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## SOCIAL SCIENCES CHAPTER



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## **The Planning Of Agriculture Based On Food Commodities Featured In Supporting Food Security In North Tapanuli Region Of North Sumatera Province**

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**Abstract.** Food security is an important issue at this time, because food is a basic need of every person, efforts to meet the food needs of the main target of government policy. One of the measures achieve food self-sufficiency is increasing production in a sustainable manner. Development of superior food commodities is a way to spur economic growth while sustaining food security in the region. This study examines the planning of seed-based agricultural food commodities in support of food security in North Tapanuli, with research methods Location Quotient (LQ) using commodity crops productivity data in the form of secondary data from 2005 to 2010. The study concluded; a) commodity flagship food in North Tapanuli consists of four types, namely commodity paddy rice, upland rice, corn and peanuts, b) food security is affected by the increased productivity that consistently available at affordable prices. Through research suggested; a) the government of North Tapanuli make efforts to increase productivity focus on superior food commodities; through intensification and extension programs supported improved farming technology, infrastructure development; irrigation, extension services and the provision of means of production, improvement of cultivation and post-harvest technologies, b) the government of North Tapanuli conduct various training to agricultural extension workers and farmers themselves.

**Keywords :** *agricultural planning, commodity leading, food security.*

### **Introduction**

Regional development planning is a way of improving the use of natural resources including agricultural resources, with local development planning, natural resources available will interact to produce the expected goals (Kuncoro, 2004). Furthermore Munandar (2010), delivering economic activity exploiting comparative forte will provide benefits to various sectors. Development of agriculture commodity crops in a region is a regional strategy to spur economic growth, thus providing a multiplier effect on other related sectors.

The agricultural sector is one of the potential sectors that contribute to the growth and economic development, contributing to employment, income and productivity as well as contribute to the growth of domestic demand (Simatupang, 1995). Further Kuznets in Simatupang (1995), even capable of delivering agricultural sector contributed to the growth and development of the national economy in the form; a) the contribution of the product which is the provision of food for the population and the provision of materials for the industry, b) contribution markets, c) the contribution of production factors, d) the contribution of foreign exchange.

Thamrin (2007) and Solihin (2005), also said that one of the regional development programs that can be done is to synergize the potential of a region, such as the agricultural sector so that it can be developed into agropolitan who grew up in the spur agricultural development in the region concerned. According Sudaryanto and Syafa'at (2002), the development of the agricultural sector should be directed to be able to make the most advantage of regional resources in a sustainable manner, therefore agricultural development policies should be designed in a regional economic perspective. In such a policy perspective, local governments are required actually able to utilize the resources optimally managing specific location (commodity featured).

According Handewi (2003) leading commodity is a commodity that has a strategic position to be developed in the region. This strategic position based on technical considerations (soil and climate conditions), socio-economic and institutional. Main commodity is a commodity that is able to contribute revenue to the region concerned (Widayanto, 2000). Each region would have a different commodity to other regions. Some of criteria that can describe the advantages of a commodity featured in a region that is: a) well known by the local community, managed and developed extensively, b) has a significant contribution to the local economy, able to compete with other business commodities. c) this commodity has agro-ecological suitability aspects especially regarding the location of the development, d) commodity has potential and orientation of both domestic and export markets (Nainggolan, 2011).

In addition to economic growth, food security is important issue at this time that one of the problems facing today is food security. Food is a basic need of society therefore food needs become the main target of the government policy with achieve independence through increased food production and sustainable food productivity (Tindaon and Nainggolan, 2011). Mustofa (2012) said that food security is a condition of the

availability of enough food for everyone at every moment and every individual who has access to obtain both physically and economically (Sutrisno, 1998). The focus is not only on the food security of food supply but also the provision of regional and local food consumption levels and even individual households in meeting their nutritional needs.

World Bank (1986) and Maxwell and Frankenberger (1992) defines food security is "*access by all people at all times to sufficient food for a healthy life*". UU RI No. 7/ 1996, defines food security is the fulfillment of the conditions of food for the household, which is reflected; 1) availability of food in sufficient, both in quantity and quality, 2) safety, 3) evenly; and 4) affordable. Of understanding of the food security is a human right, and should be met not only from a quantitative aspects (enough), but also include qualitative aspects which include safety, quality, and nutritious (Mustofa, 2012)

Food security according to Suryana (2004) is a three-dimensional includes interrelated economic activities relating to the availability, distribution and consumption is back by actors interests (producers, processors, marketers and consumers), and is managed by various institutions (sectoral, subsektoral, scale businesses, governments and society) and involves the reciprocal interaction between regions. FAO (1996), Mustofa (2012) and UU RI No. 7/ 1996, delivered there are four factors that affect food security family ie; adequacy of food availability, stability of food availability, accessibility and quality of the food the name is food security. Local resources including local food is closely related to food security. Food security were developed based on the power of local resources to create food self-sufficiency, which in turn will give birth induvidu healthy, active and competitive and will also bear the food system with a solid pondation\_ (Hariyadi, 2010).

Indonesia as an agricultural country experiencing food security problems, according Yustika (2008) and Jokolelono (2011), it is related to problems of agricultural sector development. The agricultural sector is heavily influenced rural land tenure, institutional and credit. Land is an important asset for the population as a driver of production activities, and institutional credit is an important source of financing for rural economic activities, so that the third hall will determine the degree of influence the decisions of farmers in food security.

District of North Tapanuli with the majority of the population works in the agricultural sector, which includes farming crops for example; paddy rice, paddy fields, corn, pelawija, horticulture, and smallholdes, has its own challenges in terms of meeting the food needs of the region, although the agricultural sector in this region to gives contribution of 53.6% to the GDP of District North Tapanuli (BPS, Tapanuli Utara, 2010). Based on the description above this study examines, The planning of agricultural base on food commodities featured in supporting food security in District North of Tapanuli in North Sumatera Province.

## **Research Methodology**

### **Location of the study and data collection**

This study was conducted in North Tapanuli, where the area is an area that not only focus on the agricultural sector but also other sectors. Study determined the location of intentionally (convenience sampling) with special consideration (Kuncoro, 2009). The data used are secondary time series (2005-2010) sourced from; BPS Tapanuli Utara, BPS Sumatera Utara and other official publications.

### **Data analysis methods.**

Methods of data analysis in this study using Location Quotient (LQ) which is based on the contributions (Tarigan, 2005). Location Quotient (LQ) is a comparison of the magnitude of the role of the sector in an area of the size of the role the sector nationally. This study uses data productivity (production per unit land area) of food commodities are examined with reference to the following formulation;

$$LQ = \frac{PCiRA / TPcRA}{PCiN / TPcN} \dots\dots\dots 1)$$

where :

- PCiRA : Productivity of commodity i in region in the analysis
- TPcRA : Total productivity of commodities in the region in the analysis
- PCiN : Productivity commodity i in nationally
- TPcN : Total productivity commodity nationally

Commodities were analyzed categorized into three (3) categories based on the value of it's LQ (Kuncoro, 2009), namely: a) where  $LQ > 1$ , then a greater degree of specialization commodity in district compared with provinces, b) then when  $LQ < 1$  then the level of commodity specialization smaller compared with the provincial district, c) then when  $LQ = 1$ , then the same commodity specialization level between the district and the provincial governments, and based on the LQ value can be consistently recognized as a leading commodities (base) and non-seed (non-basis).



**Results and discussion**

**Land area, production and productivity of food crops in North Tapanuli District**

Food commodities are cultivated by community in North Tapanuli district consists of several types of commodities including; commodity paddy rice, paddy fields, corn, peanuts, cassava, sweet potatoes, soybeans and green beans (BPS, Tapanuli Utara, 2013). In general, the region is managing commodity rice crops with an area of 60% of the total land area that is managed for food commodities (BPS, Tapanuli Utara, 2013). The growth of land area, production and productivity of some food commodities in North Tapanuli can be seen in Table 1.

Table 1. Land area, production and productivity of commodity crops in North Tapanuli 2005-2010.

No	Food commodities	Land area (ha)						Production (tons)						Productivity (tons/ha)					
		2005	2006	2007	2008	2009	2010	2005	2006	2007	2008	2009	2010	2005	2006	2007	2008	2009	2010
1	Paddy Rice	22.772	24.255	24.468	24.470	24.046	23.843	131.792	140.386	140.931	141.291	138.132	136.618	5,79	5,79	5,76	5,77	5,74	5,73
2	Paddy Fields	4.593	4.591	3.360	3.541	2.525	3.157	11.626	11.627	8.516	8.797	6.398	8.000	2,53	2,53	2,53	2,48	2,53	2,53
3	Corn	2.850	3.123	3.505	3.943	4.589	6.107	9.634	9.161	11.900	13.299	15.601	27.916	3,38	2,93	3,40	3,37	3,40	4,57
4	Peanut	2.596	1.635	2.711	2.053	2.540	2.251	4.565	3.258	4.801	3.643	3.891	3.985	1,76	1,99	1,77	1,77	1,53	1,77
5	Cassava	1.050	1.403	974	1.599	1.498	1.300	8.100	10.779	7.501	12.303	11.516	12.944	7,71	7,68	7,70	7,69	7,69	9,96
6	Sweet Potatoes	2.119	1.039	1.163	1.693	1.326	1.086	14.234	7.183	7.892	11.221	8.978	11.456	6,72	6,92	6,79	6,63	6,77	10,55

Source: Secondary data, processed. In 2014.

Based on Table 1 can be seen in the 2005 paddy rice have land area of 22,772 ha with a production of 131,792 tons, the land are of commodity paddy rice increased to 24,470 ha in 2008 with a production of 141,291 tons. Then in 2009 the land area fell to 24,046 ha with a production of 138,132 tons. In addition to the land area commodities of paddy rice, commodity paddy fields, corn, peanuts and other commodities also experienced land growth and fluctuating production. For more details about the growth of the land area and productivity of some food commodities in North Tapanuli District can be seen in this figure :

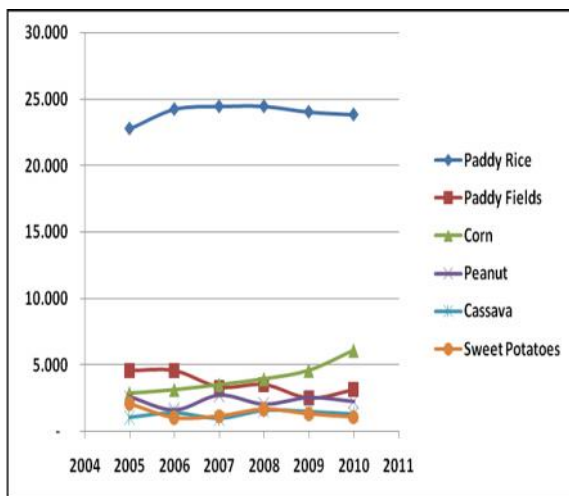


Figure 1. The growth of the land area some food commodities In North Tapanuli from 2005 to 2010.

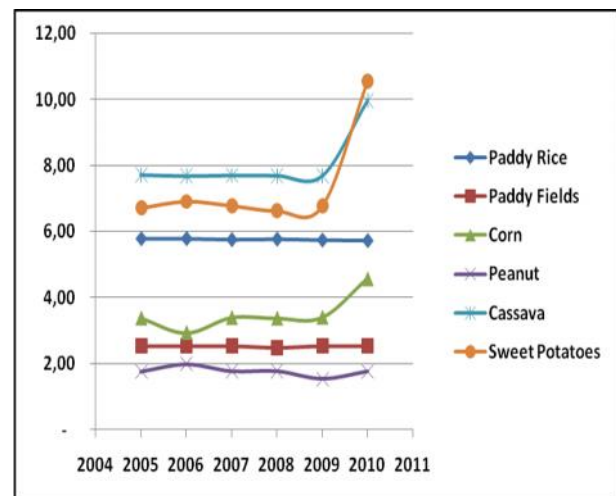


Figure 2. The growth of the productivity some of food commodities North Tapanuli from 2005 to 2010.

**Food commodity featured in District of North Tapanuli**

To determine the featured of food commodities in North Tapanuli, used LQ analysis. Based on the data analysis of food commodities known to some kind of commodities featured in this region as in Table 2:

Table 2. The value of LQ food commodities in North Tapanuli from 2005 to 2010.

No	food commodities	Value of LQ food comodity in North Tapanuli Dictric						description
		2005	2006	2007	2008	2009	2010	
1	Paddy Rice	1,46	1,59	1,56	1,99	2,25	1,44	commodities featured
2	Paddy Fields	1,05	1,22	1,16	1,34	1,60	1,02	commodities featured
3	Corn	12,46	1,04	1,18	1,16	1,31	1,12	commodities featured
4	Peanut	1,76	2,15	1,88	2,41	2,41	1,91	commodities featured
5	Cassava	0,67	0,74	0,75	0,62	0,54	0,82	-
6	Sweet Potatoes	0,76	0,87	0,85	0,94	1,10	1,07	-

Source: Results of secondary data processing, 2014.

Based on the results of data analysis as in Table 2, there are four types of food commodity that has a value of  $LQ > 1$ , respectively (consistent) starting in 2005 to 2010 in North Tapanuli namely; commodity paddy rice with value LQ: 1.46, LQ: 1.59, LQ: 1.56, LQ: 1.99, LQ: 2.25 and LQ: 1.44, then commodity paddy fields with value of LQ: 1.05, LQ: 1.22, LQ: 1.16, LQ: 1.34, LQ: 1.60 and LQ: 1.02, then the value of commodity corn with LQ: 12.46, LQ: 1.04, LQ: 1.18, LQ: 1.16, LQ: 1.31 and LQ: 1.12 and commodities peanuts with values LQ: 1.76, LQ: 2.15, LQ: 1.88, LQ: 2.41, LQ: 2.41 and LQ: 1.91.

Based on the LQ analysis of time series data (2005-2010) show that commodity paddy rice, paddy fields, corn and peanuts commodity has a value of  $LQ > 1$  respectively (consistent) from 2005-2010, meaning the four commodities has specialization level of commodity greater in North Tapanuli District compared with the provinces so that these commodities are categorized as food commodities featured as submitted Tarigan (2005), in the District of North Tapanuli.

#### **Development of food commodities featured in support of food security in the District of North Tapanuli.**

The featured of commodities in District of North Tapanuli consist of commodity paddy rice, paddy fields, corn and peanuts commodities have improved productivity with fluctuatif. In 2005 the productivity of paddy rice commodities recorded 5.79 tons / ha, then dropped to 5.74 tons / ha, in 2009, as well as other commodity such as paddy fields, corn and peanuts commodities should also be efforts to increase productivity, meaning local governments should make efforts to increase the productivity of this commodity to support food security in North Tapanuli should be the maximum.

The results of research Fafurida (2009), said that the agricultural sector development planning food crops sub-sector in Kulon Progo Regency, the results of data analysis with the shift share and LQ, found in Kulon Progo Regency excellent commodities that form a cluster, the same thing is implementation very suitable in District of North Tapanuli in order to develop food commodity means necessary to form clusters of food commodities by setting up seed processing industry, which supported the area around the support area (hinterland) that serves as an input provider. With the processing industry, the commodities produced can be processed directly into derivative products that have added value.

Meanwhile Syafruddin (2004) stated that one of the ways to develop the agricultural sector is the planning of optimizing the utilization of land resources. Efforts to increase the productivity and value of sales of products with the development of commodity with regard suitability of agro-ecosystem conditions, sustained and supported by government policy. And land use should be a concern because if it does not fit with the potential to result in decreased productivity of crops and land degradation, so it is necessary to evaluate the land to support agricultural development planning (Rossiter, 1994). Utilization of land resources need to be adapted to the conditions agroekologiny (Udawatta and Henderson, 2006). Agroecological zones approach is one model to analyze land resources, taking into account the feasibility of land physically and economically (Susanto, 2007).

Development of commodity paddy rice, paddy fields, corn and peanuts as a commodity in North Tapanuli District is 2 (two) of 5 (five) strategic commodities which are included in the government program in order to realize self-sufficiency or food security pursued through increased productivity and sustainable food production (Tindaon and Nainggolan, 2011), therefore the government of North Tapanuli should make efforts to increase the productivity of this commodity on an ongoing basis through a variety of programs to support food security in the region.

Furthermore Friyatno (2001) stated that the key to success in increasing the productivity of food commodities seed must be supported by a factor; a) efforts to increase productivity through improved technology commodity farming, b) the need for the development of infrastructure such as irrigation, extension services. Efforts must be made the government of North Tapanuli in improving the productivity of food commodities is the provision of seed production, improvement of cultivation and post-harvest technologies and conduct various training to farmers and extension workers.

Nurdin (2011), said diversification of food production is one of the important aspects in creating food security. Diversification of food production beneficial to increase farmers' income. Diversification of production will support the diversification of food. The form of diversification of production is intended, among other things: a) horizontal diversification, which develops seed farm commodities as the "core of business" and develop other farm commodities as a supplement to optimize the use of natural resources, capital, labor and family.

Further Nurdin (2011) convey example of this diversification is the development of commodity corn agropolitan in Gorontalo province, rice commodity development in District of North Mongondow Bolaang North Sulawesi Province, b) regional diversification, which is developing site-specific agricultural commodity seed in a large region according to the suitability of conditions agro-ecosystems, thereby encouraging the development of centers of agricultural production in the area concerned.

Agricultural development planning can also be done through intensification, extensification, diversification and rehabilitation in an integrated manner. Development of the agricultural sector is done with a variety of approaches that have relevance to some of the variables used for the development of the agricultural sector, namely; with the use of good seed (certificate), irrigation, processing, fertilization, cultivation, crop protection and others.

Agribusiness development and good planning is a step in developing the agriculture sector, as it would increase agricultural output by adding value to agricultural products, through the development of food industry and agricultural foodstuffs (Fafurida, 2009), and will be faster if done by unspecified. On the other hand, food security will be achieved if the perpetrators of the production, processing, distributor, policy makers, researchers, and other stakeholders have contributed in accordance with their respective roles and given optimal incentives for the parties involved and contribute actively carry out the roles each. Realistic form of incentive is financial incentives / materials in an effort to spur an increase in production and productivity and the availability of adequate food (Kemenristek RI, 2006).

### **Conclusion**

Based on the results of research conducted, it can be concluded; 1) food commodities featured in District of North Tapanuli consists of; commodity paddy rice, paddy fields, corn commodities and commodity peanuts, 2) food security will be achieved if the perpetrators of the production, processing, distributor, policy makers, researchers, and other stakeholders have contributed in accordance with their respective roles optimally, 3) food security is affected by the productivity of food commodities are managed in the area concerned. Productivity the commodity must be increased with consistently the availability of food will be guaranteed by both region and at an affordable price.

### **Suggestion**

Through research, the advice that can be given is; 1) that the government of North Tapanuli productivity improvement efforts that focus on commodity crops seed either through intensification or extensification program supported by improved farming technology, irrigation development, extension services and provision of the means of production, improvement of cultivation and post-harvest technology, 2) that the government of North Tapanuli, implement diversification seed production of food commodities in order to increase farmers' income and diversification to support the diversification of food production which is an important aspect of food security, 3) the government of North Tapanuli must be implementate of horizontally diversify production, which is developing as a featured commodity farming core business and optimize the utilization of natural resources, capital, labor and family, 4) the government of North Tapanuli conduct various training to farmers with agricultural extension even better.

### **References**

- BPS. 2010. *Tapanuli Utara Dalam Angka*. Tarutung.  
BPS. 2013. *Tapanuli Utara Dalam Angka*. Tarutung.  
Fafurida. 2009. Perencanaan Pengembangan Sektor Pertanian Sub Sektor Tanaman Pangan di Kabupaten Kulonprogo. *Jurnal Jejak*, Vol. 2 (2).  
Fao. 1996. *World Food Security: a Reappraisal of the Concepts and Approaches*. Director Generals Report. Rome  
Friyatno, S. 2001. Analisis Penerapan Intensifikasi Usahatani Padi Sawah Pasca Krisis Ekonomi (Kasus di Kabupaten Subang, Jawa Barat). *Makalah*. Badan Penelitian dan Pengembangan Pertanian. Jakarta: Departemen Pertanian RI.  
Handewi, Rachman. 2003. Penentuan Komoditas Unggulan Nasional di Tingkat Provinsi. *Makalah Lokakarya Sintesis Komoditas Unggulan Nasional*. Bogor.  
Hariyadi, P. 2010. Penguatan Industri Penghasil Nilai Tambah Berbasis Potensi Lokal (Peranan Teknologi Pangan untuk Kemandirian Pangan). *Jurnal Pangan*. Vol. 19 (4).  
Jokolelono. 2011. Pangan Dan Ketersediaan Pangan. *Media Litbang Sulteng* IV (2).



- Kemenristek, RI. 2006. Buku Putih Indonesia 2005 - 2025. *Penelitian, Pengembangan dan Penerapan Ilmu Pengetahuan dan Teknologi Bidang Ketahanan Pangan*. Jakarta: Kementerian Negara Riset dan Teknologi Republik Indonesia.
- Kuncoro, M. 2009. *Metode Riset Untuk Bisnis dan Ekonomi. Edisi 3*. Jakarta : Erlangga.
- Kuncoro, M. 2004. *Otonomi dan Pembangunan Daerah; Reformasi, Perencanaan, Strategi, dan Peluang*. Jakarta: Erlangga.
- Maxwell, S. and T. Frankenberger. 1992 *Household Food Security: Concepts, Indicators and Measurements: A Technical Review*. New York and Rome: UNICEF and IFAD.
- Mustofa. 2012. Analisis Ketahanan Pangan Rumah Tangga Miskin Dan Modal Sosial Di Provinsi DIY. *Jurnal Geomedia*. Vol. 10 (1). Yogyakarta: Universitas Negeri Yogyakarta.
- Munandar, Aris. 2010. Analisis Ekonomi Dan Potensi Pengembangan Wilayah Kecamatan Gemolong, Kabupaten Sragen. *Tesis*. Surakarta: Universitas Sebelas Maret.
- Nainggolan, H. L. 2011. Identifikasi Komoditi Unggulan Dalam Rangka Pengembangan Komoditi Tanaman Pangan Untuk Menciptakan Ketahanan Pangan Wilayah, Studi Kasus Kabupaten Tapanuli Utara dan Toba Samosir. *Makalah Seminar Nasional Pertanian Presisi Menuju Kedaulatan Pangan*. Medan.
- Nurdin, 2011. Antipasi Perubahan Iklim Untuk Keberlanjutan Ketahanan Pangan. Jurusan Agroteknologi Fakultas Pertanian Universitas Negeri Gorontalo.
- Rossiter, D.G. 1994. *Land evaluation*. Australia : Crop & Atmospheric Science Cornell University College of Agr & Life Sciences Department of Soil.
- Simatupang, P. 1995. *Industrialisasi Pertanian Sebagai strategi Agribisnis dan Pembangunan Pertanian dalam Era Globalisasi*. Orasi Pengukuhan Ahli Peneliti Utama. Bogor: Pusat Penelitian Sosial Ekonomi Pertanian. Badan Penelitian dan Pengembangan Pertanian, Departemen Pertanian.
- Soetrisno, N. 1998. Ketahanan Pangan. *Prosiding Widyakarya Nasional Pangan dan Gizi VI*. Jakarta: LIPI.
- Solihin, D. 2005. *Perencanaan Pembangunan Daerah: Konsep, Strategi, Tahapan Proses*. Diklat Perencanaan Pembangunan Ekonomi.
- Sudaryanto dan Syafaat 2002. Pengembangan Pertanian Industrial dengan Pendekatan Agribisnis: Konsep dan Implementasinya. *Makalah*. disampaikan pada Seminar Nasional “Dukungan Inovasi Teknologi dalam Akselerasi Pengembangan Agribisnis Industrial Pedesaan. Malang.
- Suryana, Ahmad. 2004. *Kapita Selekta Evolusi Pemikiran Kebijakan Ketahanan Pangan*. Yogyakarta : BPFE.
- Susanto, N. A dan Marthen P. Sirappa. 2007. Karakteristik Dan Ketersediaan Data Sumber Daya Lahan Pulau-pulau Kecil Untuk Perencanaan Pembangunan Pertanian di Maluku. *Jurnal Litbang Pertanian*. Vol. 26 (2).
- Syafruddin, Agustinus N. Kairupan, A. Negara dan J. Limbongan. 2004. Penataan Sistem Pertanian Dan Penetapan Komoditas Unggulan Berdasarkan Zona Agroekologi di Sulawesi Tengah. *Jurnal Litbang Pertanian*. Vol. 23 (2).
- Tarigan, R. 2005. *Ekonomi Regional: Teori dan Aplikasi*. Edisi Revisi. Jakarta: Bumi Aksara.
- Tindaon, F dan Nainggolan, H. L. 2011. Studi Kelayakan Penerapan Bioteknologi Pertanian Dalam Pengembangan Tanaman Pangan Jagung di Lahan Perkebunan di Sumatera Utara. *Makalah Seminar Perhimpunan Ahli Teknologi Pangan Indonesia (PATPI)*. Medan.
- Thamrin, Surjono H. Sutjahjo, Catur Herison dan Supiandi Sabiham. 2007. Analisis Keberlanjutan Wilayah Perbatasan Kalimantan Barat-Malaysia Untuk Pengembangan Kawasan Agropolitan (Studi kasus Kecamatan Dekat Perbatasan Kabupaten Bengkayang). *Jurnal Agro Ekonomi*. Vol. 25 (2).
- Udawatta, R. P, Henderson, G S. 2006. *Root Distribution Relationships To Soil Properties In Missouri Oak Stands*. Center For Agroforestry, School of Natural Resourc. Colombia: University of Missouri.
- UU RI No. 7 Tahun 1996. Tentang Ketahanan Pangan. Jakarta.
- Widayanto, B. 2000. Kajian Sektor Unggulan Dan Transformasi Struktur Perekonomian di Kabupaten Sleman. Daerah Istimewa Yogyakarta. *Jurnal Dinamika Sosial Ekonomi Pertanian*. Vol. 1.
- World Bank. 1986. *The Hesitant Recovery and Prospects for Sustained Growth Trade and Pricing Policies in World Agriculture World Development Indicators*. World Development Report.
- Yustika, Ahmad Erani dan M. Fadhil Hasan. 2008. Situasi Pangan Ke Depan dan Kebijakan Ketahanan Pangan, *Jurnal Pangan*, No. 51.