Food Loss Measurement Feasibility Study in Nepal: A Case For Tomato and Milk

Presented by: Binod Kumar Bhattarai
Senior Agriculture Economist
Ministry of Agriculture and Livestock Development
Presentation outline

• Rationale/Motivation
• Objectives
• Methodology
• Results and Discussions/Conclusion
• Challenges and/or Difficulties faced during pilot
• Lesson Learned/Experiences
• Opportunities and Innovations/way forward
• Recommendations
Rationale/Motivation

• Dire lack of national food loss statistics

• Few ad-hoc studies undertaken but lacking methodological backing

• SDGs and national obligation - increasing the availability and quality of food loss data for planning in achieving SDG 12.3 (12.3.1.a, 12.3.1.b and 12.3.1.c)

• A technical working group (TWG) is established under the leadership of MoALD

• TCP/RAS 3618 (small study) – FAO regional office Bangkok has kindly offered technical assistance upon request from Government of Nepal

• Training and guidance from regional office for Asia and the Pacific, Bangkok
Objectives

• To conduct feasibility study for estimating food loss using FAO standard methodology for loss measurement

• To get exposure and experience on estimating primary data based food loss statistics
Methodology

• Selection of food commodity: **tomato and milk** (Two commodities representing the two different food groups among FAO categorized six food groups; and also available throughout the year in Nepal)

• Identification critical loss points: Literature, Key Informants’ Interview, experts’ knowledge, field visit and **TWG**

• Selection of survey sites: **Panauti Municipality** of Kavreplanchowk district (purposive)

• Survey design: Two stage random selection
  ✓ Ward as a primary selection unit (ward no. 2, 3, 5, 9 and 12 -chosen randomly)
  ✓ Farmers listing and random selection
Methodology

- On-farm and off-farm questionnaire survey and actual measurements –using FAO agreed loss measurement questionnaire

- Standard loss measurement questionnaire customized in local context

- 30 agriculture holdings for enquiry based survey and 10 holdings for tomato growers and 5 holdings for milk to conduct actual measurement

- 10 wholesalers, 10 collectors for off farm survey; 3 out of them for actual measurement in case of tomato and 6 retailers used for enquiry

- 7 milk collection centers or chilling centers used for both enquiry based and actual measurement, 2 wholesale dairy industries, 6 retailer milk shops were also used at different levels

Contd…
Results and Discussions/Conclusion

• Producers, Local collectors, wholesalers and retailers major actors in supply chain of tomato

• Producers, small scale collectors, Big scale collectors or chilling centers, Wholesalers or processors and retailers major stakeholders in milk supply chain
Results and Discussions/Conclusion

• On-farm, transportation points, wholesale and distribution levels were found to be critical loss points for both milk and tomato supply chain.

• The drivers of losses include improper handling and inadequate facility along the chain.

• The highest loss is observed at the wholesale and distribution level which is due to the poor wholesale/retail facility.
Percentage estimate of tomato losses

Figure: Estimate of percentage losses of tomato
Percentage estimate of milk losses

Figure: Estimate of percentage losses of milk
Challenges and/or Difficulties faced during pilot

- Difficult to list farmers and supply chain actors
- Difficult to visit randomly chosen farmers -- difficult geography of the study area
- Representative sample size- *did we achieve?*
- Multiple supply chains
- Use of statistical tool – need to build expertise
Lesson Learned/Experiences

• **Low cost** study on calculating food loss is feasible, however calculating nationally representative estimates maybe expensive and may require a lot of resources.

• Difficult/costly to monitor losses on all crop/food domains (considering national economy)

• Sample size is important –loss estimation using small sample size should be interpreted with caution

• **Experiences** for future large study (scale-up)
Opportunities and Innovations/way forward

• **National capacity** for calculating food loss estimates using globally agreed measurement methodology **enhanced**

• Latest food loss status to its users and guide in computing food loss related SDG indicator 12.3.1.

• **Base study** can inform future larger studies

• Reliable piece of information on food loss statistics to justify further work to policy makers

• **Sensitization**

• Scaling and replicating this approach at province level and capacitating the province and local officials by federal ministry
Discussions

Lessons learned

• Need a large study covering important commodities to monitor SDG target 12.3.1 (at least one crop from FAO classified food groups)
• More piloting in different locations and commodities for refining methodologies

Proposed Recommendations:

• FAO follow-up capacity development to scale up pilots
• FAO interventions strategies for reducing losses specifically at critical loss points
Acknowledgements

• FAO RAP and FAO Nepal
• Ms Sangita Dubey
• Mr J.S. Tomar
• Dr Tauqueer Ahmand
• AKC, Kavre district and Veterinary Hospital and Livestock Service Expert Centre, Kavre district
• Farmers and supply chain actors
धन्यवाद

Thank you!