

SUB-THEME 3: AGRICULTURE AND HEALTH

What are the highest priority areas for agricultural policy in support of health issues and how might higher education instructions and extension services integrate agriculture and health? Are there models to learn from?

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In this session, there was a presentation by Jefferey Alelberg, followed by discussions of key points emerging out of the presentation

Key Issues in the Presentation

Integrated farm systems dominate smallholder farms of Africa. The system integrates crops, animals and humans and has high levels of interaction. They are among the most sustainable systems because of high efficiency and interrelationships. However, there are health issues resulting from interactions of the crop management, animal husbandry and benefits acquired by human beings. Health issues arise from 4 main areas:

- (i) Fruits and vegetable sanitation.
- (ii) Meat and dairy products.
- (iii) Herbs and spices medicine.
- (iv) Shrubs and fodder veterinary.

There are two pertinent issues in agriculture and health:

- (i) Food and nutrition.
- (ii) Health and wellbeing.

Food and Nutrition

Humans feed on contaminated products arising from agricultural practices, harvesting, post handling storage and utilisation.

Main issues

- (i) Animal and veterinary diseases; Microbes are opportunists and responsible for transfer of diseases from animals to humans.
- (ii) Milk and pasteurisation: Use of raw animal products are a health hazard, e.g., use of raw milk is responsible for brucellosis
- (iii) Use of animal waste to improve soil fertility: It is a health hazard due to microbes present from the animal system. Use of this in compost is recommended
- (iv) Use of sewage water in urban and peri-urban farming, e.g., growing vegetables creates risk of humans consuming foods contaminated with heavy metals and microbes
- (v) Pesticides and insecticides is a source of direct contamination and also through the food chain
- (vi) HIV and AIDS: Affects labor force due to weakness and absenteeism, and use of available funds to buy drugs instead of investing in agriculture
- (vii) Informal milk marketing is a source of contaminated milk especially with chemicals. Milk is usually adulterated in order to increase profits to the traders:

Health and Well-being

It was noted that medicine has been part of agriculture since time immemorial and knowledge and information has mainly been transferred through generations using oral means

Successful models of herbal medicine include the Chinese and Indians. For example, there are 7,295 medicinal plants in china of which 1,500 have been validated. Of the 1500, 140 are included in modern medicine.

It was noted that Africa has not been given a fair share in writing history of its medicinal plants. Africa is the cradle of mankind and scholars must write history to include Africa as a centre of pharmacological diversity. In Africa, traditional use of herbal medicine is through recipes and portions, but this needs to be validated and documented.

Huge market in the range of \$100 B for natural products but the share to Africa is quite small.

Recommendations

Policy matters:

- (i) Develop mechanisms for encouraging farmers to engage in growing medicinal plants for market and pay them for both growing and information. Natural medicine is diversified, indigenous, it is more profitable for farmers and medicine is more prestigious.
- (ii) Address impediments to marketing. Currently marketing of medicinal plants is faced by a myriad of problems that include lack of access to capital for investment, inadequate information on marketing leading to poor prices, post harvest and packaging and inadequate technical information.
- (iii) Governments should develop mechanism for availing necessary information, knowledge and technologies that can spur growing of medicinal plants by farmers
- (iv) A major problem is over-exploitation that has led to some species becoming threatened, e.g., *Prunus africana*. Government should come up with exploitation and marketing policy framework that allows fair marketing and control over-exploitation
- (v) The smallholder farming communities face problems of health resulting from agricultural practices, food handling and utilization. Government should have extension personnel posted to rural areas to assist farmers address these constraints. Water is an important commodity in sanitation and governments should intensify their efforts in availing clean water to all citizens

Training Institutions and Agricultural Research

- (i) More efforts to document history of medicinal plants in Africa
- (ii) Validation of efficacy of medicinal plants supported by data. Be aware of experimental error to interacting factors in humans. It would be better to first exploit animals
- (iii) Review curriculum in institutions of higher learning to include topics of medicinal plants and safety in agricultural practices and food handling (harvesting and processing)
- (iv) Review of curriculum in middle level colleges to include topics in safety in agriculture and especially harvesting, handling and utilization. The resulting graduates to be

- posted to educate communities on hygiene and safety methods of handling and utilisation of food
- (v) Need for capacity building for food handlers, processors and farmers in matters of agriculture and health. This can include short term training at the grassroots