

Food wastage footprint

Impacts on natural resources

Presentation of the Footprint

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Background


Food wastage – Why is it an issue?




Each year, about ⅓ of all food produced for human consumption in the world is lost or wasted

Food wastage represents a missed opportunity:

- ❑ To improve global food security : by 2050, food production will need to be 60 % higher than in 2005/2007;
- ❑ To mitigate environmental impacts generated by agriculture: food supply chains have important environmental externalities.



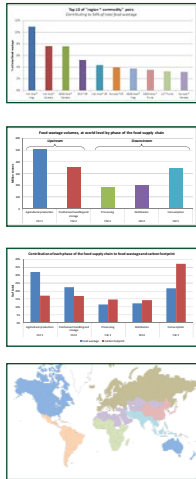
Background
Food waste – Why is it an issue?

 **To date, no study has analyzed the environmental impacts of global food waste**


The Food Waste Footprint (FWF) model was developed to answer 2 key questions:

- ☐ What is the magnitude of the impacts?
- ☐ Where do these impacts come from? (in terms of regions, commodities or phases the supply chain)


... in order to point towards action areas to reduce food waste.



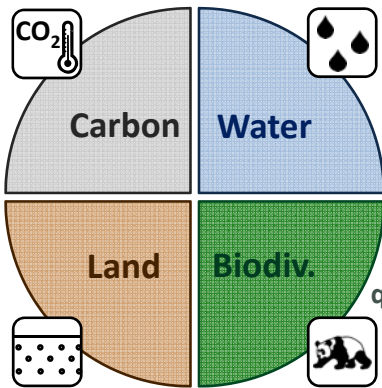
FWF model outcomes 3



FWF model
Indicators

 **The environmental footprint of food waste is assessed through 4 indicators**

A quantitative assessment has been made for **carbon footprint**, **blue water footprint**, and **land occupation**.

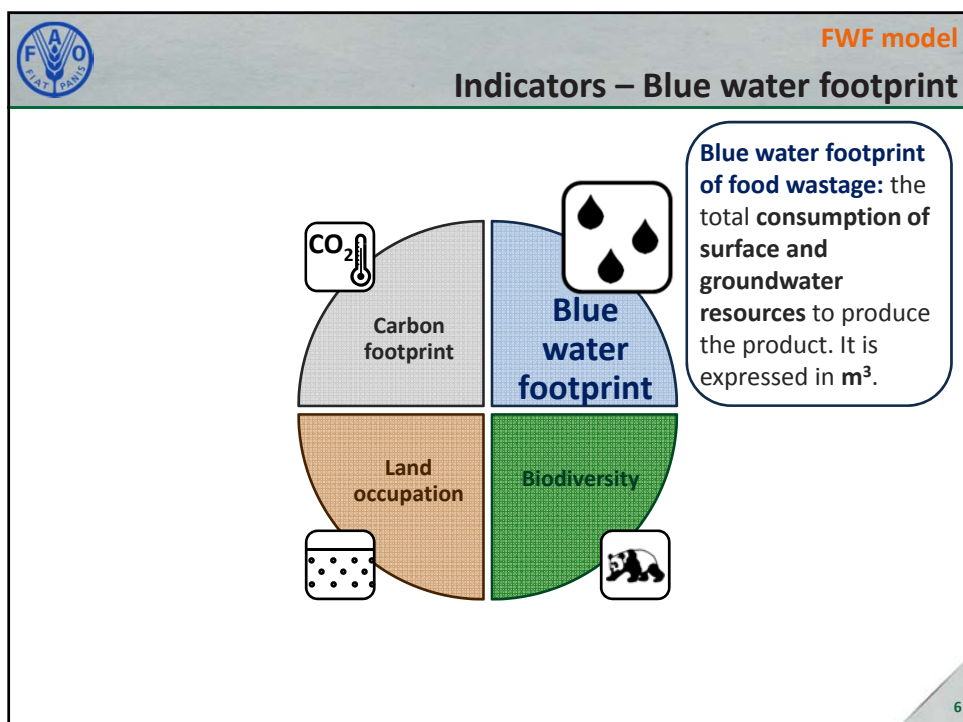
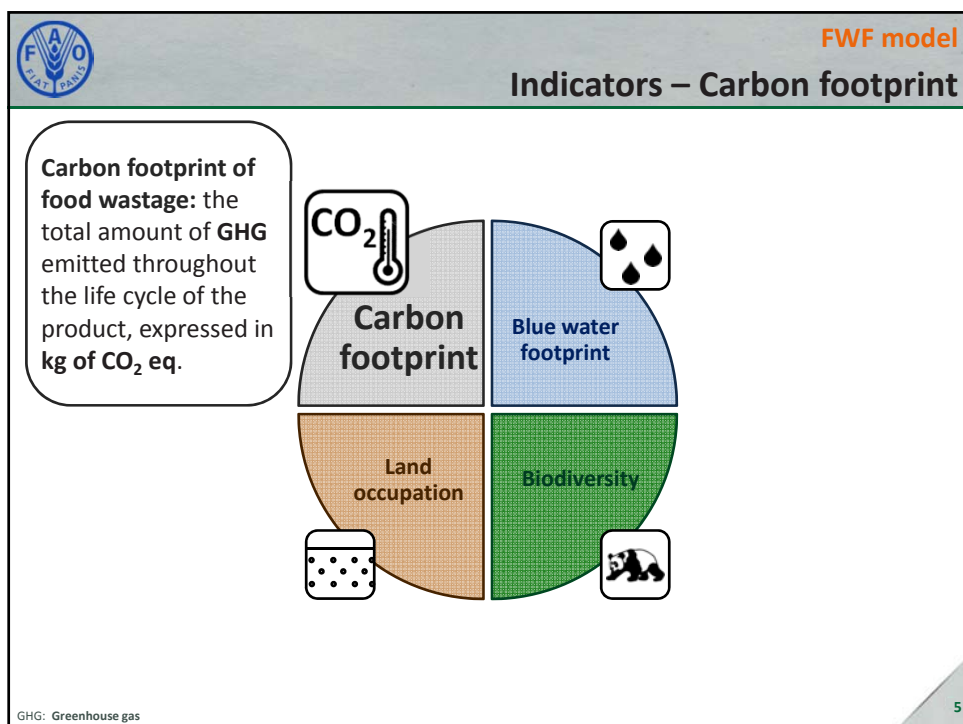


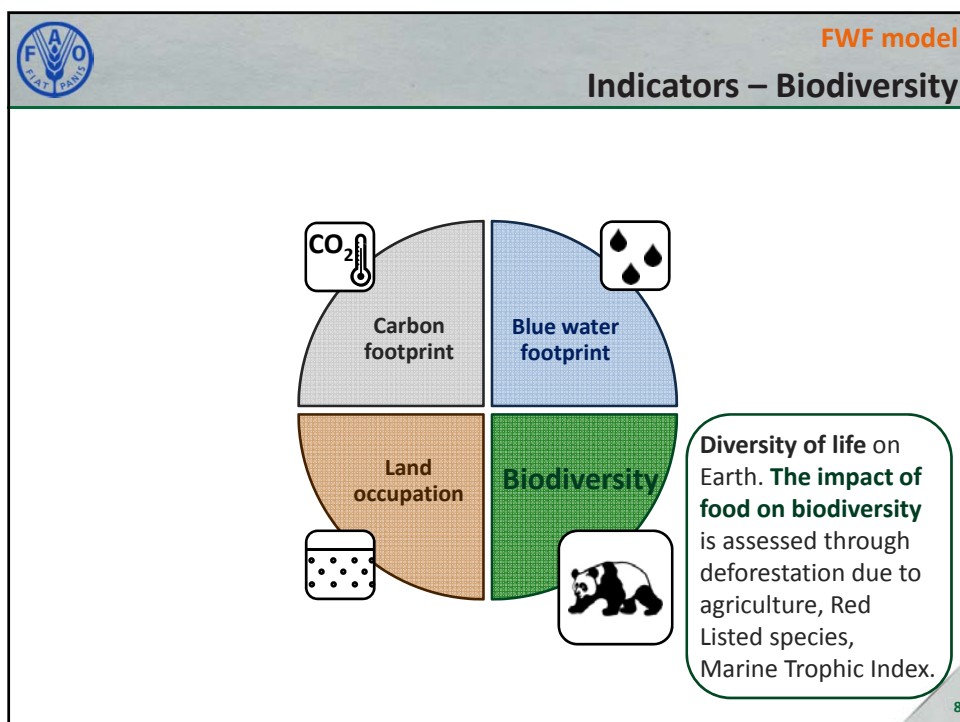
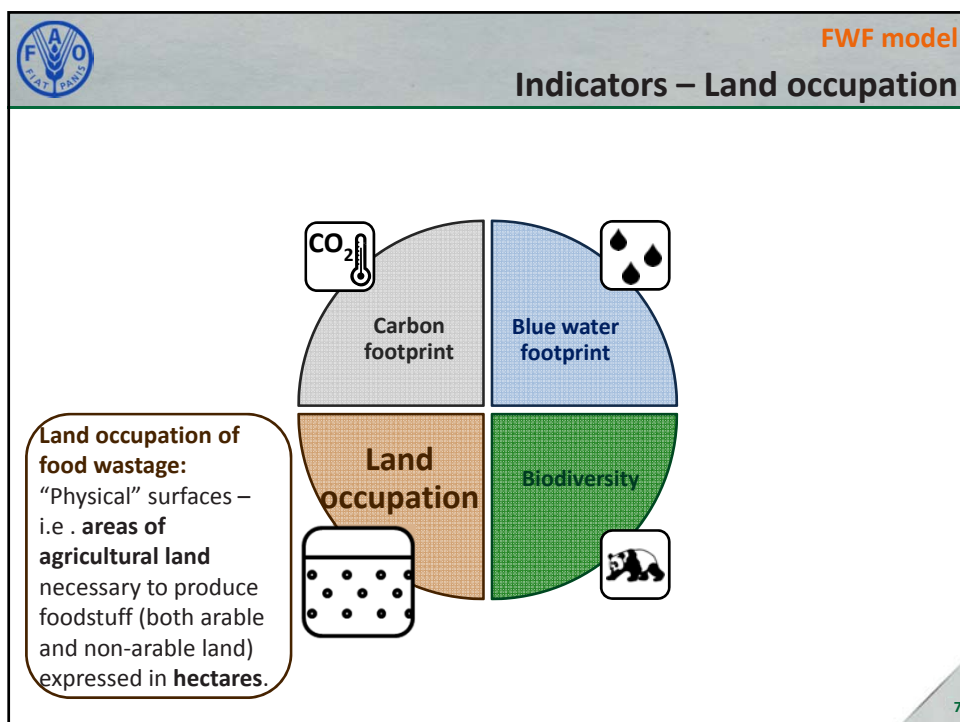
For **biodiversity** a combined semi-quantitative/qualitative approach was used.

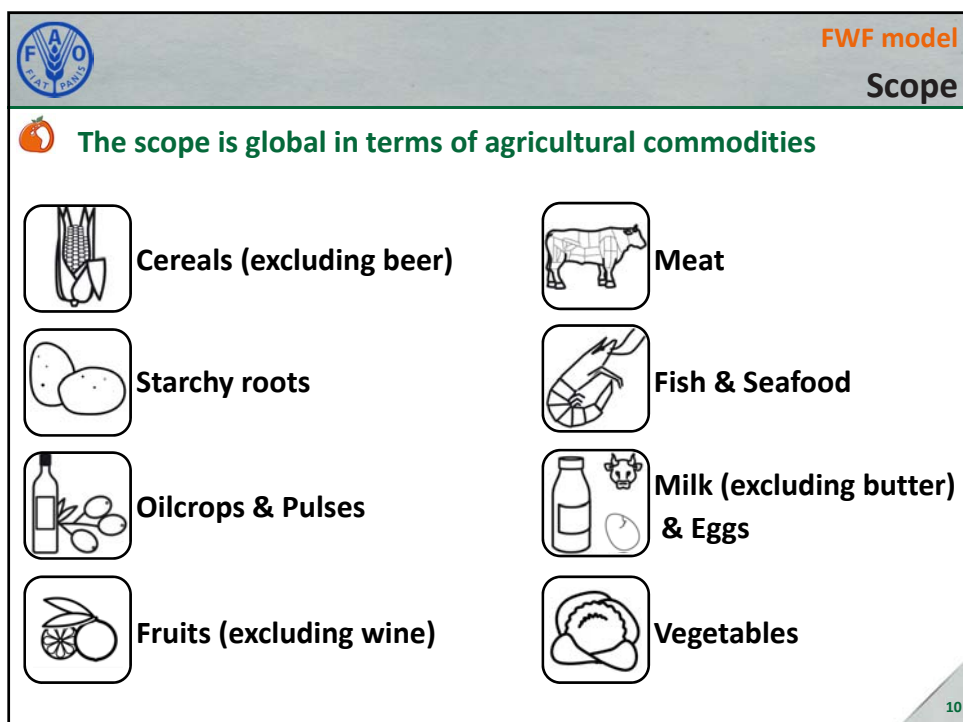
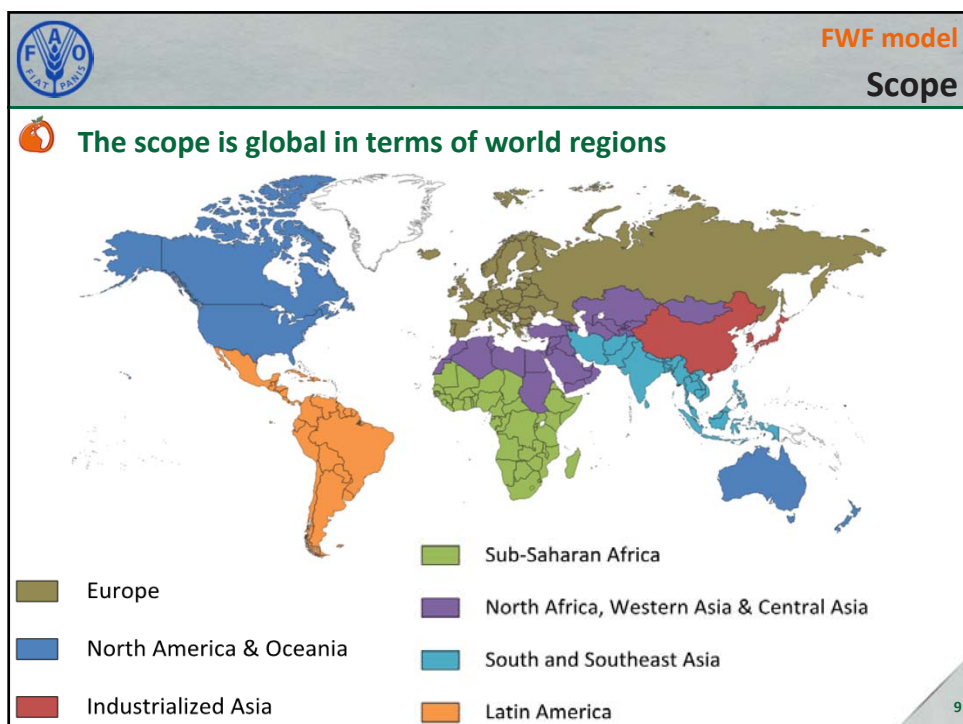
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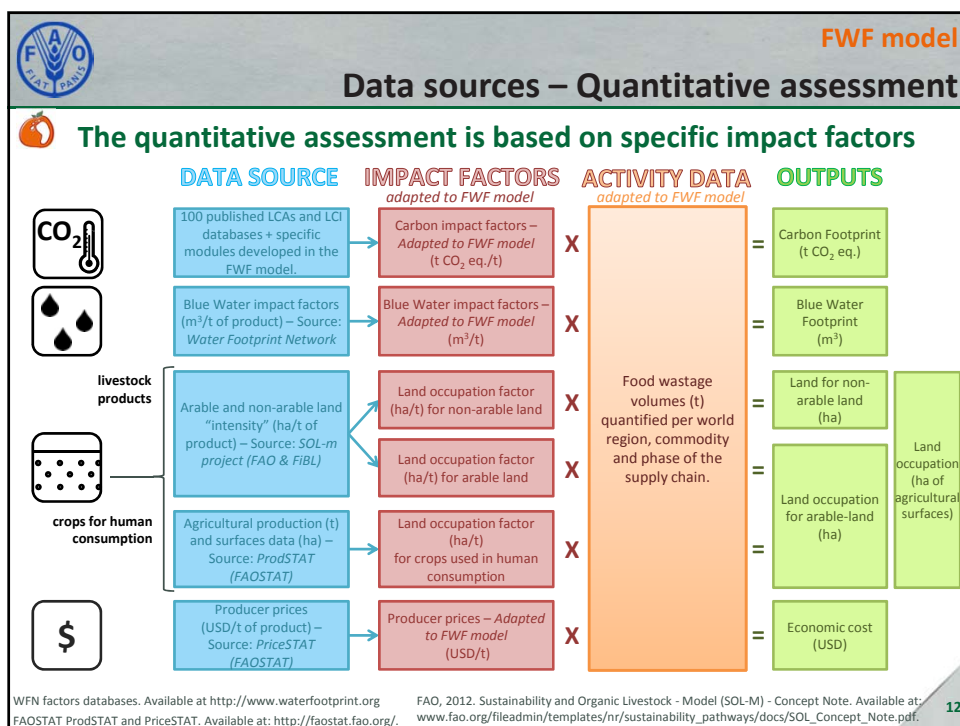
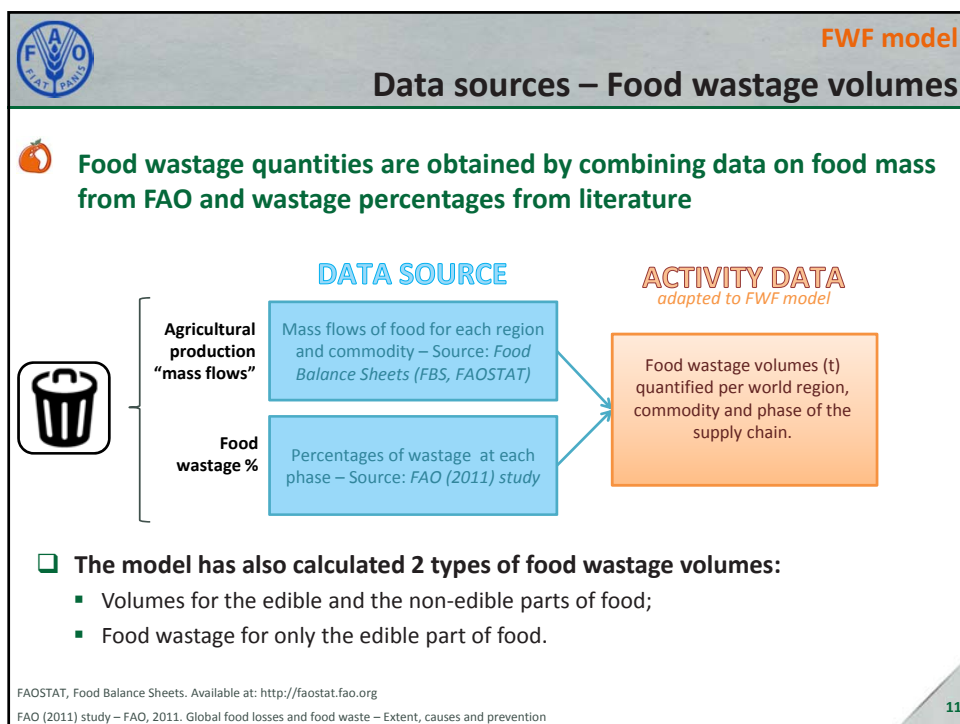
The environmental assessment is complemented by an **economic quantification**.

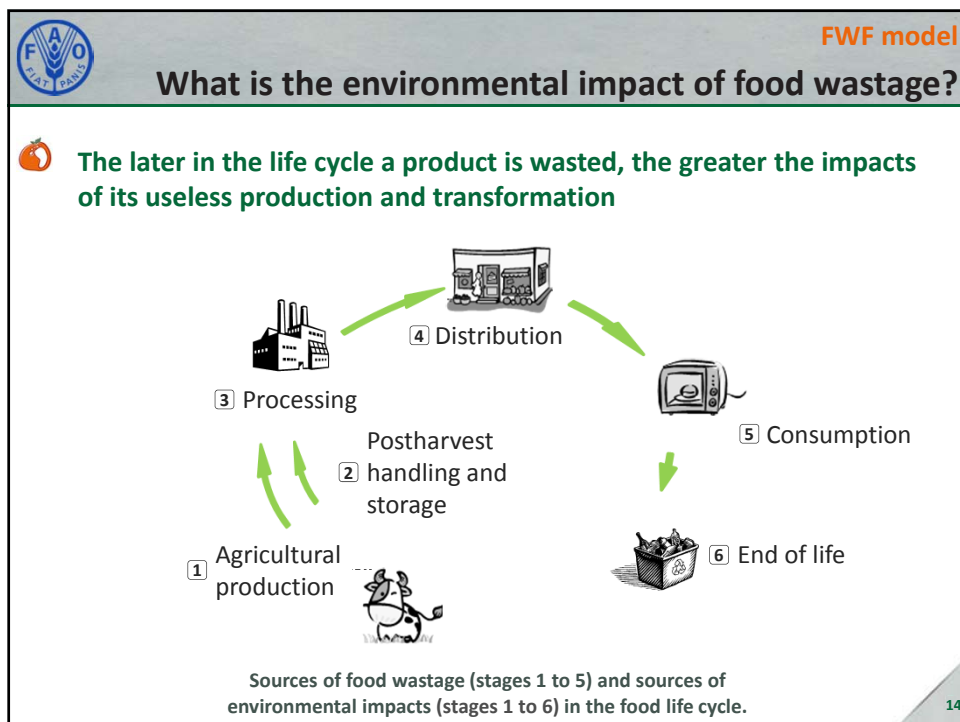
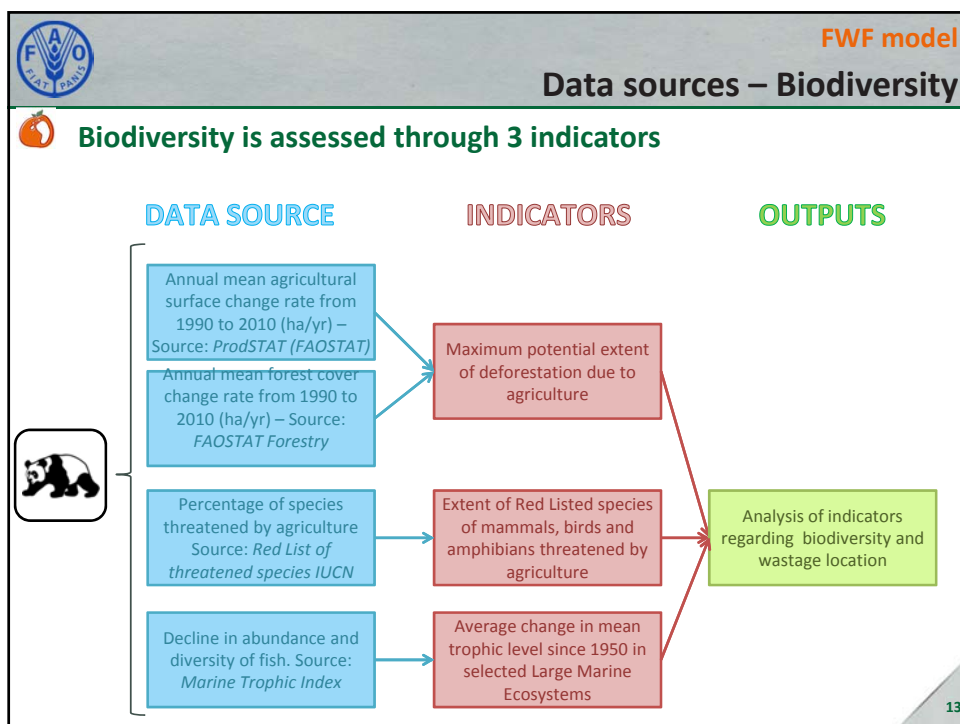
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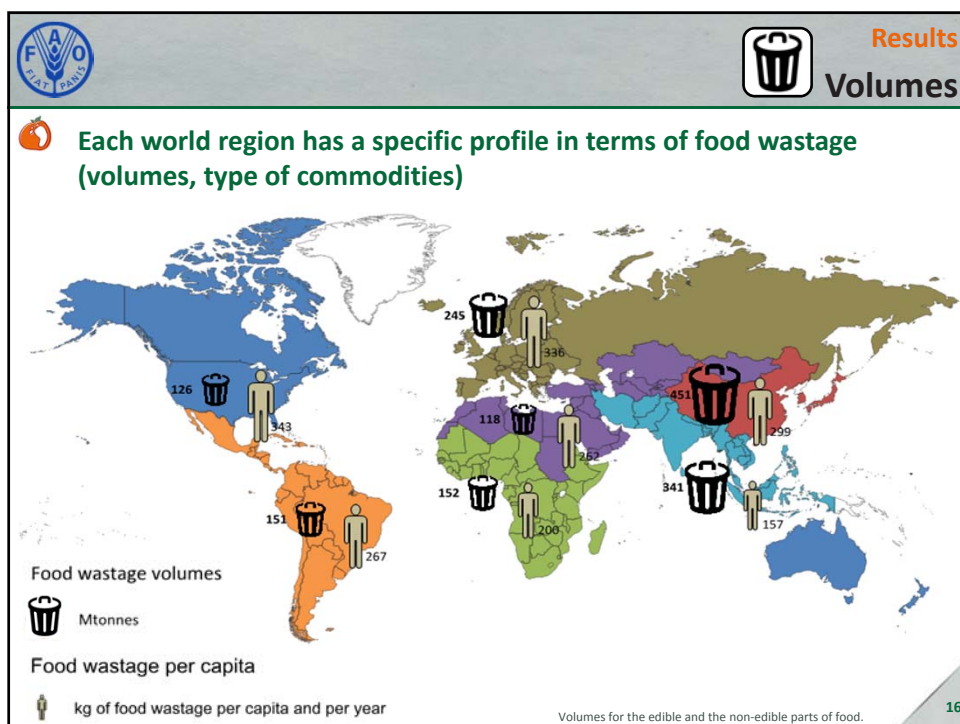
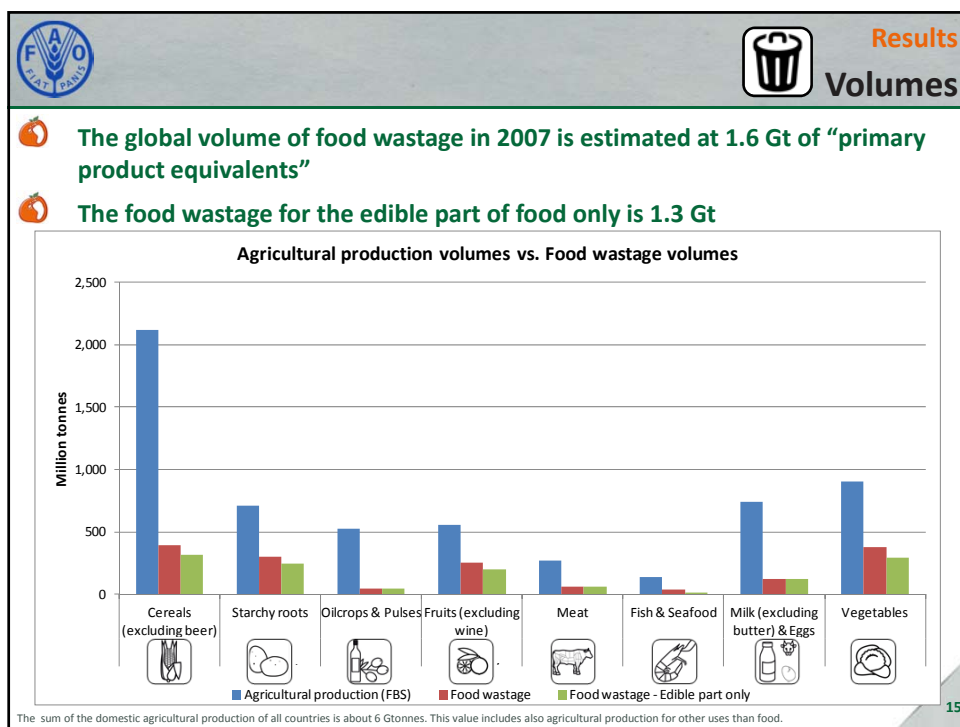


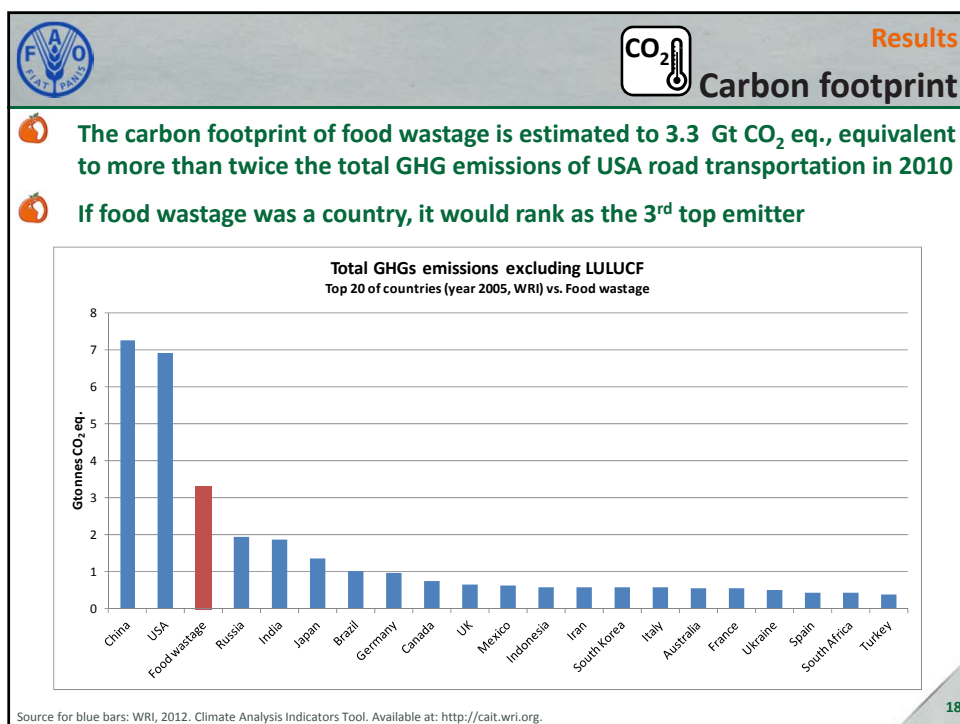
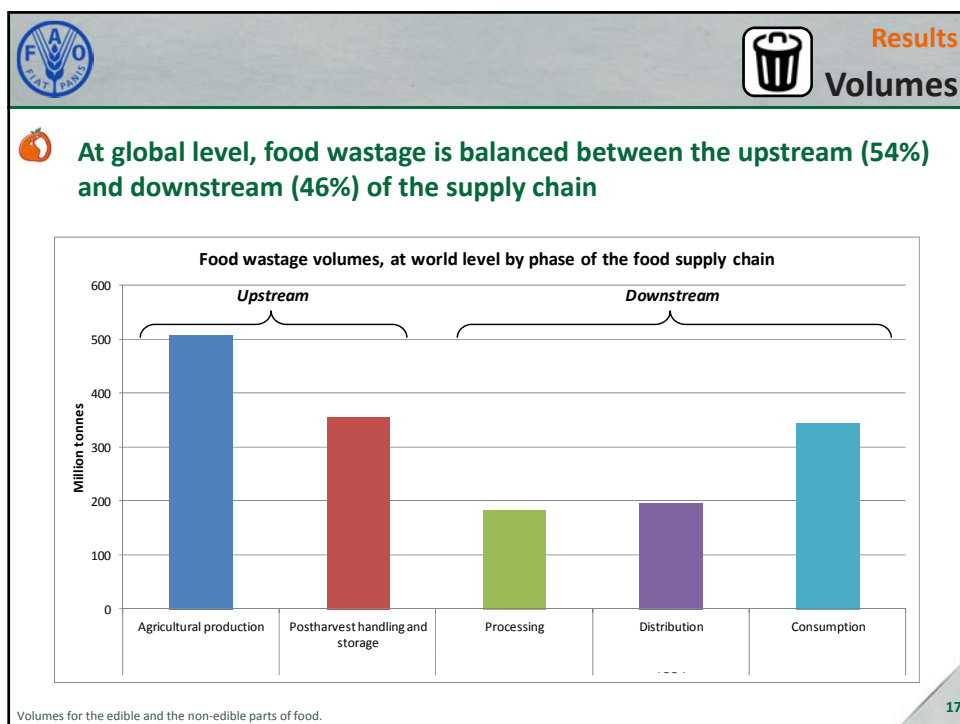


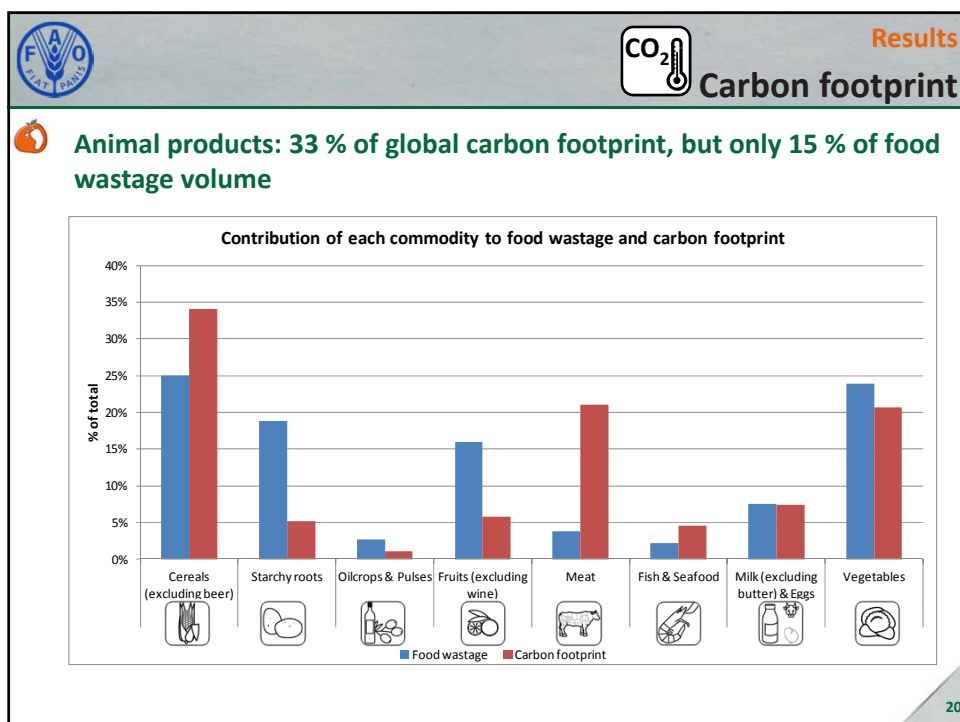
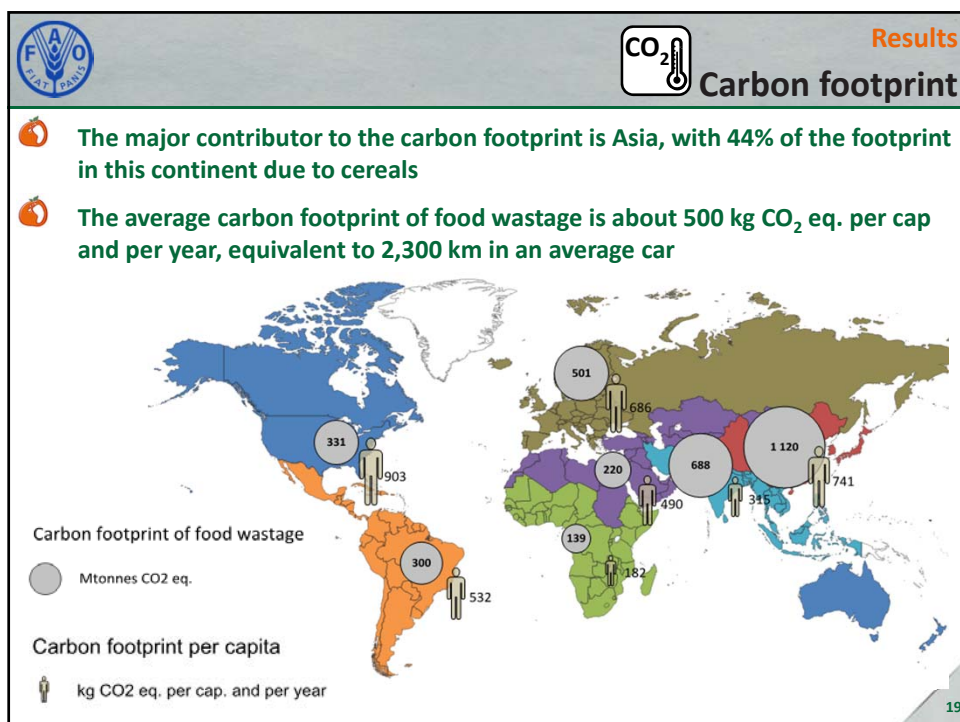


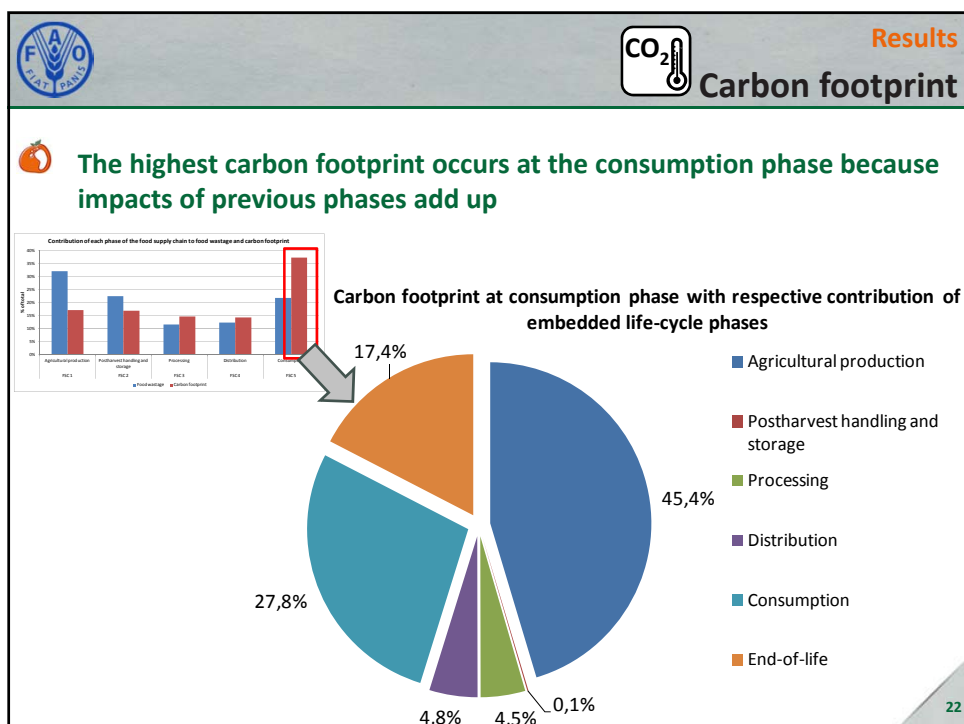
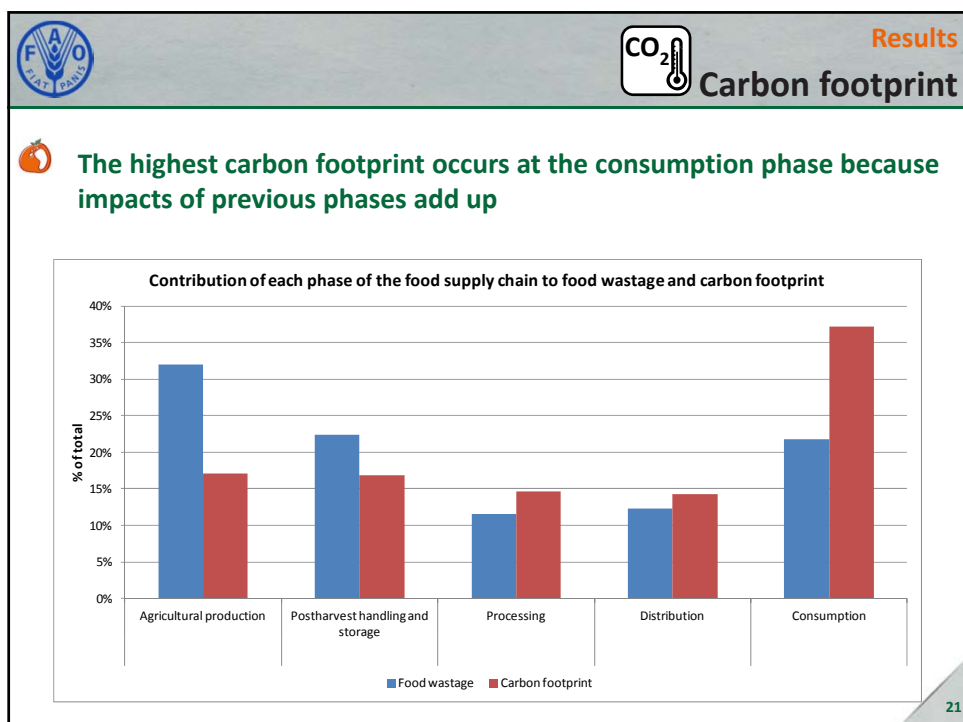


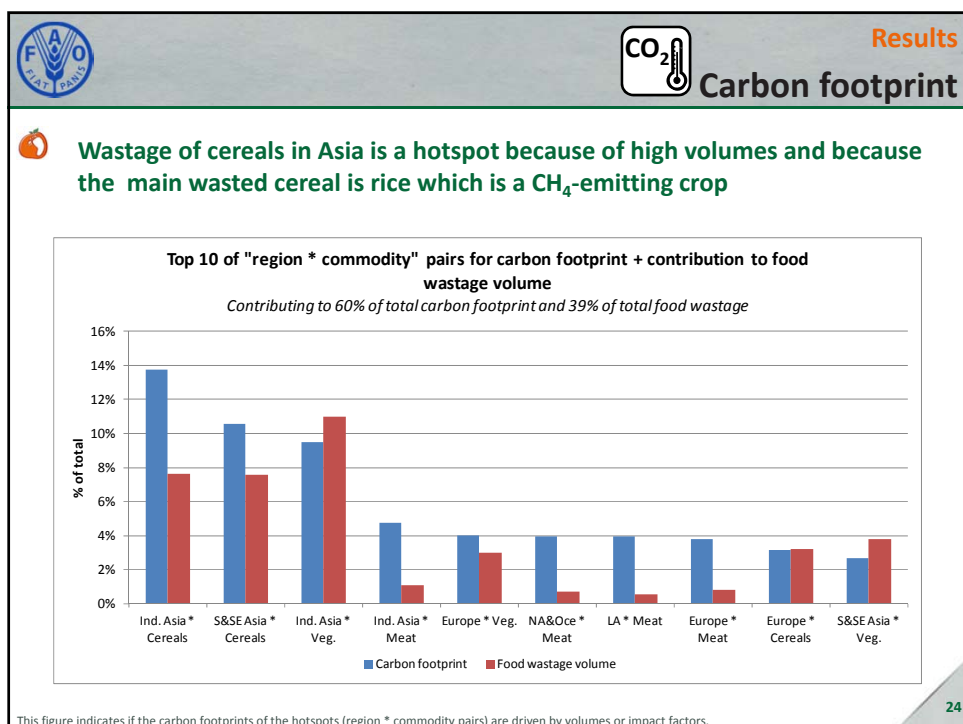
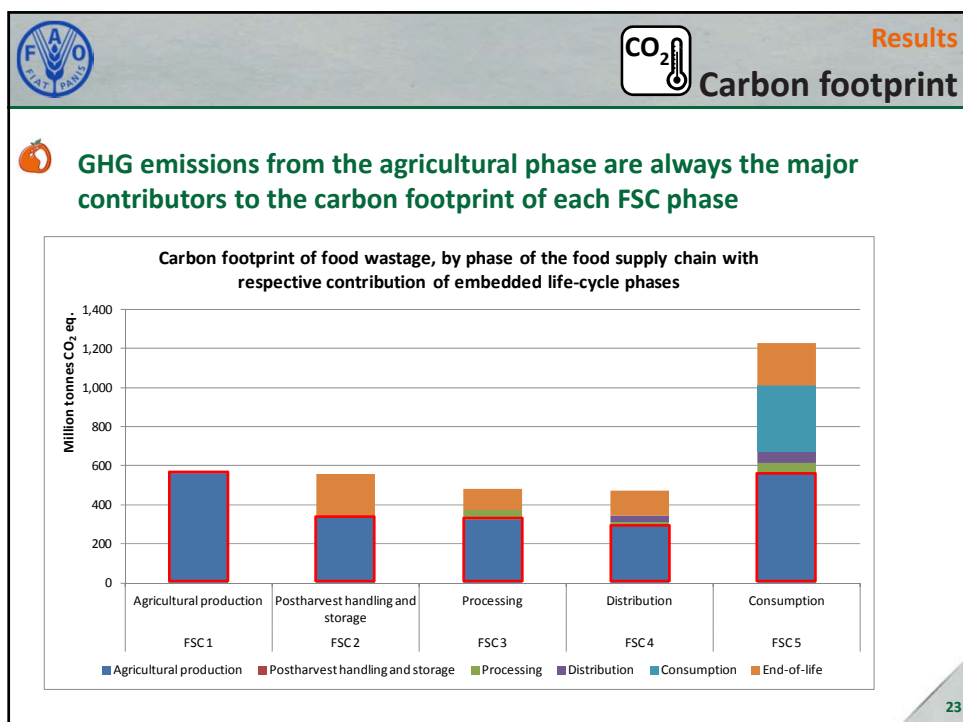


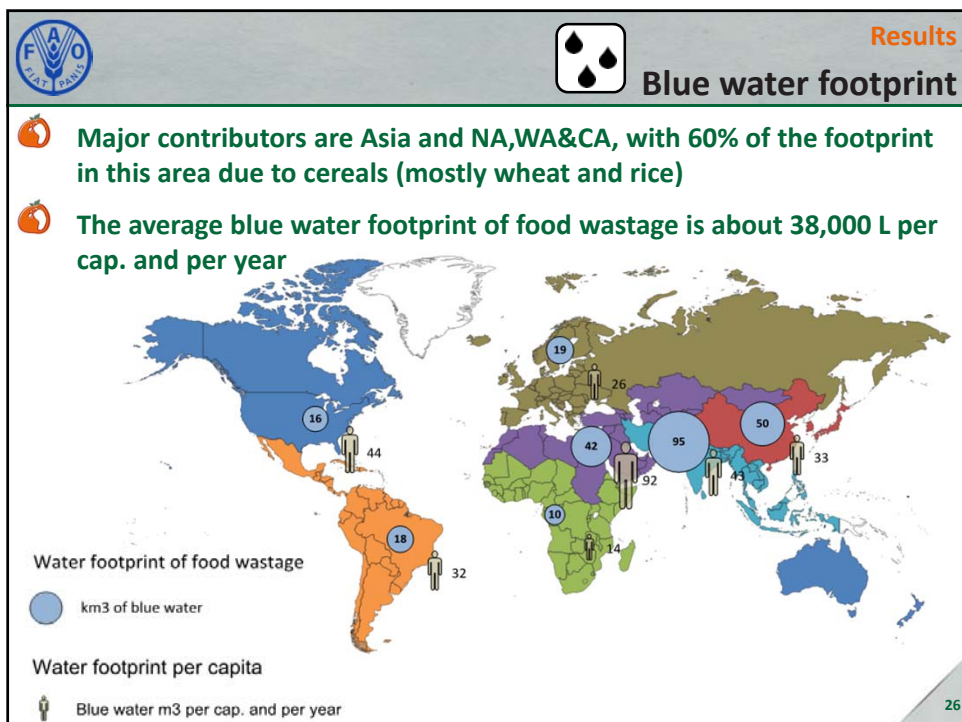
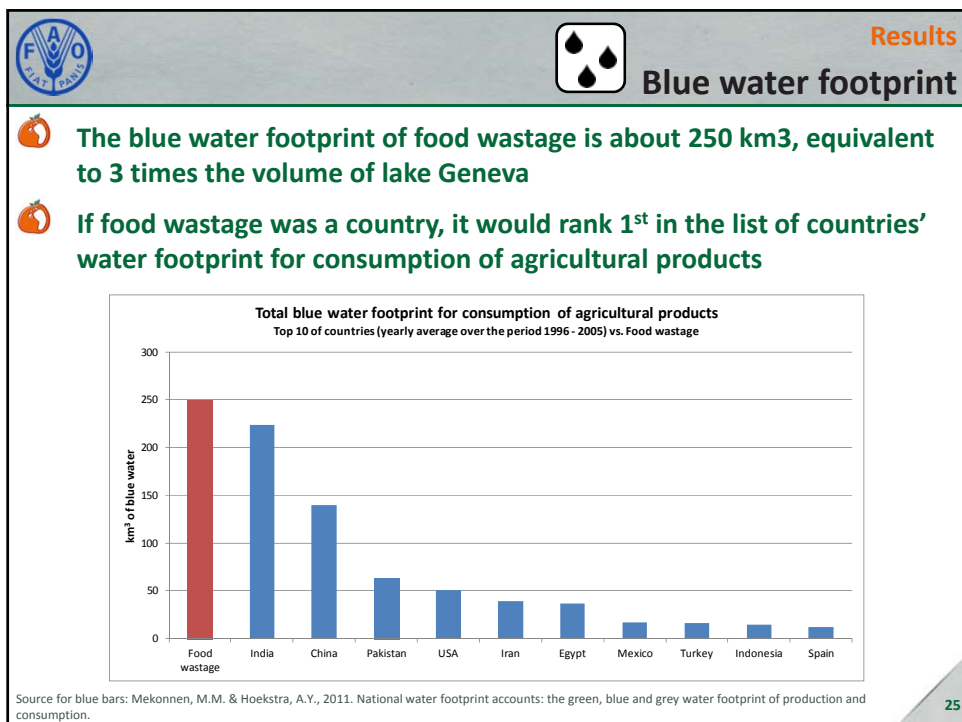


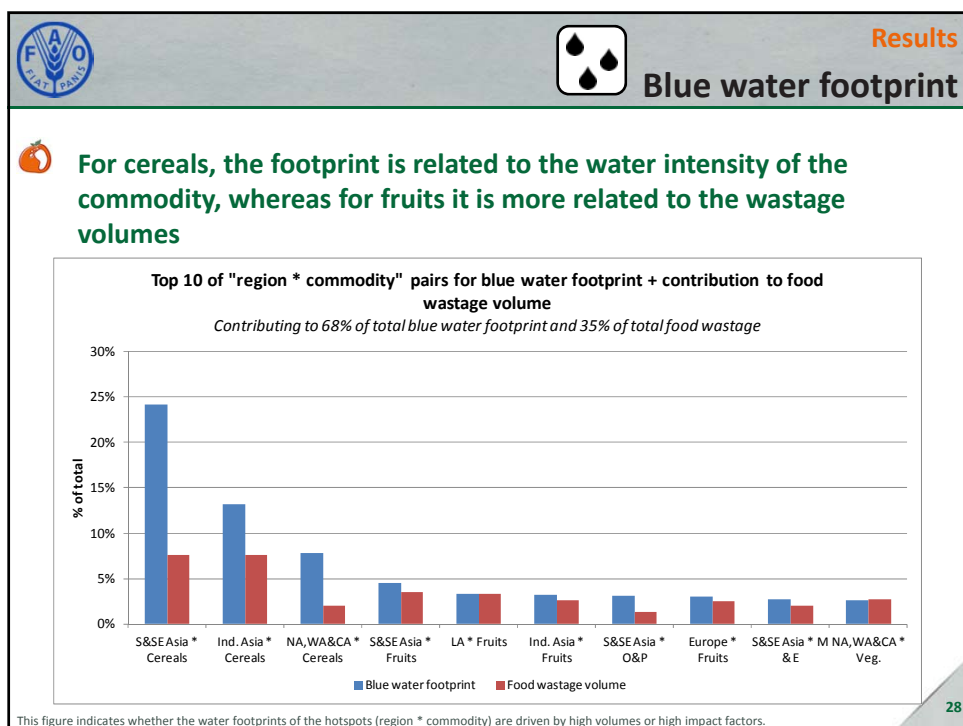
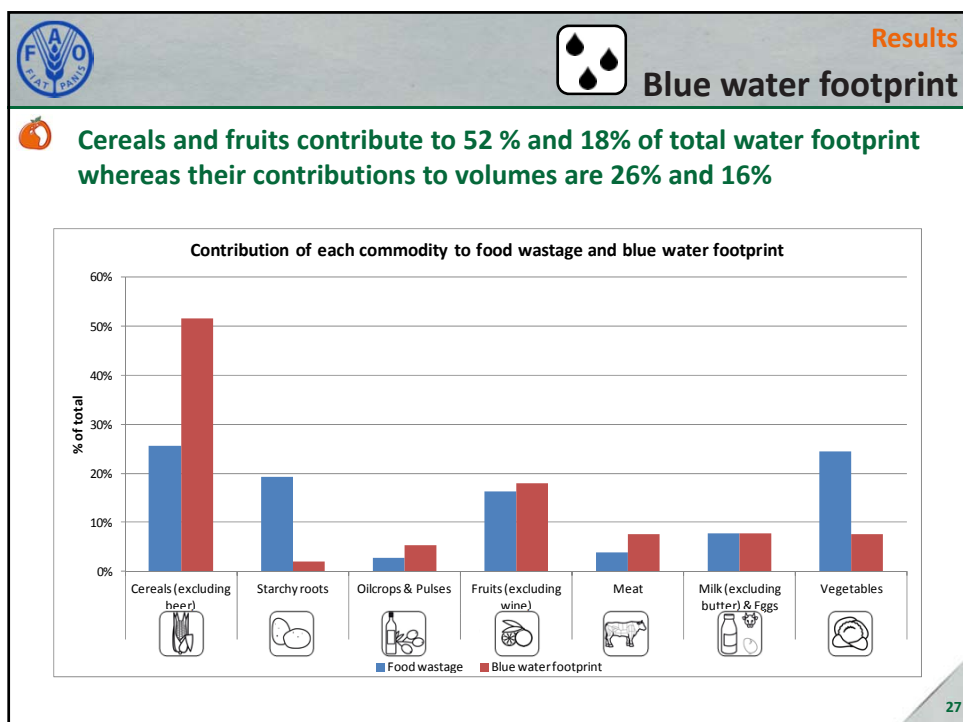


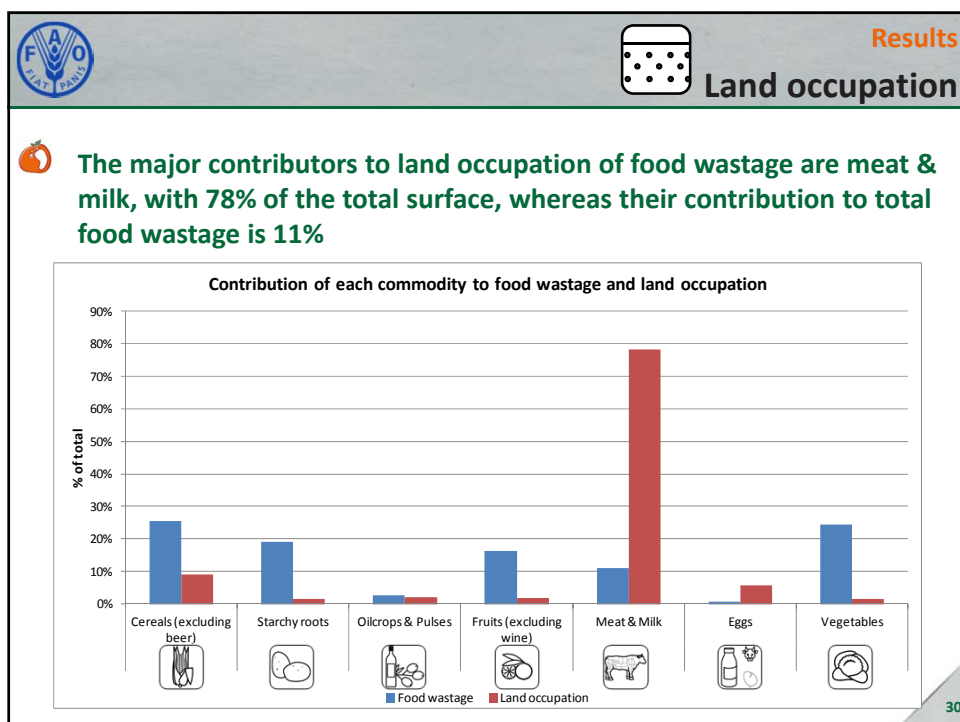
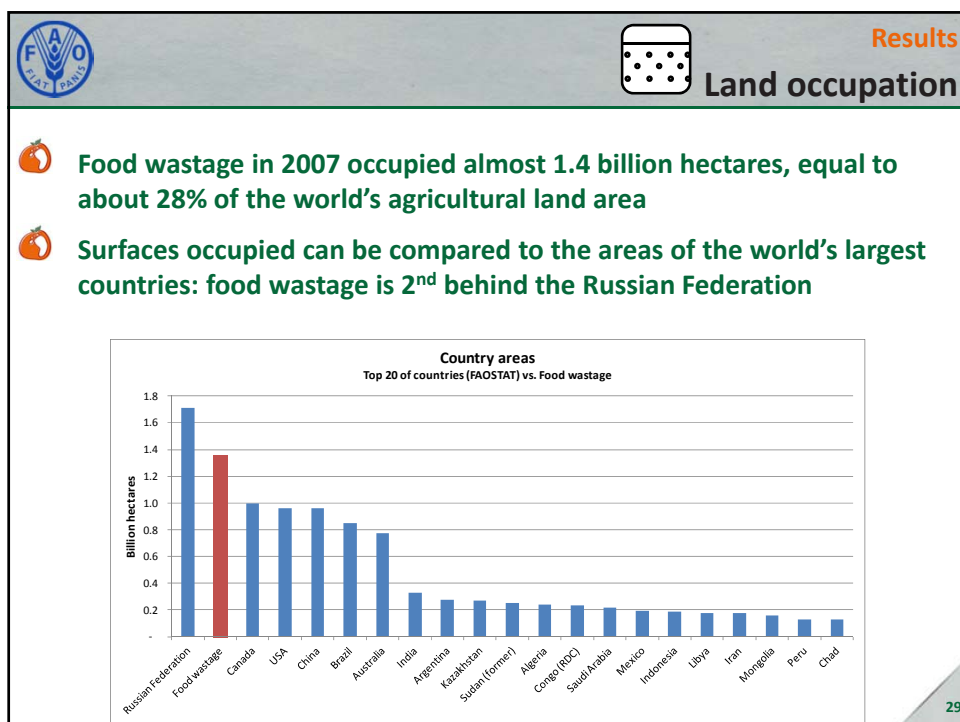


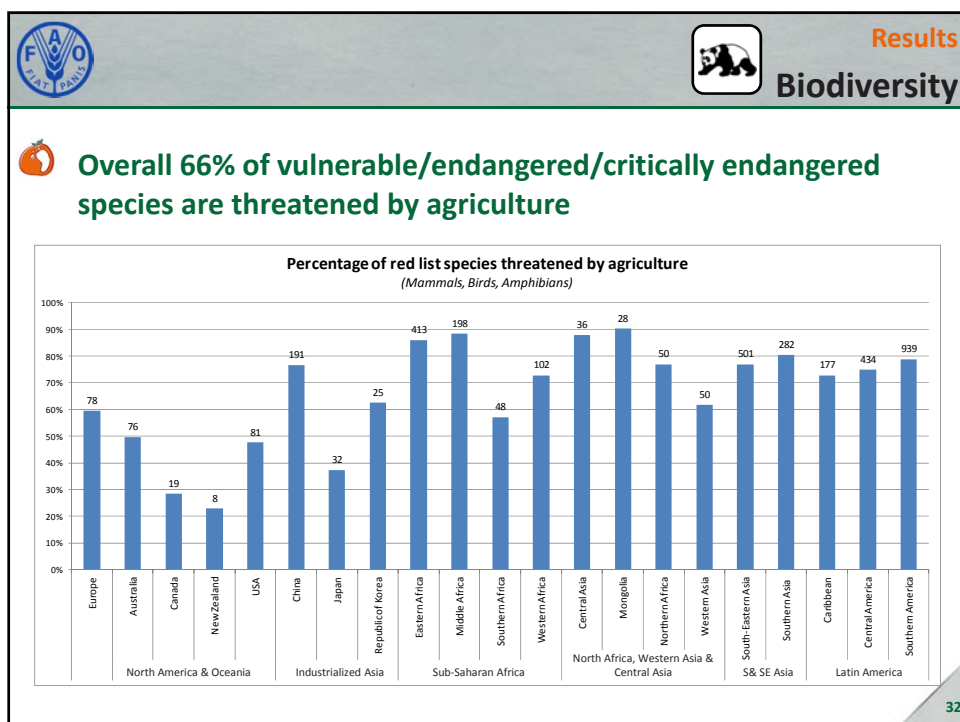
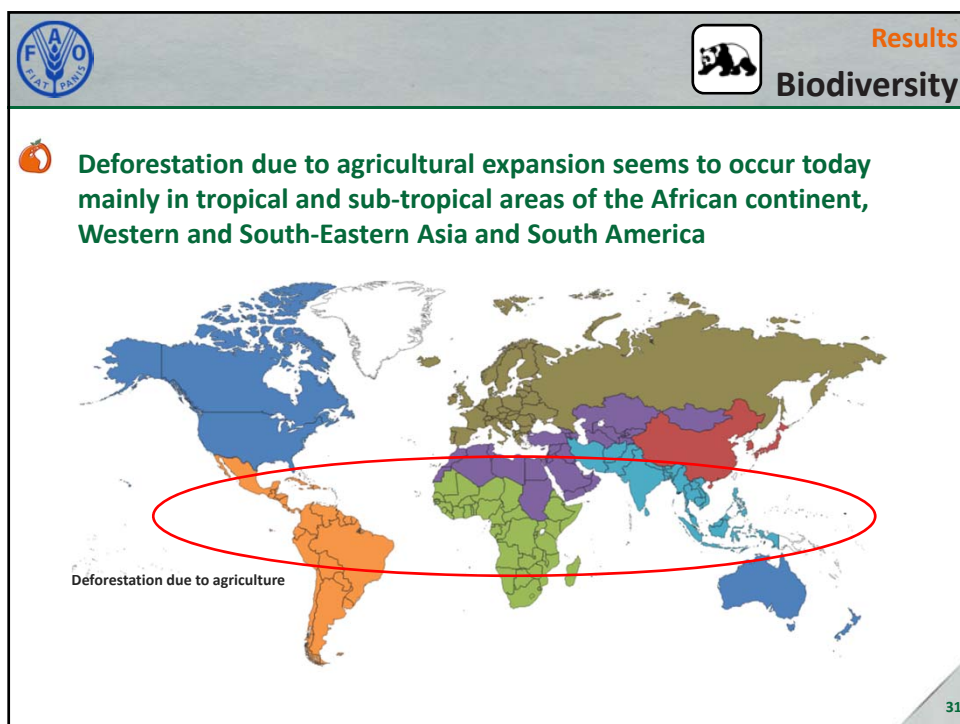


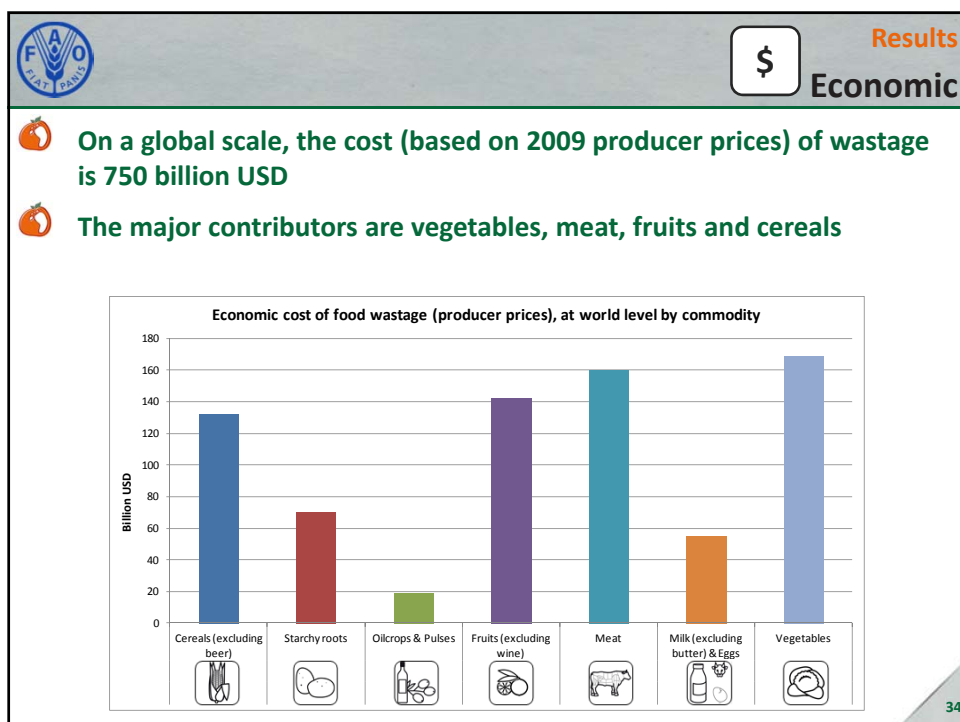
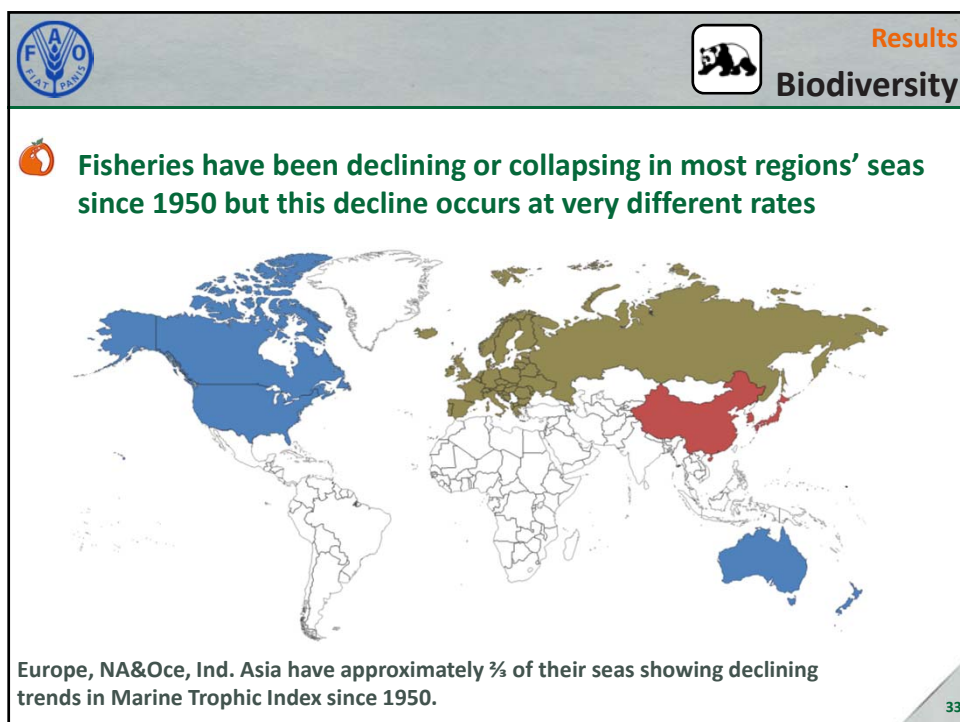


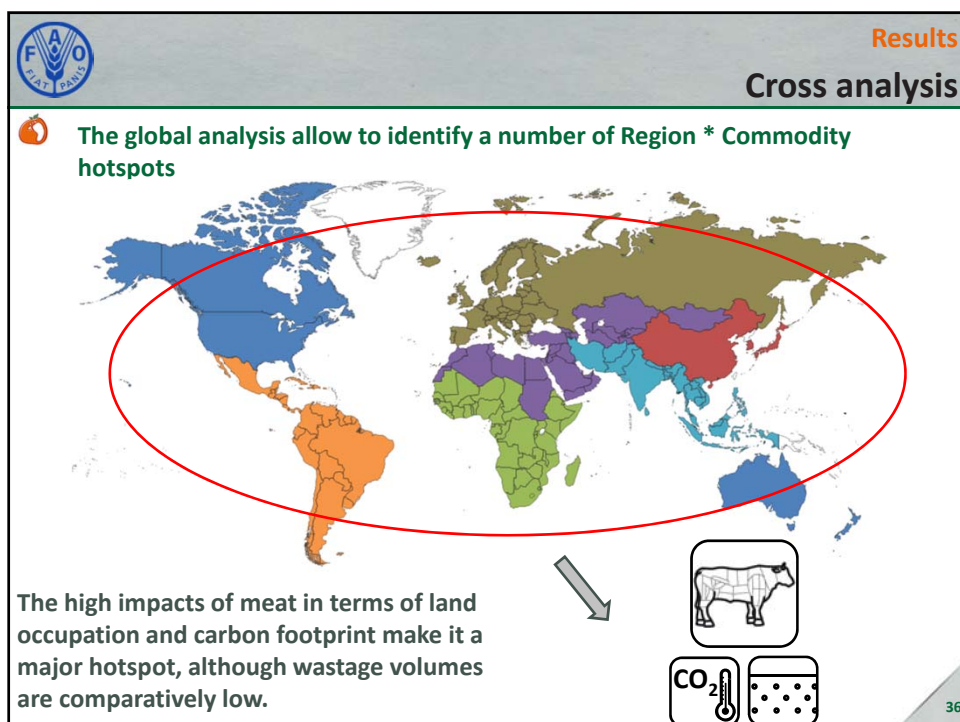
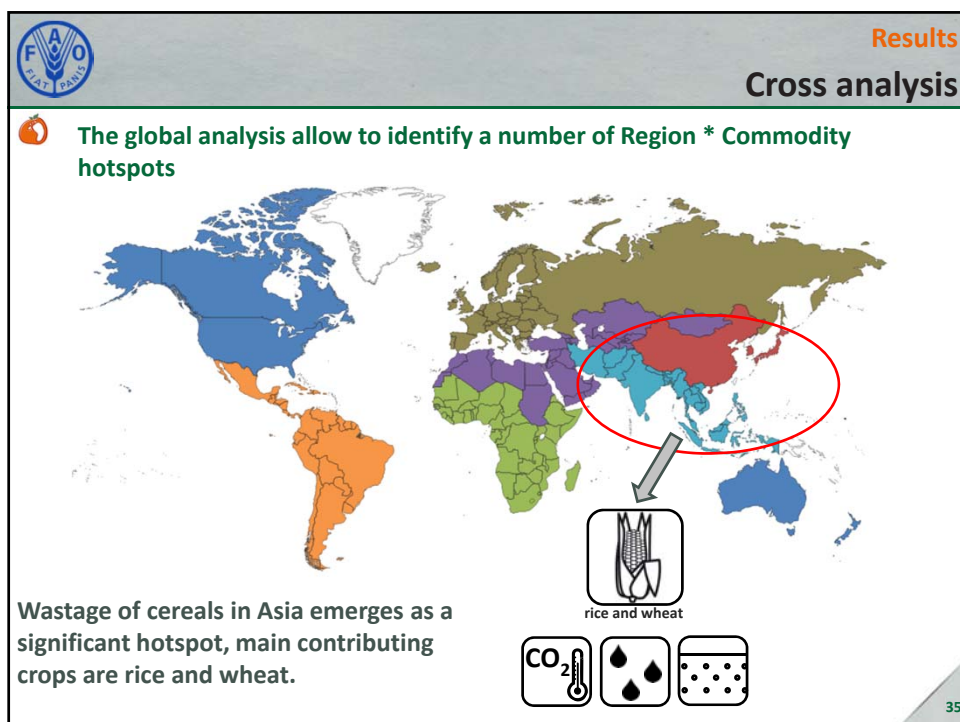


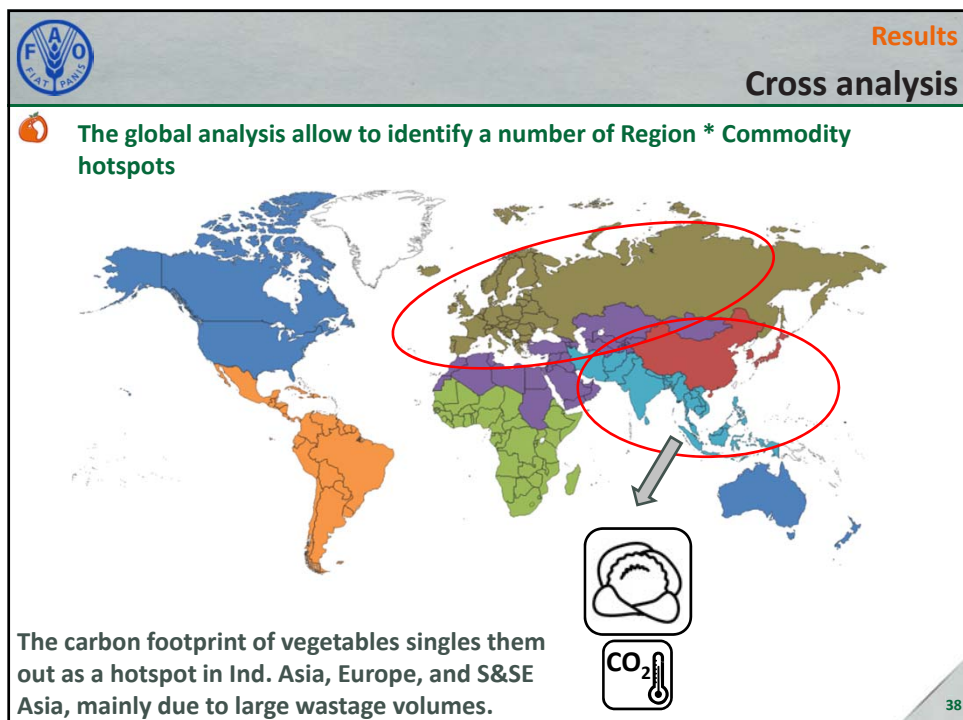
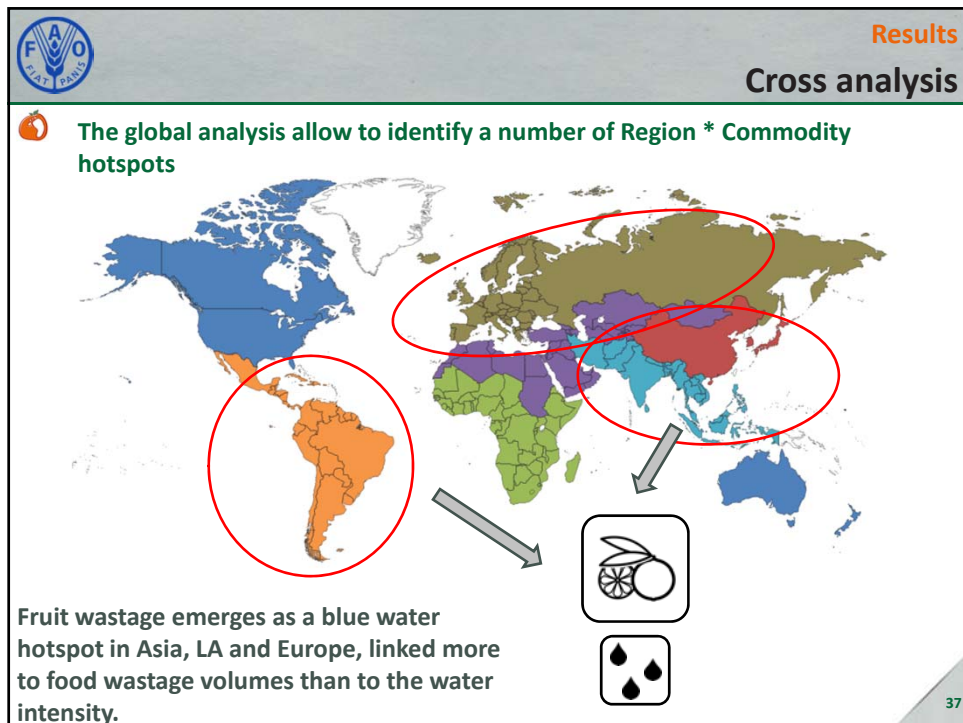

















Conclusions

- ❑ Food wastage ranks as the **3rd top emitter** after USA and China and occupies close to **30% of the world's agricultural land area**. Its annual blue water footprint is equivalent to **3 times the volume of lake Geneva**.
- ❑ With such figures, a reduction of food wastage at global, regional, and national scales would have a **substantial positive effect** on natural and societal resources.
- ❑ By **highlighting the magnitude** of the environmental footprint of food wastage, the results of this study – by regions, commodities or phases of the food supply chain – allow **prioritizing actions and defining opportunities** for various actors' contributions to resolving this global challenge.

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FWF model
Potential improvement areas

 **There are several potential improvement areas for future research**

- ❑ **Quantification of food wastage : Definition of food waste / Food wastage percentages**
 - Need for a harmonization, which would enable more comparability of national data and between studies quantifying food waste arisings.
- ❑ **Quantification of environmental impacts**
 - In further research, priority should be given to the integration of land use change in the carbon footprint accounting.
 - Certain aspects could not be taken into account (e.g. land occupation and water footprint relating to non-agricultural phases; water footprint and land occupation for fish & seafood).

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About this study

- The FWF is a project of the Natural Resources Management and Environment Department initiated in April 2012 and managed by Ms Nadia El-Hage Scialabba.
- Phase I of the project (impacts of food wastage on climate, water, land and biodiversity) has been commissioned to BIO Intelligence Service.
- Phase II of the FWF project addresses the accounting of environmental and social externalities of food wastage, including a comparison with food wastage reduction investment costs and footprint scenarios for 2050.
- This FWF project is undertaken with the generous financial support of Germany.

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