

STAKEHOLDERSHIP IN BTWC

HEALTH AND FOOD SECURITY:

OPPORTUNITIES FOR INTERNATIONAL COOPERATION

BY

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Outline of the presentation

- Introduction
- Food security
- Challenges
- Threats/Sources of treats

Introduction

- Food is one of the basic human needs as well as a prerequisite for health.
- Food security is now listed among the social determinants of health
- Food insecurity is believed to affect about 840 million people world-wide (FAO 2002)
- Genetically modified foods are believed to have the potential to avert the many of the world's hunger and malnutrition

Introduction (cont..)

- However, there are many challenges in the areas of safety testing, regulation, international policy and food labelling.
- Changes in the way food, plants and animals are produced, processed and distributed have introduced new concerns about health of plants, animals as well as food safety and human health

Food Security

- Global food crisis stimulated the adoption of transgenic (genetically modified organisms)
- Most of these organisms are promising towards the reduction of food insecurity
 - High yielding potential
 - Resistance to pests and diseases
 - Use of biological extracts to control pests and diseases e.g. *Bacillus thuringiensis* (Bt) extract
 - Ability to store for longer period especially in horticulture
 - Increased suitability for a specific purpose

Challenges (Food security)

- Limited infrastructure: difficult to contain the organisms without eroding into the existing diversity in flora and fauna
 - The GMs if not carefully handled may lead to gene erosion
 - Fear of accidental production of dangerous organisms that may be toxic to crops and livestock thereby aggravating the existing food crisis.
 - Accidental introduction of undesirable traits in plants and animals especially the food crops and livestock
 - Loss of the GM-Free products status hence losses in scope of markets for agricultural produce

Threat on Food Security

- Deliberate production of toxic biological organisms that may lead to destruction of crops and livestock thereby increasing vulnerability in terms of food and income at farmer household level
- Production of organisms that cause zoonotic diseases i.e. those diseases that can be transmitted to human beings.
- Effects of toxic biological organisms in the soil biological processes hence a reduction in available crop nutrients
- Effects of toxic biological organisms in marine flora and fauna i.e. the rich diversity of fish and aquatic organisms may be endangered with these biological and toxic organisms
- Some the organisms may destroy vegetation and therefore expose the agricultural land to agents of soil erosion.
- Consumption of unsafe food

Sources of Threats for Human Health

- Deliberate release of harmful human, animal and plant pathogens (bio-terrorism)
- Accidental release of dangerous infectious agents from genuine health research (i.e. laboratory accidents)
- Inadvertent release of dangerous infectious agents (as waste) from routine health system operations
- Lack of capacity (human, infrastructure, guidelines) causing failure to contain dangerous pathogens

Disease Threats posed by btw

- Anthrax
- Plague
- Rift valley fever
- Avian/pandemic influenza
- Tuberculosis
- Small pox
- Cholera
- Ebola
- Severe Acute Respiratory Syndrome (SARS)
- Mad cow disease (Bovine spongiform encephalopathy)
- Brucellosis
- Yellow fever e.t.c.

Opportunities for International Cooperation

BTWC provides opportunities for state-parties

- To harmonize and rationalize policy, legislation and core roles to better manage relevant risks
- Coordination among national and international bodies responsible for setting and enforcing sanitary and phytosanitary measures

Opportunities for International Cooperation (Cont..)

- Adoption and development of code of conduct, SOPs and guidelines with the aim of preventing misuse in the context of advances in bio-science and bio-technology for purposes of making btw
- Promoting capacity building in the field of disease surveillance, detection, diagnosis and containment of infections for countries in need of assistance

Opportunities for International Cooperation (Cont..)

- Enhance international cooperation, assistance and exchange of biological sciences and technology for peaceful purposes
- Cross-boarder opportunities workshops, meetings, trainings and exchange visits
- Cross- boarder controls

Conclusion

The growing threat that the biological and toxin weapons might be used to cause devastating epidemics is recognized. All countries are potentially at risk.

Therefore, international cooperation is important in order to take advantages of synergies across sectors at the national and international levels.