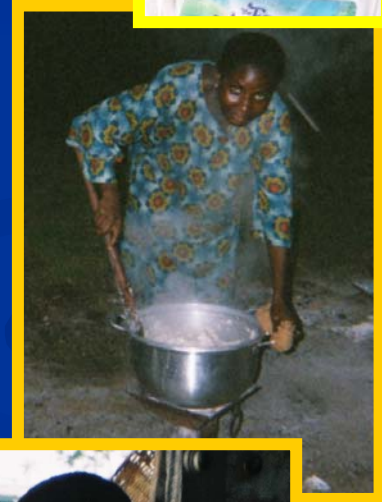


# Street food in Ghana

Funded by British Government  
Department for International  
Development – Crops Post Harvest  
Programme (managed by NR  
International)



# For more information

- **UK** – Mr Keith Tomlins (email: [k.i.tomlins@gre.ac.uk](mailto:k.i.tomlins@gre.ac.uk)) and Dr Andrew Graffham (email: [a.j.graffham@gre.ac.uk](mailto:a.j.graffham@gre.ac.uk)), Natural Resources Institute, Central Avenue, Chatham Maritime, Kent, United Kingdom, ME7 3RU
- **Ghana** – Dr Paa Nii Johnson (email: [paaniijohnson@yahoo.com](mailto:paaniijohnson@yahoo.com)), Food Research Institute, PO Box M20, Accra, Ghana.

# Project involved the collaboration of the following organisations:

- Natural Resources Institute, UK
- Food Research Institute
- Food and Drugs Board
- Accra Metropolitan Assembly
- Kumasi Metropolitan Assembly
- Ghana Traditional Caterers Association
- University of Ghana
- Kwame Nkrumah University of Science & Technology
- Noguchi Memorial Institute for Medical Research

# Why are street foods important?

- Before this project, little was known about how the street-vended food sector contributed to the urban economy. The project found that:
  - In Accra, 60,000 people are employed in vending
  - Annual turnover of over US\$100 million and a profit of US\$24 million (equal to average daily profit of US\$1 per day per person).
  - Most (94%) of vendors are female who have minimal education.



# Why are street foods important?

- Researchers elsewhere have demonstrated that:
  - low-income families spend 40% of their household budget on street foods
  - Street food comprise 30% of calorie intake for many people.

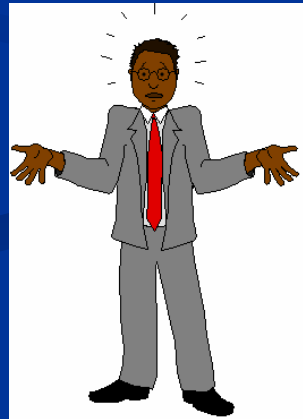


# Project team consulting vendors



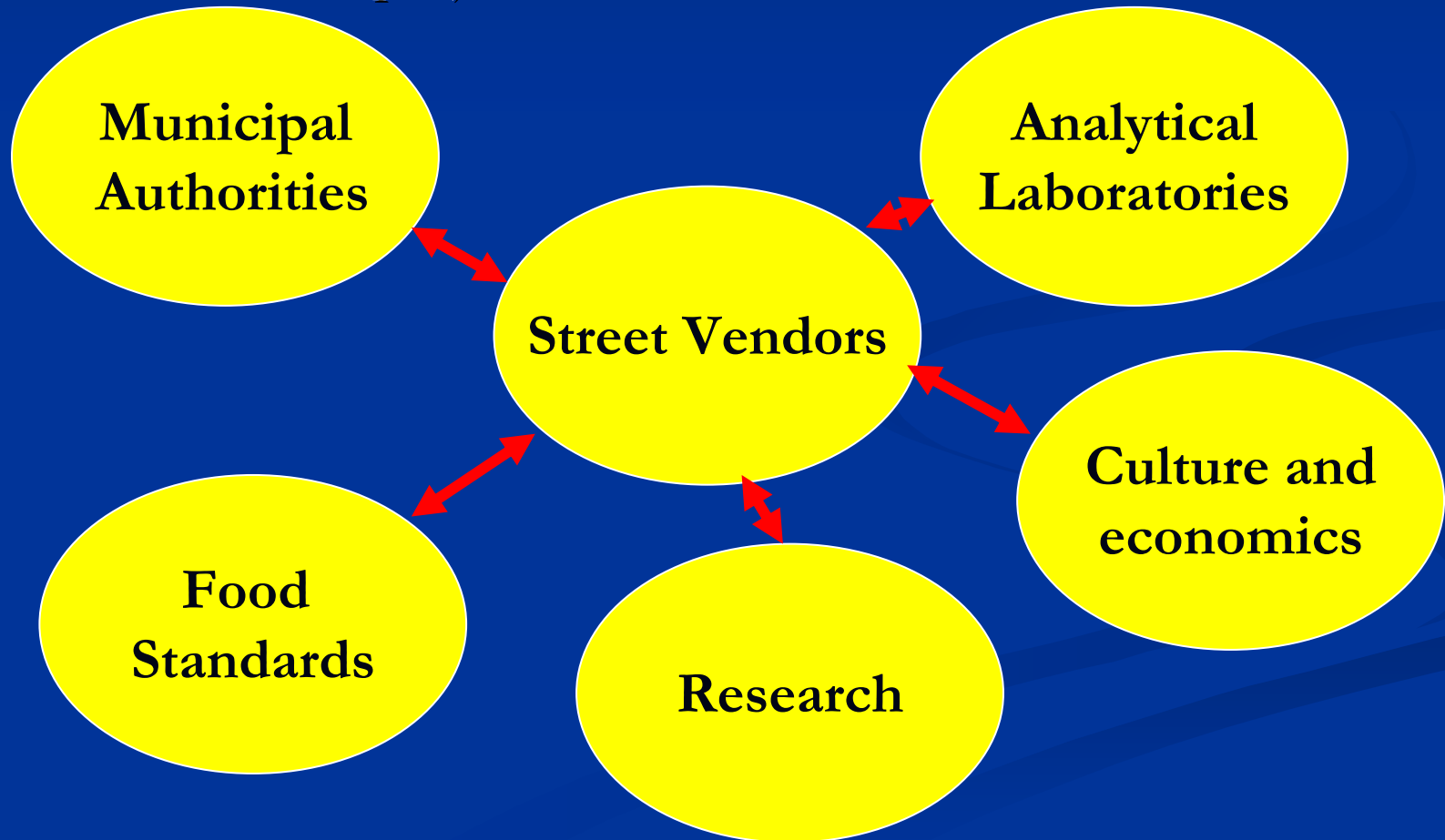
# Concerns regarding street vending

- Livelihoods of vendors and health of consumers may be at risk if concerns over food safety are not addressed.
- Sector is informal and initially did not receive recognition and support from the authorities.
- The socio-economic study helped to convince policy makers of the importance of street food vending.



# Partnerships

- Project has developed partnerships. Everyone was involved at the start of the project





# Food Safety concerns.

- A survey of 180 vendors in five different markets showed that most vendors work under poor sanitary conditions although some markets are slightly better than others.

Water used for cleaning



Vendor's stall



## Pounding fufu (cassava & plantain)

Stored water

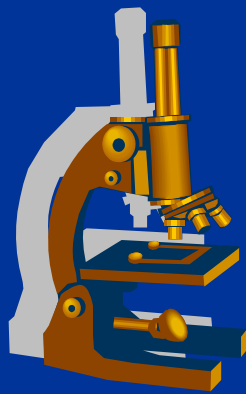


**Making kenkey  
(fermented  
maize)**



# Food borne illness

- Microbiological survey (45 samples) showed that some street foods are intrinsically safer than others. Kenkey and waakye (rice & beans) are safe products while most fufu were contaminated.



# Street food dishes used as case studies

Waakye



Kenkey



Fufu



# Heavy metals (lead)

- Survey (197 samples) showed that most street foods were not a concern.
- Some cooking pots made by informal foundries contained high levels of lead but leaching of lead into the foods was minimal, especially after the pots had been used.

# Training and promotion

- Project has produced teaching aids with the participation of street vendor organisations

Training material for vendors

Training material for food inspectors

### WASH YOUR HANDS!!



**WHY?**

BECAUSE YOUR HANDS CAN SPREAD ILLNESS DURING

**FOOD PREPARATION, HANDLING, SERVING AND EATING**

**SO WASH YOUR HANDS AFTER :**

- Using the Toilet, Eating
- Sneezing, blowing your nose or coughing
- Dressing a cut or open sore
- Nursing a baby or attending to the sick

PHOTO: PFAF Street Food Coalition. ILLUSTRATION: MAL\_SAGOL, AUSTRIAN FOOD BANK, A.S.A., INDIANA, U.S.A. This publication is an outcome of a research project funded by the Department of Health, Government of Karnataka, India. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of the publisher.

### WASH YOUR HANDS!!



**WHY?**

BECAUSE YOUR HANDS CAN SPREAD ILLNESS DURING

**FOOD PREPARATION, HANDLING, SERVING AND EATING**

**SO WASH YOUR HANDS AFTER :**

- Using the Toilet, Eating
- Sneezing, blowing your nose or coughing
- Dressing a cut or open sore
- Nursing a baby or attending to the sick

PHOTO: PFAF Street Food Coalition. ILLUSTRATION: MAL\_SAGOL, AUSTRIAN FOOD BANK, A.S.A., INDIANA, U.S.A. This publication is an outcome of a research project funded by the Department of Health, Government of Karnataka, India. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of the publisher.

## Five Keys to safer food

SOURCES: FAO, WHO

### Keep clean

- ✓ Wash your hands before handling food and before serving food
- ✓ Wash your hands after going to the toilet
- ✓ Wash your clothes and footwear and equipment used for food preparation
- ✓ Always handle raw and food from animals, plants and other animals

**Why?**

Washing hands appropriately helps reduce the number of germs that can be spread to food. It also helps prevent the spread of germs that cause foodborne illness.

### Separate raw and cooked

- ✓ Separate raw food products and cooked food
- ✓ Use separate cutting boards, knives, and spoons for raw and cooked food
- ✓ Store raw food in a separate container from cooked food

**Why?**

Raw food, especially meat, poultry and seafood, can contain germs that can cause foodborne illness. These germs can spread to other foods if they are not handled properly.

### Cook thoroughly

- ✓ Cook food thoroughly, especially meat, poultry, eggs and seafood
- ✓ Bring food to a boil and simmer to killing to make sure that the food is cooked thoroughly
- ✓ Use a food thermometer to check the internal temperature of the food
- ✓ Avoid undercooking

**Why?**

Proper cooking kills almost all dangerous germs. Undercooking food can allow germs to survive. It is also important to avoid cross-contamination between raw and cooked food.

### Keep food at safe temperatures

- ✓ Don't leave cooked food at room temperature for more than 2 hours
- ✓ Refrigerate promptly all cooked and perishable foods
- ✓ Keep cooked food piping hot (above 60°C) before serving
- ✓ Use an oven to keep food hot to be served

**Why?**

Microorganisms can multiply very quickly if food is stored at room temperature. To keep food safe, it should be kept at a temperature below 4°C or above 60°C.

### Use safe water and raw materials

- ✓ Use safe water to wash and to cook with
- ✓ Avoid fish and shellfish toxins
- ✓ Choose food safety products if used at all
- ✓ Wash dishes and equipment thoroughly if used at all
- ✓ Use safe raw material to prepare food

**Why?**

Raw materials, including water and fish, may contain germs and toxins that can cause foodborne illness. It is important to use safe water and raw materials to prepare food.

Knowledge = Prevention

## SAFE STREET CATERING - CRITICAL CONTROL POINT

Step	Hazard	Action	
1 Purchase	High-risk fresh-cut foods contaminated with food poisoning bacteria or toxins (Produce produced by humans)		Buy from reputable suppliers who supply maximum temperature of delivery
2 Receipt of food	High-risk fresh-cut foods contaminated with food poisoning bacteria or toxins		Check appearance, smell, and feel if it is right. Check if the temperature is right.
3 Storage	Levels of food poisoning bacteria, toxins or high risk (Toxin to eat) foods. Further contamination		High-risk foods stored at safe temperatures from food receipt. Use and stock if good first, before new stock
4 Preparation	Contamination of high-risk fresh-cut foods. Levels of food poisoning bacteria		Wash your hands before handling food. Prepare all foods with clean equipment. Separate cooked foods from raw foods.
5 Cooking	Survival of food poisoning bacteria		Cook all raw meat to keep out of red meat zone. E.g. Kebab and sausage so that the center has reached 75°C. Turn the kebabs or sausages and eat one by a joint of food ready to be consumed.
6 Cooling	Survival of any remaining germs or food poisoning bacteria. Food contamination for bacteria. Contamination with food poisoning bacteria		Cool foods as quickly as possible. Don't leave any of these temperatures. Cool rapidly by moving food to a shallow tray and cool to 4°C immediately quickly.
7 Hot-holding	Levels of food poisoning bacteria. Production of toxins by bacteria		Keep food hot above 60°C
8 Reheating	Survival of food poisoning bacteria		Reheat to above 75°C
9 Chilled storage	Levels of food poisoning bacteria. Production of toxins by bacteria		Keep temperature at right level. Low high-risk undercooked foods with longer duration.
10 Serving	Survival of food poisoning bacteria. Production of toxins by bacteria		1. CLEAN SURFACES: Wash down high-risk foods as soon as possible after removal from grilling system. 2. HYGIENE: Always apply good hygiene to avoid direct contact with food.

PHOTO: PFAF Street Food Coalition. ILLUSTRATION: MAL\_SAGOL, AUSTRIAN FOOD BANK, A.S.A., INDIANA, U.S.A. This publication is an outcome of a research project funded by the Department of Health, Government of Karnataka, India. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of the publisher.



# Training & Promotion

Trainers manual



# Training

- Trained 300 vendors in improved safety
- Vendor organisations have trained an additional 3000
- Started to train vendors in financial management. Vendors need to know the cost in improving hygiene and how it will affect business.



Vendors receiving training in food hygiene



Vendor looking for 'germs' under a microscope



# Consumer survey

- Survey of 530 consumers
  - Many (26 %) buy from the same vendor based on the quality of the food.
  - Consumers want improved food hygiene
  - Many consumers were willing to pay more for more hygienic food

# Consumer survey

- Many consumers did not associate poor hygiene with illness
- Provides business opportunities for vendors who can improve the presentation of their stalls, staff appearance and food hygiene.

# Consumer interviews



# Consumer awareness

- Consumer awareness increased through.
  - Videos shown on national TV (funded by FDB & UNIDO)
  - Billboards at selected locations in Accra (funded by FDB & UNIDO)



Billboards in Accra promoting food safety to consumers