IAEA Ministerial Conference on Nuclear Science and Technology: Addressing Current and Emerging Development Challenges

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Title: Food Security Challenge: Agricultural Research and Nuclear Science for Food Availability and Livelihoods

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(*Honourable Ministers,*

Excellencies,

Distinguished guests and colleagues,

Ladies and gentlemen,)

1. Let me start by thanking the IAEA, our sister agency and special partner for nearly 55 years, for giving FAO the opportunity to speak at this event, addressing "*Current and emerging Development Challenges,* a theme that **could hardly be more important, timely and urgent.**
2. The world's food security challenges are central to this topic.
3. **FAO's vision** is a '*world free from hunger and malnutrition, where food and agriculture contribute to improving the living standards of all, especially the poorest, in an economically, socially and environmentally sustainable manner*'.
4. Food is life. It is the one thing we all share every day.
5. Today, the world has the capacity to produce enough food for everyone, yet, for the third year, hunger is on the rise.

6. Globally, some 821 million people –one out of 9 -are chronically undernourished, while at the other end of the spectrum, one in 8 is obese. At the same time, one third of our global food supply is lost and wasted every year.
7. This against a backdrop of multitude challenges: rapid population growth, climate change, urbanization, conflicts, competition for limited natural resources, more intense natural disasters, upsurges in transboundary pests and diseases, and changes in global food systems.
8. To meet the projected global food demand in 2050, agricultural production will need to increase by 50%, and be nutritious and safe.
9. Our food systems **must produce more - and better – with less**.
10. This means everybody must make more responsible choices as producers, government officials or simply as consumers.

    Ladies and gentlemen,
11. Food systems and nutrition **are at the heart of the 2030 Agenda,** which recognizes that the way our food systems evolve will affect everything we want to change.
12. We can only realize the SDGs by putting the world's 2.5 billion family farmers at the center by **creating an enabling environment to unlock their potential to prosper and** innovate.
13. Let's not forget, they produce 70% of our food and manage 85% of the planet's biodiversity for food.
14. We must also promote t**erritorial approaches and rural-urban linkages** by embracing appropriate landscape and territorial development initiatives and facilitating diversification of production practices.
15. We must focus on **innovation and technology**.
16. Innovation in agriculture cuts across all dimensions of the production cycle along the entire value chain.

17. Last week FAO hosted the first ever International Symposium on Agricultural Innovation for Family Farmers.
18. The wide range of participants firmly agreed that innovation is about process, institutions and policies, knowledge; while acknowledging, technology's central role in providing novel and practical solutions.
19. **Agricultural science and technology research is vital** to improving the productivity and resilience of our food and agriculture systems.

    For instance:

    a. **Crop improvement**, through **breeding and gene revolution**, increases yields and enhances agricultural productivity;

    b. **Genetic characterisation**, breeding and veterinary vaccines are instrumental in enhancing livestock productivity and quality;

    c. **Control of transboundary diseases** protects small-farmers livestock and prevents the spread of epidemics.

Excellencies, Ladies and gentlemen,

20. I would like to praise the IAEA for its key role in developing new technologies that improve the sustainable development of food and agriculture systems.
21. Our valuable and longstanding partnership with IAEA, nuclear science and technology has been instrumental in advancing agriculture production.
22. Nuclear science and technology have added comparative and competitive value to conventional approaches in all areas of food and agriculture from animal production enhancement to food safety to climate-resilient food and agriculture systems.
23. As well, nuclear techniques have unique benefits, namely: the measurability of isotopes; the accuracy of nuclear techniques over conventional analytical methods; traceability to name a few.

24. For instance, to combat the rapid surge in antimicrobial resistance, we are working together to develop methods to trace the use of antimicrobials through the human food chain.
25. Yes, what gets measured gets done!
26. Allow me to mention some outstanding achievements of the FAO/IAEA strategic partnership:
    - Mutation breeding has improved production and livelihoods for millions of poor rural populations,
    - Sterile insect technique prevented ravaging damages to local and regional food production
    - Contributed to the historic eradication of rinderpest– to this end we are equally hopeful to reach the same result for the *Peste des petits ruminants*.
27. All of these remarkable outcomes were possible thanks to the Joint FAO/IAEA Division's cutting-edge agriculture and biotechnology laboratories, Research and Development activities, Scientific Networks, and Technology Transfer and Capacity Building.
28. To conclude, let me emphasize that our collaboration is an excellent way
29. to address today's development challenges and achieve the Sustainable Development Agenda.
30. Thank you for your attention