



IYCN USAID's Infant
& Young Child
Nutrition Project

Insights on Improving Dietary Diversity for Young Children Using Local Foods

Excerpts from TIPS research in Rwanda and Malawi

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Photo: Aurelio Ayala III

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Insights taken from qualitative research conducted as part of:

- USAID/BASICS' assistance to Rwandan National Nutrition Working Group, IYCF Guidance

Karumba, S and M. Griffiths. 2009. *Engaging Rwandan Families to Ensure Feasible and Effective Infant and Young Child Feeding Recommendations*. Arlington, VA, USA: BASICS for USAID.

- USAID's IYCN Project's assistance to the Malawian Office of the President and Cabinet, First 1,000 Days Strategy

Picado, J.I., R. Galloway and M. Griffiths. 2010. *Consulting with Caregivers: Using Formative Research to Determine the Barriers and Facilitators to Optimal Infant and Young Child Feeding in Three Regions of Malawi*. Washington DC, USA: IYCN Project for USAID.

Typical diets– Children 9 & 10 months of age

Rwanda

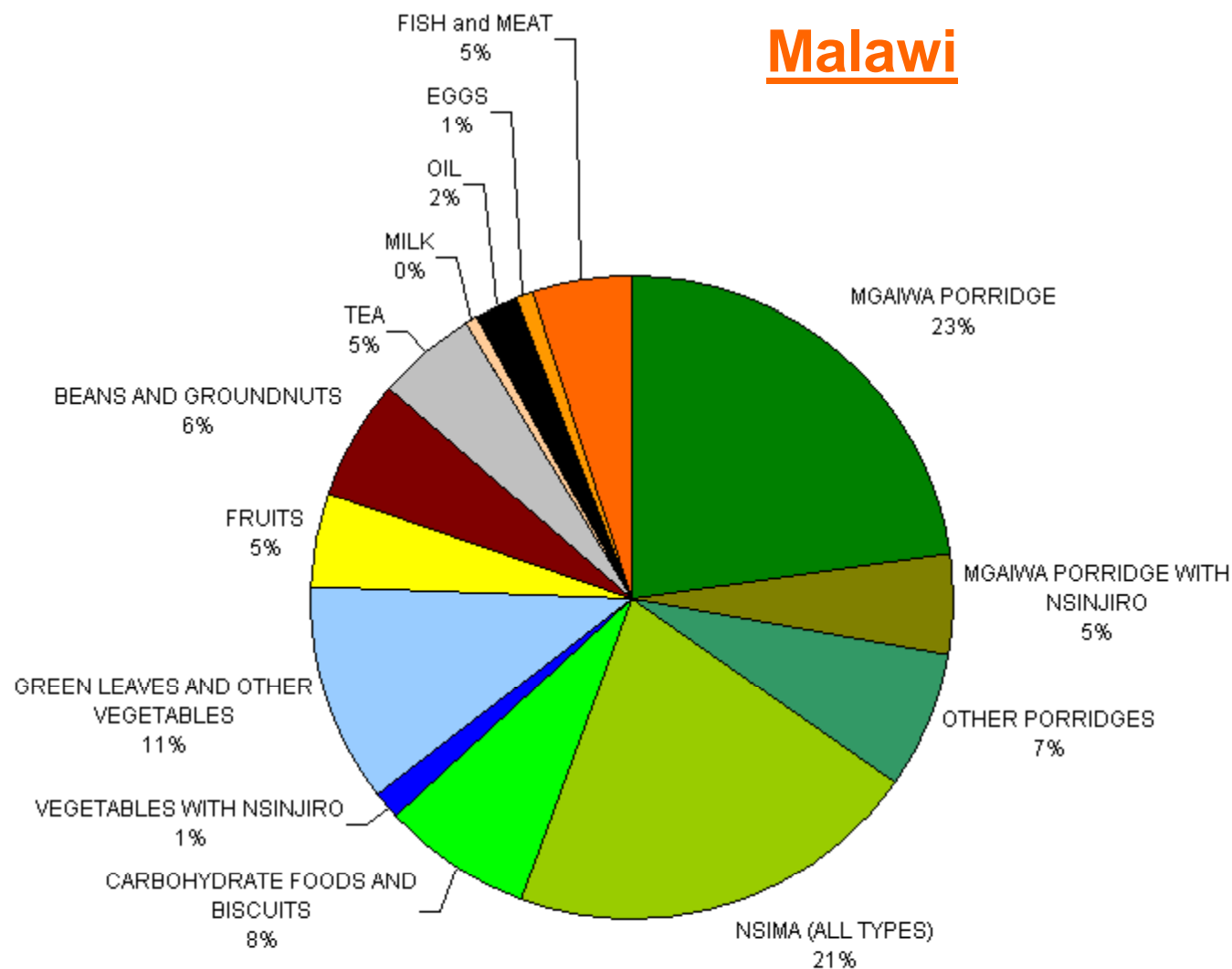
>15 x/24 hrs.: breast milk
125 ml: sorghum porridge,
thin but not runny
½ small plate (<1/2 cup):
beans and rice
1 small, boiled Irish potato
125 ml sorghum porridge
with 100 ml cow's milk

Malawi

12 x/24 hrs.: breast milk
150 ml: corn (flour) porridge,
thin
½ cup of nsima (stiff corn
porridge) with beans
small cup orange Fanta
1 flour biscuit (scone)
½ banana

Most frequently consumed foods, children 6-23 mo. (Initial visits)

Malawi



Translation to nutrient adequacy:
children 6 - 23 months (Initial visits)

Malawi

Nutrient	Adequacy	
Energy/ Kcal	50%	of children met 100% of energy req.
	75%	kcal from carbohydrates
	~15%	kcal from fat
Iron	34%	of children met 67% of requirement
Zinc	53%	of children met 67% of requirement
Vitamin A	47%	of children met 67% of requirement
Calcium	15%	of children met 67% of requirement

Challenge

- Make generic, optimal feeding recommendations
 - “actionable”, repeatable (daily) and sustainable
- In these contexts, improving dietary diversity (from local foods) means:
 - 1) feeding more food and
 - 2) focusing on multiple additions:
 - greater variety of vegetables
 - fruit
 - animal source foods
 - a fat source

Engaged Caregivers in Trials of “Improved” IYCF Practices (TIPS method)

Visit # 1 (day 1) Context setting	Visit # 2 (day 2) Counseling	Visit #3 (day 6-10) Follow-up
<ul style="list-style-type: none"> -HH background information -Current feeding practices -24-hour dietary recall -Frequency of regularly consumed foods -Food availability 	<ul style="list-style-type: none"> -Feedback on HH information and feeding practices -Recommendations and initial response of mother/caretaker -Agreement on specific practices mother/caregiver will try 	<ul style="list-style-type: none"> -Changes since last visit, if any -24-hour dietary recall -Response of mother and child to trial -Modifications by mother, if any -Adoption (continued use), or not, of practices

Sample: # of children by country & age

	Rwanda (4 provinces & Kigali City)	Malawi (3 regions)
0 - 5 mo	40	16
6 - 8 mo	18	28
9 -11 mo	16	20
12 -17 mo	13	36
18 - 24 mo	13	
TOTAL	100 [11 HIV, 20 sick]	100 [6 sick]

Insights on Improving Dietary Diversity: **Overview**

- With the exception of 1 - 2 caregivers in each sample, all children received a more diverse diet following TIPs
- Generally, **every day** one food was added/changed to improve diversity over the “customary” diet, however, not all changes were done every day (particularly true in Malawi).
- Illness reduced dietary diversity drastically. Restoring diversity must be a focus of recuperative feeding.



Insights on Improving Dietary Diversity: **Overcoming key impediments**

- 1) **Amount--don't want to waste food:** Offered more food per day as they improved diversity.
- 2) **Reliance on porridge--what can be "digested":** Reduced "thin" porridge-only meals and transitioned children older than 9 months to a more family-oriented diet.



Insights on Improving Dietary Diversity: **Overcoming key impediments**

- 3) **Purchased snacks--convenience/child wants:** Substituted household foods such as a banana/fruit, piece of sweet potato, thick porridge with groundnut paste.

- 4) **Sweet tea and sodas:** Substituted breast milk, lemon / orange juice and / or milk.

Insights on Improving Dietary Diversity: **Lessons**

Need for **specificity**:

1) By age:

6 - 8 months: special preparations

9 -11 months: add specific family foods

12 - 23 months: specific, special foods or substitutions

2) By day:

Especially with the addition of animal source foods, caregivers needed help to think about their alternatives each day. They could not offer an animal source food every day, only 4 out of 7 days.

Insights on Improving Dietary Diversity: **Lessons**

Focus foods:

- Semi-solid /solid
- Vegetables: not difficult because family often had green vegetables -- emphasize well cooked
- Animal source foods: **dried fish** (fish powder) and egg
- Source of fat: **ground nut paste**, vegetable cooked in oil or mashed fried food

Insights on Improving Dietary Diversity: **Lessons**

Motivations:

While health is a motivator, when caregivers reported how they would convince other mothers to try a new practice they spoke about child behavior:

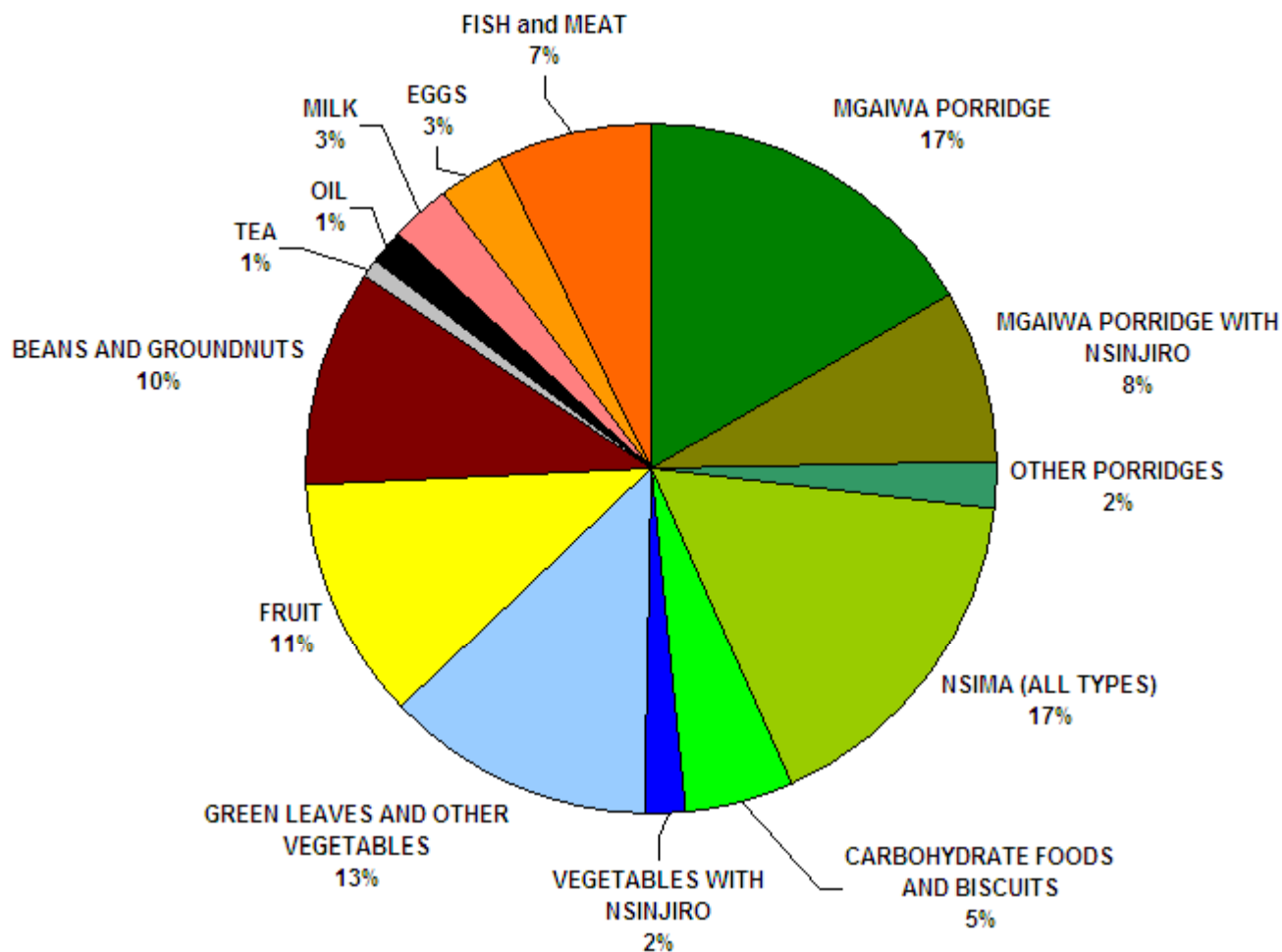
“your child will be more satisfied and less fussy”

“your child will sleep better”

“your child will be happy and play well”

“your child will go with others and leave you to your work”

Insights on Improving Dietary Diversity: **Food frequency (follow-up)**



Insights on Improving Dietary Diversity: **Food frequency changes**

MALAWI	Visit 1	Visit 2
Mgaiwa porridge + other	30%	19%
Porridge + groundnuts	5%	8%
Nsima	21%	17%
Other CHO	8%	5%
Green vegetables	12%	15%
Beans and groundnuts	6%	10%
Fish, meat, eggs & milk	7%	13%
Fruit	5%	11%
Tea	5%	1%

Insights on Improving Dietary Diversity: **Nutrient adequacy children 6 - 23 months**













Malawi

Nutrient	Adequacy		
	Visit 1	Visit 2	
Energy/ Kcal	50%	79%	of children met 100% of energy req.
	75%	66%	of kcals from carbohydrates
	~15%	22%	of kcals from fat
Iron	34%	49%	of children met 67% of requirement
Zinc	53%	83%	of children met 67% of requirement
Vitamin A	47%	74%	of children met 67% of requirement
Calcium	15%	23%	of children met 67% of requirement


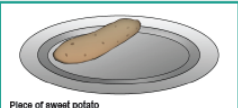

Conclusions on Improving Dietary Diversity from Local Foods

- Caregivers must test potential ways to improve diversity and set the expectations for results
- Programs should focus on:
 - specific foods / practices by age
 - assisting caregivers to increase diversity daily
 - desirable child behaviors as motivators for change

Foods for 12 to 24 Month Olds
Nutritious Combinations of Family Foods: 6A

Potato Plus	Banana Plus	Rice Plus
 Irish Potato	 1 Banana	 Cooked Rice
 Dodo	 Groundnuts	 Fish
 Beans	 Dodo	 1 Tablespoonful oil
 1/2 Avocado	 1/2 Egg	 Orange pumpkin

Nutritious Snack Foods:

 Fruits	 Place of sweet potato	 Portion of thick porridge
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What will you prepare ?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday