Research Report

Leiden Model United Nations 2016
~ fresh ideas, new solutions ~

Forum: *Food and Agriculture Organisation*
Issue: *Reducing post-harvest food loss in rural areas*

Position: *President*

Introduction

It is forecast that the world population in the year 2050 will be around 9 billion people. With this enormous increase of mouths to feed, the UN (United Nations) and all states should try to prepare for this influx. The FAO (Food and Agriculture organisation of the United Nations) stated that global food production needs to grow by 70% to feed the 9 billion people. One of the many measures states need to take in order to feed those 2 billion extra people, is to reduce the loss in the post-harvest process in rural regions. In some ACP (African, Caribbean and Pacific) states where they have poorly developed infrastructure, the post-harvest food loss can be as high as 50%. Even though the states with the highest amount of PHL need to take more action to tackle the issue, the MEDC's are also urged to support LEDC's and especially ACP countries in order to tackle this global issue. Also postharvest losses of vegetables and fruit in most Asian states are so high, and the causes of these losses are so diverse, that a great amount of research and training is necessary if prevention measurements are to be improved. . The need for improvement is shown by the facts that in developing states where there is still a poor infrastructure and a lack of marketing facilities, postharvest losses of fresh produce range from 20 to 50 %.

Definition of Key Terms

Rural:

According to the Oxford Dictionary: "In, relating to, or characteristic of the countryside rather than the town". A rural area is often the area where farms are placed. A close synonym to "rural area" is countryside.

Value chain:

The definition that professor Michael Porter developed in his book "competitive advantage" was: "A value chain is the whole series of activities that create and build value at every step. The total value delivered by the company is the sum total of the value built up all throughout the company." A value chain is a model used to depict the procedure by which organizations get crude materials, enhance the crude materials through different procedures to make a completed item, and after that offer that finished result to clients. Organizations direct value chain analysis by taking a look at each specific step required to make an item and recognizing approaches to expand the effectiveness of the chain. The general objective is to convey the greatest value for the lowest achievable cost and make an profit compared to

competitors.

ACP countries:

The ACP(African, Caribbean and Pacific) countries is a group of nations that was created in the Georgetown agreement. The goal of this group is to improve sustainable development and to reduce poverty.

ACP States

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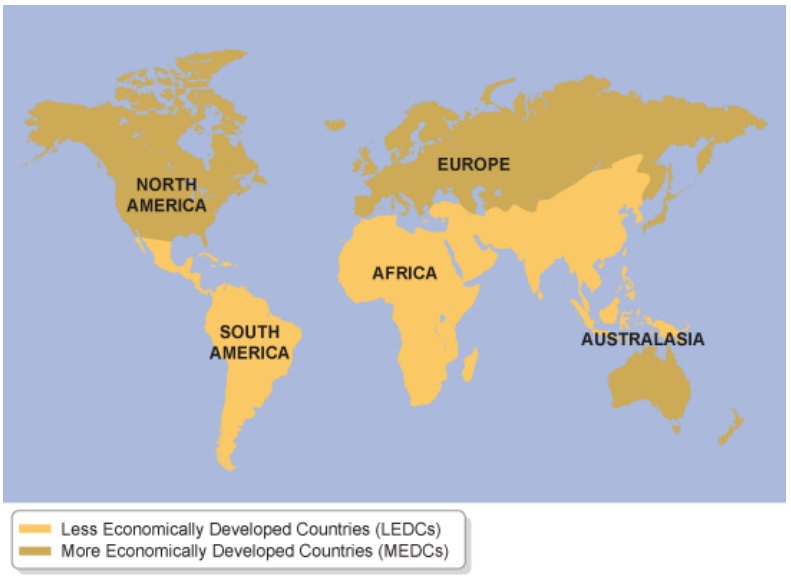
LEDC:

An LEDC (Less Economically Developed Country) is generally speaking, a 'poor' country. These countries are usually behind on technology and welfare, and their economy is usually unstable or weak.

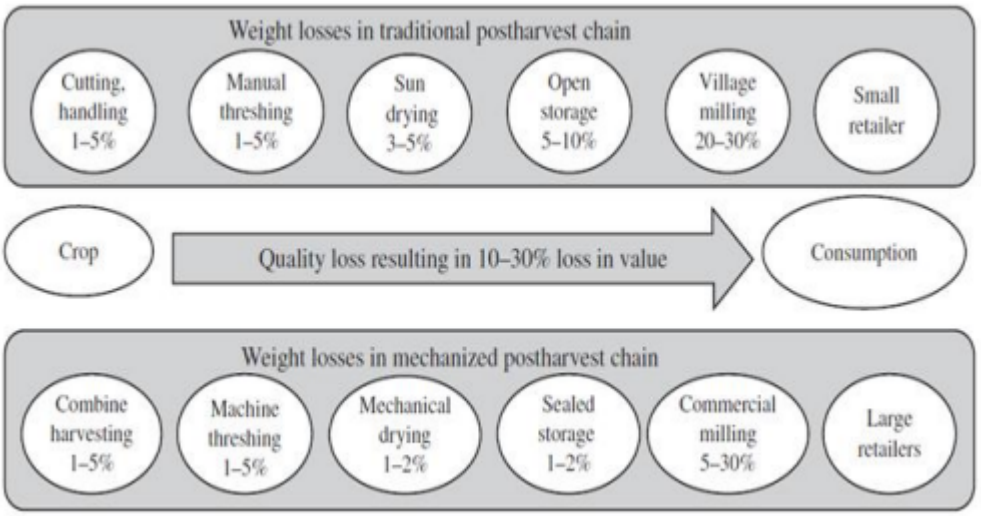
MEDC:

An MEDC(More Economically Developed Country) is a country that is richer and more developed, the populations of those countries are usually relatively well-off. Many people, such as a large part of the international community, believe that MEDC's have the duty to support LEDC's in their route to prosperity. MEDC's are countries with a high living standard and a large GDP per capita.



PHL:

PHL(post-harvest food loss) is the food loss in the postharvest system. PHL consists of all the loss of edible produce from the time of harvest through the crop processing, marketing and food preparation until the final decision of the consumer to eat or discard the food.



Traditional versus mechanized postharvest chain (Hodges, Buzby, and Bennett, 2011).

General Overview

Post-Harvest food loss occurs when a percentage of the harvested production is lost somewhere along the value chain before consumption. This loss of a part of the food can happen in one of the many post-harvest procedures.

The transportation of the food requires great care. A lot of food can be lost just by transporting it in the wrong container or in the wrong manner.

The harvest is very vulnerable in the process of post-harvest drying, the food can be dried too much, which makes it very brittle and easy to crack after threshing, during hulling or during milling, or the harvest can get so dry that the harvest loses weight and thus loss of nutrients and profit. On the other hand, if the harvest is not dry enough, it may occur that it starts to rot.

If the harvest is being threshed before it is dry enough, the outcome will be incomplete. But again, if the harvest is being threshed when it's not dry enough and its being stored in barns or granaries afterwards, than there is a considerable chance of being more susceptible to microorganism attacks, which makes it less easy to conserve.

When the harvest is being stored, it is important that the harvest is being kept in a low temperature and that it is segregated from any harmful insects or animals.

There are multiple other ways to result in PHL.

In ACP countries, PHL from harvest to market sale reacht to around 10-20%. Estimated 40% of these losses occur during storage at the farm and market, 30% during processing (drying, threshing, and winnowing), 20% in transport from the harvest location to the farm, and the last 10% during transport to the market place. It is also the problem that farmers maybe want to or know how to store or handle their foods properly but that they just do not have the money or the infrastructure to reach such efficiency. And what to think of when we say infrastructure, you can think of mechanised transport or adequate roads.

Major Parties Involved

FAO:

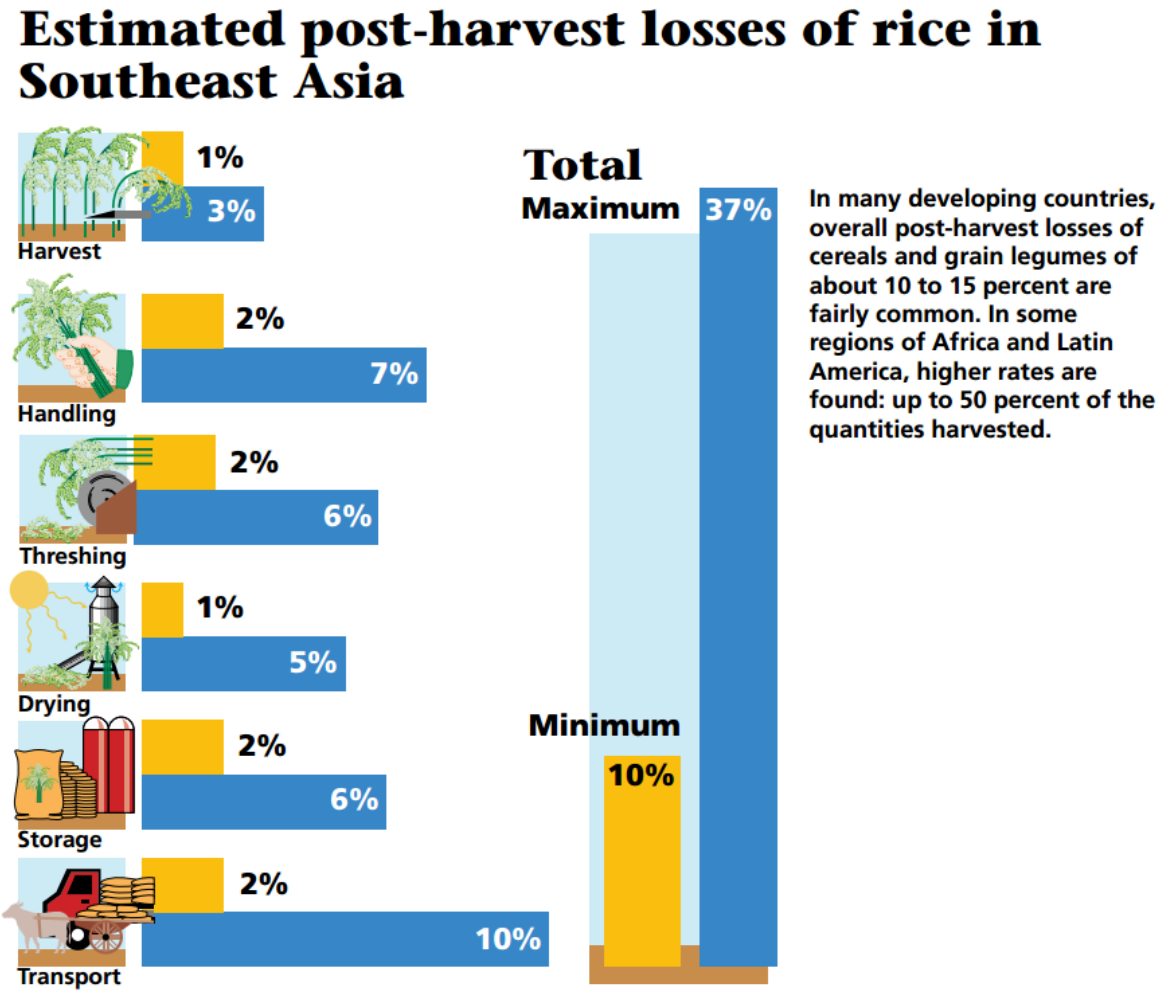
The Food and Agriculture Organisation of the United Nations(FAO) is involved in the issue the most. The FAO have an initiative called "the save food initiative", campaigns and they have organised multiple conferences and events to tackle the issue of PHL.

ACP Countries:

All the ACP countries share the same goal to improve sustainable development and to reduce poverty. The ACP countries are also the countries with the biggest percentage of PHL. It is very important for these ACP countries to contribute and be proactive as it is one of the major causes to the problem of food shortage in their countries.

Asian Countries:

In the Asian countries there is also a sizable amount of PHL. Cooperation from the Asian states on this matter is crucial if we want to bring down the global PHL.



Local financial institutions:

It is important that trust can be established between local financial intuitions and farmers so that the institutions are willing to take the risk of giving loans to the farmers in order for them to grow.

MEDC's:

The MEDC's are urged to support the LEDC's and ACP countries in their struggle to reduce PHL. They are urged to do so in ways such as, but not limited to: financial support, the sharing of technologies and education programs. The reduction of PHL in LEDC's is important for the MEDC's because most of the food they consume comes from LEDC's.

LEDC's:

The LEDC's have the task to stay or become active on tackling this issue, in order to feed their own problem and the global problem.

Timeline of Events

1945	Establishment of the FAO
1974	First world food congress
1975	Establishment of the Georgetown act and the ACP
1985	Global PHL reduced by 15%
1985	FAO established the special action Programme for the Prevention of Food Losses
2015	The first international congress on Post-harvest loss prevention

Previous Attempts to solve the issue

- 1974, First world food congress
- 1985, FAO established the special action Programme for the Prevention of Food Losses
- 2015, The First international congress on post-harvest loss prevention

Possible Solutions

One solution is to make technologies and methods to store and transport food as efficiently as possible accessible to farmers.

Some foods that are in an okay status just never get eaten. It may be on the grounds that a farmer can't afford to harvest a whole field, or in light of the fact that a merchant has requested a lot of a thing and can't sell it all. One approach to solve this sort of food loss and waste is to just redistribute food by offering it to food banks and comparable effort groups.

Build up a food loss and waste measurement protocol. What gets measured can be managed. A worldwide "food waste and loss protocol" could give organizations and nation-states an institutionalized approach to gauge and screen food waste and loss.

Another strategy to solve the issue is to set a food loss reduction target. Setting time-bound targets starts activity by bringing issues to light, focusing on, and preparing assets. Focuses at the worldwide, national, sub-national, and business levels will help activity on decreasing food loss. For instance, the European Union has reported an objective of decreasing stood loss by 50 percent by 2050.

Another method could be to increase investment in eradicating PHL in LEDCs. A lot of PHL in LEDCs happens "near the farm," however just around 5 percent of farming exploration subsidizing goes toward minimizing PHL. Multiplying this measure of subsidizing would be a crucial stride in the right way.

Another strategy is to educate the farmers living in LEDCs on how to combat PHL. What the farmers don't know, they can't solve.

It is also crucial to find a solution to the problem of banks not trusting small-sized farmers with a loan because they perceive it as a too big risk. Maybe even create deals with loan-giving banks.

And yet another method could be to encourage the farmers and the governments to communicate and cooperate with each other in order to provide information, logistics and help to each other to reduce PHL.

Last but not least, a more obvious solution could be to improve infrastructure. This could be achieved by the government, but also by cooperation between farmers or even cooperation between civilians, farmers and the government.

Useful documents

- Technical paper ✦ Scientific & Technical Department
- _POST-HARVEST FOOD LOSSES ESTIMATION
- Prevention_of_post-harvest_food_losses_fruits,_vegetables_and_root_crops_a training manual
- Perspectives to Reducing Post-harvest Losses of agricultural products in Africa

Appendix/Appendices

- http://www.actioncontrelafaim.org/sites/default/files/publications/fichiers/technical_paper_phl__.pdf
- http://www.fao.org/home/en/
- http://www.fao.org/fileadmin/templates/ess/documents/meetings_and_workshops/GS_SAC_2013/Improving_methods_for_estimating_post_harvest_losses/Final_PHLs_Estimation_6-13-13.pdf
- http://www.acp.int/content/secretariat-acp

- http://www.fao.org/docrep/t0073e/t0073e00.htm
- https://www.wfp.org/purchase-progress/news/blog/five-things-you-didn%E2%80%99t-know-about-post-harvest-food-losses
- http://www.afdb.org/fileadmin/uploads/afdb/Documents/Events/DakAgri2015/Agriculture_Industrialization_and_post-harvest_losses.pdf