



Food and Agriculture
Organization of the
United Nations

APCAS/20/5.2.3



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

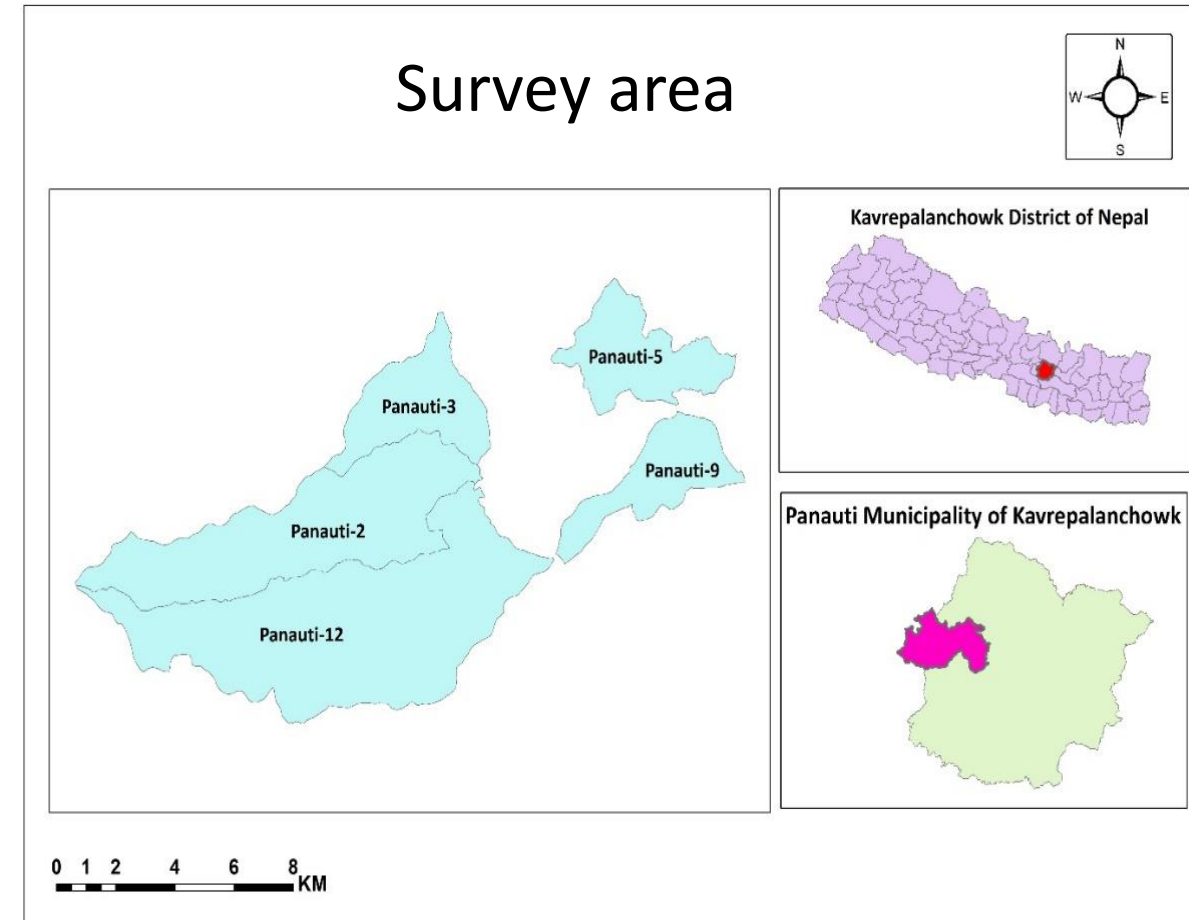
- Dire lack of national food loss statistics
- Few ad-hoc studies undertaken but lacking methodological backing
- SDGs and national obligation - increasing the availability and quality of food loss data for planning in achieving SDG 12.3 (12.3.1.a, 12.3.1.b and 12.3.1.c)
- A technical working group (**TWG**) 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

Contd...

- 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



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

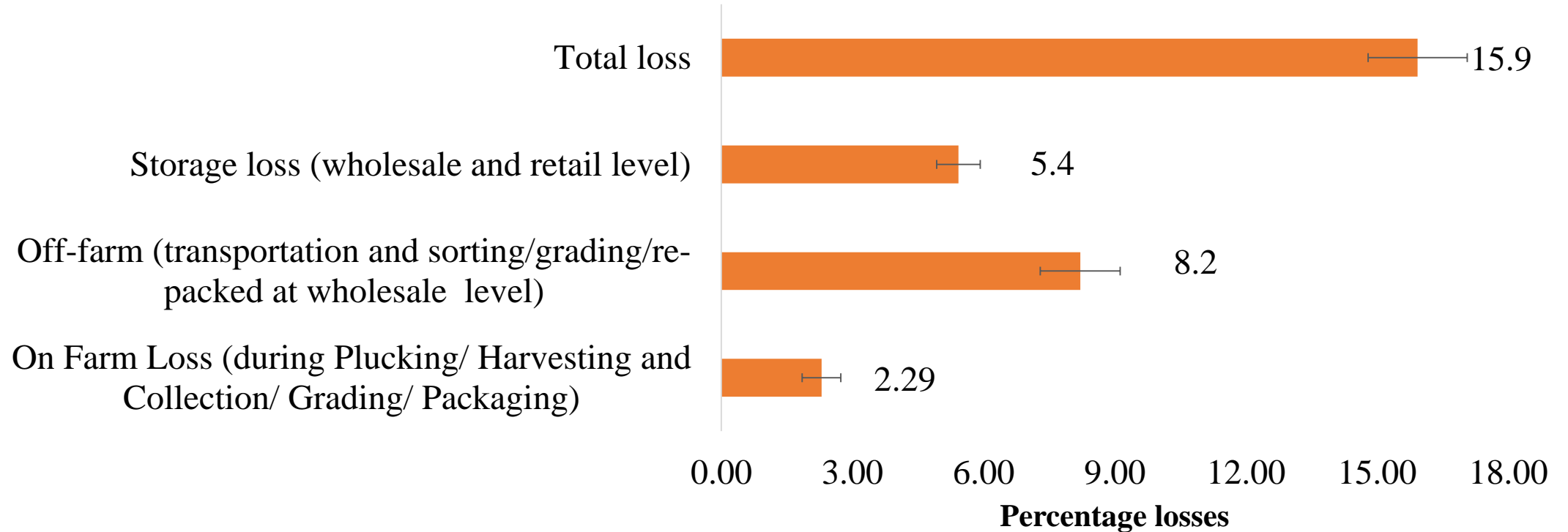


Figure: Estimate of percentage losses of tomato

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

