

CIFSRF CARICOM Project

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Project Background:

Linking Agriculture, Nutrition and Health

- **increased production of vegetables, fruits and animal forage through drip irrigation**



Objectives

- ∞ Describe the nutritional health of primary school children and changes as a result of school feeding
- ∞ Measure the extent to which one can improve a school lunch program for 3200 children through the use of more local produce

Study Design

Random allocation of 7 /17 primary schools
in government sponsored lunch program:
4 menu change ; 3 control schools



Nutritional outcomes

Baseline and 2 yr follow-up (n=188)

Children's height and weight

Caregiver's height , weight, questionnaire

Child 24 hr recall

Hemoglobin status

Process evaluation

Implementation

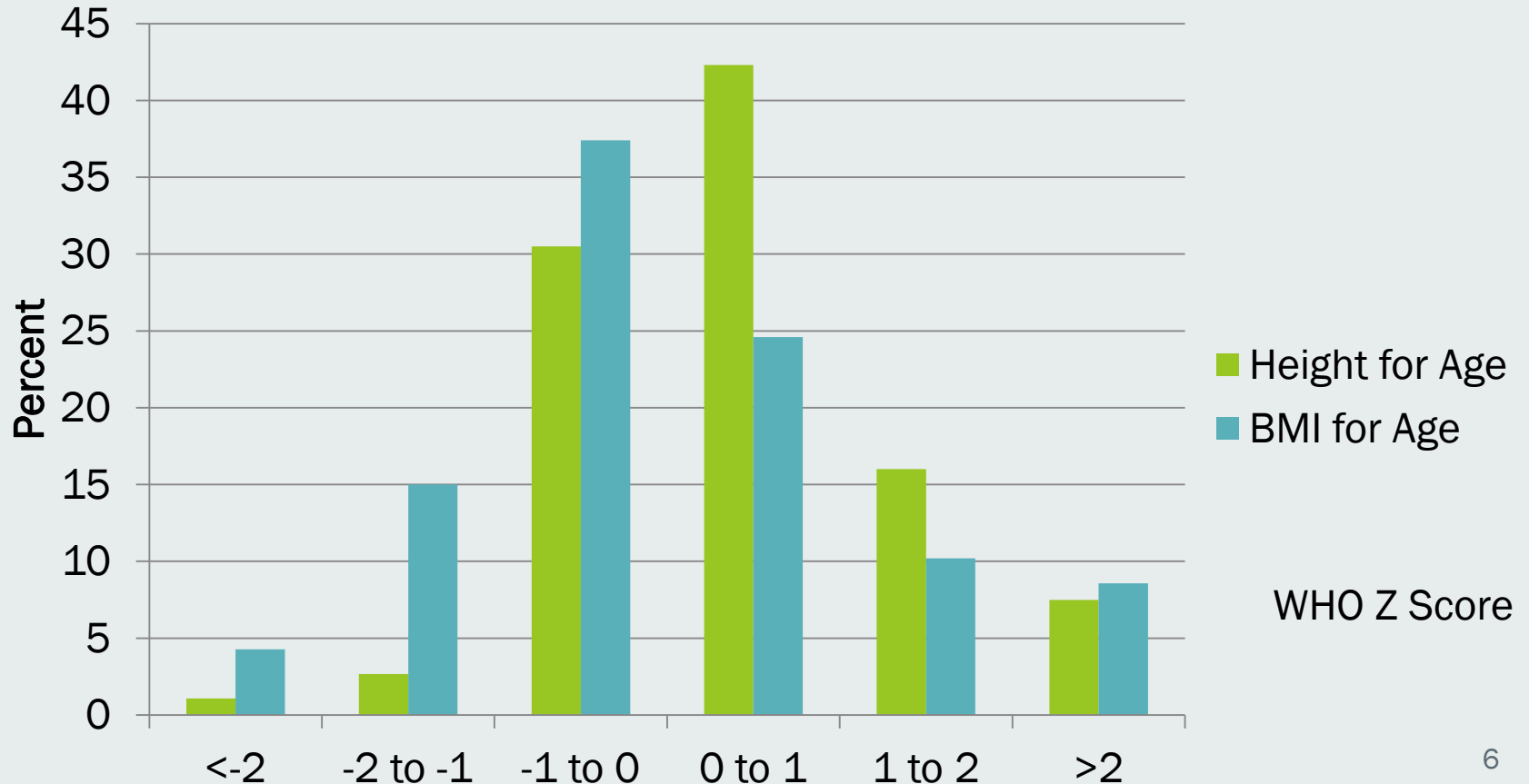
Cost

Acceptance

Baseline Surveys: Farm-To-Fork Model

Health and Nutrition Status of Children

Height and BMI for Age



School lunch program for 3200 children/d

Old

Rice and beans turkey wings,
Noodles/ground meat,
Hot dogs
Chicken soup with **pumpkin**
and dumplings
Cheese sandwich
Sugar drink

New

- ☞ Goat meat
- ☞ String beans, Carrots
- ☞ Tomatoes, cucumbers
- ☞ Sweet potato, pumpkin
- ☞ Melon, banana

Neglected School Feeding??

- Interest for Ministry of Education??
- Ministry of Health??
- Ministry of Agriculture??
- Condition of the central kitchen

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Process evaluation for continuous improvement

Supplies used per day- logbook of foods issued from the storeroom each day

Additions in 2 week period

Watermelon, carrots, pumpkin, tomatoes, cucumber

Better meat more often

Food purchase records for cost

New menu costs 70% more (more due to better meat cuts than fruits and vegetables)

29% of food budget is for a sugar drink

Acceptance

☞ Food acceptance by children

☞ **High** chicken, rice, pink beans, white potato, watermelon

☞ **Medium** carrots, green beans, pumpkin, sweet potato

☞ **Low** tomato, cucumber

☞ Other observations

☞ Children buying sweets at school from school or outside vendors

Overall lessons on Farm to fork

Farm

- ∞ Increased income
- ∞ Inconsistent supply of fruits, vegetables and goat meat (seasonality, losses, etc)

Kitchen

- ∞ Increased workload
- ∞ Increased cost
- ∞ Reducing sugar?

Intervention: School Lunch Menu Change

Menu Modification



Conclusions

- Market opportunities for farmers in St. Kitts and Trinidad are constrained by low prevalence of “contracts’ with retailers;
- Integrating produce from “project farmers” into the school lunch feeding in the “farm to fork model” provides farmers with an additional market outlet for produce;
- Adoption of water harvesting and drip irrigation technologies is proving to be a means of enhancing year round production of vegetables and fruits, which is partially constrained by seasonality in rainfall in CARICOM countries;
- Baseline data in St. Kitts reveal a high prevalence of **anaemia and overweight** among school children; the impact of dietary and other project interventions on child health await project outcomes;
- Baseline data collection reveal a relatively high prevalence of **food insecurity** among consumer and farmer households in St. Kitts; however, the prevalence of food security among farmer households in St. Kitts was lower than that in Trinidad;
- Integration of social science research with agricultural and health interventions is a useful model to address food and nutrition insecurity in the Caribbean.

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Thank you

