

# SESSION 1: IMPROVING QUALITY of LIFE

## PANEL 1.1A: Essential elements of well-being



Berhe TEKOLA  
FAO

**Director of the Animal Production and Animal Health Division of the Food and Agriculture Organization (FAO) of the United Nations**

Berhe Tekola joined the FAO in 2011 as Director of the Animal Production and Health Division, leading the Animal Health Service (AGAH), the Livestock Production and Animal Genetic Resources Branch (AGAG) and the Livestock Information, Sector Analysis and Policy Branch (AGAL); he and his team strive to address the sustainability of the Livestock sector for the benefit of the livestock keepers (including the wildlife) finding a balance between the livestock/animal and the environment; he is the technical focal point for FAO on the Tripartite One-Health initiative lead by FAO, OIE and WHO



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# ***Food Security and Essential Elements of Well-being***

Mr Berhe G. TEKOLA

Director, Division of Animal Production and Animal Health  
Food and Agriculture Organization of the United Nations  
(FAO)

Nuclear Science and Technology:  
Addressing Current and Emerging  
Development Challenges



# Food Security

- ***Availability:***

Production, supply, stocks, trade, etc.

- ***Access:***

Affordability, income, purchase power, prices etc.

- ***Utilisation:***

Safety, hygiene, enough, diet quality and diversity, etc.

- ***Stability:***

Ability to obtain food over time

# Major threats to global food security

- *Rapid population growth*
- *Climate Change*
- *Upsurges in transboundary pests and diseases*
- *Conflicts*
- *Competition for limited natural resources*
- *Rising food prices*

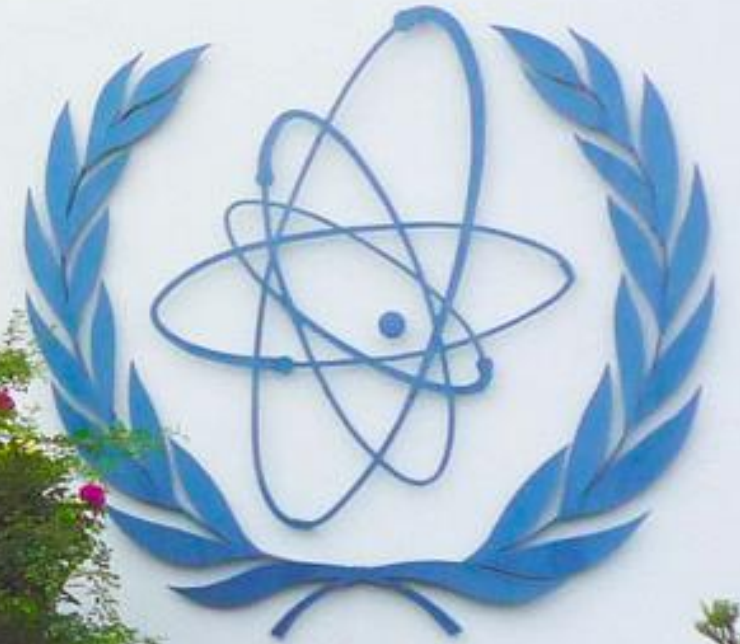


# **Greatest challenges over next decades**

- **More mouths to feed**
- **Growing appetite for meat and dairy products**
- **Preserving natural resources and environment**

# Nuclear Science and Technology

- **Great achievements in Technology Development**
- **Important Contributions to Food Security**
- **Countless successes in Food Production, Protection and Safety**



# Nuclear Technology for Agriculture Production

- **Mutation Breeding (Crop improvement)**
- **Livestock productivity**
- **Land productivity (Soil and water management)**



# Nuclear Technology for Agriculture Protection

- Insect pest control by Sterile Insect Technique
- Plant disease resistance through mutation breeding
- Control of transboundary animal and zoonotic diseases





# Nuclear Technology for Food Safety

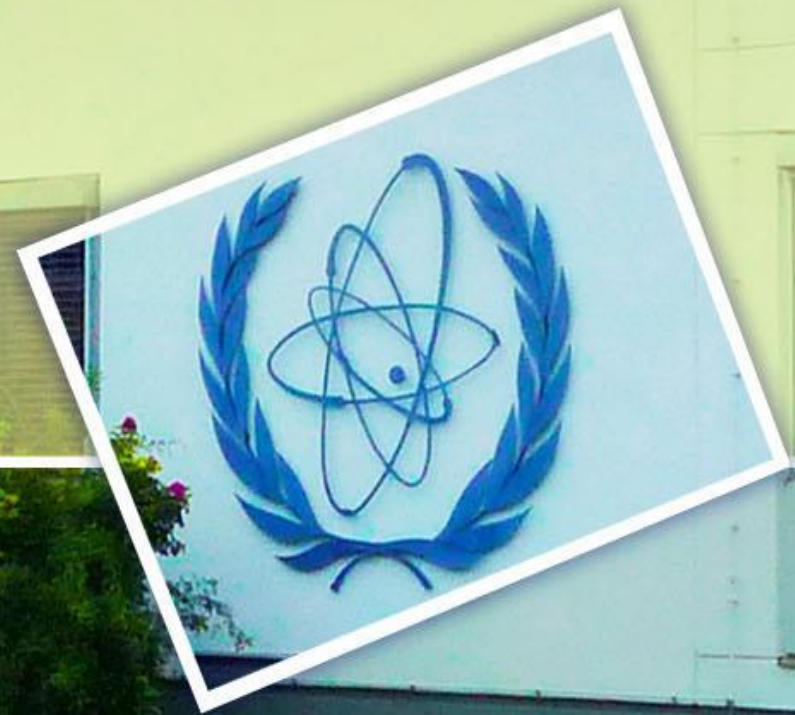
- **Food irradiation**
- **Detection/control of contaminants**
- **Traceability/authenticity**



# **Nuclear techniques:**

## **Competitive and Comparative Advantages**

- **Traceability**
- **Radioactivity**
- **Measurability**
- **Accuracy**
- **Specificity**



# **FAO/IAEA impactful strategic partnership**

- **Nearly 55 years of collaboration**
- **In all Food and Agriculture areas**
- **Enormous successes around the world**
- **Distinct socio-economic impacts**



**Thank you**

