

Study on Local Concept of Household Food Security: The Case of Fishery and Paddy Farming Community in Mukomuko District Bengkulu Province

Ketut Sukiyono, Septri Widiono, Indra Cahyadinata and Sriyoto

Department of Agricultural Social Economics Faculty of Agriculture,
University of Bengkulu.

Email: ksukiyono@yahoo.com

ABSTRACT

Researches on food security have been more focused on the measurement of household food security, the correlation between the attributes of households with food security as well as the determinant factors. In fact, household food security is also about social and cultural dimensions of the local community, including its economic dimension. Therefore, this study aimed at exploring and defining the local concept of food security. In-depth interviews and focus group discussions conducted in the community of fishermen and rice farmers in which 15 men and women each group were randomly selected. Phenomenology methods used to analyze data and information obtained from in-depth interviews and focus group discussions. The study found that communities of fishermen and rice farmers define food security as a concept of work. Understanding the concept of this work is defined as an effort to produce or obtain goods for consumption, that is, food. This implied that diet diversity is also classified based on their significance in the context of when the community conduct their works. They also categorize food into three types, that is, food that must be available everyday (type I), food that should be available everyday (type II), and food that is not necessary available everyday (type III).

Key words: local concept, food security, fishermen, rice farmers

INTRODUCTION

Researches on food security have been more focused on the measurement of household food security, correlation between the attributes of households with food security as well as the determinant factors. Household food security indicators that are often used widely can be called generic indicators, such as calory intake (calory), poverty, food availability and so forth. In fact, household food security is also about social and cultural dimensions of the local community, including its economic dimension. In addition, the use of generic indicators is often unable to describe the real state of household food security, not only due to the neglect ion of social and cultural dimensions, but also existed or implemented generic indicators are a generalization.

Results of research conducted by Sukiyono *et al.* (2008) also showed inconsistencies use of generic indicators for household food security. In their study, they found that different indicator used show the different level of food security status. Therefore, identifying and formulating the local concept of food security is significant, not only it can enrich indicators of household food security but also the area of science. This study is also important not just to be able to use for formulating food security policies that are more *specific location* but it can also be used as a reference for researchers in the field of food security and food policy in the future.

The concept of household food security is reflected by the ability of household to gain access to sufficient food for a healthy and productive live and take place from time to time (World Food Summit, October 1996). As described by Hodinnot (1999), household food security is an evolving concept in which there are approximately 200 definitions and 450 indicators of food security. Meanwhile, Chung *et al.* (1997) defined household food security by three concepts: food availability, food access and food utilization. Furthermore, there are at least four indicators that are often used in measuring household food security, namely dietary diversity, Individual dietary intake, caloric acquisition and Indices of household coping strategy. Furthermore, Radimer (1990) states that there were four dimensions of food security or insecurity, which is quantitative (sufficient intake), qualitative (adequate nutrition), psychological (the adequacy of food choices and feelings) and social (no disruption of food patterns). Although the four dimensions of security and food insecurity is regarded as a core component and an

important component of food security measurement, further studies showed the need for carefulness in distinguishing between core components or the defining characteristics of food insecurity and its potential consequences (see Radimer *et al.*, 1992, Campbell, 1991, and Tarasuk, 2001).

There are widely available generic indicators that can be used to measure food security status of households. For example, Hadinnot (1999) says that for the case in Northern Mali, households classified as food insecurity if the availability of calories is less than 2030 kilocalories per day and conversely. Safiliou-Rothschild (2001) says that the measurement of food security related to the production of staple food in which the state is able to provide minimal nutrition 2400 calories per capita per day. Critics of this indicator is the availability of total calories does not mean that every household and every region also has the same condition. Related to this, many researchers use levels of poverty or income as an indicator of household food security. The FAO (2000) explains that households with high enough incomes to obtain or access the non-food, it can be said of the household in food security status is quite high.

Nevertheless, the use of generic indicators mentioned above cannot always be used to visualize clearly the concept of household food security. Socio-cultural conditions prevailing in the local community are significant in determining the pattern and level of consumption which in turn affect the household food security. Case in India for example, Chung *et al.* (1997) informed that the increased availability of food at national and regional level does not eliminate food insecurity in all parts of India. To this reason, Chung *et al.* (1997) also indicate the need for local indicators of household food security. Furthermore, associated with the locality of the concept of food security is a social dimension as described by Radimer *et al.* (1990) and Campbell (1991). Radimer *et al.* (1990) and Campbell (1991) said that the characteristic behavior of consumption, selection and control of food from food insecurity represented deviation from social norms and culture. On a scale of households, Hamelin *et al.* (1999; 2002) explained that food insecurity include the disruption of eating patterns, the friction of food in the house and the inability to participate in cultural tradition and ritual-based food. Furthermore, food insecurity from the aspect of social and culture is manifested in behavior to get food in ways that conflict with prevailing social norms, e.g., steal, borrow from neighbors and so forth (Tarasuk 2001). The results of this study indicate that the concept of food security or food insecurity is *location specific* and highly dependent on the values and social norms prevailing in society.

Necessity study on concept of food security or insecurity in a specific location is also based on the number of researchers who concluded under none of the best indicators that can be used to measure household food security. One common and frequently used indicator is calorie adequacy (Payne, 1990; Habicht and Pelletier, 1990; Maxwell and Frankenberger, 1992; Haddad *et al.*, 1994; Maxwell, 1996; Chung *et al.*, 1997). Maxwell *et al.* (1999), for example, compares the index of "*coping strategy*" per capita food consumption, lack of consumption of calories (less than 80% of 2230 kcal / capita / day while Chung *et al.* (1997) using the insufficiency of calories (less than 70 %) as an indicator of food insecurity. Two other measures that can be used to capture the quantity and quality of household food availability is calories consumed per capita per day and value per 1000 calories per person per day (Iram and Butt 2004). Critics of the use of indicators calorie adequacy is that these indicators only indicate the adequacy of food in terms of quantity but does not provide information about food quality and sustainability issues of food access. Yet according Tarasuk (2001), food security is a broad concept which covers various issues related to the characteristics, quality and sustainability of food supply and food access issues will.

MATERIALS AND METHODS

Approaches and Stages of Research

Departing from the goals of the research, the qualitative approach used in this study aimed at obtaining the subjective-inductive formulation of local concepts about the community condition of the availability, adequacy, diversity, and accessibility of food. In implementing this approach, the first step is to understand the social structure and local knowledge of the local community. The social structure here adopted Harpers' thought that emphasizes the social structure in networks of social relations more or less routine and repetitive nature (Harper, 1989). So, the social structure is the context of ongoing social structure of a person's actions. While local knowledge refers to the *traditional ecological knowledge* (Berkes, 1993) the local community, which is a set of knowledge and beliefs handed down

from generation to generation through cultural transmission about the relationship with other beings living beings and their environment. Adopting the idea of Berkes, local knowledge here is intended as a collection of local knowledge of food (animal and vegetable), use, and usefulness of these foodstuffs that have been understood and practiced from generation to generation.

In addition to in-depth understanding of local knowledge and context of social structures, concepts of food security will also be studied through in-depth interviews and case study leaders households (Lincoln and Guba, 1985) which is considered by local people as households in the state of food insecurity. Through these two methods, a history of experience of being hungry, causes, and ways to overcome difficult conditions will reveal. From here, the key concepts related to food security deducing inductively on the subject of stories and insights into research on the incidence of food needs are met and expectations. Research stages and methods use that lead to the research objectives described in Table 1.

Table 1. Research Stages

No.	Stages of Activities	Goal	Method
1	Inventory of issues of local food security	Get an overview of problems relating to food security.	RRA, FGD Observation
2	Understanding the context of social structures and local knowledge	Get the pattern of social relationships and social networks and local knowledge of food.	In-depth interviews Observation
3	Conducting case studies of households	Obtain examples of circumstances and conditions of minimum food availability.	Case studies Observation In-depth interviews
4	Formulation of the concept of food security	Get concepts, dimensions, and location-specific variables.	FGD In-depth interviews

Research Area and Number of Sample

This research was conducted in the District Mukomuko consisting of five districts. Of the five sub-districts, two villages selected represented as centre rice production and fishing villages. Then, each village is selected by using the method of cluster sampling where the selected villages were classified into the village as the center of rice production, i.e. Tirta Mulya village and rural society dominated by fishermen, i.e. Koto Jaya village. Selection of examples in each village as many as 15 people were randomized with respect to ethnic diversity and or attributes that exist are as participant in Focus Group Discussions (FGD).

Qualitative Data Analysis: Phenomenology Method

Qualitative data were analyzed using qualitative data analysis techniques sufficient to find the point of problems, namely by applying the method of phenomenology. In principle, qualitative data analysis relies on the ability of researchers during the field in sensing, think, processing, seeking linkages and connectivity between the various phenomena encountered in the field (Bungin, 2006). The process of data analysis carried out simultaneously and with the cyclical position themselves on four axes, namely data collection, data reduction, data presentation, and drawing of conclusions (Miles and Huberman, 1992). So, the data analysis has begun to do at the time of getting the data field.

The main way used to analyze qualitative data is to interpret the data and information, inter-link the information, as well as looking for patterns between events in the domain of the topic being studied. In this case, all data and information grouped into units of the concept (domain), which became a major issue of food issues such as the type and amount of food, feeding frequency, diet, food grade, how to get food, disease history, and experience be hungry related to the problem of access, trace the social network (kinship, neighborhood, and economics). From here, it tries to uncover the main problems related to food resource availability, access, compliance patterns of food, and ways to anticipate the danger of food shortage (food trap). All analytical description proposed by taking into

account the terms used language communities, opinions, and examples of events. Thus, qualitative analysis becomes an adequate description (thick description).

RESULTS AND DISCUSSION

Ecology, Work, and Food Issues at the Farmers' and Fishermen's Community

In general, fishing communities and farmers understand the food problem in the view point of work. The concepts of food security both in terms of nutrient in food as well as technical sense economically as the level of demand and supply of food, seems to have adjusted to the concept of "work" in the local community perspective. Type, quantity, and quality of food basically cannot be separated by "work" itself. Therefore, the meaning of work as fishermen or farmers as a manifestation of an inherited tradition (Wolf, 1966) by previous generations is the key to understanding the issues of local food security. Work regulated by social-mechanisms to produce food. As long as there is no very extreme conditions and beyond the power of community members, such as natural disasters and other natural factors, then food security was the result of work activities, i.e, activities of running the processing and utilization of available natural resources around them through social organizing.

Food issues for fishery and farmers' communities are very identical, i.e, work for food. This statement emphasizes that the main prerequisite for households to remain secure their food needs is the willingness to work, according to the local labor organization needs. The next assertion related to household food security threshold is the provision of food to ensure the sustainability of one's work. In various ways, the work activities of fishermen and farmers show the type of *Peasant* society, which is working around the subsistence needs (See, e.g. : Wolf, 1966; Scott, 1983; and Pollnack, 1988). These subsistence values govern the working pattern and the pattern of food consumption. Even Scott (1993) sets the threshold as the tolerance limit of subsistence farmers in the community interact with the outside world.

In peasant society, following the views of Julian Steward's *cultural ecology* (Steward, as quoted by Robbins, 2004), organizing the work of farmers and fishermen is determined by the state of ecology as the venue for work activities. The interaction of natural factors, employment, and food issues are prominent in public life in the form of ecological adaptation. Ecological adaptation can be recognized in the organization of work. Certainly the environmental characteristics of land as a building society was formed by farmers while the fishermen formed by marine environment.

There is a slight difference in the pattern of ecological adaptation of these two types of communities. Farming communities face the ecological situation relatively under control, especially farmers with rice agro-ecosystem. Geertz (1983) argues adaptation of rice farmers is very supple and flexible. Farmers can adapt, as shown in agricultural institution has been developed, to various ecological and demographic situation changes. In short, Geertz argues that rice agro-ecosystem adaptation can be modified for the benefit of farmers. In the psychological aspect, farmers are characterized by *mutual distrust, perceived limited goods, limited view of this world, and limited aspiration* (Rogers, 1969). Unlike the farmers, fishermen have an uncertain situation as sea is *open access* area. These natural conditions force fishermen to move and to face greater risks than farmers (Pollnack, 1988). The catchment area movement is also mobilizing fishermen to inhabit the land area that is very far away their originalities as conducted by certain ethnic groups such as Bugis and Bajo ethnic. According to Satria (2001), the hardness of marine conditions have formed a psychological condition as being tempered, stiff, and open fishermen.

In discussing the ecology, labor, and food issues, an important concept to note is the organization of work. Organization of work is the relationship between the people involved in a work activity, namely the owners work with a number of workers. In the world of farmers, organized labor will seem peculiar in the utilization of the relationship forms a plot of land (soil), namely *penyakapan* (land tenancy). Many studies concerning this, such as Wiradi (1978) on institutional change *penyakapan* in villages in Java. Wiradi has established the origin of the emergence of other forms of *penyakapan* which includes profit-sharing system and land rent. During agricultural development period, these forms of *penyakapan* began to change their pattern. Not far to Wiradi, Hayami and Kikuchi (1987) also found similar symptoms. Even Hayami and Kikuchi believe that fading land management institutions have pushed commencing differentiation and commercialization of agriculture in the village.

Currently, *Penyakapan* forms generally rare in the former transmigration villages in Mukomuko. Most rice farmers are privately owned but the ethnic villages of Mukomuko (*the kaum* people), these forms appear in practice of *numpang sawah*. *Numpang sawah* is cultivation on a plot of land belonging to another person for some reasons. The farmers who practice *numpang sawah* are those who want to farm but their land is not *sawah* or still difficult to cultivate, such as the marsh shrubs or swamp. The relationship of rights and obligations exemplifying term of products share, that is a half or two thirds of production.

Work organization of fishermen is characterized the relationship between the owner of the boat (*skipper*), with the crew (*pandhiga*) (Kusnadi, 2000; Satria, 2001). The working relationship is also characterized by a relationship *multystranded-or* commonly known as the patron-client relationships, which work activities are not only bound by the "contract of employment" where it contains a number of rights and obligations of work, but also by various forms of emotional relationships outside of the "contract of employment". In addition, they also determine the nature of the *multystranded* relationship in daily society relations, including patterns of guaranteeing food needs in the fishing communities.

In Mukomuko, the organization of fishermen work is the relationship between *Anak Kodo* (ship owners) and *Anak Buah* (fishing workers). The amount of work organization is determined by the capacity of ship engines. For 15 PK machine, there are 4 *Anak Buah*, while 40 PK machine has 15 *anak buah*. The capacity of the engine also determines the type of fishing gear used, namely 15 PK machine used to catch fish in the waters of the middle using *lore trawl, fishing, and rewae*. Meanwhile, 40 PK machine used to conduct deep-sea fishing using a big net fishing gear called *payang*.

The catch is completely sold after leaving about 1 kg per person to eat for a family member. Direct sales do so the ship landed in the form of auction. The *Ulo* (vendors) bid each other like in the auction item. The proceeds are then taken one part of operating costs at sea (e.g. oil and supplies). Once taken for operational expenses, half for *Anak Kodo* and another half is distributed to *Anak buah*. In the fishermen who use the machine 15 PK, after taking them for operational costs, *Anak Kodo* get two parts and each of *Anak Buah* get one part of the sale of fish.

From here it can be understood, why the farmers and fishermen meet food needs is tied to the bond forms in their work. The use of technology goes hand in hand with patterns of social relations that had long been developing. No exception emergence of feelings of sharing food in the affairs of the family members of farmers and fishermen. The farmers society, for example, forms of cooperation in agricultural work typically includes providing food for those who work or sharing the harvest of paddy. For rice harvester workers, part of which was received directly allocated for food. In addition there are social bonds in society which in part looks at allowing othersto pick certain crops such as cassava shoots and water spinach to serve food without any compensation.

As farming communities, working in fishing communities are also oriented to food. There are limits which they already agree that regardless of the catch, a certain portion should be directly allocated to the family food. The types of catches generally have a low price, like *ruca* (a mixture of different types of fish and small crustaceans) and thistype of fish may be taken for food. In addition, the obligations of ship owners are to provide food during in the sea.

Above discussion reveals an adequate indicator for the state of household food security. The fulfillment of food needs to work is a safe limit for a person to be able to do activities and to support his family. So work for food and food for work is a unity that cannot be separated. That is, if revenue yields that are part subsistence urgency was sold because of non-food needs, means that these households are experiencing food difficulties. In certain circumstances where the harvest is not sufficient to meet food needs while food is important to work, farmers and fishermen work in ways that require compensation, such as borrow rice and kitchen materials. In these circumstances, households are in a state of food insecurity.

Food Patterns of Farmers and Fishermen Households

Subsistence as a major ethical community of farmers and fishermen will be quite clear on their views and practices in consuming food ingredients. Here are important concepts in the subjective understanding of the informant and respondent cases in a community of fishermen in Koto Jaya village and farm communities in the village of Tirta Mulya.

The availability of food materials

Basically, food can be divided into:

Foods that must be available every day (Type I), namely for the fishermen is rice and fish, and for farmers is rice and vegetables. These foods must be available every day and therefore always will be fulfilled. Amount to be available, for fishermen 1kg of rice per day and 1 kg fish per day for 4 family members, while for farmers 1kg of rice per day and 2 tie vegetables per day for 5 people or family members.

Foods that should be available every day (Type II), namely for fishermen are vegetables, snack foods / snacks, tofu / tempeh, and coffee / tea, and for farmers is tofu / tempe, salted fish, fresh fish, hawker food / snacks, and coffee / tea. Although not required to be available daily, both fishermen and farmers have try to fulfill or provide this type of food, so that the absence of these food is deemed incomplete and may be considered lack of food.

Foods that are not required to be available (Type III), namely for fishermen and farmers are eggs, meat, instant noodles, milk, and fruit. These foods are not too important to be consumed at certain times. The absence of these foods does not cause food shortages.

Availability of food Type I and Type II in the house indicate a state of "convenient" for the fishermen or farmers. If these types of food are unavailable, households can be indicated as experiencing food difficulties. Fishermen and farmers households always maintain this convenient situation. The pattern of food provision also refers to the ability to obtain food and consumption patterns. More detailed shown Table 2.

Table 2. Availability of Food in the House

No. Food Ingredients	Household	
	Fisherman	Rice Farmers
1 Rice	1 week	A month plus reserves in the form of grain crop
2 Fish fresh / wet	every day	1 day / week
3 Vegetables	2-3 days / week	Every day
4 Tofu / tempeh	1 day / week	1-3 days / week
5 Coffee / Tea	Every day	Every day
6 Fish as.	Not available	1-3 days / week
7 Street food / snacks	1 day / week	1 day / week
8 Eggs, meat, instant noodles, milk	Not to be declared	Not to be declared
9 Fruits: oranges, papayas	bananas, Not to be declared	Not to be declared

Source: FGD results (2009)

Diet Pattern

In general, fishermen and farmers eat 3 times a day. Meals schedule is customized to their activity or activities respectively. For fishermen, their schedule is determined by their activity at sea while farmers are determined by farming activities. This diet consists of: (a) Breakfast (breakfast) at 7:00 to 08:00 pm, about 20% of fishermen had breakfast at the sea of fishermen who use fishing gear *payang*, (b) Lunch hour 12:00 to 14:00 pm, and (c) Dinner at 18:00 to 19:00 pm.

Above daily diet happen as it is with a menu of foods that are categorized as Type I and Type II. The Type III food consumption patterns are uncertain whether weekly, monthly, or seasonal. But certainly, if the fishermen and farmers have more money after having food reserve Type I and Type II, they try to fulfill. Most likely, food Type III has seasonal pattern which is strongly influenced by the season of harvest (fish and the peasantry). In addition to seasonal patterns, types of food such as meat (chicken, goats, cows, buffalo) is consumed at the party or wedding celebration and the feast of Idul Fitri and Idul adha.

How to Get Food

To get food, fishermen and farmers rely on the results of work. The result of work can take in form of food (fish, rice, and vegetables) as well as money from the sale of these products. Two ways to

get the food (the harvest and buy) can be said to be the principal ways in providing food in the house. For food Type I and Type II as an important food for family members, the food security is synonymous with the ability to produce or purchase. However, a third way that is asked for food can also be said as the principal ways as well. Raw foods can be requested, without direct compensation, including fish for fishermen and vegetables such as water spinach or cassava leaves for farmers. Raw foods can be obtained by first and second method heavily influenced by the work. The third way to get food can be conducted when those food will be consumed only at the time.

The Type III food (such as eggs, meat, milk, fruits) considered as unimportant food ingredient, as a result, they do not require to be provided at home within a definite period. Community consume these types of food can be regarded as a *coincidence*, that is at the time to get more food. Even so, the adequacy of these foods can be guaranteed at the community level (village, region, community), namely, during the celebration and the feast of *Idul Fitri* or *Eid al-Adha*. How to get this food can be called as the fourth way, that is, by conducting the tradition of social or religious norms. These ways are institutionalized activities. In any condition and uncontrollable natural event do not happened, the traditional activity will still be ongoing and thus the consumption of foodstuffs Type III continue to be met.

As the most important aspect of work, food will always be sought by any means. In terms of the ways to get food that is governed by the values and social norms, borrow the staple food has become a habit and good community behavior. Here's how the fifth way. But, this way is generally only taken if crop harvesting conditions are insufficient or even nil to get basic foodstuffs such as rice. The fifth mode is a social mechanism that requires direct compensation in the form of returning the equivalent goods. Borrowers must return at the time they have the ability in accordance with a loan deal. This phenomenon is common to both the community of farmers and fishermen. So, it can also serve as an important indicator of household food security status.

CONCLUSION

In point of view of society as an actor as object of research experts, these concepts embodied in the concept of work. Work activities of farmers and fishermen are characterized as a form of relationship that ecological and social dimensions as shown in their alignment in the organization of work and technology. Understanding of the work is an understanding in their efforts to produce and acquire goods for food consumption. Therefore, the limits of food security are determined also by the demands of farmers and fishermen. The implication, the kinds of food is also classified according to their importance in the context of carrying out the work. As explained in the previous section, the type of food that must be available is the kind of food that is classified as a staple food, vegetables and side dishes. Key indicators to determine this limit can vary between types of farming and fishing communities. Another important key indicator considered is the sustainability of good eating habits that can be cultivated individually and diet embedded in social institutions. In addition, the presence or absence of basic foodstuffs obtained by borrowing also determine whether the relevant households experiencing food insecurity or not.

Thus, the concept of food security in the perspective of local communities is a minimalist concept. In the sense that a predetermined limit is a limit of subsistence farmers and fishermen can run quietly as the demands of work with labor organizations in their respective places. The implication is that the concept of local *community-style* food cannot adequately describe the conditions when associated with health issues, nutrition, and quality of life. However, if linked with the concept of food access, local concepts actually show that farmers and fishermen have their own mechanisms in order to secure the food needs of the household. This means that food security needs actually exist in the midst of society.

As a theoretical implication, the local concept of minimalist worth exploring other forms of wisdom that is more *genuine* than a society. From here, the picture of the concept of food needs, which is an aspect that already includes health and nutrition, that is what has been practiced by the older generation they will be obtained. The forms of guarantee fulfillment of the need for food that is in the midst of society, both in the form of social norms, religious and social institutions that must be maintained because of the presence of both these social elements that become a safety valve shocks that may occur due to food shortages.

REFERENCES

- Berkes, F. 1993. Traditional Ecological Knowledge in Perspective. In Julian T. Inglis. Traditional Ecological Knowledge: Concepts and Cases. International Program on Traditional Ecological Knowledge International Development Research Centre Canada.
- Bungin, B. 2006. Metode Penelitian Kualitatif. Jakarta: PT Raja Grafindo Persada.
- Campbell, C.C. 1991. Food insecurity: A nutritional outcome or a predictor variable? *Journal of Nutrition*. 121 (3): 408-415.
- Chung, K., L. Haddad, J. Ramakrishna, and F. Riely, F. 1997. Identifying the Food Insecure. The Application of Mixed-method Approaches in India, International Food Policy Research Institute, Washington DC.
- Chung, K., L. Haddad, Y. Ramakrishna, and F. Riely. 1997. Alternative Approaches to Locating the Food Insecure: Qualitative and Quantitative Evidence from South India. Discussion Paper No. 22 Food Consumption and Nutrition Division. International Food Policy Research Institute. Washington.
- [FAO]. Food and Agriculture Organization of the United Nation. 2000. The state of food insecurity in the world. Rome.
- Geertz, C. 1983. Agricultural Involvement: The process of Ecological Change in Indonesia. (2nd edition in Indonesia). Jakarta, Bhaktara of Work Literacy.
- Habicht, J.P. and D.L. Pelletier. 1990, "The importance of context in choosing nutritional indicators", *Journal of Nutrition*, 2(120):1519 – 24.
- Haddad, L., E. Kennedy, and J. Sullivan. 1994, "Choice of indicators for monitoring food security and nutrition", *Food Policy*, 19 (3): 329 – 43.
- Haddad, J. 1999. Choosing Outcome Indicators of Household Food Security. Technical Guide # 7. International Food Policy Research Institute. Washington. March 1999.
- Hamelin, A.M., M. Beaudry, J.P. Habicht. 2002. Characterization of household food insecurity in Quebec: food and feelings. *Soc Sci Med*, 54 (1) :119-32.
- Hamelin, A.M., J.P. Habicht, M. Beaudry. 1999. Food insecurity: Consequences for the household and broader social implications. *J Nutr*: 525S-8s.
- Harper, C.L. 1989. Exploring Social Change Prentice Hall. New Jersey.
- Hayami, Y. and M. Kikuchi. 1987. Dilemma Village Economy: An Economic Approach against Institutional Change in Asia (in Bahasa Indonesia) Jakarta, Yayasan Obor Indonesia.
- Iram, U. and M.S. Butt. 2004. Determinants of household food security: An empirical analysis for Pakistan. *International Journal of Social Economics* 31 (8): 753-766
- Kusnadi. 2000. Fisherman: Adaptation Strategies and Social Networks (in bahasa Indonesia). Bandung, Humaniora Utama Press.
- Lincoln, Y.S. and E.G. Guba. 1985. *Naturalistic Inquiry*. Sage Publication. Beverly Hills, London and New Delhi.
- Maxwell, D., C. Ahiadeke, C. Levin, M. Armar-Klemesu, S. Zakariah, and G. M. Lamptey. 1999. Alternative food-security indicators: revisiting the frequency and severity of coping strategies. *Food Policy* 24(4):411-429.
- Maxwell, S. 1996, Food security: a postmodern perspective, *Food Policy*, 21(2): 155-70.
- Maxwell, S. and T. Frankenberger. 1992. Household Food Security: Concepts, Indicators, measurements: Technical review. International Fund for Agricultural Development. UNICEF. Rome.
- Miles, M.B. and A.M. Huberman. 1992. Analisa Data Kualitatif: Buku sumber tentang metode baru (Deals). UI Press. Jakarta.
- Payne, P., 1990, "Themes in food security: Measuring malnutrition", *IDS Bulletin*, 21(3): 14-30.
- Pollack, R. B. 1988. Karakteristik Sosial dan Budaya dalam Pembangunan Perikanan Berskala Kecil dalam Cernea, Michael. Mengutamakan Manusia dalam Pembangunan: Variabel – variable Sosiologi dalam Pembangunan Pedesaan, Jakarta, UI Press.
- Radimer, K.L., C.M. Olson, J.C. Greene, C.C. Campbell, and J.P. Habicht. 1992. Understanding hunger and developing indicators to assess it in women and children. *J Nutr Educ* 24 (1): 36S-45s.
- Robbins, P.. 2004. Political Ecology: A Critical Introduction. UK, Blackwell Publishing.

- Rogers, M.E. 1969. *Modernization Among Peasant*. New York, Holt Rinehart and Weston.
- Safilou-Rothschild, C. 2001 *Food security and poverty: Definitions and Measurement Issues*. Dialogue Working Paper 4. Colombo, Sri Lanka: Dialogue Secretariat.
- Satria, A. 2001. *Dinamika Modernisasi Perikanan: Formasi Sosial dan Mobilitas Nelayan*. Bandung, Humaniora Utama Press.
- Scott, J.C. 1983. *Moral Ekonomi Petani: Pergolakan dan Subsistensi di Asia Tenggara*. Cet. ke 2 Jakarta, LP3ES.
- Scott, J.C., 1993. *Perlawanan Kaum Tani*. Jakarta, Yayasan Obor Indonesia.
- Sukiyono, K., I. Cahyadinata, and Sriyoto. 2008. Status Wanita dan Ketahanan Pangan Rumah Tangga. *Jurnal Agro Ekonomi*. 26 (2) : 191 – 207.
- Tarasuk, V. 2001. Dietary factors associated with reported food insecurity. In: Andrews MS, Prell M, eds. *Second Food Security Measurement and Research. Conference, Volume II: Papers*. Washington, DC. US Dept. of Agriculture; 2001:59-71.
- Wiradi, G. 1978. *Rural Development and Rural Institutions: A Study of Institutional Changes in West Java*. Rural Dynamics Series No. 6, Bogor, Agro-Economic Survey.
- Wolf, E. 1966. *Peasants*. Englewood Cliffs, New Jersey, Prentice Hall Inc.
- World Food Summit. 1996. *Declaration on World Food Security*. Rome Italy.
- Yohannes, Y., and J. Hoddinott. 1999 *Classification and Regression Trees: An Introduction*. International Food Policy Research Institute Washington, DC