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Newsletter n. 3 December 2012

Food Security, Improved Diets, Healthy Children

Highlights in Malawi

- Bertha Munthali has joined FAO Malawi as nutrition education specialist in August.
- Stacia Nordin has joined FAO Malawi as nutrition policy adviser in November.
- 20 Master trainers and 400 Community Nutrition Facilitators have been trained. The first IYCF sessions have successfully started in Kasungu district in December.

Highlights in Cambodia

- Mav Khun has been accepted as Cambodian PhD student by Mahidol University, Thailand.
- Preliminary results of the baseline survey in Cambodia are presented in this newsletter by Anika Reinbott.
- Development and coordination of IEC materials for the IYCF sessions of MALIS is in progress. Options for food processing to address time constraints of mothers are being explored.

Preliminary results of the Nutrition Baseline Survey, in Otdar Meanchey and Preah Vihear, Cambodia

ANIKA REINBOTT

Background and methods

As in Malawi, the IMCF project in Cambodia is embedded in a FAO food security project under the title 'Improving food security and market linkages for smallholders' (MALIS). A cross-sectional nutrition baseline survey was carried out in September and early October 2012 in Otdar Meanchey and Preah Vihear provinces in Cambodia. First stage sampling consisted of selection of three villages (probability proportional to population size) within the MALIS project 16 target communes in the first project year. In the second stage 23 households with a child under 24 months of age were randomly selected per village. In total 1032 interviews were conducted with a standardized questionnaire. In addition, anthropometric measurements on height/length and weight were taken from the child, mother and father using Seca (Seca GmbH & Co KG, Hamburg, Germany) equipment: stadiometer (No. 213), infantometer (No. 416) and weighing scales (No. 874). Haemoglobin levels of child and mother were assessed using a HemoCue 301 machine and a plasma sample of the child was taken for further analysis of CRP and AGP levels as well as iron and

vitamin A status (results not yet available). Statistical analysis was done using SPSS (Version 20.0) and WHO Anthro (Version 3.2.2).

Socio-demographic results

Household sizes ranged from 2 to 14 members (mean = 5.2). Forty-six percent of the respondents were illiterate although 76% of all respondents had attended at least one year of school. For more than 70% of the respondents the main source of income was the sale of agricultural products followed by casual labour (34.3%). The majority of the households (93%) owned agricultural land with a mean size of 2 hectares. A homegarden, defined as a smaller piece of land within the respondents' homestead, was common (69.4%). Homegardens





were used by 63% for growing vegetables. Fruits were grown by 82.4%. Both vegetables and fruits were grown mainly for own consumption. Almost 90% owned livestock, mainly chicken, pigs or cows.

Electricity, was available in the home for 74% of the respondents. The majority stated that the cooking was done in the house (78.8%); only 11% had a kitchen in form of a separate building for cooking. The main source of drinking water in the rainy season was a protected well (85%).

A wealth index was calculated using principal component analysis (PCA) consisting of data on household possessions, land ownership, source of drinking water, sanitation facilities, material of the floor as well as number of people per room. The results showed a significantly higher wealth in the communes in Otdar Meanchey province in comparison to Preah Vihear province.

The one-way walking distance to the nearest health facility was less than one hour for more than 85% of the respondents and 80% of mothers used the health centre for advice on treatment for fever, diarrhea or cough.

Infant and young child feeding and nutritional status

Almost all children (99.7%) were ever breastfed and 80.8% within the age group 0 to 6 months were exclusively breastfed for the first six months of life. The majority of infants (93.9%) between six to eight months of age received solid, semi-solid or soft food the previous day. Dietary diversity score ranging from 0 to 7 food groups was calculated for children between 6 and 23 months of age. Most of the children consumed between 3 and 4 food groups (25.5% and 24.8%, respectively). All children received foods made from grains, cereals and tubers. Animal-source foods such as meat, liver/organ meats and fish were consumed by 22.7% of the children. Fruits, vegetables and vitamin A rich fruits and vegetables were consumed less often in the 24 hours prior to the survey (15% and 14%, respectively). The minimum dietary diversity as the proportion of children (6 to 23 months) who received 4 or more food groups was achieved by 43.9% of the children. Starting with 30.1% in the age group 6 to 11 months, minimum dietary diversity increased with age reaching 57.5% in the age group 18 to 23 months. The minimum meal frequency was reached by 70% of the children. The highest proportion of children receiving the minimum number of meals per day were aged 6 to 11 months. Special feeding practices were not common among the respondents, less than 30% of the respondents prepared a special meal for their child in the 24 hours prior to the survey.

Prevalence of stunting, underweight and wasting (HAZ, WAZ and WHZ <-2SD) were 25.1%, 22.7% 9.4% respectively. Less than 30% of the non-pregnant mothers (n= 971) and 61% of children aged three to 23 months were anaemic. Thirty one percent of children were mildly anaemic (Hb 10-10,9 g/dl) and 30% were moderately (Hb 7 – 9.9 g/dl) anaemic.



EFFECTIVENESS OF ONE-TO-ONE NUTRITION COUNSELING IN KASUNGU AND MZIMBA DISTRICTS OF MALAWI

CACIOUS BLACK PHIRI, BEATRICE MTIMUNI, ORPAH KABAMBE, CHARITY CHANZA CHONDE

Malnutrition remains high in Malawi despite nutrition interventions being implemented to address the problem of sub-optimal breastfeeding and inappropriate complementary feeding practices. Sub-optimal breastfeeding practices include delayed initiation of breastfeeding and early introduction of foods before six months while inappropriate complementary feeding includes low frequency of meals per day, provision of thin porridge and giving of meals that predominantly consist of plant foods whose nutrient quality is low. In addition, child illnesses are highly prevalent contributing to malnutrition. This study was conducted within the IMCF research project under the supervision of Bunda College of Agriculture. The study looks at changes in diet resulting from Trials of Improved Practices (TIPs) formative research undertaken in Kasungu and Mzimba districts in Malawi within the FAO/FICA food security project. The results of this study are based on a sub-sample (n=57) of TIPs households. The age range of the children was 6-15 months at baseline.

Table: Malawi dietary diversity scores at baseline and after counseling

Malawi dietary diversity score*	Baseline	After counseling
High	10%	44%
Medium	38%	24%
Low	52%	32%

* based on 6 food groups; High MDDS = 4-6, Medium MDDS = 3, Low MDDS = 1-2



The study was conducted in all the six Extension Planning Areas (EPAs) in which TIPs training was conducted. One section in each EPA was selected for the study, with a target of ten households per section participating in the study.

Baseline data on twenty-four hour recall was collected before the first TIPs counseling visit and after two months of TIPs home visits and counseling. A 24- hour recall kit including portions sizes of *nsima*¹, relish and fruits such as bananas, and mangoes was used to enhance estimation of quantities. The data on type and amount of food consumed was entered in NutriSurvey 2007 © to calculate the amount of energy and nutrients obtained from the foods. The food composition database of NutriSurvey 2007 © was modified to incorporate local foods. Data were then analyzed in SPSS version 16 and Stata version 10. The pictures below show weight measurement of the food taken.

¹ Thick paste made from maize flour



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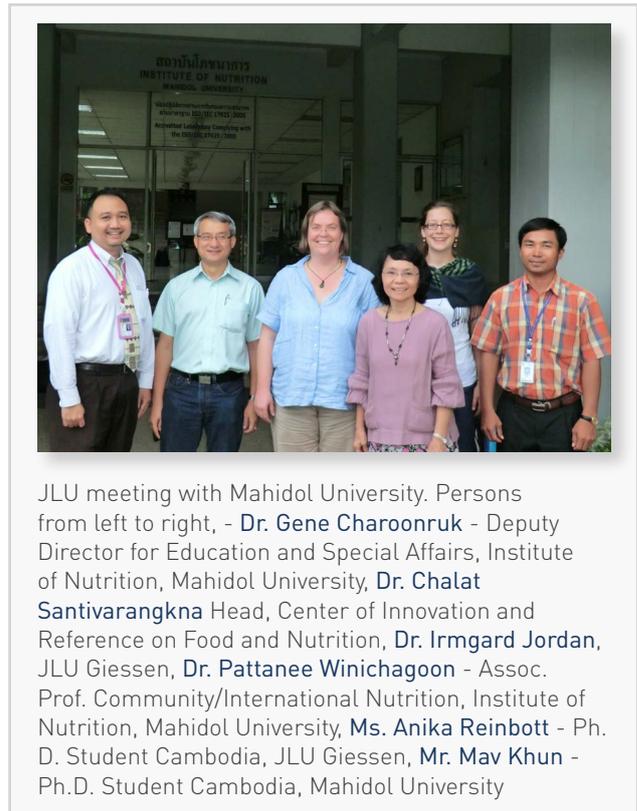
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The proportion of children with high dietary diversity scores (based on Malawi six food group classification) increased from 10% at baseline to 44%. Energy, protein, iron, and β -carotene intakes also increased.

The proportion of children that received only relish water² reduced from 74% at baseline to 2% after counseling. The intake of actual relish (pieces of vegetable, meat or fish from the family pot) increased energy and nutrient intake because relish water has little nutrient value. Likewise intake of thin plain porridge significantly decreased from 42% to 8%. Increased use of *mgaiwa* (maize flour made from whole maize) flour resulted in high mean energy and nutrient intake after counseling because *mgaiwa* is high in energy and nutrients. The results of the study show that the one-to-one nutrition counseling was effective to change behavior on infant feeding, such as not preparing infant foods using only the watery base of family foods. There are also indications that it was pos-

sible for households to make modest changes to increase dietary diversity and energy and nutrient intake based on their own food supplies.

² A common practice in Malawi is to add a few spoons of water from the pot used to cook vegetables/meat that will accompany the main staple, nsima. A main message of TIPs was to learn whether families could alter this practice by including pieces of the cooked food into the child's dish.



WELCOME TO ISABELLE HIRSCHMANN AND MAV KHUN



Isabelle Hirschmann is a Master student in nutrition sciences. She received her Bachelor's degree at the Justus Liebig University of Giessen, Germany (JLU) and continued for her Master at JLU and at the Academy of Engineering Ecole d' Ingénieurs Purpan in

Toulouse, France. Joining the IMCF-Team in Cambodia from August 2012 to January 2013, she assisted in the baseline survey. During her stay in Cambodia she prepared her master thesis focusing on influences and main reasons of diarrhea among children under two years of age in Otdar Meanchey and Preah Vihear Provinces, Cambodia.



Mav Khun, a Cambodian national will be working as a PhD student for the IMCF project based in Siem Reap. From 2003-2006 Mav worked for the Cambodian Health Department in the areas of food safety and communicable disease control. He has also been

very active in community development, volunteering for the "Model Health Village" project, which aims to promote nutrition education on healthy eating and living habits as well as addressing basic community needs in water, sanitation and health care. Mav holds a Diploma in Pharmacy and a MSc in Healthcare Administration. He is now enrolled with Mahidol University where he will be taking preparatory courses through March 2013 and developing his research proposal.