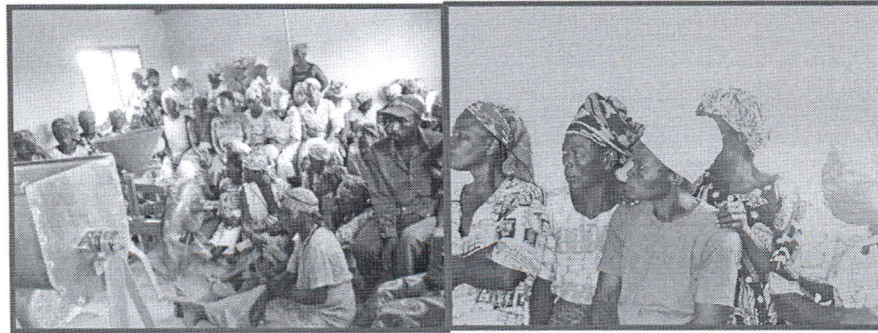


Fig. 8: A section of the participants listening to trainer at Zorko Go

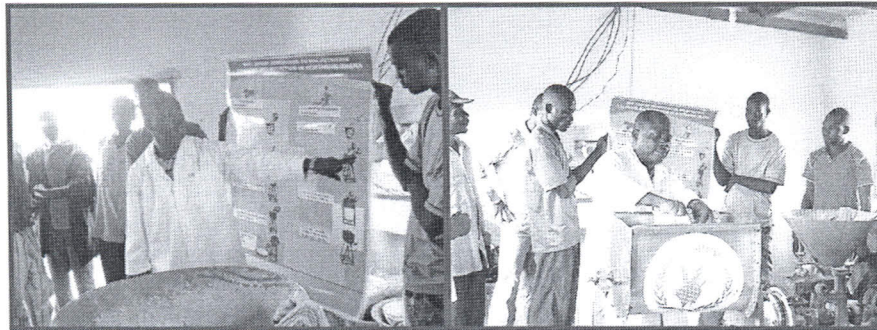


Fig. 9: The mixing process being explained to the participants at Zorko Goo

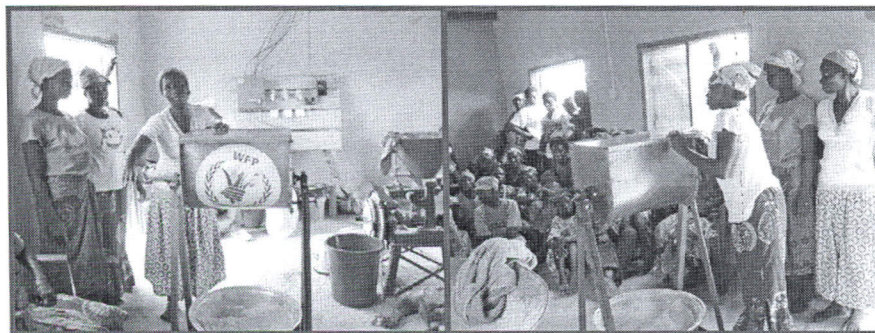


Fig. 10: Participants at Zorko Goo demonstrating the use of the mixer

Tangasia

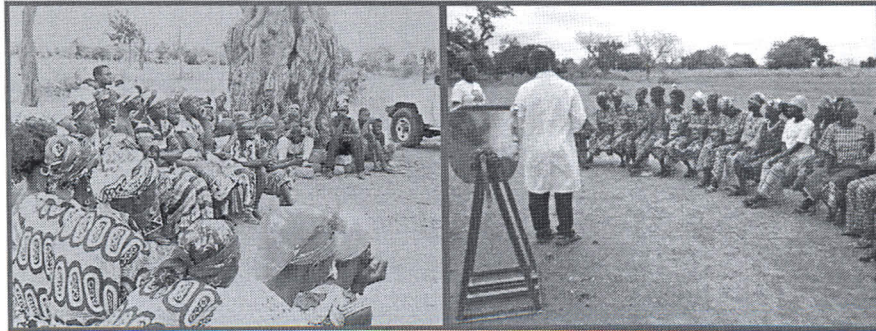


Fig. 11: Participants at Tangasia listening to trainers

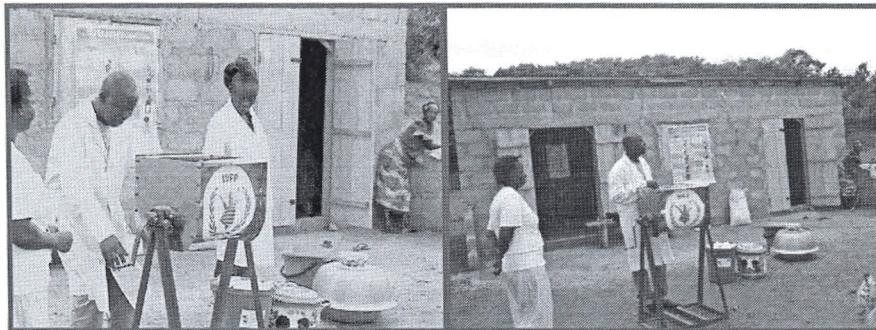


Fig. 12: Participants at Tangasia being introduced to the mixer

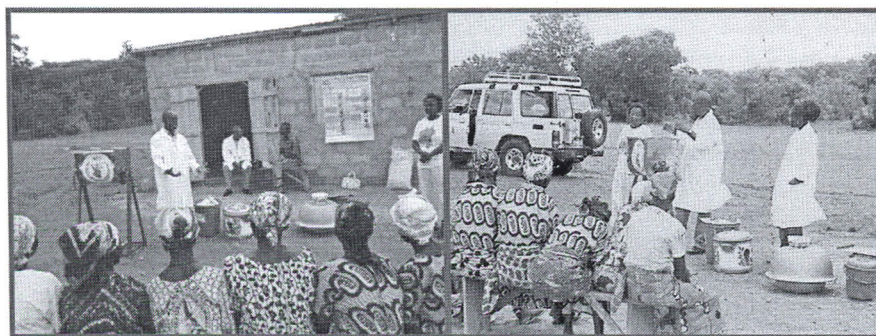


Fig. 13: Participants at Tangasia being taken through the mixing process

Chuchuliga Namosa



Fig. 14: Participants at Chuchuliga Namosa attentively listening to trainers



Fig. 15: Participants at Chuchuliga Namosa demonstrating the use of the mixer

NORTHERN REGION

Woribogu-Kukuo

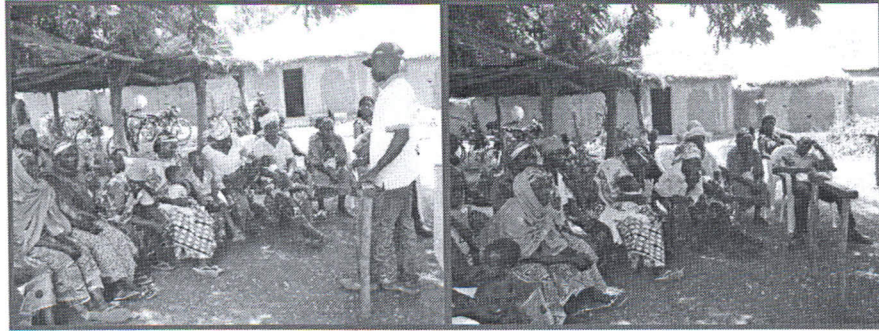


Fig. 16: Participants at Woribigu-Kukuo attentively listening to introductory remarks



Fig. 17: Benefits of fortified flour being explained to participants at Woribigu-Kukuo

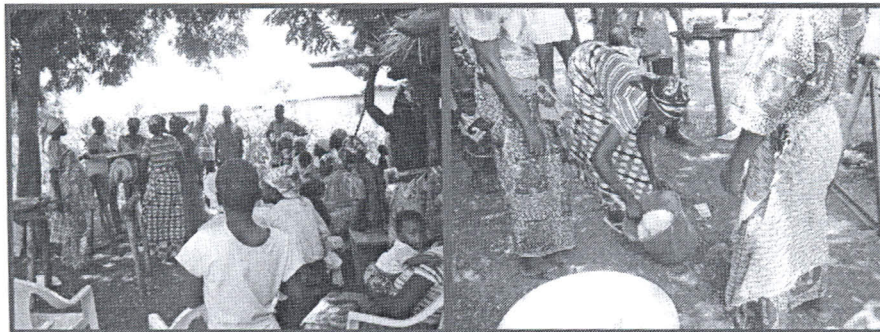


Fig. 18: Participants at Woribogu-Kukuo rehearsing the mixing process

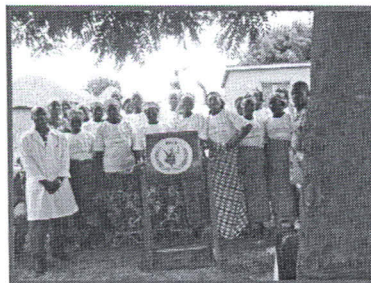


Fig. 19: Participants at Woribigu-Kukuo after the training Yilonayili

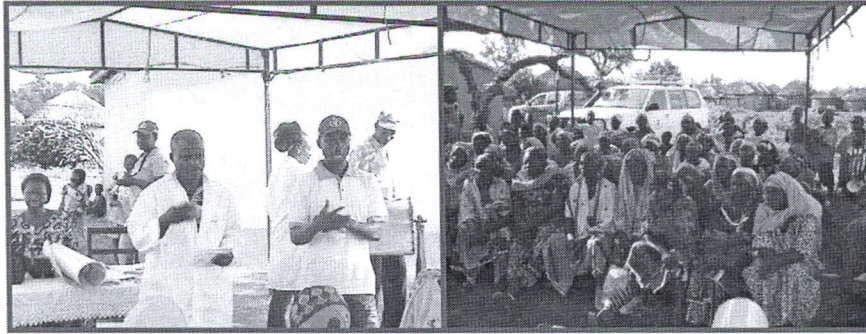


Fig. 20: Participants at Yilonayili attentively listening to introductory remarks



Fig. 21: Participants at Yilonayili observing parts of the mixer



Fig. 22: Participants at Yilonayili observing mixing of MFSP with flour

Gortani



Fig. 23: Participants at Gortani just before introductory remarks by WFP Official

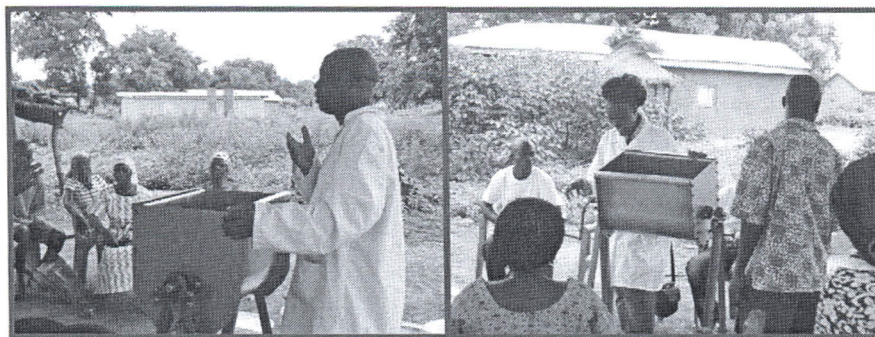


Fig. 24: Trainers explaining how mixer works to participants at Gortani

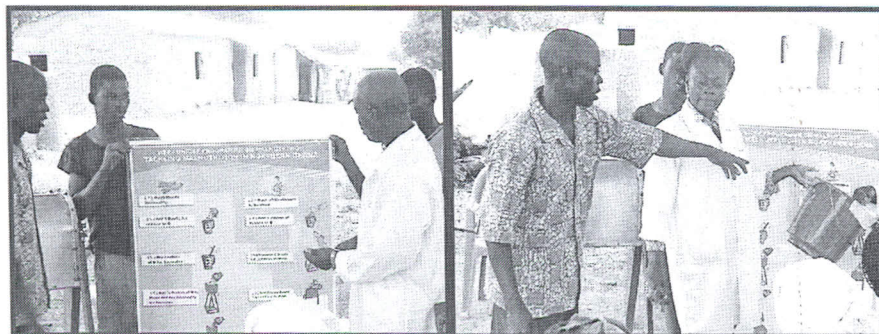


Fig. 25: Mixing protocol being explained to participants at Gortani

Nansoni

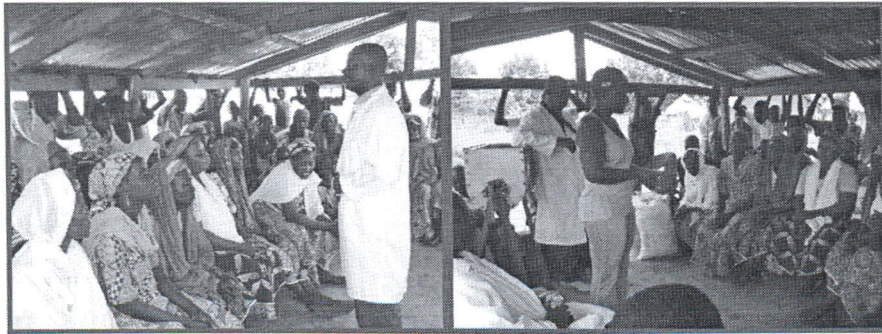


Fig. 26: Participants at Nansoni during introductory remarks by WFP Official

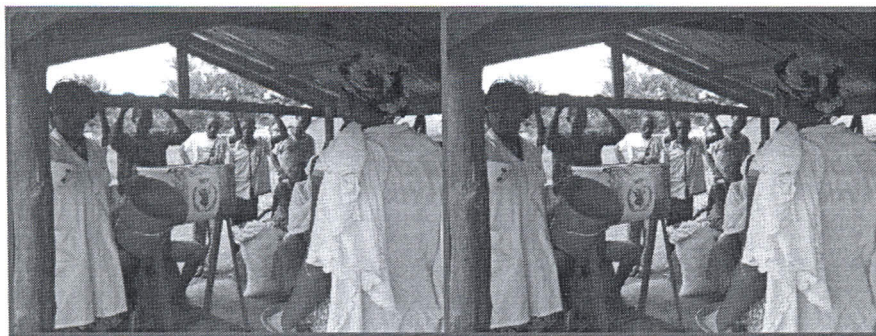


Fig. 27: Participants being taking through the mixing protocol at Nansoni



Fig. 28: A section of participants at Nansoni during practical session

Yankazia



Fig. 29: A section of participants at Yankazia

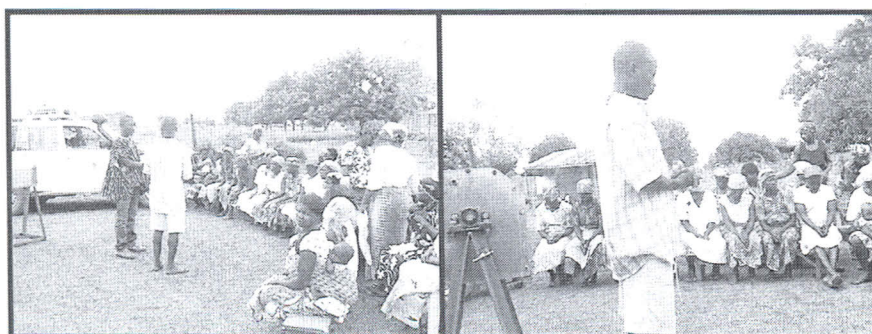


Fig. 30: Participants at Yankazia during introductory remarks by WFP Official

UPPER-WEST REGION

Lam-Uollo

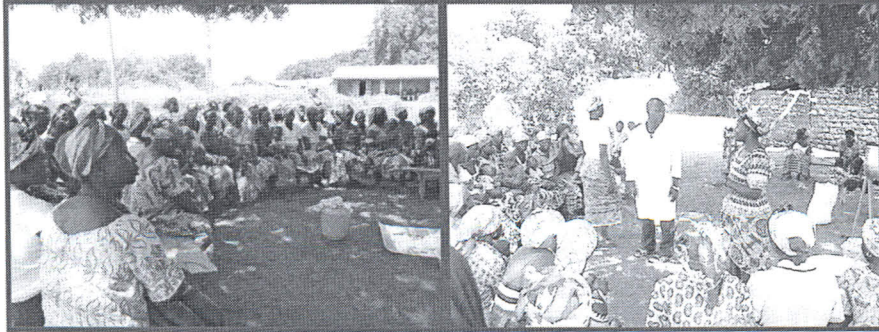


Fig. 31: Participants at Lam-Ullo listening to opening remarks by a trainer



Fig. 32: Mixing protocol being demonstrated at Lam-Ullo



Fig. 33: Participants at Lam-Ullo during practical session

Ketuo



Fig. 34: Participants at Ketuo during practical session

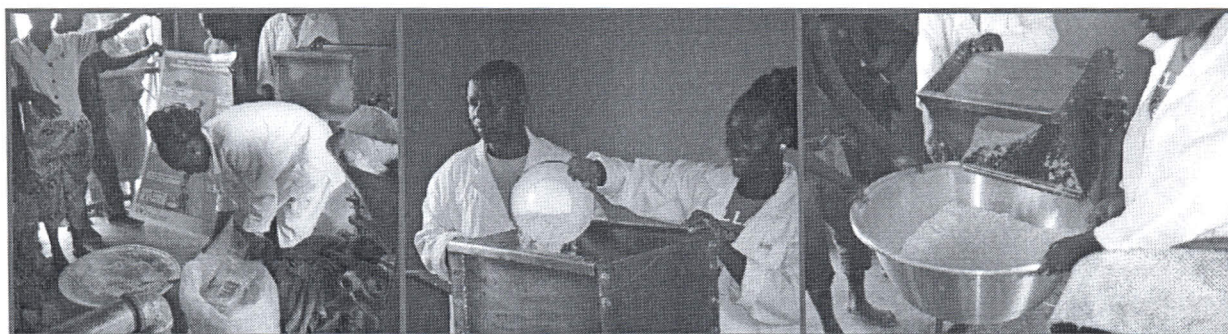


Fig. 35: Trainers demonstrating mixing procedure at Ketuo



Fig. 36: Participants at Ketuo during practical session

Dahile-Kpanagaan

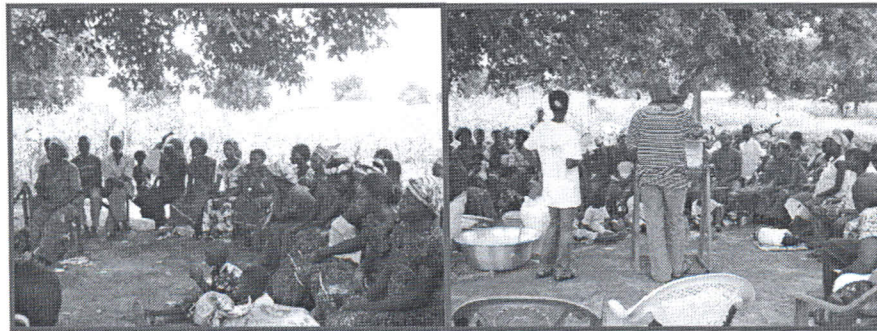


Fig. 37: Participants at Dahile-Kpanagaan before the training

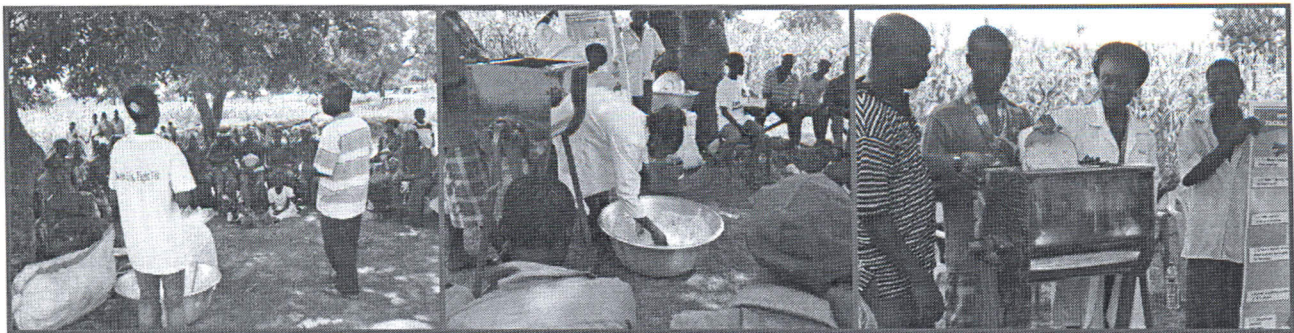


Fig. 38: Trainers taking participants through the mixing procedure at Dahile-Kpanagaan



Fig. 39: Participants at Dahile-Kpanagaan during practical session

5.0 Results and Comments

5.1 Results

The result of the training was very encouraging. Trainees in all the communities were very much enthused about the entire exercise and expressed the desire to patronize and help popularize the enriched cereal meals for their various food preparations especially for pregnant/nursing women and children. Some groups expressed their renewed desire to work hard at flour fortification and to ensure its success as an income generating activity.

5.2 Comments / Concerns

- From the point of view of the facilitators, the training was very useful and it is recommended that it should be replicated in more rural communities in the Northern regions and other parts of Ghana where similar problems of MNM exist. It is also important to note that provision must be made for follow up visits to assess the problems of adaptation and impact of the technology transfer.
- The idea of packaging and sale of the fortified cereal flour as a commercial venture was expressed by some women groups. This may help in generating income for the groups and to help popularize the use of fortified cereal flour. The Nutrition Officers and Leaders of the groups were also encouraged to use the local FM radio stations to sensitize and educate listeners on the benefits of the fortified cereal flour.
- Participants expressed concern about their inability to fortify wet dough with the MFP due to use of dough in the preparation of foods such as *koko* and *banku* which are widely and frequently consumed in the communities. Though the MFP is meant for fortification of dry flour, FRI will explore ways of its use in dough and make appropriate recommendations to WFP.

- To ensure sustainability of the project the groups trained were presented with two key modules of generating some form of income to procure MFP when initial supplies by WFP ends. The WFP Field Officers, DNOs and CHN are to assist the groups during their monitoring visits to further deliberate on the modules and settle on one that may best work for a particular group.

6.0 Conclusion

It is hoped that this intervention would improve the micronutrient intake of the people in the communities and ultimately improve their health. They can then contribute to the socio-economic development of their communities in a more meaningful way.

Acknowledgement

Special acknowledgement is given to CIDA, WFP and UNICEF for providing funding and facilitating the training sessions. Special thanks go to the Chiefs and Elders of the communities for their immense support to the training team and to the women's groups. All the various women groups and their representatives, as well as the DNOs, CHNs and the Community Development Officers are deeply appreciated for their assistance before, during and after the training sessions.

Appendix 1

Beneficiary Communities

	Community	Name of Group	District	Region
1.	Gorogo	Nontaaba Women's Group	Talensi-Nabdam	Upper-East
2.	Zorko Goo	Asuntaaba Red Cross Society Women's Group	Bongo	Upper-East
3.	Tangasia	Group	Kasena-Nankana West	Upper-East
4.	Chuchuliga Namosa	Asuntaaba Women's Group	Builsa	Upper-East
5.	Woribogu-Kukuo	Tiyumtaba	Tolon-Kumbugu	Northern
6.	Yilonayili	Wunzooya	Tamale Rural	Northern
7.	Gortani	Libitiche	Zabzugu-Tatale	Northern
8.	SabobaYankazia	Yankazia MTMSG	Saboba-Chereponi	Northern
9.	Nansoni	Anashiati Ganga	Saboba-Chereponi	Northern
10.	Uollo	Zinlaafia Lamlo MTMSG	Jirapa	Upper-West
11.	Ketuo	Dignang Women's Group	Lawra	Upper-West
12.	Dahile-Kpanagan	Dahile-Kpanagan MTMSG	Lambussie	Upper-West

Appendix 2

Training Programme Guide

1. Opening prayer
2. Opening remarks by DNO/Community Nurse
3. Short address by WFP Programme Officer
4. Introduction of Training Team
5. Training:
 - Short primer on food fortification/enrichment, its importance
 - What micronutrients are
 - Health Benefits of the 8 micronutrients contained in the MFP
 - How MFP was prepared
 - Vital information about MFP
 - Introduction of mixer and mode of operation
 - Demonstration of mixing process as per poster by FRI team
 - Demonstration of mixing process as per poster by Group members
 - Questions/comments/concerns by group members
6. Group discussion on sustainability of fortification process
7. Concluding remarks by DNO/Community Health Nurse/Opinion Leader
8. Closing remarks by WFP / FRI team
9. Closing prayer
10. Departure

Appendix 3

Training Programme Schedule

Date/day	District/Community	Women's Group
Upper-East Region		
09/08/10 Thursday	Talensi-Nabdam/Gorogo	Nontaaba WG
10/08/10 Friday	Bongo/Zorko Goo	Asuntaaba
11/08/10 Saturday	Kasena-Nankana West/Tangasia	Red Cross Society WG
12/08/10 Sunday	Builsa/Chuchuliga Namosa	Asuntaaba
Northern Region		
16/08/10 Thursday	Tolon/Woribogu-Kukuo	Tiyumtaba
16/08/10 Thursday	Tamale Rural/ Yilonayili	Wunzooya
17/08/10 Friday	Zabzugu-Tatale/Gortani	Libitiche
18/08/10 Saturday	Saboba-Chereponi/Nansoni	Anashiati Ganga
19/08/10 Monday	Saboba-Chereponi/Yankazia	Yankazia MTMSG
Upper-West Region		
23/08/10 Thursday	Travel to UWR	
24/08/10 Friday	Jirapa/Uollo	Zinlaafia Lamlo MTMSG
24/08/10 Friday	Lawra/Ketuo	Dignang WG
25/08/10 Saturday	Lambussie/DK	Dahile-Kpanagan MTMSG
26/08/10 Sunday	Travel day	

Appendix 3

Community-Based Milling and Fortification Project- Scale Up 1 Fortification Training Participation List –

Upper East Region

Date: 12th August, 2010

Training Team

#	Name	Status	Office
1.	Joseph Gayin	Research Scientist	CSIR-Food Research Institute, Accra
2.	Ali Siedu Sampare	Engineer	CSIR-Food Research Institute, Accra
3.	Hannah Oduro	Nutritionist	CSIR-Food Research Institute, Accra
4.	Zakaria Fusheini	Snr. Prog. Assistant	World Food Programme, Tamale

Community: Gorogo District: Talensi Nabdam

Monitors

#	Name	Status	Office
1.	Magaret Tabliba	Principal Midwife	GHS-Bolgatanga District
2.	Richard Apini	DNO	GHS, Talensi Nabdam District

Group: NONTAABA Women's Group

List of Participants

#	Name	Designation
1.	Boapork Yinbili	Assist. Chairperson
2.	Suzana Tunnaba	Secretary
3.	Lari Naabia	Organizer
4.	Mama Tampori	Communication Officer
5.	Elizabeth Yahaya	Assist. Secretary
6.	Georgina Yin	Treasurer
7.	Talata Sagyeru	Member
8.	Boor Tamperya	"
9.	Boor Banaab	"
10.	Tiipok Kaani	"
11.	Baa Luego	"
12.	Dock Naab	"
13.	Akuuma Ba	"
14.	Ziipok Yinbiil	"
15.	Kakra Tindayza	"

16. Dock Boo “
17. Benibaa Naab “
18. Noar Saabil “
19. Boonabok Yinbil “
20. Duugu Tii “
21. Ruth Lebud “
22. Sarah Lebud “
23. Lukaya Bamaab “
24. Awaalibisi Atongo “
25. Teni Jerry “
26. Tosontaaba Boo “
27. alata More “
28. intimane Tii “
29. Talata Bagmi “
30. Tikayni Bagmi “
31. Teni Dponamania “
32. Bagna Zughu “
33. oyce Tindanzor “
34. Teni Lebug “
35. Azuma Boar “
36. Gladys Tong “
37. Lamisi Tii “
38. Akos Tii “
39. Lardi Boar “
40. Tiipork Bawa “
41. Boarbon Yahaya “
42. Kuury Noah “
43. Diimoro Zukihu “
44. Dam Tii “
45. Asibi Saabil “
46. Victoria Yinfena “
47. Azumah Eopoar “
48. Baatapok Naab “
49. Bomerima Naab “
50. Asibi Naab “
51. Lari Naab “
52. Lodi Naab “
53. Kologo naazii “
54. Lamisi Kwaku “
55. Asibi James “

56.	Kaagibil Tamporia	“
57.	Azuma Bil Bawa	“
58.	Seennani Faami	“

Date: 13th August, 2010

Community: Zokko

District: Bongo

In Attendance

#	Name	Status	Office
1.	Akolbire Akolgo	Assembly man	-
2.	Akurigo Samuel	Translator	-

Group Name: **ASUNTAABA** Women's Group

#	Name	Designation
3.	Ayegre Nsoh	Chairperson
4.	Ayesiyenga Nno-go	Vice Chairperson
5.	Akolbire Aduko	Organizer
6.	Asele Yaa	Treasurer
7.	Ayamga Rita	Secretary
8.	Abotinga Nma	Vice Organizer
9.	Bukari Ajara	Member
10.	Apana Anaafodongo	“
11.	Ayamga Anna	“
12.	Akawiile Atadena	“
13.	Adegzea Alanoomm	“
14.	Malik Ajara	“
15.	Ayaane Manda	“
16.	Alboka Awimpoka	“
17.	Apana Asia	“
18.	Apuzooya Asempoka	“
19.	Awinsakya Alamalinge	“
20.	Ayaane Vida	“
21.	Ayesiyenga Ayamgamah	“
22.	Abelingo Alimatu	“
23.	Awinzelingo Anyoka	“
24.	Malik Hawa	“
25.	Abdulai Adamata	“
26.	Abo Atigyeesum	“
27.	Azoyenga Akolemee	“
28.	Apogura Ayela	“

29.	Moro Ayisheitu	“
30.	Abaasa Amina	“
31.	Kwame Akua	“
32.	Nsoma Apogura	“
33.	Apambila Atiamah	“
34.	Apana Atampugre	“
35.	Aburizooya Anapogbila	“
36.	Awinzelingo Akeletugra	“
37.	Ayaane Akake	“
38.	Ayaane Veronica	“
39.	Awompoore Akeleyuura	“
40.	Akolbire Nma	“
41.	Kwame Apogyabila	“
42.	Abelingo Fati	“
43.	Adombire Ayelewinum	“
44.	Ania Adombire	“
45.	Huruna Barikisu	“
46.	Abaa Akugre	“
47.	Adongo Akumdola	“
48.	Nyaaba Apoka	“
49.	Azuure Nma	“
50.	Asia Atanga	“
51.	Abio Awomsiina	“
52.	Mutala Rabi	“
53.	Nsoh Teni	“
54.	Akurigo Faustina	“
55.	Abaanedongo Nmaa	“
56.	Aduko Azuyeta	“
57.	Adombila Felicia	“

Date: 14th August, 2010

Community: Tangasia

District: Kasena- Nankana West

Group Name: **Red Cross Society** Women's Group

#	Name	Designation
1.	Augustina Anaaho	Chairperson
2.	Katherine Awiningora	Secretary
3.	Magdalene Akapore	Organiser
4.	Azuweni Sugwengia	Assistant Organiser
5.	Georgia Akamorika	Financial Secretary
6.	Esther Azaanore	Treasurer
7.	Anastasia Ayana	Assistant Treasurer
8.	Felicia Abeni	Operator
9.	Francisca Akampori	Translator
10.	Apeliya Akaseti	Chief
11.	Awini Ataporo	Member
12.	Akanki Nyaaba	"
13.	Bibiana Azaanore	"
14.	Nyaama Asokoweni	"
15.	Esi Kwalike	"
16.	Atoglorikia Atubiga	"
17.	Awinzaaya Afule	"
18.	Akologo Ayaane	"
19.	Cecilia Togmaye	"
20.	Alingera Afula	"
21.	Alobaya Andoh	"
22.	Biata Azuya	"
23.	Esther Akampo	"
24.	Mary Sog	"
25.	Anna Ayagni	"
26.	Awariga Aberenga	"
27.	Katherine Beriin	"
28.	Lucy Aberena	"
29.	Asuke Azuma	"
30.	Pugyaga Editarima	"
31.	Ayinyori Amepa	"
32.	Agatha Ayamga	"
33.	Akazega Azore	"
34.	Magritte Akampog	"
35.	Akos Abeigu	"

Date: 15th August, 2010**Community:** Chuchuliga Namonsa**District:** BuilsaGroup Name: **Aboruliwean** Womens Group

#	Name	Designation
1.	Rose Akooti	Chairperson
2.	Atipolie Akanzuwen	Organiser
3.	Apana Apiisekame	Assis Organiser
4.	Atoniba Agalga	Treasurer
5.	Mariama Aqelpong	Assist. Treasurer
6.	Lydia Tombawu	Secretary
7.	Agana Adagbia	Member
8.	Achaw Aguulie	“
9.	Akua Akooti	“
10.	Akansebniwen Adagbia	“
11.	Akanpadam Agalga	“
12.	Nbunyese Anyebatok	“
13.	Laady Akanchomse	“
14.	Akanseme Abaata	“
15.	Abaabisa Amenvari	“
16.	Azaame Akanzuwen	“
17.	Amodie Akamaburu	“
18.	Agebnisa Atawuye	“
19.	Ajaubiya Agonti	“
20.	Adaya Moses	“
21.	Azunglie Agalga	“
22.	Akambulie Awepie	“
23.	Martina Akalaaguba	“
24.	Akanyalie Apaadagya	“
25.	Akansonisa Afeliga	“
26.	Anyanuring Abanteriber	“
27.	Asoomu Akpabil	“
28.	Akootilie Akanbisa	“
29.	Aleeka Avajega	“
30.	Atampulie Asamandula	“
31.	Aniikum Agalga	“
32.	Agaalie Agonti	“
33.	Akootilie Agaabu	“

34. Akankise Akpabil “
 35. Adalinkame Agonabisa “
 36. Avuusi Atiime “
 37. Maameyaa Akpabil “
 38. Azuma Akpazemako “
 39. Akanvarimelie Akooti “
 40. Ayoglie Aserou “
 41. Azumah Azenab “
 42. Yaa Akabebisa “
 43. Azumah Ajebta “
 44. Assibi Adonga “
 45. Akapinpau Akanjubanyenk “
 46. Akua Apolinya “
 47. Akabawie Atongu “
 48. Akonlie Asaatenk “
 49. Adaani Abalank “
 50. Aleeba Tombawu “
 51. Alima Asangare “
 52. Akpekame Apina “
 53. Yaa Asewu “
 54. Apana Akusung “
 55. Akpensalie Akpbil “
 56. Achenga Akanganamka “
 57. Faustina Akpazemako “
 58. Felicia Agabey “
 59. Yaa Alerikame “
 60. Anyanlie Apaasko “
 61. Ruth Akombisa “
 62. Apana Ajaata “
 63. Akaweya Akazawen “
-

Region: Northern

Training Team

#	Name	Status	Office
1.	Joseph Gayin	Research Scientist	CSIR-Food Research Institute, Accra
2.	Ali Siedu Sampare	Engineer	CSIR-Food Research Institute, Accra
3.	Hannah Oduro	Nutritionist	CSIR-Food Research Institute, Accra
4.	Emma Anaman	Senior Prog. Assisstant	World Food Programme, Accra
5.	Zakaria Fusheini	Senior Prog. Assisstant	World Food Programme, Tamale

Date: 19th August, 2010

Community: Woribogu-Kukuo

District: Tolon-Kumbugu

Monitors/Observers

#	Name	Status	Office
1.	Rogers Kpankpari	Nutrition Officer	GHS-Tolon-Kumbugu District
2.	Alhassan Zulaiha	Student/Observer	UDS
3.	Nabia Richard	Observer	WVI

Group Name: **Tiyumtaba MTMSG** Womens Group

#	Name	Designation
1.	Neindow Kubra	President
2.	Mohammed Sanatu	vice president
3.	Issah Mariama	Organizer
4.	Yussif Salamatu	Secretary
5.	Ibrahim Fuseina	vice treasurer
6.	Adam Salmu	treasurer
7.	Mahami Mohammed	Asst. secretary
8.	Abdulai Memunatu	Member
9.	Fuseina Mohammed	"
10.	Abibata Fuseini	"
11.	Zakaria Ayi	"
12.	Adishetu Sulemana	'
13.	Sulemana Afishetu	"
14.	Alhassan Sanatu	"
15.	Braimah Zaratu	"
16.	Sulemana Salima	"
17.	Alhassan Amina	"
18.	Fuseini Rukaya	"
19.	Fuseini Adishetu	"
20.	Neindow Fuseina	"

Date: 19th August, 2010

Community: Yilonayili/Kulmanga

District: Tamale Rural

Monitors

#	Name	Status	Office
1.	Felicia Musah	Regional Nutrition Officer	Tamale
2.	Madam Azara	District Nutrition Officer	Tamale Rural District

Group Name: **Wunzooya** Womens Group

Participants:

#	Name	Designation
1.	Adisa Issah	Chairperson
2.	Fatimata Salifu	Secretary
3.	Sumeya Fusheini	Treasurer
4.	Abiba Zakali	Organizer
5.	Amatu Amadu	Member
6.	Kande Alhassan	"
7.	Amishetu Alhassan	"
8.	Tani Fusheini	"
9.	Adamu Alhassan	"
10.	Samata Imoro	"
11.	Sanatu Iddrisu	"
12.	Zuwera Alhassan	"
13.	Adisa Alhassan	"
14.	Asheitu Imoro	"
15.	Fati Abdulai	"
16.	Afishetu Mahamadu	"
17.	Alima Adam	"
18.	Zahara Oldman	"
19.	Fati Yahaya	"
20.	Fatimata Mahama	"
21.	Sabratu Mushei	"
22.	Memunatu Dawuni	"
23.	Humuhera Adam	"
24.	Kande Mahamatu	"
25.	Ayi Abdulai	"
26.	Ashetu Ibrahim	"
27.	Fati Abdulai	"
28.	Fati Yahaya	"
29.	Mopaga Adam	"
30.	Sanatu Mumuni	"

31.	Azara Iddrisu	“
32.	Meri mahama	“
33.	Fatimata Amadu	“
34.	Amishetu Alhassan	“
35.	Zuwera Alhassan	“
36.	Salamatu Mahama	“
37.	Awubu Mahamadu	“
38.	Sambila Abu	“
39.	Mariama Mahama	“
40.	Lansa Yakubu	“
41.	Chantiba Yukubu	“
42.	Memunatu Yahaya	“
43.	Abiba Sayibu	“
44.	Samata Chimsi	“
45.	Sanatu Iddrisu	“
46.	Zuwera Alhassan	“
47.	Memunatu Iddrisu	“
48.	Maata Mimuni	“
49.	Adisa Dokurigu	“
50.	Sanatu Sayibu	“
51.	Sanatu Alhassan	“
52.	Amisheitu Mahamadu	“
53.	Sanatu Iddrisu	“
54.	Zuliya Ata	“
55.	Memunatu Dawuni	“
56.	Alima Adam	“
57.	Maliya Zakaria	“
58.	Memunatu Mumuni	“
59.	Fusheina Haruna	“
60.	Memunatu Baba	“
61.	Sumeya Sumani	“
62.	Salamatu Mumuni	“
63.	Azara Neindow	“
64.	Fisheta Sumani	“
65.	Lamnatu Abukari	“
66.	Munira Adam	”

Date: 20th August, 2010

Community: Gortani

District: Zabzugu/Gortani

Monitors

#	Name	Status	Office
1.	Janet Apeyusi	District Nutrition Officer	Tamale

Group Name: **Libitiche** Womens Group

#	Name	Designation
1.	Miyinba Walinboo	Chair person
2.	Nkosa Dawun	Vice Chair person
3.	Sugrabe Nwaaye	Organizer
4.	Naako Bilgwon	Treasurer
5.	Felicia John	Member
6.	Grunpaga Forkpe	"
7.	Danko Libiama	"
8.	Efiako Siagia	"
9.	Matina John	"
10.	Nbaaga Ntaan	"
11.	Powon Kaaku	"
12.	Welimbo Fausty	"
13.	Ntimbe Begnanman	"
14.	Kojo Tanei	Translator
15.	John Tanei	Translator

Date: 21st August, 2010

Community: Nansoni MTMSG

District: Chereponi/ Nansoni

Monitors

#	Name	Status	Office
1.	Kenneth Kpankpari	DNO	GHS-Chereponi
2.	Yakubu Abukari	Community Dev't Officer	Chereponi

Group Name: **Anashiati Ganga** Womens Group

#	Name	Designation
1.	Nadama Mohammed	Chairperson
2.	Sharatu Muntara	Secretary
3.	Hawabu Iddrisu	Treasurer
4.	Hawabu Mohammed	Asst. Treasurer
5.	Ramatu Issac	Organizer
6.	Bibata Issifu	Member
7.	Zenabu Yakubu	"
8.	Mariama Imoro	"
9.	Sana Imoro	"
10.	Nnawa Issahaku	"
11.	Abiba Alhassan	"
12.	Memunatu Muntara	"
13.	Awah Sulemana	"
14.	Mariama Salifu	"
15.	Mary Amidu	"
16.	Azara Haruna	"
17.	Amina Osman	"
18.	Ayishetu Musah	"
19.	Fati Sulemana	"
20.	Ajabu Abubakari	"

Date: 22nd August, 2010

Community: Yankasia

District: Saboba

Monitors

#	Name	Status	Office
1.	Duubik Kingsley Joenka	DNO	GHS-Saboba
2.	Constance L. Braimah	Midwife	GHS-Saboba

Group Name: Yankasia MTMSG Women's Group

#	Name	Designation
1.	Nchotub Bimomido	Chairperson
2.	Gmayayomi Kwasi	Organizer
3.	Mariama Wumbanli	Secretary
4.	Pijiri Ndolignan	Member
5.	Baday Nyoja	"
6.	Nimomi Mandinja	"
7.	Beemdim Tibanya	"
8.	Noina Yaw	"
9.	Yaa Niina	"
10.	Abena Tibeegmabu	"
11.	Mawaye Jacob	"
12.	Bidipumi Dankor	"
13.	Neibila Gambai	"
14.	Kumbo Jaboah	"
15.	Baby Krims	"
16.	Enibiwon Kwasi	"
17.	Nwajo Baniyo	"
18.	Nsayaan Filip Traziku	"
19.	Afia Bimomindo	"
20.	Bidipumi Bincho	"
21.	Nofisa Esifu	"
22.	Nbordo Thimoty	"
23.	Ndomack Jijii	"
24.	Noinapi Bilibam	"
25.	Gifted Epriam	"
26.	Abena Nkumbab	"
27.	Hana Safu	"
28.	Nalog Uyaan	"
29.	Ndolib Ncole	"
30.	Nnaye Ndolib	"
31.	Wumbai Nuntee	"

32.	Suri Bibimi	“
33.	Lari Waja	“
34.	Wumbai Sampata	“
35.	Tabomja Yambana	“
36.	Idisa Wumbai	“
37.	Nampiai Kaduk	“
38.	Chumba Kaduk	“
39.	Kulima Munaa	“
40.	Wumbai Uguiepi	“
41.	Wumbai Bakatoo	“
42.	Ibanam Binamo	“
43.	Musami Jijiri	“
44.	Umoye Pita	“
45.	Gmajo Tasila	“
46.	Wupo Njaa	“
47.	Nampari Gmando	“
48.	Jabila Mamba	“
49.	Ubayo Ntobi	“
50.	Jaboah W. Micheal	Translator
51.	Ephraim Nakoja	Translator
52.	Pibaab Wassah	Mill operator

Region: Upper West

Date: 27th August, 2010

Training Team

#	Name	Status	Office
1.	Joseph Gayin	Research Scientist	CSIR-Food Research Institute, Accra
2.	Ali Siedu Sampare	Engineer	CSIR-Food Research Institute, Accra
3.	Hannah Oduro	Nutritionist	CSIR-Food Research Institute, Accra
4.	Zakaria Fusheini	Senior Prog. Assistant	World Food Programme, Tamale

Community: Lam-Uollo

District: Jirapa

Group Name: Ziinlaafia Lamlo MTMSG Women's Group

#	Name	Designation
1.	Dorsaa Madilina	Chairperson
2.	Kamabare Tuopare	Asst. Chairperson
3.	Sunuu Ama	Treasurer
4.	Victory Amina	Organizer
5.	Zieme Kanni	Section leader
6.	Alhassan Alimatu	Section leader
7.	Hassan Amamata	Secretary
8.	Imoro Akusia	Section leader
9.	Bawaakye Yengwri	Section leader
10.	Pogenaa Kofi	Section leader
11.	Asibi Bayour	Section leader
12.	Imoro Afisata	Member
13.	Bayour Ayuo	"
14.	Voura Habgne	"
15.	Kobena Pogenaa	"
16.	Bakpra Pogesuglo	"
17.	Bayou Yengbore	"
18.	Bananturo Pouturo	"
19.	Imoro Memunatu	"
20.	Laalere Cynthia	"
21.	Ampasi Babgre	"
22.	Simkare Lucye Bayiriyelle	"
23.	Wa eem Salimatu	"
24.	Amanbatanye Charles	"
25.	Zotayeng Abena	"
26.	Abu Monipogevie	"
27.	Alihu Barikisu	"

28.	Monobong Emmanuela	“
29.	Nyezine Yaa	“
30.	Kapobalong Amina	“
31.	Kumpale Asie	“
32.	Tintuo Ben	“
33.	Felicia Kwaku	“
34.	Faati Dorsaa	“
35.	Fongnayeli Dieme	“
36.	Akua benii	“
37.	Leticia Augustine	“
38.	Elizaberth yaw	“
39.	Cecilia Mathias	“
40.	Flavia Kombong	“
41.	Napoge John	“
42.	Afia yota	“
43.	Rita Felix	“
44.	Iningninum Kofi	“
45.	Asibi Banfala	“
46.	Banyere Yaw	“
47.	Mwiningkoma Pogedaa	“
48.	Anwaawie Kosi	“
49.	Maagi Tanio	“
50.	Pogsale Dortayiri	“
51.	Dabana Porgesaa	“
52.	Singkara Anadong	“
53.	Issaka Laraba	“
54.	Darimani Latifatu	“
55.	Yengdong Kukpilee	“
56.	Singkara Bahawie	“
57.	Abulia Aliatu	“
58.	Afimadina Kofi	“
59.	Faati Kofi	“
60.	Dateko Abena	“

Date: 27th August, 2010

Community: Ketuo

District: Lawra

Monitors

#	Name	Status	Office
1.	Bagunoe Rosemary	Community Health Nurse	GHS-Ketuo, Lawra District

Group Name: **Dignang** Women's Group

#	Name	Designation
1.	Naamuinbo Alice	Chairperson
2.	Sobour Felicitas	Secretary
3.	Teku Barabara	Treasurer
4.	Yangme Mary	Asst. Treasurer
5.	Kuubeka Felicia	Organizer
6.	Dogfunuo Josephine	Member
7.	Maabier Joan	"
8.	Baawoo Leticia	"
9.	Wayiir Nathalia	"
10.	Molle Anasthasia	"
11.	Nuru Victoria	"
12.	Nuru Asumtha	"
13.	Yangme Terbula	"
14.	Der Martina	"
15.	Molle Paula	"
16.	Yangyour Gladys	"
17.	Der Regina	"
18.	Bureh Felicia	"
19.	Kuuniamuin Mary	"
20.	Hai Pochria	"
21.	Yangme Magret	"
22.	Vuluzie Aloysia	"
23.	Naamana Mary- Grace	"
24.	Sokuu Roselia	"
25.	Keglogr Bulandina	"
26.	Kuubeka Baselia	"
27.	Nabome Modesta	"
28.	Pintuoder Innocensia	"
29.	Bureh Aloysia	"
30.	Nebean Kenta	"
31.	Tuig Felicia	"
32.	Pintolo-der Alberta	"

33.	Zagdog Lucy	“
34.	Meng Alberta	“
35.	Kupagme Collieta	“
36.	Pouru Vida	“
37.	Aapagr Cecilia	“
38.	Kupagme Rolia	“
39.	Nanur Helene	“
40.	Dogfunuo Edith	“
41.	Sanpke Ndekomim	“
42.	Nyuubaan Cordilia	“
43.	Nyune Camilia	“
44.	Kudeb Stella	“
45.	Beyou Rolia	“
46.	Sobiesou mary	“
47.	Tonde Eudinia	“
48.	Kunaader Alperdina	“
49.	Debnu jannet	“
50.	Yangme Maria	“
51.	Debnu Tecula	“
52.	Naayourder Anderiana	“
53.	Niban Alizedela	“
54.	Nibeen Roselia	“
55.	Baawou Clare	“
56.	Der Mary	“
57.	Hai Dorothy	“
58.	Hai Victoria	“
59.	Mary Emmanuela	“
60.	Beyou Leticia	“
61.	Tomle Chricensia	“
62.	Gboro Esther	“
63.	Vulazia Mary	“
64.	Koglogr Diana	“
65.	Navelle Grace	“
66.	Navelle Celistina	“
67.	Aabesagr Maria	“
68.	Tieghe Elizaberth	“
69.	Beyou Rebecca	“
70.	Wasa Eunice	“
71.	Bauyaakuu Marcelina	“
72.	Molle Jackline	“
73.	Beyou Francisca	“
74.	Naamuinbom Mercy	“

75.	Sokuu Juciline	“
76.	Gbamara Francisca	“
77.	Gbamara Christina	“
78.	Gbamara Fabiana	“
79.	Maabier Mulani	“
80.	Kuumour Fedilia	“
81.	Gbamara Petonila	“
82.	Tomle Ernestina	“

Date: 28th August, 2010

Community: Dahile-Kpanagaan

District: Lambussie

Monitors

#	Name	Status	Office
1.	Adam Fauzia	DNO	GHS-Lambussie
2.	David Koggoh Hassan	Med. Assistant	GHS-Lambussie District
3.	Tengdong Patricia	Community Health Nurse	GHS-Dahile-Kpanagaan, Lambussie District

Group Name: **Dahile-Kpanagaan MTMSG Women's Group**

#	Name	Designation
1.	Lucy Tienaah	Chairperson
2.	Modesta Zumenir	Asst. Chairperson
3.	Sidonia Yiire	Secretary
4.	Heline Yelbier	Treasurer
5.	Janet Kogriiyir	Asst. Treasurer
6.	Claudia Zubeviel	Member
7.	Ernestina Yiire	“
8.	Prisca Tietaah	“
9.	Pauline Bemier	“
10.	Elizaberth Maalinyuur	“
11.	Matina Tietaah	“
12.	Grace Zumenir	“
13.	Rosalia Zumenir	“
14.	Felicia Yelbier	“
15.	Veronica Maaliynuur	“
16.	Veronica Kogniyir	“
17.	Terenine Zumenir	“
18.	Faustina Kogniyir	“

19.	Vida Yahgh	“
20.	Juliet Yiire	“
21.	Scholastica Yelbier	“
22.	Jeniveve Tienaah	“
23.	Ophelia Bemier	“
24.	Christina Tienaah	“
25.	Gorgitha Tienaah	“
26.	Domethia Zumenir	“
27.	Janet Bemier	“
28.	Esther Naanyambeire	“

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