

# **IMPORTANCE OF REDUCING FOOD LOSSES AND WASTE FOR STRENGTHENING FOOD SECURITY**



**Apriyanto Dwi Nugroho**

**Agency for Food Security  
Ministry of Agriculture, Republic of Indonesia**

***2016 APEC Expert Consultation on Food Loss and Waste at  
Retail and Consumer Level  
Taipei City, 18-19 July 2016***

# OUTLINE

- I. Introduction**
- II. FLW and Food Security**
- III. Food Loss and Waste Along the Supply  
Food Chain and current status**
- IV. Efforts to Reduce Food Waste**

# I. Introduction

- Food losses or waste are the masses of food lost or wasted in *the part of food chains leading to “edible products going to human consumption”*.
- Food losses refer to the decrease in edible food mass throughout the *part of the supply chain that specifically leads to edible food for human consumption*.
- *Food losses occurring at the end of the food chain (retail and final consumption) are rather called “food waste”*.



# II. Food Loss and Waste and Food Security

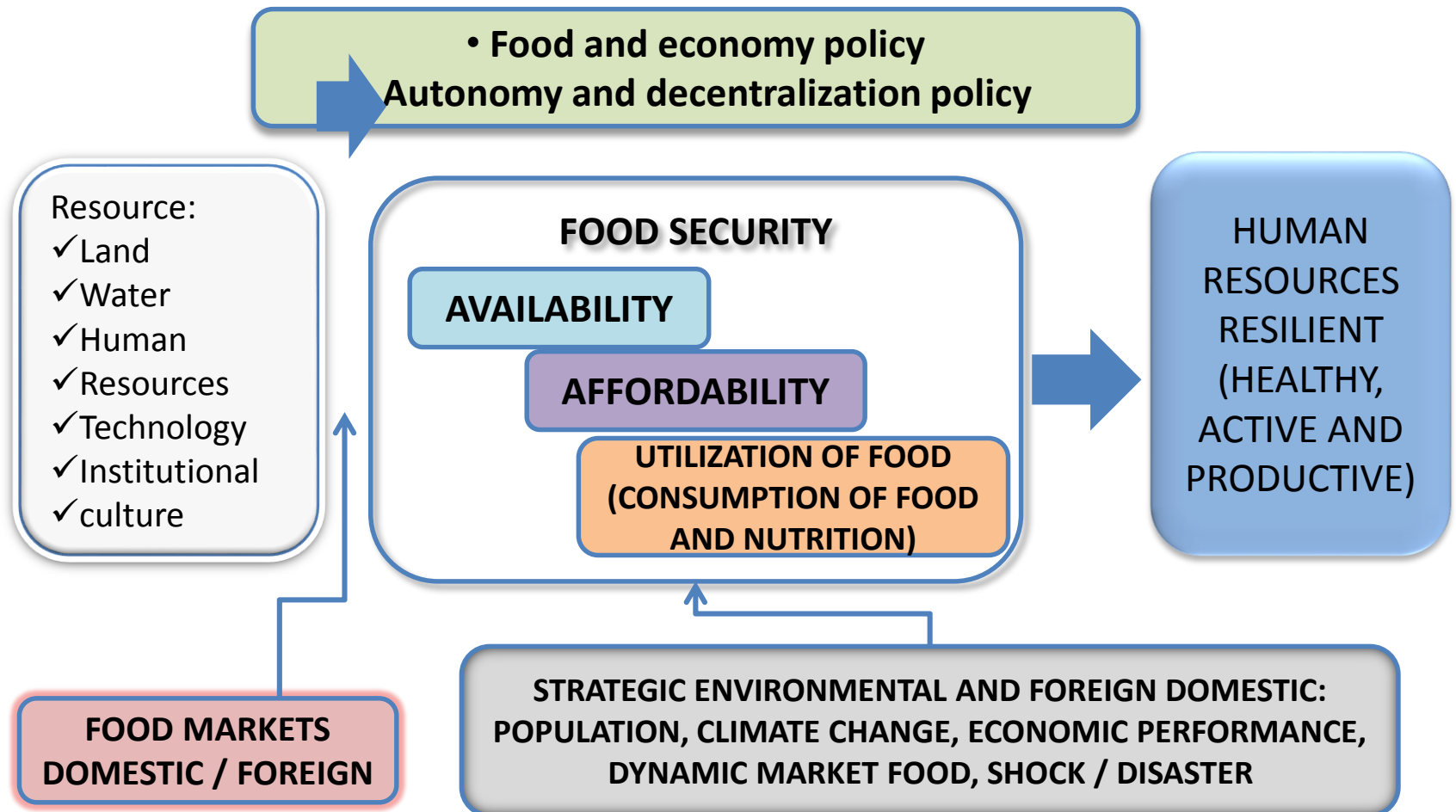



Fig 1. Food Security Framework

# *FLW Vs Food Security*

- 
- Loses will reduce yield of production
  - Loses will reduce farmer income
  - Commodity prices tend to be higher

Influence food  
availability and food  
security

# III. Food Loss and Waste Along the Supply Food Chain and Current status

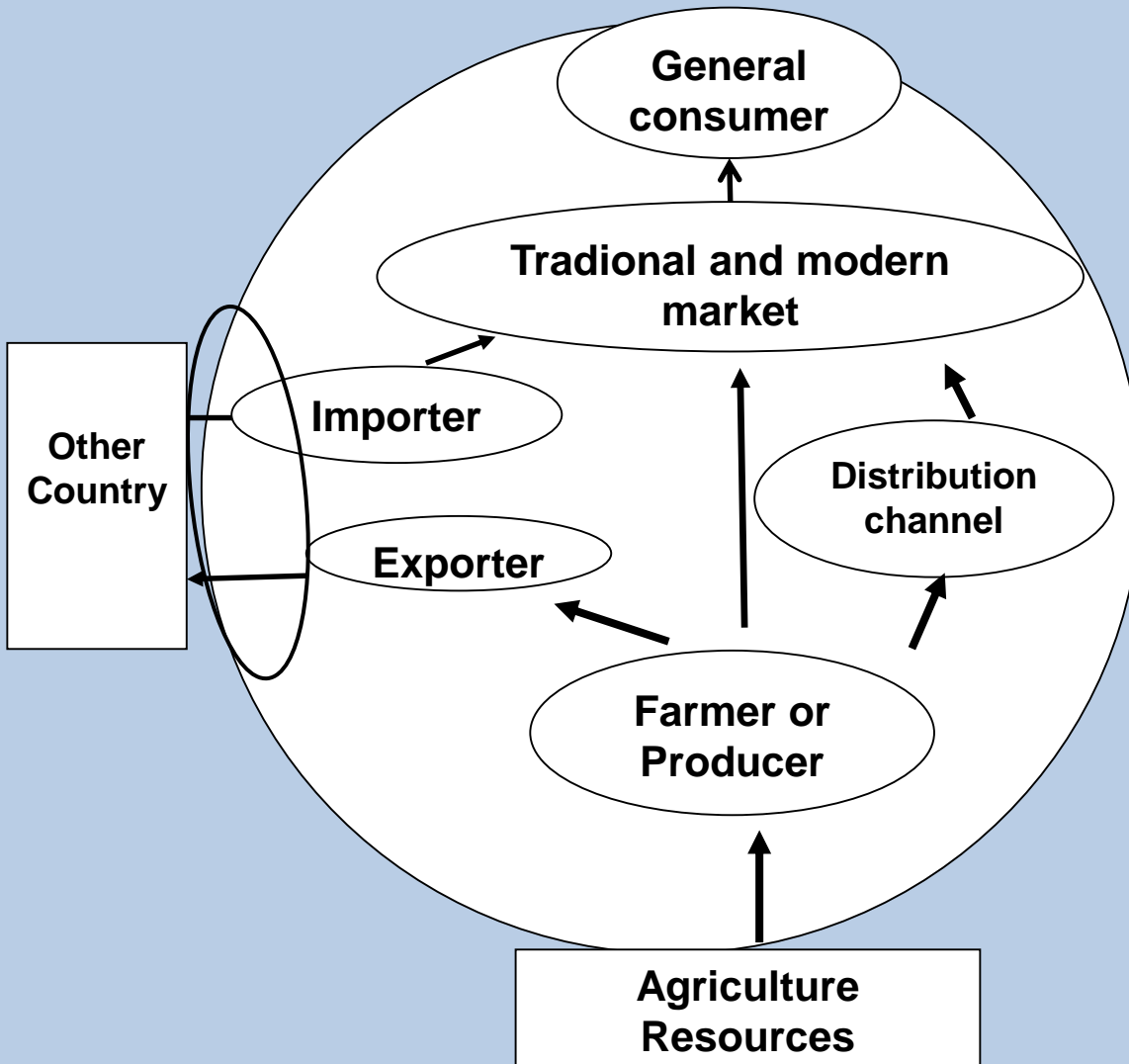
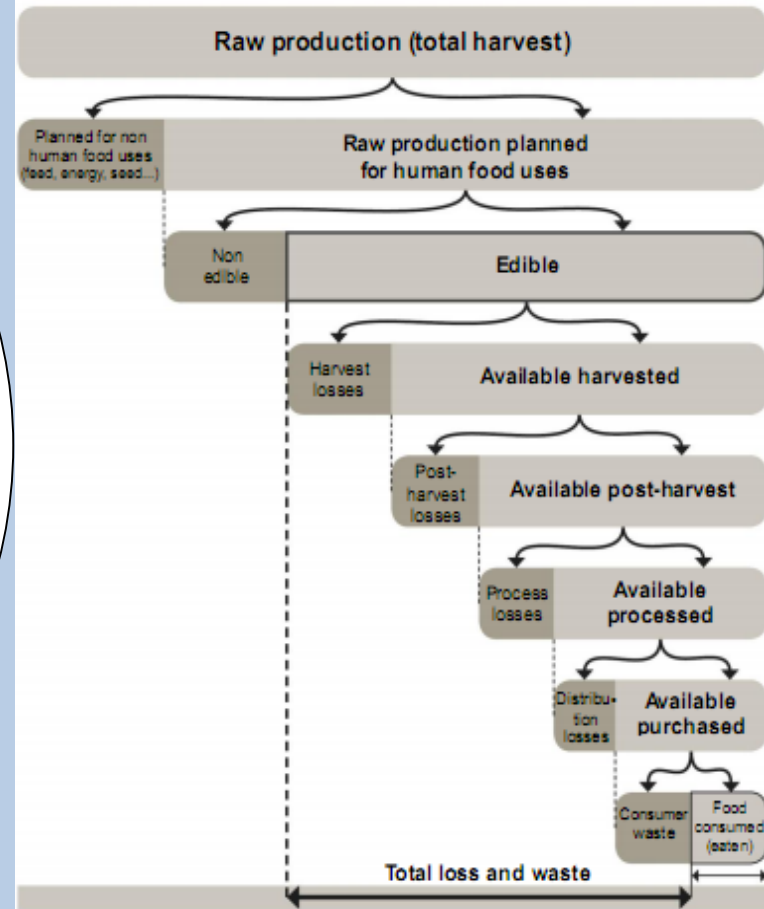


Figure 1 Schematic representation of the definition of food losses and waste along the food chain



# Production on Rice, Corn and Soybean in 2015

Indonesia Statistic,  
2015



Rice Production increase to 75,40 milion ton, or increase 4,55 milion Ton (6,42%) from 2014

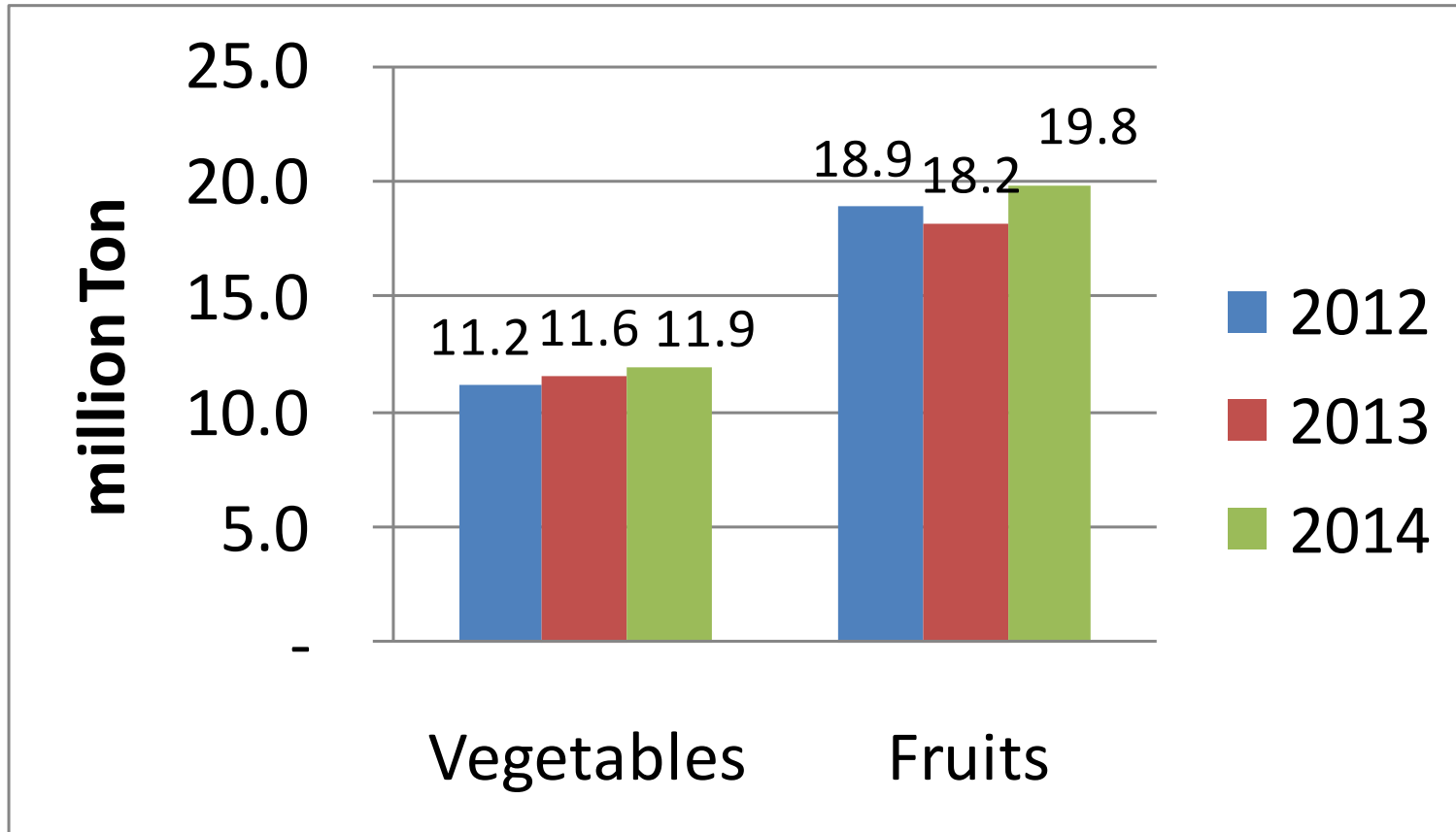


Corn Production increase to 19,61 milion ton, increase 3,18% from 2014



Soybean Production increase to 963,18 thousand ton, increase 0,86% from 2014

# Production of Fruits and Vegetables



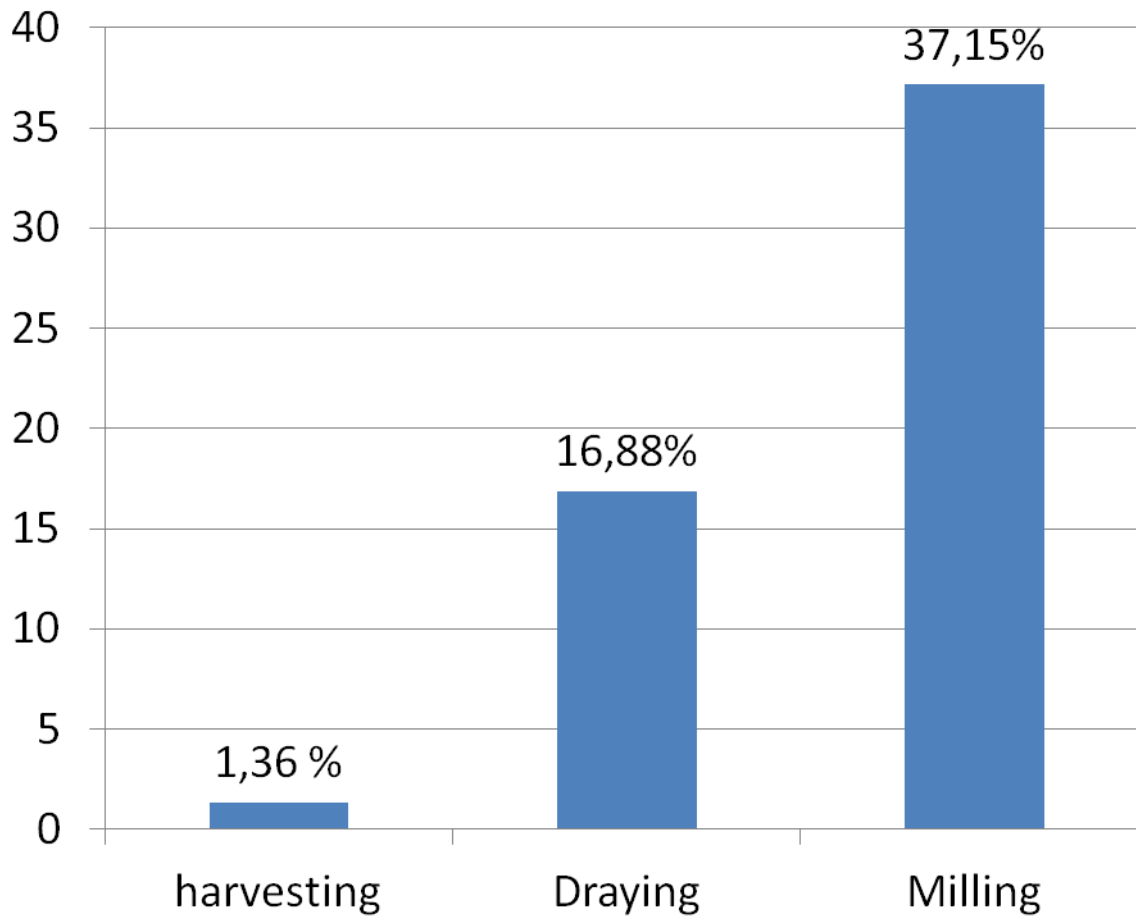


# Current Status

## A. Losses during paddy harvesting

- Ministry of Agriculture and National Agency of Statistics, conducted National survey in 2012, located in 12 Province consider as the main paddy producer, and involving 13.200 household and 3.300 milling unit
- Study the losses on harvesting, drying and milling

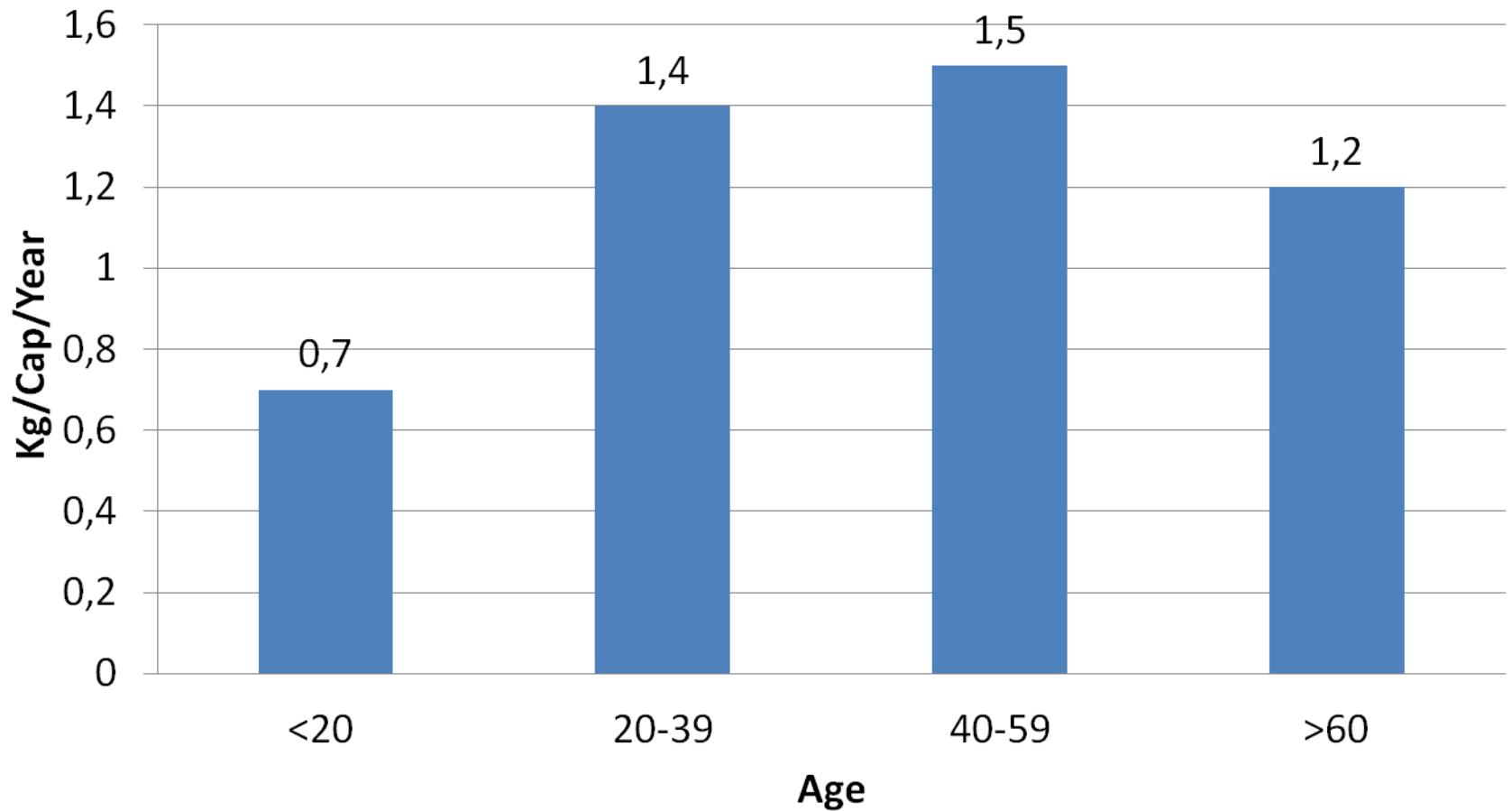
# Losses on Paddy



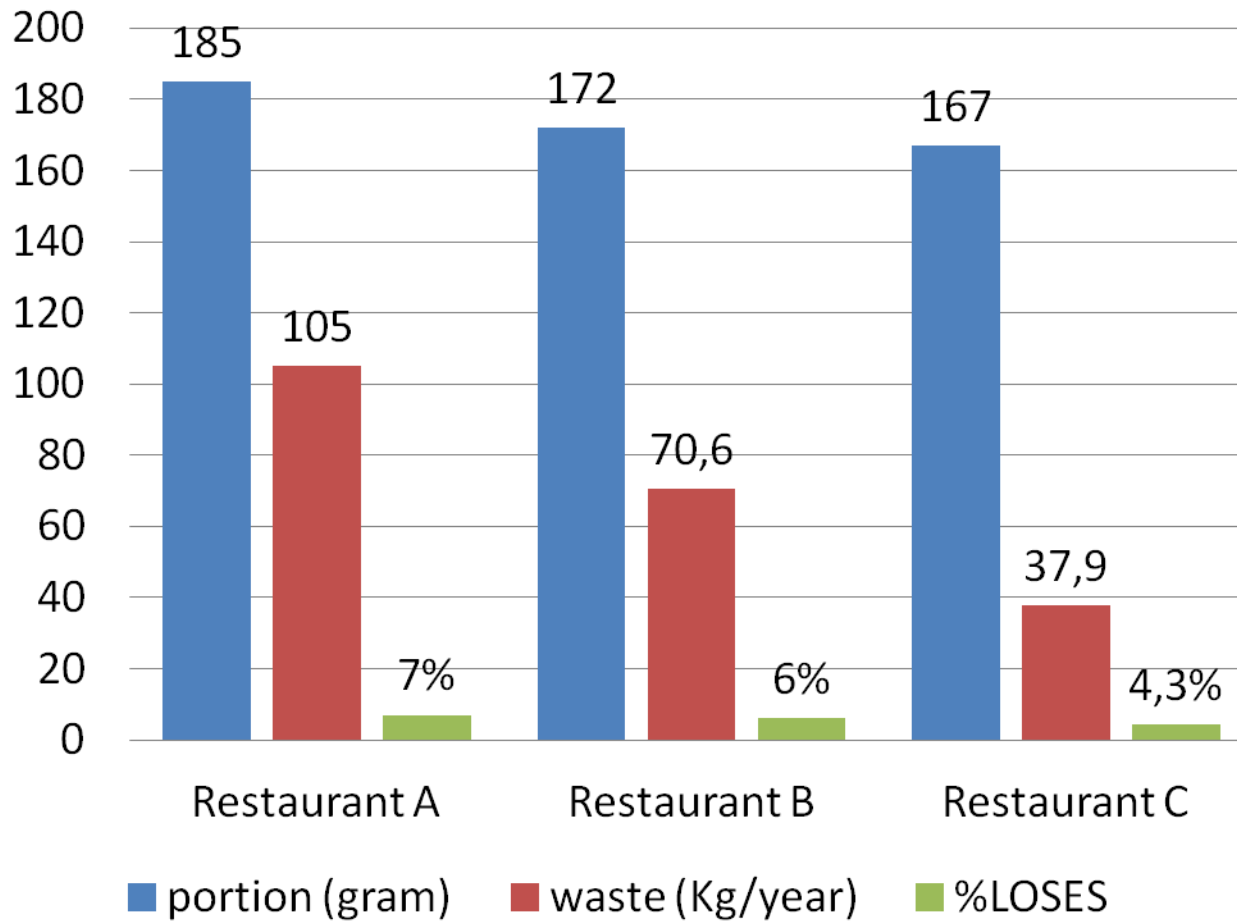
## B. Waste in Restaurant

- Small studi Novitasai, Anriany and Martianto in 2013 involving 32 restaurant and 279 responden
- Methods: Food Weighing to count the waste

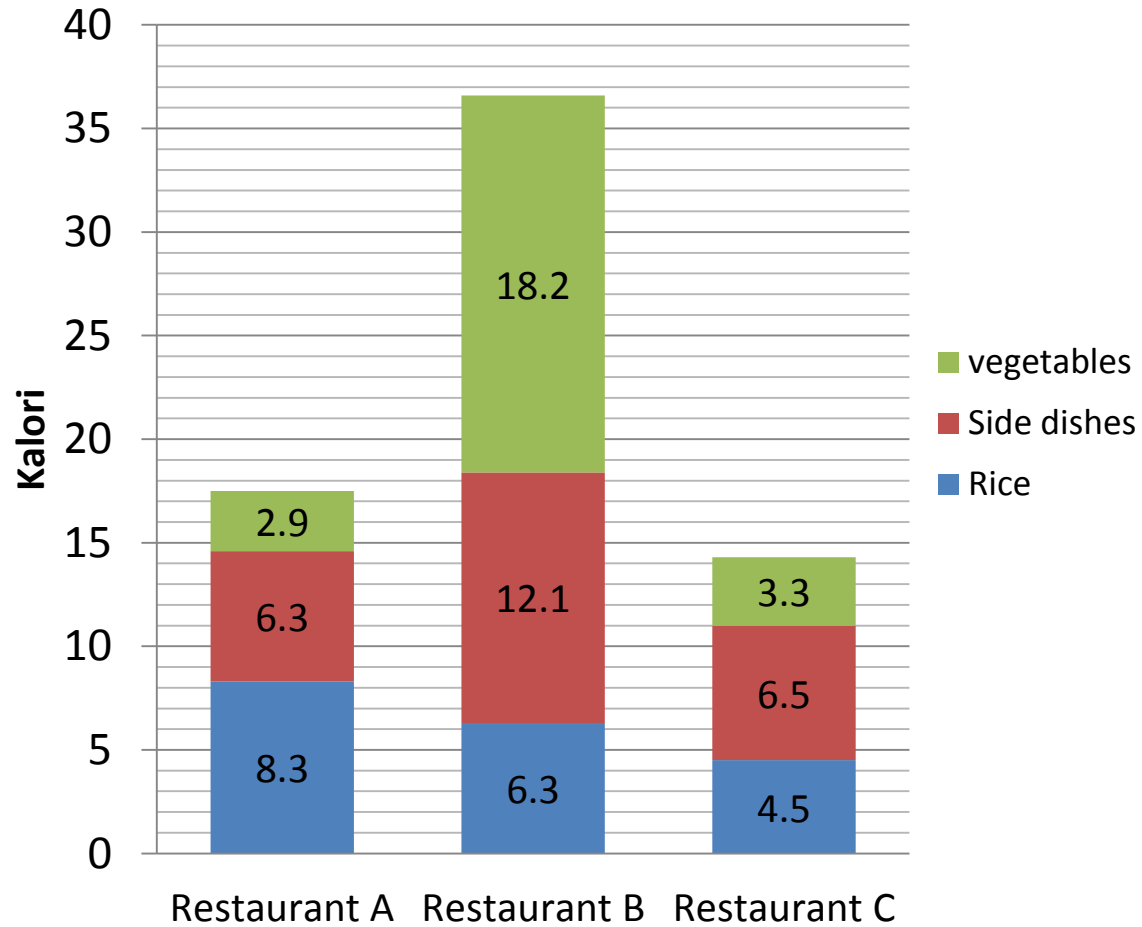
# Waste based on Age



# Portion Vs Waste



# Energy loss (kalori)



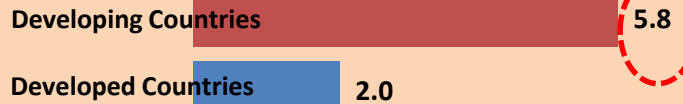
# 1

## LOSS OF *GRAIN PRODUCT* IN FOOD CHAIN

### *Developing Vs Developed Countries*



#### PRODUCTION LOSSES



#### POSS-HARVEST LOSSES



#### PROCESSING LOSSES



#### RETAILER LOSSES



#### CONSUMPTION



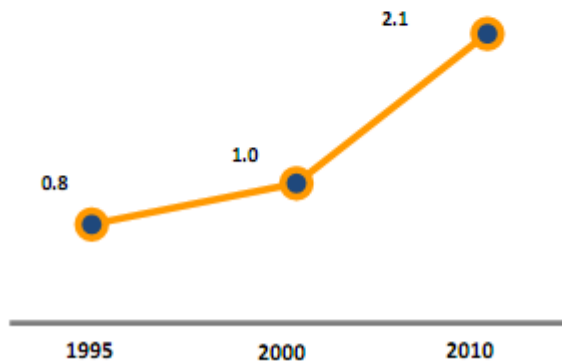
Law No. 18/2008 for Municipal Solid Waste (MSW)  
Article 20(3) stakeholders shall use as little as possible material which produce waste, can be reusing, or can be recycling

### ■ Source and Characteristic of MSW

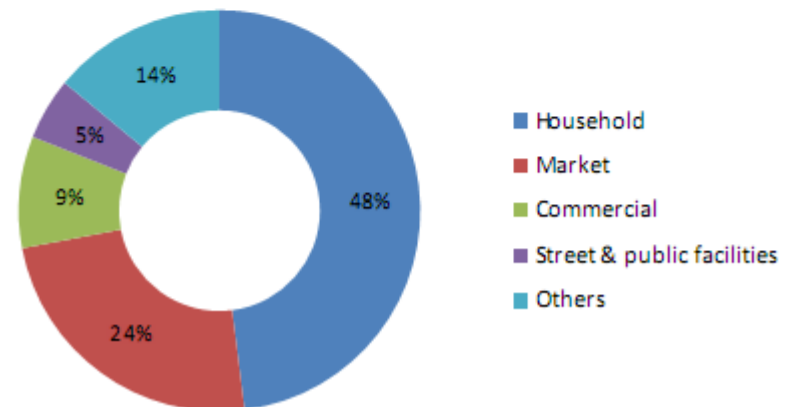
- MSW generation in nation wide is about 176,000 ton daily
- Composition by source: household waste(48%), market waste(24%), commercial waste(9%), street and public facilities waste (5%), and others (14%)
- Compostable organic waste is dominated the MSW composition in Indonesia however the number of this type of waste tends to decrease. Meanwhile plastic and paper waste increase significantly

#### MSW generation

(unit: kg/capita/day)



#### MSW Composition by Source

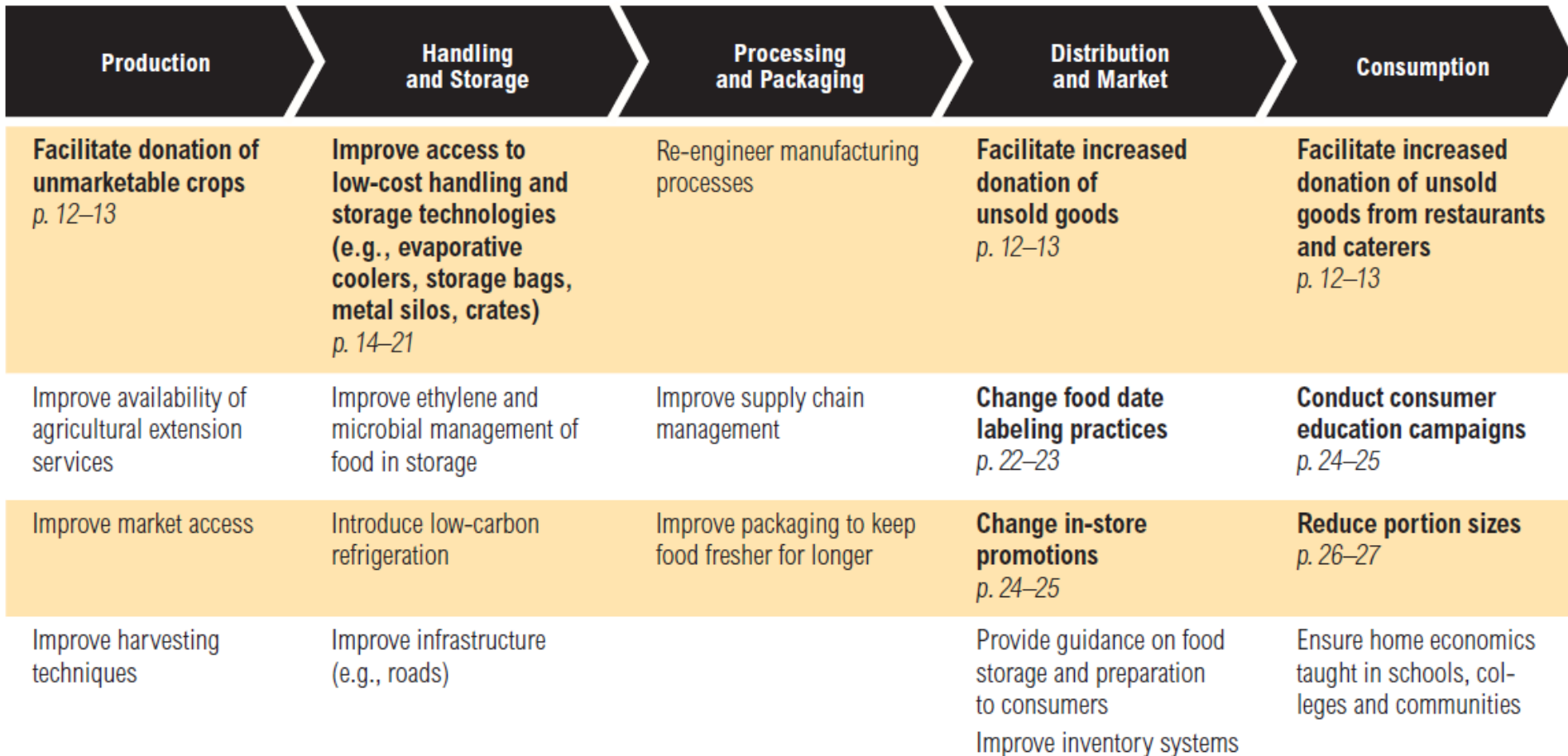




# Ritel voluntary implementing

- Implement clearly data labelling particularly for expire date information
- Commitment to reduce food waste by implementing minimally processed particularly for fruits and vegetables (i.e fresh cut, salad)
- Food waste (including non-edible parts of foods) used for composting, to produce fertilizer or provide energy sources

# IV. EFFORT TO REDUCE FOOD WASTE AND FOOD LOSES

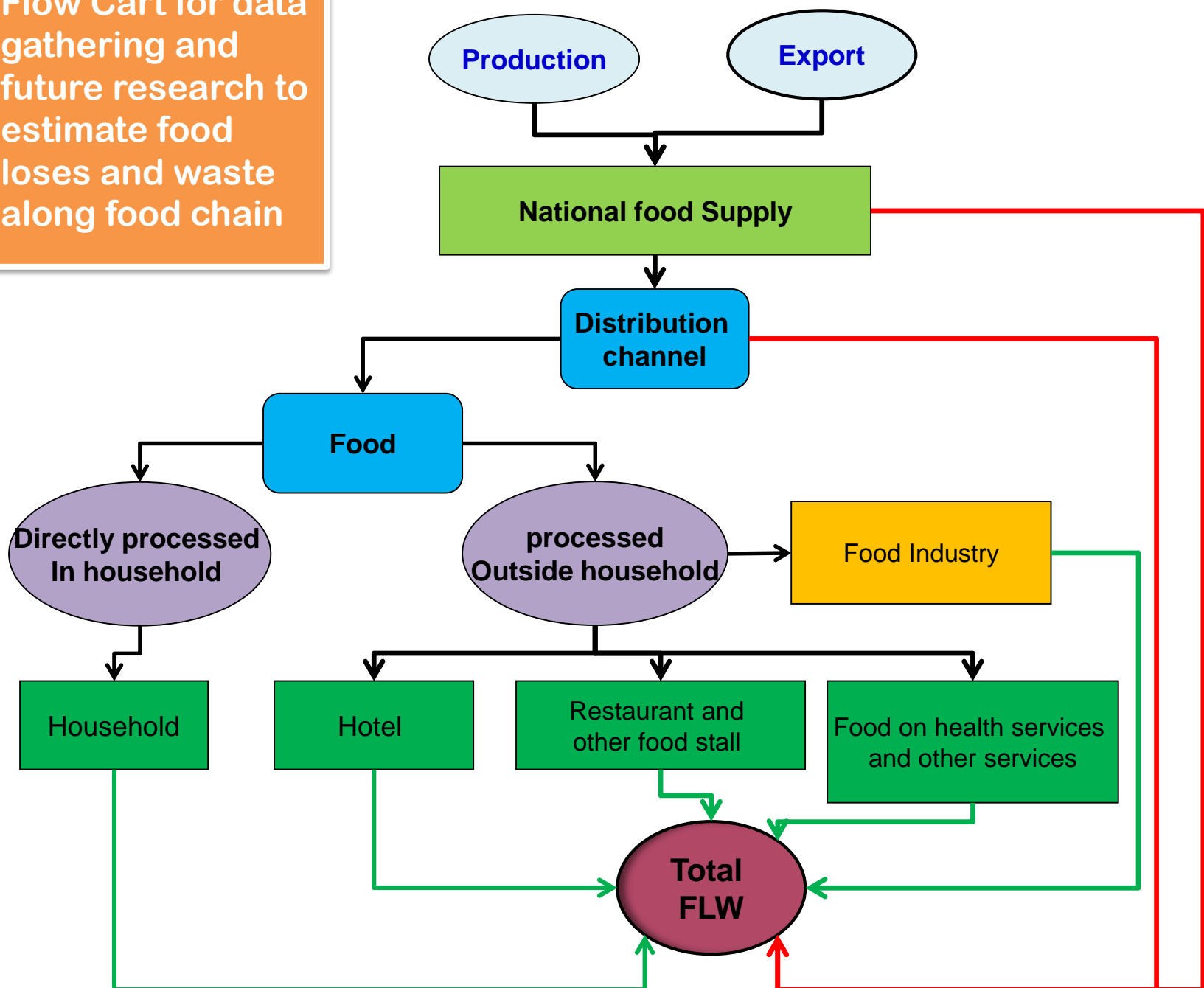


(Lipinski, et.al, 2013)

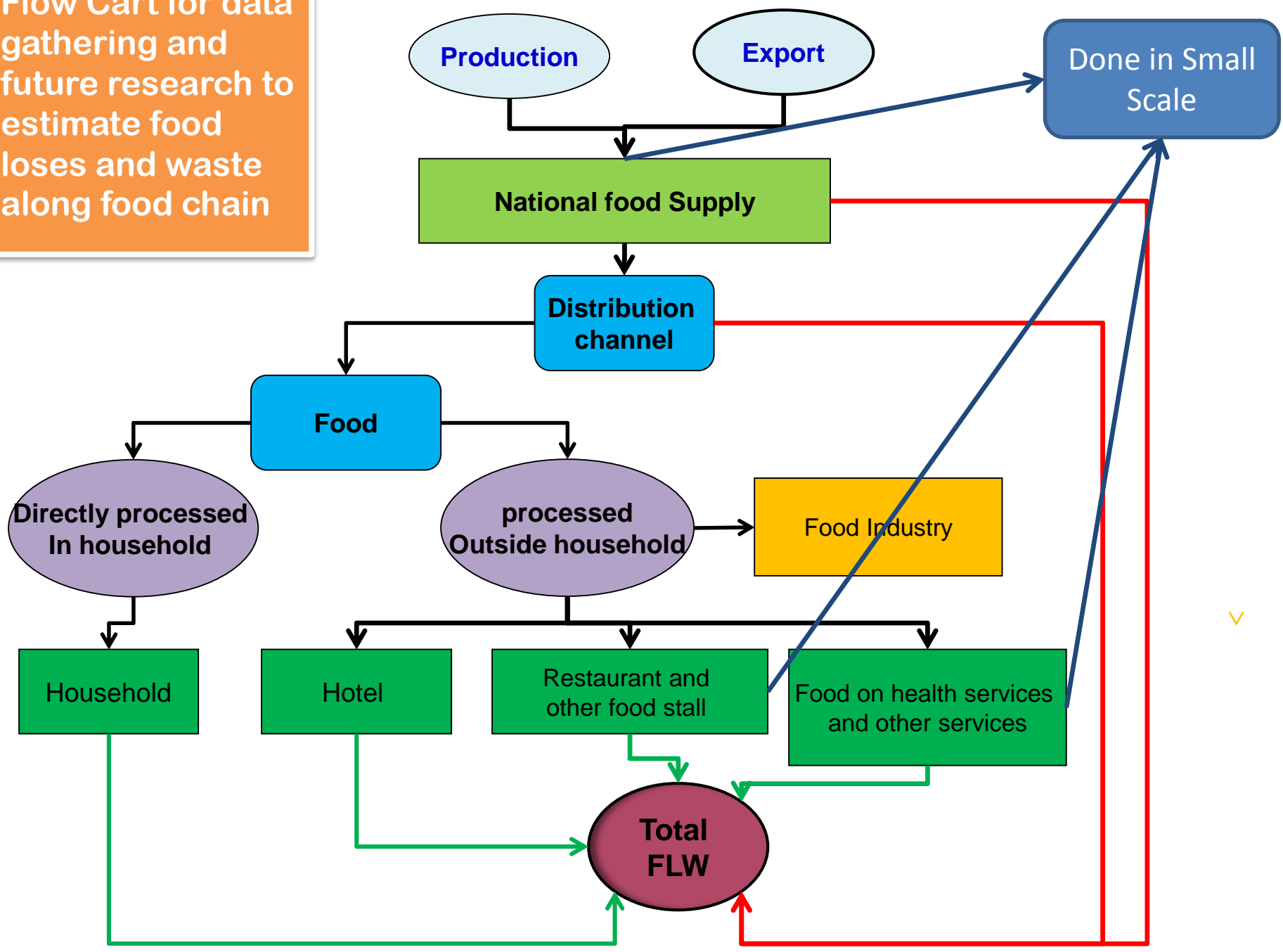
## IV. EFFORT .....

1. Gather Information and data  
(Level of data, scope of survey, methods, and resources )
2. Desain strategi and target  
(strategies in each level, collaborating partner)
2. Implementing Program on reducing FLW including community awareness
3. Review and improving policies and strategi (National Act, plan of action, etc

Flow Cart for data gathering and future research to estimate food loses and waste along food chain



Flow Cart for data gathering and future research to estimate food loses and waste along food chain



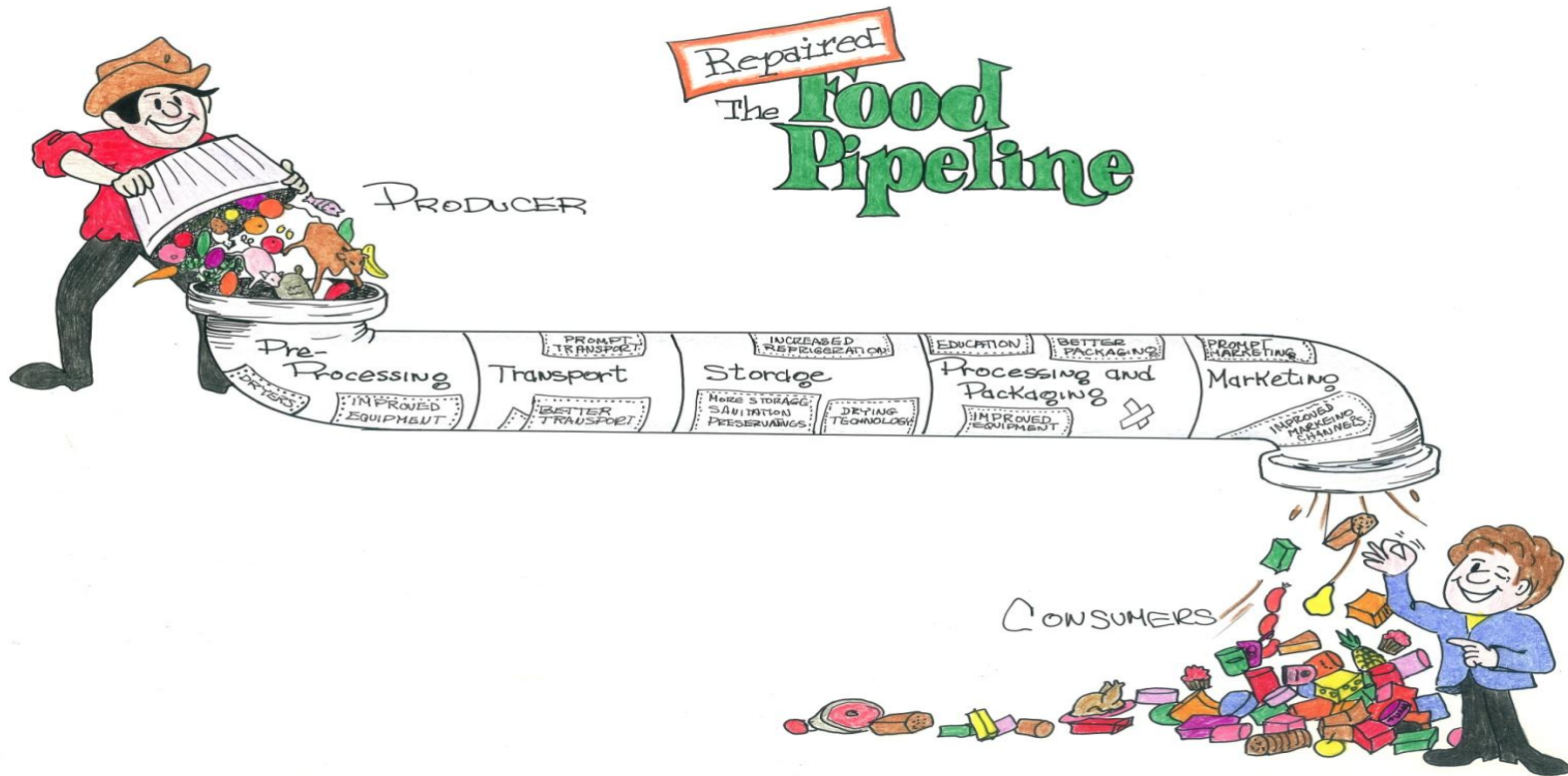
# Indonesian effort....

- ✓ Socialization and campaign
- ✓ Build a system for best practices from farm to table i.e GAP, GMP, GHP
- ✓ Implementing simple and practical on farm technology Such as drying machine, rice thresher to reduce loses
- ✓ Price incentive based on product quality
- ✓ Reducing portion size to minimize waste during consumption and processing
- ✓ Minimally processed i.e fresh cut for fruit and vegetable in retail

# Potential challenge

- Commitment and awareness in all level
- Resources i.e: budget
- Unnoticeable Immediate result
- Cross sectional issue

# LET'S REPAIRED OUR "FOOD PIPELINE"!!!



# THANK YOU



# Reference

- Evans, D. 2014. Food Waste, Home Consumption, Material culture, and Everyday life. Bloomsburry.
- Anonim. 2012. Laporan Pelaksanaan Survei Susut Hasil Padi 2012. BPS dan Kementan. Jakarta
- HLPE, 2014. Food losses and waste in the context of sustainable food systems. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome 2014.
- Anonim. 2008. Undang – Undang No 18 tahun 2008 tentang Pengelolaan Sampah.
- Anriany,D &Martianto, D. 2013. Estimasi Sisa NasiKonsumen di Beberapa Jenis Rumah Makandi Kota Bogor. Jurnal Gizi Pangan, Maret 2013, 8(1):33-38
- Yiannas, F. 2016. Food is to Important to waste. Commentary, NationalAcademy of Medicine, Washington, DC. <http://nam.edu/wp-content/uploads/2016/01/food-is-to-important-to-waste.pdf>
- Gustavsson, J. et. al. 2011 “Global Food Losses and Food Waste: Extent, Causes and Prevention”, Food and Agriculture Organisation of the United Nations, Rome.
- Lipinski, B. et al. 2013. “Reducing Food Loss and Waste.” Working Paper, Installment 2 of Creating a Sustainable Food Future. Washington, DC: World Resources Institute. Available online at <http://www.worldresourcesreport.org>
- Novitasari, P. 2013. Estimasi Sisa Lauk Hewani, Lauk Nabati, dan Sayuran Konsumen Beberapa Jenis Rumah Makan di Kota Bogor. Skripsi. IPB. Bogor