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## **LOCAL BASED FOOD SECURITY: Toward Food Sovereignty**

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### **ABSTRACT**

Food security is defined by the World Food Summit of 1996 as a condition when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life. The importance of food security for sustainability of a nation has formally been recognized by many governments. The fact that food insecurity still widely exist in Indonesia –and in many part of the world- showed that increase understanding and commitments of the government toward food security is still needed. Internalization of the real strategic meaning of food security; especially associated with nation's competitiveness and national security; is essential to increase commitment of government agencies in combating food insecurity. In the case of Indonesia, the abundant natural resources should be the basis for establishing local based food security; toward food sovereignty.

**Key words:** Food security, National security, Policy, Local resources, Food Sovereignty

### **INTRODUCTION**

Human beings cannot survive without food. Since the right to food is the most basic of all (Presidential Commission on World Hunger, 1980), therefore, efforts in fulfilling the need for food should be the basic responsibility of the government toward their people. Despite the fact that many governments of the world have realized the importance of food security, food insecurity, as reflected by the high number of malnourished individuals in the world, are still alarming.

The existence of food insecurity, among other, is due to lack of awareness and understanding -and consequently lack of political commitment- on food security

by policy makers in national and regional development. Food security is a strategic component for a nation's competitiveness. Furthermore, food security can be viewed as a prerequisite for national security. Hence, the paper will focus more on discussing the strategic meaning of food security in moving toward food sovereignty.

### **CONCEPT OF FOOD SECURITY**

According to FAO, food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (Smulders 2007). In

general, there are three main components of food security (Table 1), i.e. (i) food availability, (ii) Food accessibility, and (iv) Consumption sufficiency. Provided that those three components of food

security can me maintained sustainably; at every time and at every location, then this condition will eventually leads to the achievement of criteria of healthy and active individuals.

Table 1. Food Security Aspects and Their Indicators

Aspects of Food Security	Immediate Indicators	Impact indicators
Food availability	<ul style="list-style-type: none"> <li>• Quantity</li> <li>• Quality</li> <li>• Nutrition adequacy</li> <li>• Food Safety</li> </ul>	Active and healthy life of Individual
Accessibility	<ul style="list-style-type: none"> <li>• Physical, economic and social accessibility</li> <li>• Compliance to preferences</li> <li>• Compliance to food habit and culture</li> <li>• Compliance to belief and religion</li> </ul>	
Consumption sufficiency	<ul style="list-style-type: none"> <li>• Intake sufficiency</li> <li>• Quality of household food processing</li> <li>• Quality of household sanitation and hygiene</li> <li>• Quality of drinking water</li> <li>• Quality of child care</li> </ul>	

Consequently, no country is said to have a perfect food security status if there are still individuals unable to meet their needs to stay healthy and actively participate in various economic activities. In other words, the level of food security (or insecurity) of a country is actually manifested by the nutrition status of the people. This concept can be applied to measure a government’s performance in assuring the peoples’ access to food. Moreover, this concept not only shows the level of a government’s commitment in fulfilling the right to food but also in improving national competitiveness (Figure 1). Furthermore, increasing economic growth and national competitiveness will result in a demand for a higher standard of food security of a nation. Policy makers should be aware of this important framework in order to design priorities of development programs.

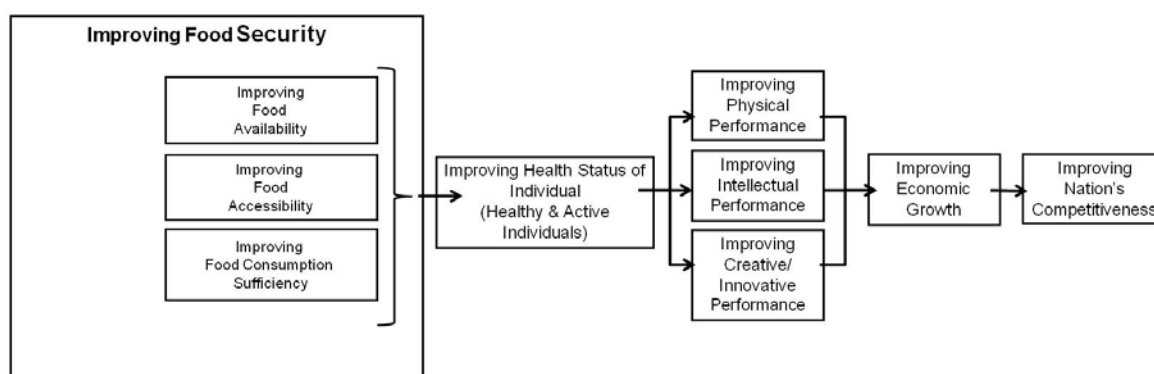


Figure 1. Improvement of food security and national competitiveness

## LOCAL BASED FOOD SECURITY

It has to been realized that the concept and definition of food security discussed above is not always positively correlated with national security. Hypothetically, despite its ability in ensuring availability of and access to high quality, safe and nutritious foods for its people, a country can potentially experience “(food) insecurity” especially with regards to its dependency on imports. This may happen (i) to a country with insufficient natural resources to meet their own dietary needs, or (ii) to a country with sufficient natural resources but which has not optimally explored nor developed these resources to ensure food security. Hence, strategy in fulfilling food security should be developed by considering many

factors that suits the conditions of the available resources, in terms of its environment (including natural, social and cultural environment), technology (including daily habits and other practices) and human resources. In short, the system, the social structure, culture, politics and economy need to be developed and established based on specific local resources (Hariyadi et al. 2006).

National food systems developed using local resources will have strong backward-linkages with local farming systems, improve food diversification, and have less dependency on only one (or two) food commodities – such as rice for Indonesia. Concerted national efforts in improving food security based on food diversification utilizing local resources will contribute towards food independence (Figure 2), and is a prerequisite of national security.

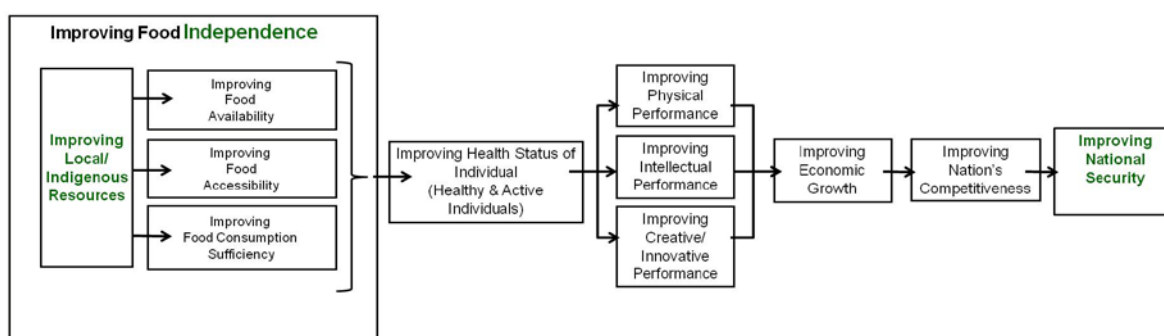


Figure 2. Improvement of food independence towards improved national security

Taking into consideration its characteristics and potentials, countries such as Indonesia have a big opportunity in realizing its food security by improving food diversification. The government (especially the local government) has to re-evaluate whether rice is the only staple food appropriate to the needs of its region. Government needs to seriously look into its local potential related to staple foods that suit their natural and cultural environment. The concept of food diversification requires that each region

needs to create regional food security that conforms to its regional potential. Consequently, several additional indicators are needed to assess food independency, such as (i) contribution of local/indigenous resources, (ii) level of diversity of food/dietary sources, (iii) level of food import dependency, and (iv) level of food-related import dependency (import of seeds, fertilizers, ingredients, food machinery, food packaging, etc).

Development of the concept of food independence; in turn will lead to the

need to develop food sovereignty concept. This can be done by asking question on who is actually managing the food independence system to assure improved national security? Food sovereignty concept put emphasis on active participation of local community, local

institutions in developing and managing food system; leading the not only improved national security but also improved people welfare (Figure 3).

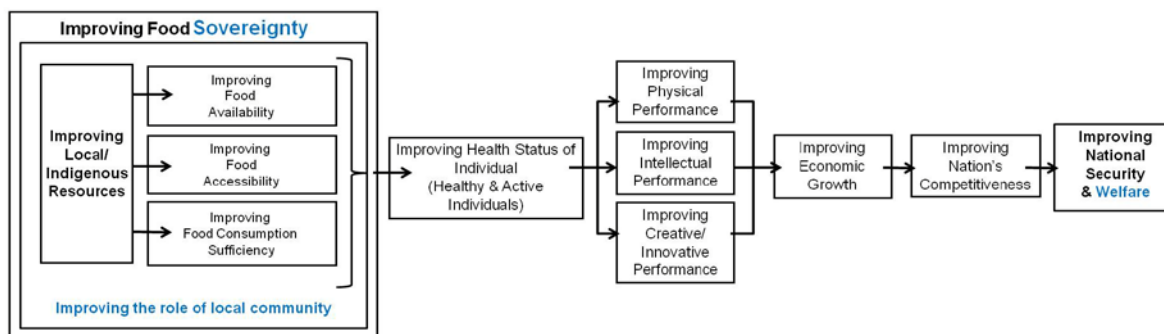


Figure 3. Improvement of food sovereignty towards improved national security and people welfare

### **ROLE OF SCIENCE AND TECHNOLOGY**

Participation of local community in realizing food sovereignty should be developed by to suit the condition of the available resources; in terms its environment (including natural, social and cultural environment), technology (including daily habits and other practices) and human resources. Science and technology certainly has important role in developing food sovereignty; food independence and food security based on local resources, all the way from production (farm) to consumption.

In relation to food availability -for example, science and technology has important role to play; especially in increasing the production, minimizing post-harvest losses, improving food safety, increasing nutritional values, or developing better logistics and distribution system. Considering that most agricultural products are of seasonal in nature with various qualities, perishable and specific to location, then there is an obvious need for appropriate handling based on types of

products and its specific characteristics. All these need appropriate knowledge of science and technology as regard to those requirements. Furthermore; there is also a need for understanding the indigenous knowledge of the local people with regard to foods habits.

Other several critical issues of food sovereignty need to be addressed, including (i) efforts in exploration and using the potential of the best local material, (ii) improvement and application of cultivation technology, processing and packaging, and (iii) application of the food industrialization and business concept suitable to local condition. Industrialization of local-based foods should be conducted by creating specific added value. Creating added value is a challenge for the scientist and technologists. Research to explore the unique characteristics and functionalities of local foods, to identify and map local preferences and consumers habits, for example, should be conducted intensively.

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**Role of Asia  
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**Directorate of Collaboration and International Programs**

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## **PREFACE**

Praise be to God Almighty for enabling us to publish the proceeding of 19<sup>th</sup> Tri-University – International Joint Seminar and Symposium which has been conducted on 22-25 October 2012 at Kampus IPB Darmaga, Bogor.

The theme of the conference was focused on the Role of Asia in the Community & Sustainable Development. Papers presented in the conference were divided into five categories, Tetralema (Food, Population, Energy & Environment) plus Ecology. There were 98 papers presented orally by students and lecturers

We would like to express our gratitude to all speakers who have contributed their papers try to be published in this proceeding. Thank you to IPB and all parties who have sponsored this event. To all members of steering and organizing committee who have contributed to the success of the event we would like to express our sincere appreciation.

We also would like to apologize to all of participants if in conducting this event there are some shortcomings that cause the participants feel not comfortable. We hope that this proceeding contribute to the establishment of science and technology in food, population, energy, environment & ecology in Asia.

Bogor, October 2012  
The Chairman of the Organizing Committee,  
Desrial

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