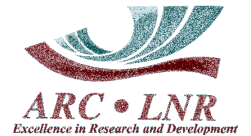




An integrated food-based approach: challenges and possibilities



Mieke Faber
Medical Research Council, South Africa





Cereal based staple diet

Healthier food choices more expensive than commonly consumed foods (*Temple et al., 2011*)



Cost of a healthy diet more expensive in rural than urban areas (*Temple & Steyn, 2011*)

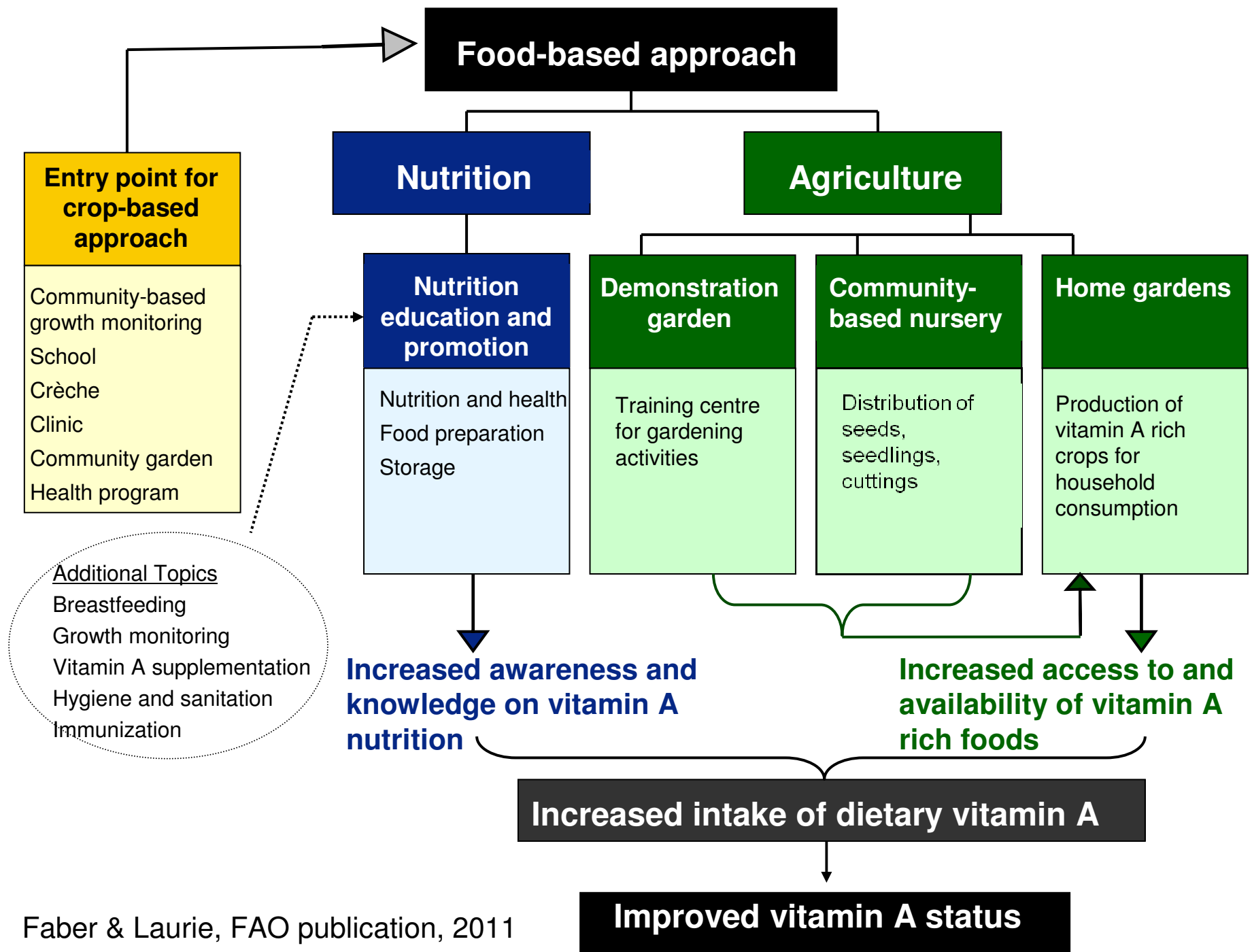


Vitamin A rich vegetables & fruit the most neglected food group (*Labadarios et al., 2011*)

>50% of children consume <half the required amount of vitamin A (*NFCS 1999*)



64% of 1-9-y-old South African children have low serum retinol concentrations (*NFCS-BF 2005*)



- 1. Situation assessment**
- 2. Project planning meeting**
- 3. Recruit and train fieldworkers**
- 4. Establish demonstration gardens**
- 5. Establish community-based nursery**
- 6. Promotion** (nutrition / agriculture)
- 7. Monitor project activities**
- 8. Evaluate progress and impact**

Community-based growth monitoring as entry point

Community-based growth monitoring

- + Nutrition education
- + Gardening activities



Improved

- maternal knowledge
- dietary intake
 vitamin A
 other nutrients
- serum retinol

Faber et al., Public Health Nutr 2002

Faber et al., Am J Clin Nutr 2002

Promotion and education during growth monitoring sessions

Introduce vitamin A rich vegetables to children

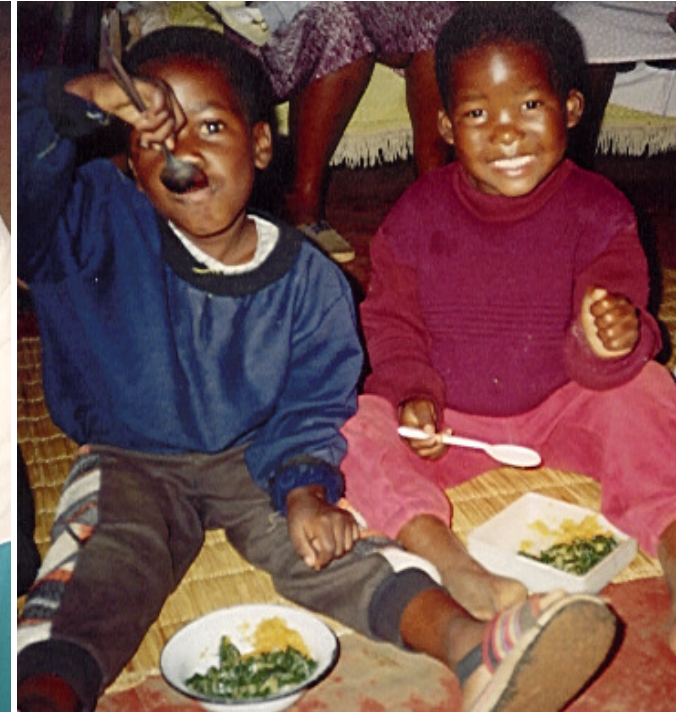
Harvest the vegetables



Prepare the vegetables



Children eating the vegetables



Promotion and education during growth monitoring sessions

Nutrition education



Promotion and education during growth monitoring sessions

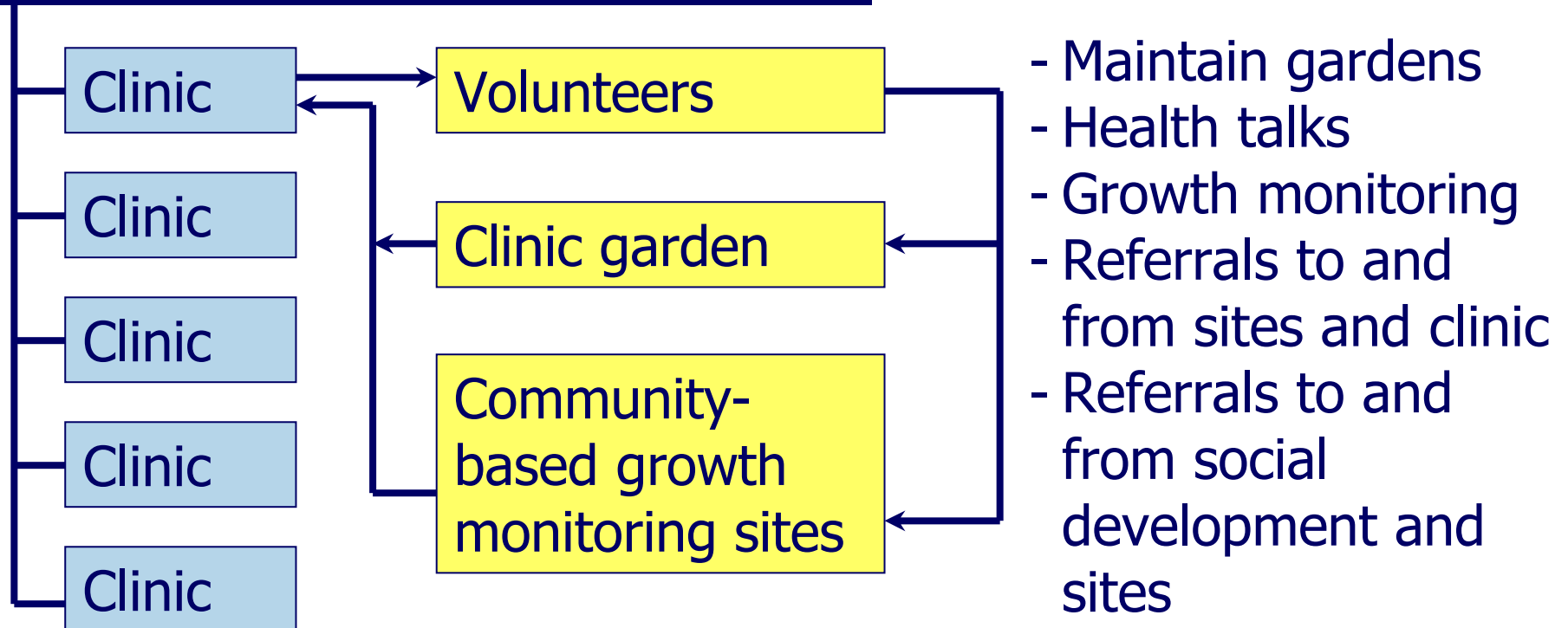
Train in planting of vitamin A rich vegetables



Clinics as entry point

Health Systems Trust integrated project

Community-based organization
(CBO)
(Implementing agent)



Health Systems Trust integrated project

Fencing and garden tools supplied

Produce used for nutrition rehabilitation
[some associated garden with HIV/AIDS]

Schoeman et al., MRC/HST report, 2008



Health programmes as entry point

Orange-fleshed sweetpotato integrated with vitamin A supplementation



Two core messages:

"Take children under 2 years to the clinic for vitamin A at 6, 12, 18 and 24 months"

"Give your family foods rich in vitamin A every day"

Increase in:

- **number of children receiving required dose of vitamin A**
- **knowledge (caregivers, mothers, clinic staff) of vitamin A needs and benefits**
- **cultivation and consumption of orange-fleshed sweetpotato**



Schools as entry point

National School Nutrition Programme

- **School feeding**
- **Nutrition education**
- **Sustainable food production**



Vendor on school premises



Challenges

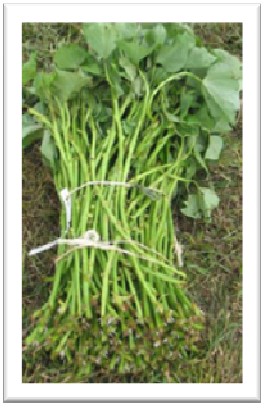


Water for irrigation



Fencing





Access to planting material

Community-based nursery



In netted structure



Field nursery

Ensure regular supply of quality seed at an affordable price



Calculate price:

Seeds

+ Transport

+ Packaging

PLUS 20%

Adjust annually

Purchase date

Store in cool place

Focus is on home consumption

Stability

Availability

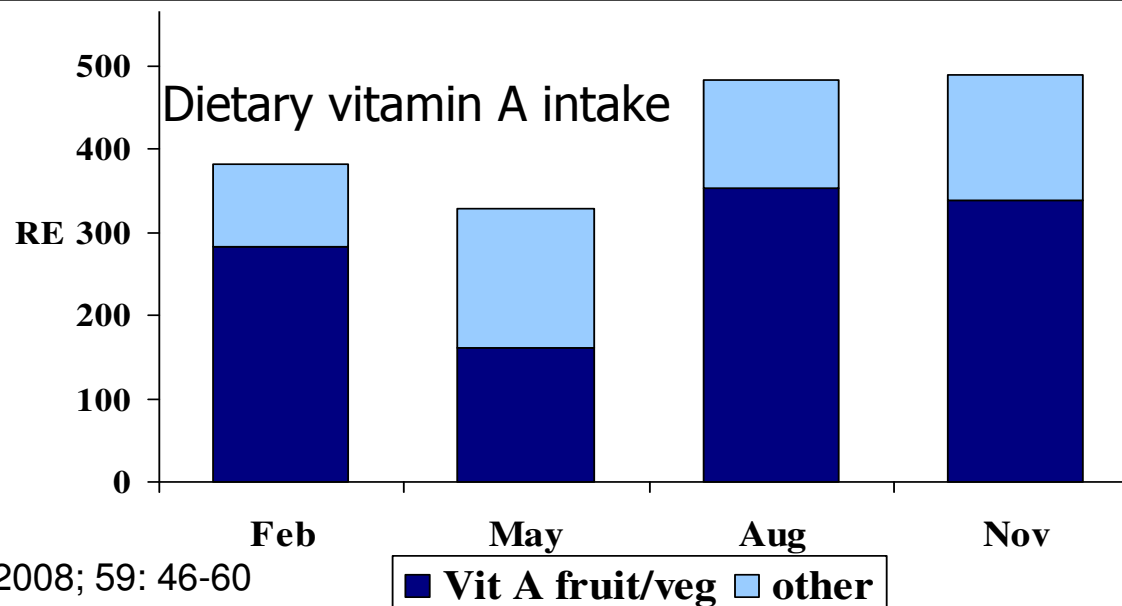
Access

Utilization

Seasonal availability

	1 st quarter	2 nd quarter	3 rd quarter	4 th quarter
Carrot			++	++
Butternut	++			
Pumpkin	+++	+		
Orange sweetpotato	++	+		
Spinach			+++	++
Imifino	+++			+++

+ low (25-49% HHs)
 ++ moderate (50-74% HHs)
 +++ high (75-100% HHs)



Plant a variety of vitamin A rich crops

Plant in addition to existing crops

Crop rotation

Staggered planting

Promote wild growing leafy vegetables

**Introduce new crops e.g. orange
sweetpotato**



Promote of wild growing green leafy vegetables



Rural Limpopo	Rural KwaZulu-Natal
94% households collect leaves from the wild	53% households collect leaves from the wild
Dry (shade or sun), store for use in winter	No drying Store in fridge
Boil with water	Steam, then fry in oil
	Poor person's food

Introduction of new crops

e.g. orange-fleshed sweetpotato

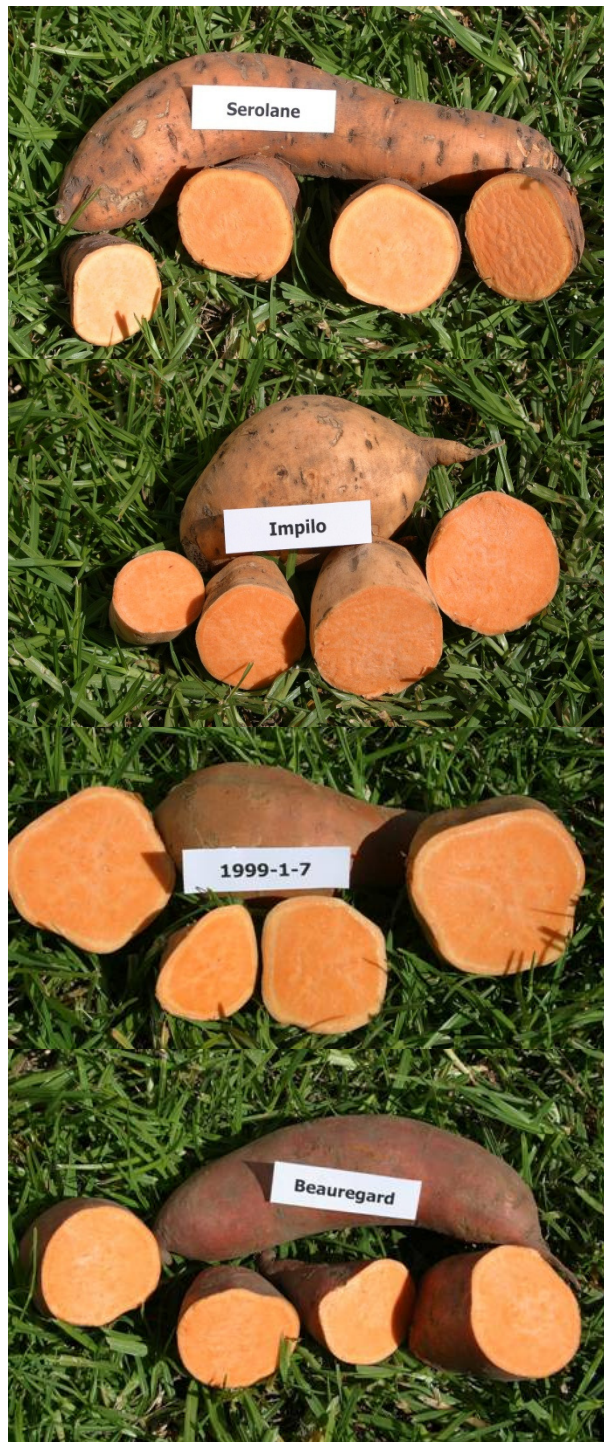
Agronomic traits

Nutrient content

Sensory traits

Consumer acceptance





Processed products

Bottled
Chutney, Jam, Juice



Fried
Chips, Stir fried leaves



Baked
Scones, Cake bread,
Bread/Buns, Biscuits,
Doughnuts



Flexible - intervention must be feasible within the social, political and cultural environment



scientific and technical knowledge



Credible

Partnership

Useful



personal and cultural knowledge



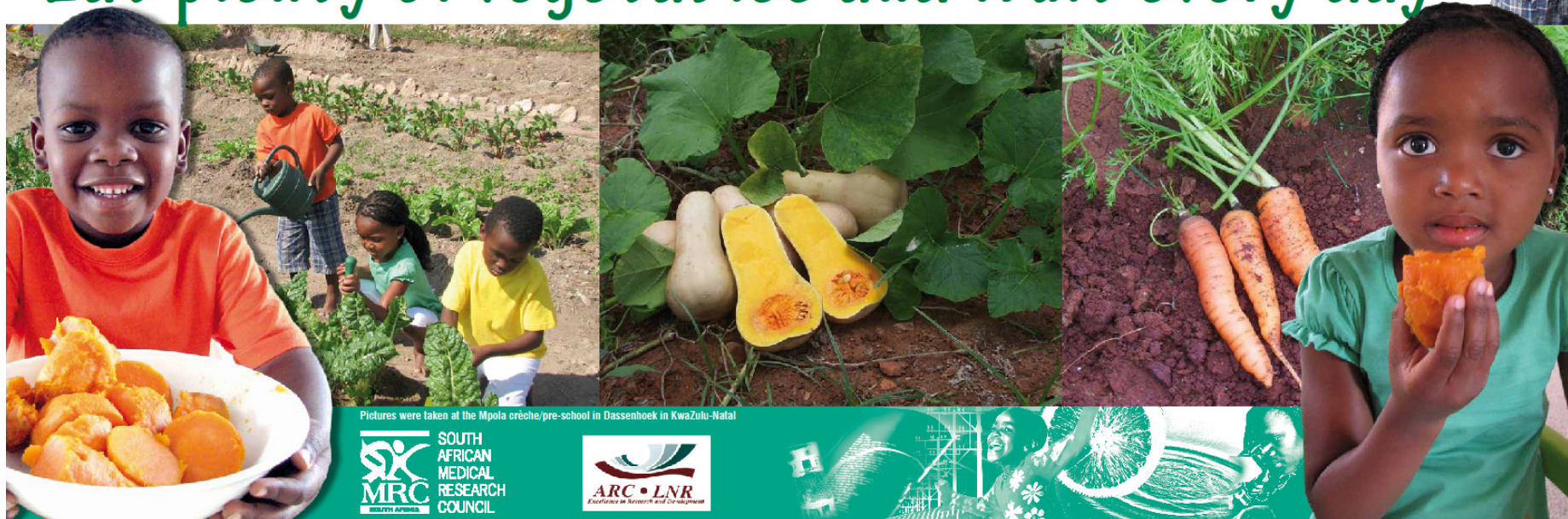
JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE
S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S
1	1 2 3 4 5	1 2 3 4 5	1 2	1 2 3 4 5 6 7	1 2 3 4
2 3 4 5 6 7 8	6 7 8 9 10 11 12	6 7 8 9 10 11 12	3 4 5 6 7 8 9	8 9 10 11 12 13 14	5 6 7 8 9 10 11
9 10 11 12 13 14 15	13 14 15 16 17 18 19	13 14 15 16 17 18 19	10 11 12 13 14 15 16	15 16 17 18 19 20 21	12 13 14 15 16 17 18
16 17 18 19 20 21 22	20 21 22 23 24 25 26	20 21 22 23 24 25 26	17 18 19 20 21 22 23	22 23 24 25 26 27 28	19 20 21 22 23 24 25
23 24 25 26 27 28 29	27 28	27 28 29 30 31	24 25 26 27 28 29 30	29 30 31	26 27 28 29 30
30 31					
Jan 1 - New Year's Day		Mar 21 - Human Rights Day	Apr 2 - Good Friday Apr 4 - Easter Apr 27 - Freedom Day	May 1 - Worker's Day	Jun 16 - Youth Day

JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S
1 2	1 2 3 4 5 6	1 2 3	1	1 2 3 4 5	1 2 3
3 4 5 6 7 8 9	7 8 9 10 11 12 13	4 5 6 7 8 9 10	2 3 4 5 6 7 8	6 7 8 9 10 11 12	4 5 6 7 8 9 10
10 11 12 13 14 15 16	14 15 16 17 18 19 20	11 12 13 14 15 16 17	9 10 11 12 13 14 15	13 14 15 16 17 18 19	11 12 13 14 15 16 17
17 18 19 20 21 22 23	21 22 23 24 25 26 27	18 19 20 21 22 23 24	16 17 18 19 20 21 22	20 21 22 23 24 25 26	18 19 20 21 22 23 24
24 25 26 27 28 29 30	28 29 30 31	25 26 27 28 29 30	23 24 25 26 27 28 29	27 28 29 30	25 26 27 28 29 30 31
31			30 31		
Jul 18 - Nelson Mandela's Birthday	Aug 9 - Woman's Day	Sep 24 - Heritage Day			Dec 16 - Day of Reconciliation Dec 25 - Xmas Day

2011



Eat plenty of vegetables and fruit every day



Pictures were taken at the Mpola crèche/pre-school in Dassenhoek in KwaZulu-Natal



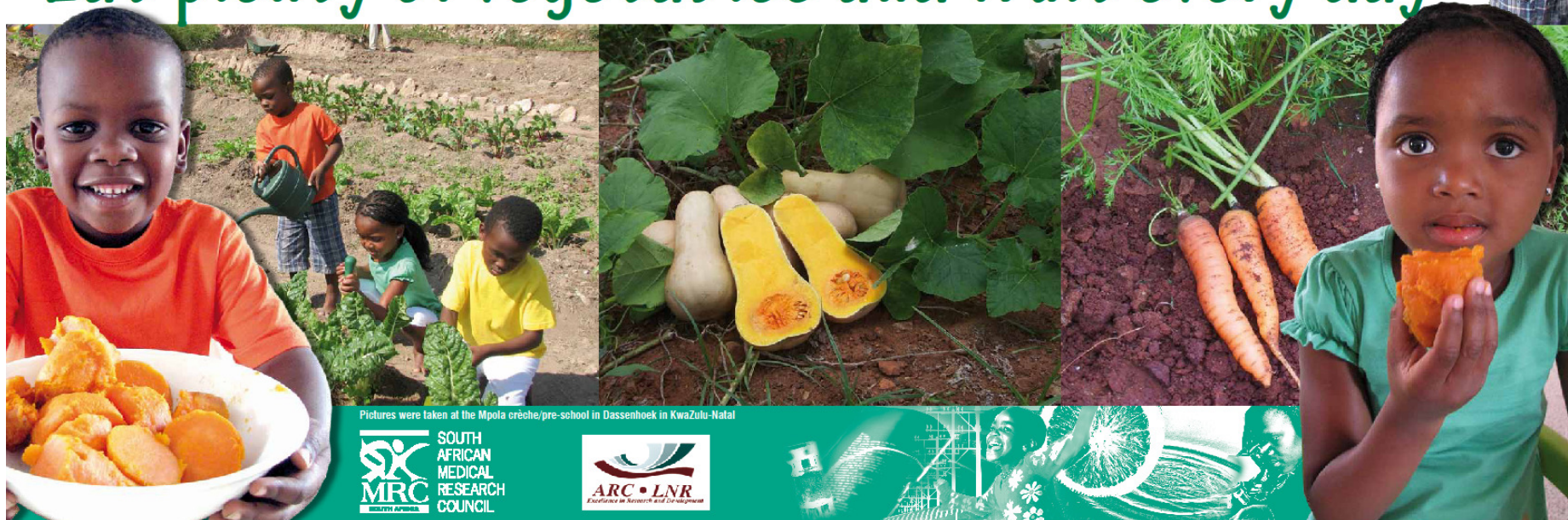
**SOUTH
AFRICAN
MEDICAL
RESEARCH
COUNCIL**



ARC • LNR
Excellence in Research and Development

Eat a yellow vegetable and a green vegetable with your main meal of the day

Eat plenty of vegetables and fruit every day



Pictures were taken at the Mpola crèche/pre-school in Dassenhoek in KwaZulu-Natal



SOUTH
AFRICAN
MEDICAL
RESEARCH
COUNCIL

