

# NUS Development:

What policies/incentives  
are required along the  
value chain?

By

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Prepared for:

FAO Regional Expert Consultation on Scoping,  
Prioritizing and Mapping of Neglected and  
Underutilized Crop Species in Asia  
3-5 Dec. 2016, Bangkok Thailand



# Presentation Outline

1. Brief Introduction of TFNet
2. What are underutilized crops?
3. Why do crops remain underutilized?
4. The agricultural commodity value chain
5. Policy gaps and recommendations
6. Some examples



# About TFNet

**International Tropical Fruits Network (TFNet)** is an autonomous and self financing global network established under the auspices of the Food and Agriculture Organization of the United Nations (FAO), whose mandate is to promote sustainable development of the tropical fruit Industry globally in relation to production, consumption and trade. It is both intergovernmental and inter-institutional in nature.



# Position of TFNet in relation to FAO

Food and Agriculture Organization  
of the United Nations (FAO)

## Governing Bodies

- Conference
- Council
- Programme Committee
- Finance Committee
- Committee on Constitutional and Legal Matters

- **Committee on Commodity Problems**

- Committee on Fisheries
- Committee on Forestry
- Committee on Agriculture
- Committee on World Food Security
- Regional Conferences

## Intergovernmental Groups (IGG)

- Consultative Sub-Committee on Surplus Disposal
- IGG on Rice
- IGG on Grains
- IGG on Citrus Fruit
- IGG on Jute, Kenaf & Fibres
- IGG on Oilseeds, Oils & Fats

- **IGG on Bananas & Tropical Fruits**

- IGG on Hard Fibres
- IGG on Tea
- IGG on Meat & Dairy Products

Sub-Group on  
Tropical Fruits



# Vision and Mission, and Objectives of TFNet

## Vision

TFNet will be a leading global player in facilitating international cooperation in production, consumption, logistics, marketing and trade development in the global tropical fruit sector.

## Mission

TFNet will cooperate with member countries to improve small farmer income by enhancing productivity and market access, increase global demand and trade of tropical fruits, and alleviate micronutrient malnutrition by promoting tropical fruit consumption.

## Objectives



# Our Country Members (as of September 2016)



 Malaysia


 Nigeria

 India

 Sri Lanka


 Fiji

 Indonesia

 Sudan

 Saudi Arabia

 China

 Bangladesh

 Vietnam

 Syria

 Philippines

 Australia



# Global Action Plan for Tropical Fruits (GAPTROF)

The TFNet Global Action Plan for Tropical Fruits (GAPTROF) will illustrate how the programmes and activities stated in the TFNet Strategic Plan (2015-2020) will contribute towards the achievement of the United Nations 2030 Agenda for Sustainable Development. For this presentation, we shall focus on agenda 2:



**SDG 2: End hunger, achieve food security, improved nutrition, and promote sustainable agriculture**

**Our solution for SDG2:** TFNet will support the industry by promoting sustainable agriculture to increase production and trade of tropical fruits and feed the growing global population. TFNet will also promote the consumption of two servings of tropical fruits a day, providing essential vitamins and minerals to combat hidden hunger. TFNet will continue to disseminate up-to-date information to enhance the knowledge of consumers.

Underutilized fruit crops will help in agricultural diversification, helping create more healthy food options while creating a more sustainable and resilient production system.



# What are underutilized crops?

- Species that are of minor importance in terms of production, consumption and utilization, and are not fully exploited to contribute to the national economy (Aboagye et al., 2007)
- Either cultivated or wild and have great potential for development and production diversification, ensuring food security while preserving culture and traditions and generating income for marginalized people. (Uzbek Scientific and Production Centre of Agriculture, 2006)
- Most developed crops are grown for limited end uses: fresh produce, cereal, beverage, oil, spice, etc. Majority of underutilized crops are multipurpose. (Williams and Haq, 2002)
- For underutilized fruits we can define as the fruits with potential value for commercialization but still not fully exploited for food, nutrition and other economic contribution to national economy.





# Why do crops remain underutilized?

## Agronomic Factors

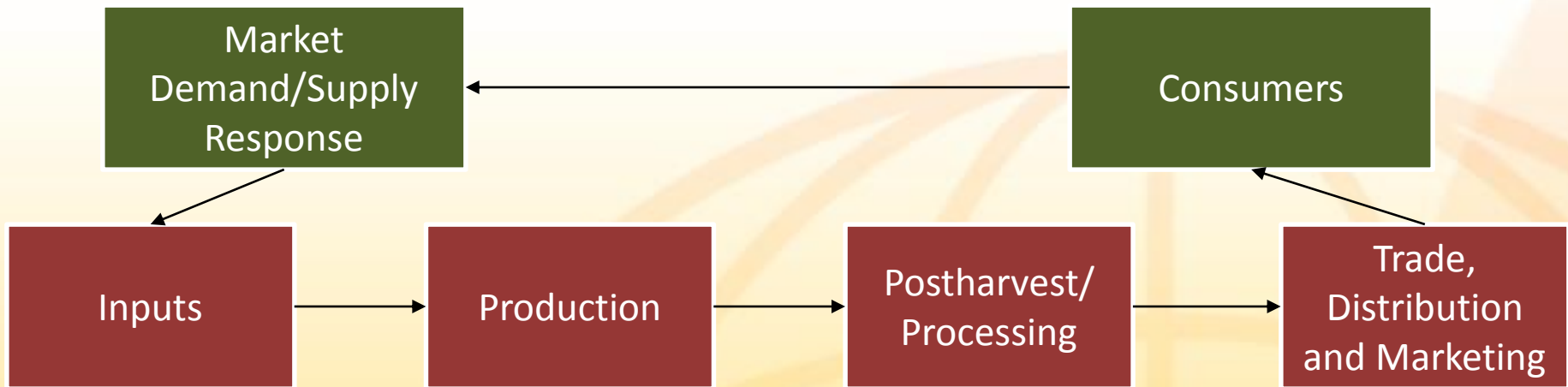
- Difficult to produce in a large scale
- High cost of production
- Some crops do not ripen at the same rate
- Small edible portions
- Requires considerable processing before consumption
- Low shelf life

## Non-Agronomic Factors

- Little or no market value
- Lack of research to improve productivity
- Lack of product development
- Lack of good quality planting materials
- Lack of extension services



# A simple agricultural value chain



# Policy gaps and recommendations

## General Agriculture Policies

### GAPS

1. Policies on underutilized species are bunched together with either: biodiversity conservation policies or general crop policies.
2. Agricultural courses taught in school/universities focus on staple crops.
3. Unclear communication among the policy makers, implementing agencies, and stakeholders.

### RECOMMENDATIONS

1. Policies on preservation of biodiversity should include the production of underutilized crops that have potential.
2. Curriculum should be expanded to include underutilized crops.
3. A roadmap should be developed, along with action plans for the stakeholders involved. Reduction of bureaucracy can also reduce the cost of implementation. Implementing agencies should be provided with leeway to adapt with on-site conditions.



# Policy gaps and recommendations

Market  
Demand/Supply  
Response

Consumers

## GAPS

1. Little to no demand on underutilized crops.
2. Educational policies that undermine traditional values as inferior, resulting to a perspective that underutilized crops are “inferior” and eaten by “unsuccessful villagers”.
3. Health and nutrition laws focus on recommending food groups, and not specific healthy options like underutilized crops.

## RECOMMENDATIONS

1. Determine the products that can be developed to introduce underutilized crops to the market
2. Provide campaigns on the health benefits of underutilized crops and their help on improving biodiversity and sustainability. Create campaigns to empower growers and consumers to be proud of their crops.
3. Identify specific food crops that can help in specific nutritional concerns.



# Policy gaps and recommendations

## Inputs

### GAPS

1. Incentives are given to growers of specific commodities produced in large scale, replacing underutilized crops that are traditionally planted.

2. Investments:
  - Public investments are not proportional to the sector's contribution to the national economy.
  - Private investments are limited by investment providers such as banks, requiring collateral or strict viability plans.
  - In some countries, high taxes are levied on highly productive land that forces farmers to grow commercial crops.

### RECOMMENDATIONS

1. Incentives on underutilized crops could be given for:
  - Growers of underutilized crops that have potential markets
  - Growers of common commercial crops with underutilized crops as intercrops
  - Growers of underutilized varieties of common crops
2. Investments:
  - Countries should increase the national budget on agriculture, and include potential underutilized crops



# Policy gaps and recommendations

## Inputs

### GAPS

3. Lack of germplasm and planting materials for breeding and multiplication for commercial planting.
4. No database of plant species.

### RECOMMENDATIONS

3. Agricultural research institutes should be able to gain access to and use underutilized plant species germplasm for the purpose of breeding and multiplication
4. Local underutilized plant species should be collected, identified and inventoried, thereby creating a listing of these species



# Policy gaps and recommendations

## Production

### GAPS

1. Traditional production techniques are overlooked for technologies that are used for major crops.
2. Research and funding on production technologies are focused on major crops.
3. Lack of production standards to ensure product quality.

### RECOMMENDATIONS

1. Registration and promotion of traditional and indigenous agricultural products and technologies. The concept of conservation of underutilized species should be incorporated in policies to encourage people in remote areas to conserve the underutilized plant species, popularize traditional knowledge and improve people's knowledge of the value (medicinal, cosmetic, nutritional, cultural) of such species and their cultivation techniques.
2. Policies should include funding research on underutilized crops. Encourage the sharing of knowledge and information on underutilized species by promoting empirical research.
3. Good Agricultural Practices should be developed, including reduction of MRLs to ensure food safety and help create traceability.



# Policy gaps and recommendations

## Postharvest/ Processing

### GAPS

1. No support to improve the shelf life of underutilized crops.
2. Lack of value addition.

### RECOMMENDATIONS

1. Improve infrastructure, including communication in remote areas. Breeding programs should be developed to improve shelf life.
2. Provide incentives to researchers and the private sector to develop innovative products: food, supplements, cosmetics, etc. Provide funding to improve product labels, increasing product image and value.





# Policy gaps and recommendations

## Distribution and Marketing

### GAPS

1. Policies on increasing fruit quality for international export has high production costs that small scale farmers cannot afford. These often do not include provisions that would allow small scale farmer inclusion into the value chain.
2. International trade agreements specify major crops, restricting trade of underutilized species.

### RECOMMENDATIONS

1. Re-think policies such as taxes on market infrastructure that promote and create a demand for major crops.
2. Re-think trade agreements and to include crops of high quality and are safe, regardless of whether it is a major crop or not. Promote the inclusion of underutilized species and their products on export commodity lists after determining their demand in export markets.



# Some examples

## Malaysia

In Sarawak, Malaysia, the Department of Agriculture has designated Dabai (*Canarium odontophyllum* Miq.) as a priority crop in the region. A Geographical Indication (GI) protection certification by the Malaysian Intellectual Property Corporation (MyIPO) has been issued. This certification provides support to create quality and value of products.



# Some examples

## Philippines

In the Philippines, products that are fortified with Moringa (*Moringa oleifera*) has been accepted by the market for its high nutritional value.

Senate Bill No. 319 aims to support the development of Moringa in the Philippines. The act calls for the Dept. of Agriculture, Dept. of Science and Tech, local government, universities, and others to support Moringa, including:

- appropriate land use
- developing a production R&D program
- info dissemination
- explore by-products (feeds, fertilizer, biofuels)
- planting in marginalized soils
- product development
- declaring a “National Malunggay month”
- Allocating 50 million pesos.

SEVENTEENTH CONGRESS OF THE )  
REPUBLIC OF THE PHILIPPINES )  
First Regular Session

SENATE

Senate Bill No. 319

Introduced by Senator Cynthia A. Villar

AN ACT ESTABLISHING A NATIONAL PROGRAM FOR THE MALUNGGAY INDUSTRY, APPROPRIATING FUNDS THEREFOR AND FOR OTHER PURPOSES

EXPLANATORY NOTE

*Moringa oleifera*, or most commonly known as Malunggay, is usually, found in the backyards of most Filipino homes. Grown, with little to no maintenance, has taken the moniker, “The Miracle Tree”, because all of its parts including leaves, pods, bark, seeds, fruits and roots have nutritional and healing properties.

Nearly all may assume that Malunggay is not at par with other vegetables, but many will be surprised of its versatility and capacity to contribute not only in feeding hungering mouths but also in revitalizing and strengthening people’s physical well-being and socio-economic development.

Malunggay is a source of vitamins A and C, calcium, potassium, protein, and zinc, needed by children and adults alike. In the Philippines, Malunggay’s leaves are customarily used in chicken soup and fish courses. Nowadays, Filipinos venture into the practice of adding these leaves to pastries and pasta dishes. Even its roots and seeds are used as seasoning.

Malunggay is further known to produce the most natural oil and is used in cooking and making salad. Its quality is being compared with olive oil.

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BILLS & INDEX



# Some examples

## Philippines – Moringa products





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**Thank you for  
listening!**

**International Tropical Fruits  
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