

FOOD SAFETY IN CROP POST

HARVEST SYSTEMS

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Editors

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CROP POST-HARVEST
PROGRAMME



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ACRONYMS AND ABBREVIATIONS

DFID	Department for International Development
CPHP	Crop Post Harvest Programme
DR& E	Department of Research and Extension
R&D	Research and Development
FAO	Food and Agriculture Organization
WHO	World Health Organization
WTO	World Trade Organization
POPS	Persistent Organic Pollutants
MRL	Maximum Residue Levels
IPPM	Integrated Production and Pest Management
SADC	Southern Africa Development Committee
NGO	Non Governmental Organization
EU	European Union
SPS	Sanitary and Phyto-sanitary Systems
AOAC	Association of Official Analytical Chemists
HACCP	Hazards Analysis and Critical Control Points
AMA	Accra Metropolitan Assembly
SSFSIG	Survey on Street Food Situation in Ghana
GES	Ghana Education Service

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- Dr. Shadreck Mlambo, Deputy Director, Department of Research and Extension for officially opening the workshop;
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- All participants for their invaluable input;
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EXECUTIVE SUMMARY

The Crop Post Harvest Programme (CPHP), commissions research and delivery projects on the storage, processing, utilization and marketing of agricultural crops. It is funding several projects concerned with reducing chemical and microbial contamination in marketed fresh produce and street vended foods. Partners associated with these food safety projects from India, Ghana, Zimbabwe and the UK, met in Harare for a two-day workshop on 20 and 21 September 2001.

The objectives of the workshop were to:

- present current findings from the projects;
- discuss common issues on the needs of participating countries, and the role of CPHP in improving the safety and quality of fresh produce and street foods; and
- to map out new research directions for the Programme.

Participants were drawn from the private, academic and public sectors, civic societies and the donor community to:

- encourage dialogue between social and natural scientists working in food safety, and marketers, municipal and government officials; and to
- provide participants with the opportunity to share experiences, discuss common key issues and identify new areas of research and non-research intervention required to improve the safety of food.

Dr. Shadreck Mlambo, Deputy Director, Crops Division, Department of Research and Extension officially opened the workshop. The official opening speech and the keynote address by Tim Donaldson, the Programme Manager, provided an overview of the contribution of the Programme to improving food security and reducing poverty. The first day was devoted to keynote speeches and presentation of papers on current projects.

Presentations

The presentation on food safety issues in Ghana highlighted the need for modern food legislation, education of the food industry and consumers on food safety and infrastructure development. Of particular concern were indiscriminate use of agricultural chemicals, poor post-harvest handling and unhygienic practices in retailing 'street-foods'.

An account of the situation in India indicated serious problems with heavy metal contamination due to air pollution and pesticide misuse. Inadequacies in current legislation to deal with food safety, integration of food safety with other policies, linkage of food safety to health and raising consumer awareness were some of the issues in need of consideration.

An overview of pesticide use and abuse in relation to health and food safety and the use of integrated pest management systems to reduce pesticide residue levels were discussed in the Zimbabwe presentation. Crop production and protection practices in Zimbabwe have a direct impact on food safety with pesticides providing that link. Institutes involved in pesticide management such as the Plant Protection Research Institute, the Tobacco Research Board, universities and colleges and various NGOs, as well as producers, are committed to play an increased role in food safety. This can

be achieved through advocacy for reduced pesticide application, and adoption of Integrated Production and Pest Management (IPPM).

The key common issues were as follows.

- All the countries identified food safety problems throughout the production and marketing chain.
- Food safety is indeed a high priority area and policy makers and politicians should be informed of its importance.
- Solving food safety problems requires inter-disciplinarity and active dialogue among all the stakeholders.

The second session was devoted to presentations of papers on current CPHP food safety projects.

Zimbabwe

The speaker presented two papers on food safety in horticultural markets. The objectives were to:

- assess production practices used by smallholders in urban and peri-urban locations from a food safety perspective;
- assess consumer awareness of food safety in high-density low income housing districts of Harare
- conduct a baseline study of contamination of vegetables produced in urban and peri-urban areas, and marketed in Harare.

Preliminary findings revealed contamination of produce by heavy metals, pesticide residues and microbes.

India

The Indian work focused on quality assurance mechanisms for the effects of air pollution on fruit and vegetables. The reported highlighted:

- higher than permissible levels of heavy metal contamination in horticultural produce at retail outlets;
- the legislative framework for food safety in India, producing a stakeholder map, a contacts database and detailed case studies;
- the structure of supply and distribution of selected vegetables.

Ghana

A paper entitled "Improving the safety of street foods in Ghana" was presented. The project is assessing the economic and social importance of street-vended food in Accra, making recommendations on quality and safety risks, and identifying areas where new knowledge is required. The project found that:

- the street food sector contributes significantly to the economy of Accra, employing over 60,000 people, with an estimated turnover in excess of US\$100 million and an annual profit of US\$24million;
- most (94%) of the vendors are women, and many have little or no education;
- samples from ninety-six street vended foods revealed heavy metal, pesticide, mycotoxin and microbial contamination;
- the hygiene of street vended foods has deteriorated over the years.

The findings of this study received a lot of media coverage and generated considerable public discussion in Ghana.

Discussions

Day two was devoted to discussions on the future strategy of the CPHP on Food Safety. Participants were divided into three interdisciplinary working groups and each group was asked to:

- consider the planned activities put forward by the four ongoing CPHP Food safety projects and comment on them;
- decide the research areas CPHP should prioritize between now and 2005;
- suggest any non-research activities that CPHP could support to maximize the value of past and ongoing research.

Conclusion

The main issues emerging from the three groups and the following discussions are summarized below:

- **Policy:** Lack of clear government policies to promote food safety was identified as a major constraint. For all the countries, the existing regulatory framework needs to be enhanced to ensure enforcement of by-laws pertaining to food safety.
- **Awareness:** Education of farmers on the proper use of agrochemicals is crucial. Street food vendors, vegetable wholesalers, hawkers, school children and the general consuming public require training in food hygiene.
- **Research needs and dissemination:** There was consensus that research is needed to meet the demands for new knowledge identified by the projects. The CPHP could facilitate dissemination of information through the media, consumer associations and NGOs, and could also consider funding the development of specific dissemination tools.
- **Institutions and inter-disciplinarity:** Food safety is a crosscutting issue and there is often inadequate co-ordination and co-operation between the involved institutions. The lack of an interdisciplinary approach between NGOs, government departments, research institutes, private agro-chemical companies and market authorities may compromise food safety. A call was made for a systematic review of linkages and possibilities for support from other aid agencies such as FAO and WHO, and other DFID programmes, e.g. Crop Protection.
- **Exchange of experiences:** National activities should link through regional networks to exchange information and experiences in food safety.

The Programme Manager announced that he would make a call for proposals on food safety that will incorporate the recommendations made at the Workshop.

Editors' Notes

Economic progress in developing countries relies on a healthy, productive population. It is recognized that contaminated food hinders growth, survival and well being of populations, especially children, preventing maximum educational achievement and productive output.

In 1998, the Crop Post Harvest Programme decided to make food safety more explicit in its portfolio.

This document summarizes the events, action points and conclusions of a meeting on the future strategy of the Crop Post Harvest Programme on Food Safety held at the Holiday Inn Hotel, Harare, 20-21 September 2001.

The full papers presented during the workshop are available at the CPHP office c/o PPRI, P.O. Box CY550, Causeway, Harare, on email: cphpzim@africaonline.co.zw Alternatively the authors can be contacted on the addresses shown on their contributions.

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Disclaimer

The views and opinions expressed by contributing authors are not necessarily those of DFID. The editors exercised great caution in checking contributions for accuracy and accept no liability for errors made in good faith.

INTRODUCTION

The United Kingdom Department for International Development (DFID), through its Crop Post Harvest Programme (CPHP), commissions research and delivery projects on the storage, processing, utilisation and marketing of agricultural crops. The Programme is funding several projects concerned with reducing chemical and microbial contamination in marketed fresh produce and street-vended foods. Partners associated with these food safety projects in India, Ghana and Zimbabwe will present their current findings in this workshop.

The aim of the workshop is to get your views and ideas on future contributions of the CPHP to food safety. The World Food Summit + 5 in Rome had two main themes, to mobilize resources and to fight world hunger. Globally, more attention is now being given to the Food Safety, broadly defined as the availability of food, which is nutritious and safe for people to lead a healthy life.

With an annual budget of about one million pounds a year, the Crop Post Harvest Programme is one of ten DFID funded projects. The Programme, directed towards poorer producers and consumers, has principally funded research on food storage, agro-processing and marketing.

In 1998, CPHP decided to make food safety and the reduction of food-borne illnesses more explicit in its portfolio, at a time when food safety scares in Europe have raised public awareness of the issues. These included BSE, hormones in milk, Salmonella, swine fever, botulism and foot and mouth. Debate on quality versus quantity is occurring in national markets, and food safety is being discussed in relation to the health of the population. Food provision is becoming attractive to entrepreneurs, but we should give thought to who pays for the standards and enforcement of food safety. At international level, we should consider whether food is being traded safely, the existence of a level playing field and the benefits for the poorer. We face several challenges today. We need to improve access to markets, improve access of poor people to safe food and to turn research findings into practical interventions.

Today's workshop will assist us to identify the future strategy for CPHP investment in food safety. We need to develop a call for proposals by the end of October. The deadline is 14 December for projects to begin mid-2002. For more details on the programme you can contact the CPHP offices in Harare, Accra, Hyderabad and Kampala or visit our web site: www.nrinternational.co.uk

We hope there will be a fertile exchange of ideas and experiences. May I take this opportunity to thank the DR & E for all the support rendered to the programme, and to thank Tafadzwa, Martha and Vino for working tirelessly in making preparations for this workshop

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OFFICIAL OPENING
Dr. Shadreck Mlambo¹

Mr. Chairman, distinguished guests, representatives of the donor community and civic societies, ladies and gentlemen. I am honoured to be with you for the official opening of this International Workshop on Food Safety. I am informed that participants have come from as far as West Africa, South Asia and Europe. I hope that the foreign participants traveled safely and are having the opportunity to enjoy our excellent Zimbabwean hospitality. I also hope that you are fully geared to tackle the pertinent issues at hand.

This two-day workshop has brought together relevant stakeholders in the post-harvest sector. I understand that the main aim of the meeting is to identify areas of research required to improve the safety of food. In particular, the needs of participating regions, and the role of the Crop Post Harvest Programme, in improving the safety and quality of fresh produce and street-foods.

As most of you are already aware, the Crop Post Harvest Programme is a collaborative research programme funded by DFID and operates under the auspices of the Department of Research and Extension in the Ministry of Lands, Agriculture and Rural Resettlement in Zimbabwe. The collaborating institutions include government, universities, non-governmental organizations and international research centers, many of which are represented here today.

The United Kingdom Department for International Development, through the CPHP, commissions demand-driven research on storage, processing, utilization and marketing of field and horticultural crops, and dissemination strategies, to improve peoples' lives.

During the past five years, the Programme has made significant progress. In the first year, it started with a couple of projects, which have grown to twelve. Several projects have been completed and beneficiaries are adopting the information and technologies generated. For example, these include adoption of improved storage structures by smallholder farmers here in Zimbabwe, and manufacture of peanut butter by women's groups for increased incomes. The list of partners and collaborators is increasing on almost a yearly basis pointing to the existence of an enabling cooperative research and development environment not only in Zimbabwe, but also throughout southern Africa with a common aim of improving the livelihoods of rural populations. Wider dissemination has been achieved through publication of a 'new-look' bulletin, which you will find available here today.

I am pleased that the Workshop will look at the progress, problems and perspective of this Programme and come up with a defined methodology and course of action towards increasing awareness of household food security and its contribution to alleviating poverty. You represent different regions here today and I hope the interaction will lead to an exchange of information, ideas and experience. I hope that the workshop will be a success through our collaborative efforts. It is my hope that all of us will participate actively and come up with productive recommendations.

Ladies and gentlemen, with these few words I declare the Workshop officially open. Thank you very much and I hope the two-day proceedings will provide a positive way forward.

¹ Deputy Director, Department of Research and Extension, P.O. Box CY550, Causeway, Harare, Zimbabwe