



## Malawi: What works at home?

# Improving complementary feeding using locally available foods

Learning from caregivers through Trials of Improved Practices in Kasungu and Mzimba Districts of Malawi

Government extension staff from the agriculture and health sectors in Malawi conducted Trials of Improved Practices (TIPs) to identify acceptable, feasible and effective strategies for improving infant and young child feeding (IYCF) practices in Kasungu and Mzimba districts, Malawi from October 2011 - July 2012. The results of TIPs were used to design the nutrition education intervention which was integrated into the food security project “Improving Food Security and Nutrition Policies and Program Outreach” (IFSN). The Food and Agriculture Organization of the United Nations (FAO) supported TIPs and gave technical assistance in data analysis and program design.

### What is TIPs?



A caregiver with her six-month old child participating in the Trials of Improved Practices (©FAO/Ivan Grifi)

TIPs is a formative research technique developed by the Manoff Group, which allows program planners to pre-test recommended health and nutrition practices, taking into account individual, cultural and societal aspects that could either prevent or motivate positive behavior change.<sup>1</sup>

Trained interviewers conduct 3-4 household visits to assess, analyze and discuss current practices and challenges with household members. Together they reach an agreement on practical solutions to test over a period of 1-2 months. The interviewer and participants then assess the experiences at the end of the trial period and identify key practices which are acceptable and feasible for the target population to carry out and maintain over time. Their experiences and opinions are used to design an intervention. As the IFSN project aimed to improve IYCF using nutrient-rich

locally available foods, TIPs was the optimal methodology of testing their acceptability and learning how to promote the new practices in the project communities.

### Methodology of TIPs in Malawi

The main objective was to explore locally appropriate solutions for improving IYCF practices with a focus on improved complementary feeding for children 6-23 months of age. TIPs facilitators from the agriculture and health sectors were trained to assess household access to and use of different nutrient-rich locally available foods that are vital for young child feeding, including legumes, groundnuts, vegetables, fruit and iron-rich animal source foods (ASF). Of specific interest were seasonal differences in food availability and their effect on the quality, quantity and frequency of complementary foods fed to young children.

The TIPs facilitators conducted two rounds of TIPs with a sample of 100 households in Kasungu and Mzimba Districts. Round 1 was conducted immediately prior to and during the rainy season when household food stocks and economic resources were limited (November 2011 - January 2012). Round 2 was carried out during and after the harvest when food security was good and purchasing power was higher (May - July 2012).

Each round of TIPs included two or more participatory cooking sessions with 8-10 mothers and other caregivers, which provided an opportunity to practice cooking the improved recipes and to develop skills and confidence in using under-utilized nutrient-rich local foods. The TIPs facilitators undertook individual household visits to:



Locally available, nutritious foods which caregivers can use to enrich porridges for young children (©FAO/ Ivan Grifi)

(1) observe feeding practices; (2) provide counselling advice and negotiate willingness to adopt recommended practices; (3) review alternative practices with caregivers if the recommended advice proved difficult to implement; and (4) record subsequent changes and willingness to continue good practices.

### Inclusion of all household members



Trained TIPs interviewers discussing IYCF practices with the primary caregiver and her husband during a household visit (©FAO/Solange Heise)

The majority of participants were mothers of children aged 0-23 months. However, fathers, grandmothers and older siblings were also invited to participate because of their important role in decision-making related to childcare. Fathers may decide which foods are purchased, while grandmothers and older children may also care for and feed the child while the mother is working.

### Household food security and food consumption

As an important innovation to the TIPs methodology, FAO used seasonal food availability calendars to map local food diversity and availability. TIPs households reported that household food security was at its best during and shortly after the harvest season. Subsequently, food stocks deteriorated gradually with decreased quality and frequency of family meals reaching its lowest level before and during the rainy season. The greatest shortfalls occurred with regard to maize, which is the main, culturally-preferred staple (in comparison to cassava and Irish potato), and to beans and groundnuts. The availability of most vegetables and fruit was also limited by seasonality (e.g. mangoes are only available from December - February, pumpkins and sweet potato are only available from March - June). Especially iron-rich ASF, such as milk, eggs, meat and dried fish were rarely eaten because of their high cost.

### Identification of common IYCF practices

TIPs facilitators identified common IYCF practices with caregivers and discussed their suitability. Several poor IYCF practices included: early introduction of fluid and food other than breast milk to children under 6 months of age; no exclusive breastfeeding during this period; provision of thin, watery porridges; poor dietary diversity; low frequency of feeding; low provision of healthy snacks, especially to children aged 9-23 months; excessive salt use in complementary food; and inappropriate feeding of sick children. These negative IYCF practices reflect the influence of cultural norms and beliefs on the food environment, particularly in relation to acceptability and taboos. ASF such as eggs were perceived to be harmful for children, while herbal tonics and thin porridges were believed to offer protective qualities. Based on these poor IYCF practices, a total of eleven recommendations were developed (see table to the right). TIPs trainers then discussed with caregivers which recommendations they would try to follow in order to improve their IYCF practices.

### Overview of poor IYCF practices and recommendations

	Poor IYCF practices	Recommendations
<b>Infants aged 0-6 months</b>		
1	Low breastfeeding frequency and early introduction of liquids and watery porridge	Stop giving water and porridge, and breastfeed exclusively on demand until the child is six months old
<b>Children aged 6-23 months</b>		
2	Offers plain, watery, refined maize porridge with salt/sugar	Prepare thick porridge made from several food groups after child is six months old
3	Delays introduction of solids, offers only liquid parts of relish	Mash/pound/chop solid parts of the relish (e.g. vegetables, beans and other legumes) and add to porridge
4	Vegetables not offered daily	Add mashed green leafy/non-leafy vegetables to porridge
5	Legumes not offered daily	Add mashed legumes to porridge
6	Animal source foods not offered daily	Add mashed animal source foods to porridge
7	Food does not include sufficient fat	Add high fat food to porridge
8	Maize is the main ingredient in porridges	Diversify porridges by using other grains, roots or tubers
9	Offers unhealthy foods of low nutritional value as snacks	Daily provide 1 nutritious snack to a child aged 9-11 months or 2 nutritious snacks to a child aged 12-23 months
10	Insufficient quantities of food offered daily	Provide age-appropriate quantities of food daily
11	Use of salt is excessive	Reduce quantity of salt used to a single two-finger pinch

## Acceptability of the recommendations

During November 2011 - January 2012, caregivers tested the recommendations and described their experiences in follow-up home visits. This resulted in the revision of most recommendations to ensure that mothers and other caregivers were able to carry out all the IYCF practices in relation to availability of food, cost and time. The revisions focused on: (1) utilizing seasonably available foods to enrich porridges; (2) emphasizing the importance and variety of iron-rich ASF; and (3) reinforcing the provision of healthy and nutritious snacks.

## Motivation and willingness to continue

After a second round of TIPs (May - July 2012), all caregivers were motivated to continue the improved IYCF practices, subject to availability of the recommended foods. Most children liked the taste of the enriched porridge and finished their portions. Caregivers reported that their children gained weight, were healthier, more active and less often became sick. They felt empowered and more confident in preparing the new recipes learned during the participatory cooking sessions.

## Main results in improvements to IYCF practices

Almost all households diversified crop production and prepared thick porridges with an increased use of whole maize meal (or a root or tuber) and a wider range of other nutrient-rich ingredients, such as:



A thick and nutritious porridge enriched with vegetables, legumes and oil (©FAO/Ivan Grifi)

- seasonal green leafy or non-leafy vegetables
- fish or eggs
- milk, including goat milk
- groundnuts, beans or soybeans
- oil

The majority of households used at least three food groups (i.e. staple, green leafy vegetables and legumes or groundnuts or oil). Fruit consumed as snacks constituted an additional fourth food group, thereby meeting the minimum dietary diversity standard recommended by the World Health Organization,<sup>2</sup> in that children aged 6-23 months should consume at least four out of seven food groups. Other healthy snacks, such as orange fleshed boiled sweet potato, Irish potato or pumpkin were offered between meals by nearly all households during the harvest season while the number of households offering commercial snacks decreased. Additionally, the provision of age-appropriate quantities of enriched porridges increased. More households started using fine iodized salt and the number of households adding too much salt per meal declined.

## Recommendations for program design

The following recommendations were made to the IFSN project to diversify agricultural production, ensure the provision of agricultural advice to families with young children and improve agriculture-nutrition programming, including the need to:

- 1 Target grandmothers and fathers in nutrition education activities, reach out especially to fathers as providers of ASF
- 2 Encourage the use of vegetables and fruit as healthy snacks instead of commercial snacks with low nutritional value
- 3 Promote participatory cooking sessions in the communities to improve attitudes regarding taste preferences of children, to enhance the acceptance of vegetables as nutritious complementary and family foods, and to help caregivers understand how to prepare age-appropriate portion sizes
- 4 Consider socio-cultural beliefs when promoting IYCF practices
- 5 Ensure that health extension staff proactively address breastfeeding issues during wider promotion of IYCF practices
- 6 Strengthen financial and operational capacity for nutrition at sub-district government levels, especially for agricultural and health extension staff
- 7 Address seasonal gaps in dietary diversity by promoting home gardens, the production of fast growing fruit trees (papaya) supported by small scale irrigation, raise small livestock (i.e. goats, chickens, rabbits) to increase availability and access to ASF



A mother appreciates the health improvements in her young child after being fed enriched porridges (©FAO/Ivan Grifi)



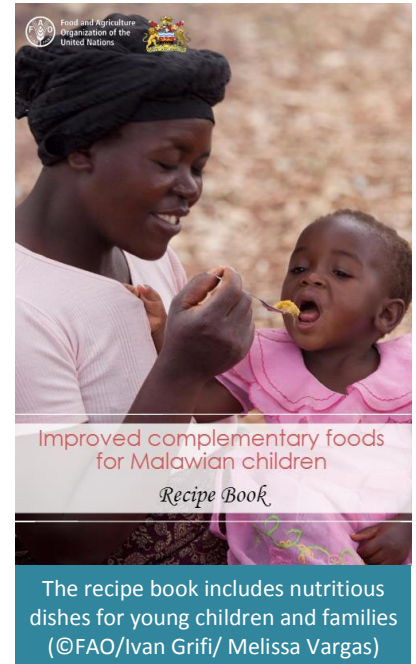
## Nutrition education materials – output of TIPs

As a result of TIPs, the IFSN project team in collaboration with the Ministries of Agriculture and Health adapted the improved YCF recommendations in order to be disseminated to a wide range of stakeholders. The following nutrition education materials were developed in Chichewa and Chitumbuka:

1. Facilitation Guidelines and Core Manual for Master Trainers
2. Facilitator’s Book on Promoting Improved Infant and Young Child Feeding
3. Key Messages Book for Caregivers
4. Recipe Book

The recipe book includes complementary food recipes that were tested and found acceptable during TIPs. It contains a section on age-appropriate single portions of maize and tuber-based meals for families, and a section for group cooking sessions, useful for community nutrition promoters and trainers.

All nutrition education materials were used by the IFSN project to: (1) train government staff from the agriculture and health sectors; (2) guide community nutrition promoters through the nutrition education sessions with mothers, fathers and grandmothers; (3) provide clear advice for caregivers during the nutrition education and participatory cooking sessions; and (4) share among other stakeholders.



**The training materials and full TIPs report are available on the FAO nutrition education webpage:**

[www.fao.org/nutrition/education/infant-and-young-child-feeding/en/](http://www.fao.org/nutrition/education/infant-and-young-child-feeding/en/)



The nutrition education materials are used and discussed by mothers and grandmothers (©FAO/Ivan Grifi)

The following links directly provide access to PDFs of all officially published training materials.

PDF of the Facilitator’s Book (English):

[www.fao.org/ag/humannutrition/36039-0ea07ef6fa136d3db8b5052d0fca811f7.pdf](http://www.fao.org/ag/humannutrition/36039-0ea07ef6fa136d3db8b5052d0fca811f7.pdf)

PDF of the Key messages Book (Chichewa):

[www.fao.org/ag/humannutrition/36040-01dff6341ce130e64d0e0de2c188df9d6.pdf](http://www.fao.org/ag/humannutrition/36040-01dff6341ce130e64d0e0de2c188df9d6.pdf)

PDF of the TIPs Report “What works at home?” (English):

[www.fao.org/ag/humannutrition/43005-0217b833f79d8cd50e5dee498df36bffd.pdf](http://www.fao.org/ag/humannutrition/43005-0217b833f79d8cd50e5dee498df36bffd.pdf)

1. Dickin K, Griffiths M, Piwoz E (1997). Designing by Dialogue. Consultative Research to Improve Young Child Feeding. Support for Analysis and Research in Africa: Washington, D.C.
2. WHO (2008). Indicators for assessing infant and young child feeding practices - part 1: Definitions. Geneva: WHO.

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[www.fao.org/nutrition/education/infant-and-young-child-feeding/en/](http://www.fao.org/nutrition/education/infant-and-young-child-feeding/en/)