

## **The Role of Government in Supporting the Development of Agriculture in North Sumatra**

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**Abstract:** *North Sumatera Provincial Government is needed to support the farmers through guaranteeing the availability of agricultural production facilities and infrastructures that have not been fully felt by farmers. In addition, consistency is required in implementing various policies that support the development of agriculture in the areas of Regional Medium Term Development Plan (RPJMD) and Strategic Plan (Renstra) as well as various other policies in the field of agriculture in an effort to support farmers to develop their farms through maintaining agricultural land, , distribution and marketing of agricultural products that have not been fully implemented optimally. Agricultural development programs in North Sumatra include the increasing production, improving farmers' welfare, improving product marketing, improving food security, empowerment of extension workers and improving technology application, with policy classification, policy alignment and policy compliance. The role of government in supporting the agricultural development in North Sumatra has not been fully effective. This can be seen from the welfare of farmers who are still perceived lack of, marketing of products that are not impartial farmers, extension programs that have not been sustainable.*

**Keywords:** *agriculture; government; business; farm*

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### **I. Introduction**

In Law No. 41 of year 2009 about The Sustainable Land Protection of Food Agriculture, it is affirmed that the government, including the local government, is obliged to provide protection while empowering farmers, farmers' groups, farmers' cooperatives and farmers' associations to support and guarantee food commodities that eventually benefit the farmers. Among them is the guarantee to obtain agricultural production facilities and infrastructure as well as guarantees for the marketing of agricultural crops. Along with that, the role of North Sumatera Provincial Government is needed to support the farmers through guaranteeing the availability of agricultural production facilities and infrastructures that have not been fully felt by farmers. In addition, consistency is required in implementing various policies that support the development of agriculture in the areas of Regional Medium Term Development Plan (RPJMD) and Strategic Plan (*Renstra*) as well as various other policies in the field of agriculture in an effort to support farmers to develop their farms through maintaining agricultural land, , distribution and marketing of agricultural products that have not been fully implemented optimally. The amount of funds allocated by the local government which is sourced from APBD (Regional Budget Plan) has not shown the significant changes at the farm level. The effectiveness of various coaching such as training, technical assistance, socialization and dissemination of research results in the field of agriculture also still not as expected. In addition, coordination between stakeholders in agriculture in North Sumatra is also still not established optimally, both between the government (local government and central government) and with the private sector, especially farmers in this area. These problems are characterized by fluctuations in agricultural growth rates in GDP on a Constant Basic Basis over the last 7 years in North Sumatra Province, that is in 2004 was 3.75%, 2005 was 3.38%, 2006 was 2.32, 2007 was 4.98%, in 2008 was 6.05%, in 2009 was 4.85% and in 2010 was 5.08%. Meanwhile the distribution of the agricultural sector compared to other sectors during the same period in general continued to decline, respectively 25.76%, 25.25, 24.33%, 22.56%, 23, 83%, 23.78 %, and 23.50% (Provsu CPM, 2011). To answer the various problems, one of them is through the role of government that has been conducted so far in the development of agriculture, so it is necessary to study the role of government in supporting the development of agriculture in North Sumatra. This research was conducted in order to provide solution to local government and related parties in overcoming problems in agricultural development in North Sumatra.

## II. Literature Review

### 2.1. Concept of Agriculture

Agriculture is a biological production activity to produce a variety of human needs including clothing, boards, and food. The production can be consumed directly or intermediate material for further processing (Syahyuti, 2006). In addition to the above definition, agriculture can also be interpreted as a crop and environmental processing efforts to provide a product (Mardjuki, 1990). Farmers are the main actors in agricultural activities (Soetrisno, 2002), in western sociology there are two concepts about farmers, namely peasant and farmers. Peasant is a farmer who mostly agricultural products are intended to meet the needs of families. Farmers are people who live off the farm and make the most of their agricultural produce for sale. Farm workers are people who work in the agricultural sector, but they work in other people or companies of similar type which still work closely with agricultural activities on a reciprocal basis by being paid wages or salaries in the form of money or goods (BPS, 2003).

Implicitly, the country's national stability is imposed on the farmers who remain largely in the trap of the balance of the poverty cycle of the long term (the low level equilibrium trap). In essence the agricultural figure that must be built is a form of modern agriculture that is strong, efficiently managed professionally and has the advantage of winning the competition in the global market both for the purpose of meeting the needs of domestic and export (source of foreign exchange). With the integration of the Indonesian economy into the world economy, demanding the development of agricultural products must be ready to face the increasingly tight open competition in order not to be crushed by foreign competitors. For that agriculture development paradigm that emphasizes on increasing the production alone should shift towards increasing income and prosperity of family of farmer and other agriculture actor with agro industry sector as its leverage factor. In agribusiness activities, dispersal or insulated agribusiness structures are not conducive to create a highly competitive agribusiness system which is capable of responding to the market dynamics effectively and efficiently. This is due to functional linkages among the perpetrators (Simatupang, 1999; Sudaryanto and Pranaji, 1999; Irwan et al., 2001). Therefore, it is necessary to arrange the agribusiness structure that leads to the establishment of agribusiness units of industry (Simatupang, 1999). According to Etzioni (1985) this can be overcome if the establishment of an organization that can launch communication between subsystems that require goods. Or in other words, agribusiness can be successful if built a partnership between the agribusiness itself.

Agriculture is also a type of production activity based on the growth process of plants and animals. Agriculture in the narrow sense is called smallholder agriculture while agriculture in the broad sense includes agriculture in the narrow sense, forestry, animal husbandry, and fisheries (Soetrisno, Anik Suwandari, Rijanto, 2006: 1). In this study, the researcher uses the definition of agriculture in the narrow sense which means the farm cultivated by the people with a concentration on food crops. Food crops have a very important role in fulfilling food needs as population growth increases so as to encourage increased demand for food production in order to create food security. The sustainable agriculture that supports the facilities and infrastructure used in this research is an indicator of the implementation of agricultural development policy, in the form of: agricultural land; production facilities (*saprodi*) such as fertilizers, seeds, and pesticides; agricultural infrastructure such as agricultural machinery (*alsintan*) and irrigation; agricultural extension programs; and agricultural institutions.

### 2.2. Agricultural Policy

Agricultural policy is the means by which the government to change the environment in existing agricultural production. Thus the policy is intended as government intervention in the market economy. The analysis of agricultural development policy in Indonesia is a very strategic theme and also has a very serious threat if the related policies are not well managed and not formulated (Subejo: 1997). According to the economists, policy is the objective and the way of the government used to influence the economic variables such as price, income, national income, exchange rate, and other economic variables. Policy as a general term is expressed as government intervention in the economy. Policies as a more specific intervention include, among other things: producer price policy, exchange rate policy, credit policy or research policy. In the dictionary, policy is defined as "the art of government" in making decisions. Policies related to the agricultural sector, consisting of:

1. Price policy, that is a policy designed to affect the level and stability of prices received by farmers from the results of farming.
2. Marketing policy that is a policy of transferring farm produce from farmer level to local consumer, or to port of export place.
3. Input policy, that is a policy designed to influence the prices and purchasing system of variable inputs to be used in farming.
4. Credit policy that is a policy that mostly relates to the acquisition of working capital to purchase variable inputs used in farming.

5. Mechanization policy that is a policy that is used to influence farmers' steps and direction in adopting mechanical technology or fixed capital of farming.
6. Land reform policy that is a policy that seeks to change the distribution of ownership or land-related conditions as a resource in farming.
7. Research policy, that is a policy concerning the excavation and dissemination of new technologies designed to improve the productivity of resources in farming.
8. Irrigation policy that is a policy on water acquisition as a natural resource of farming, which often involves large-scale community investment in farming infrastructure.
9. Initially, the economic analysis of agricultural policy was grounded and simplified from the thousands of potential policy goals. In this case, it is assumed that the social objectives are classified into two main categories, namely: the purpose of economic growth, and the goal of improving the distribution of income. Both of these goals are consecutively referred to as efficiency goals and equality objectives that relate to the distribution of total output among individuals or social groups of society. This is an economic standard of community welfare.

### **2.3 The Role of Government in Agricultural Development**

The concept of balanced development strategy is the development in agriculture and industrial sector simultaneously which is the most ideal development objective. In fact the concept of balanced development strategy cannot be undertaken by developing countries, this is due to insufficient resources to undertake development in the agricultural sector as well as industrial sector (Lynn, 2003). Agriculture has a very important role in the development process (Lynn, 2003). The agricultural contribution is: increasing the food supply, revenues from exports, labor exchange to industry sector, capital formation, and technological need. Besides requiring financial resources, the agricultural sector also requires advanced technology and infrastructure. Government discrimination against the agricultural sector will hinder the overall development. Lynn (2003) also points out that the success of the agricultural sector is not only a tool for development, but also the goal of development. Agriculture can guarantee the provision of future population needs. The matters relating to the transformation of the agricultural sector, among others are the increasing of agricultural productivity, the use of resources generated for development outside the agricultural sector, and agricultural integration with the national economy through infrastructure and markets. Government interference in agriculture is a worldwide phenomenon. Agricultural subsidies and government support in developed countries only boost the efficiency and undermine the poor countries by reducing the competitiveness of poor country farms (Lynn, 2003). On the other hand, the government intervention should be limited, government intervention in the agricultural sector is very difficult to identify.

## **III. Methodology**

### **3.1 Location and Time of Study**

The location of the role of government in supporting the development of agriculture in North Sumatra Government Role Study in Supporting Agricultural Development in North Sumatera covers 7 (seven) regencies consisting of: Simalungun Regency, Langkat Regency, Serdang Bedagai Regency, Deli Serdang Regency, Karo Regency, Asahan Regency and Labuhan Batu Regency. The location is the center of agricultural crops such as rice, palawija, horticulture and cassava which is a mainstay commodity in North Sumatra. Implementation of activities lasted for 4 (four) months starting from July to November 2012.

### **3.2 Method of Collecting Data**

The method of collecting data and information is by direct interview using questionnaire, recording and observation that is direct observation to the area which become the research location. The data and information used are the data from the farmers who are the members of farmer groups that are rice farmers in Simalungun, Deli Serdang and Serdang Bedagai; chilly farmers in Karo District; cassava farmers in Labuhan Batu and Asahan districts; and corn farmers in Langkat Regency. In addition, the data and information from the relevant agencies in North Sumatra Province, Central Bureau of Statistics and Ministry of Agriculture of RI and various parties related to the focus of this research. The data collected includes primary data and secondary data.

The primary data obtained by in-depth interview or in-depth interview with key informant or person who know about the focus of the research. Then the data from the field results are discussed by a team consists of various disciplines or skills.

### **3.3 Data Analysis Technique**

The implementation of the data collection is divided into two stages, that is making the instrument (questionnaire) and data collection activities. The data that have been collected are analyzed by the data analysis technique that is a qualitative analysis to give clear information to answer the problem of government role in

agricultural development which is studied in this research. With a quantitative or qualitative descriptive format, then data analysis is conducted through interpretation based on intellectual understanding built on empirical experience which is further described in the form of narrative. To know the right agricultural development target and can give improvement of development and earnings of farmer, then analyzed by looking at all policy of agriculture development. Then conducted the analysis of farming and policy analysis by using matiks that gives an overview of the benefits to farmers' income, then the analysis used is the Policy Analysis Matrix (PAM). According to Monke and Person (1989), this analysis is principally used to evaluate the impact of government policies on a particular commodity, such as rice, corn and so forth. The form of the policy matrix is as follows:

	Cost			
	Revenue	Tradable Input	Domestic Factor	Profit
Private Prices	A	B	C	D
Social Prices	E	F	G	H
Effect of Divergences	I	J	K	L

From the obtained data in the research, then each is evaluated about:

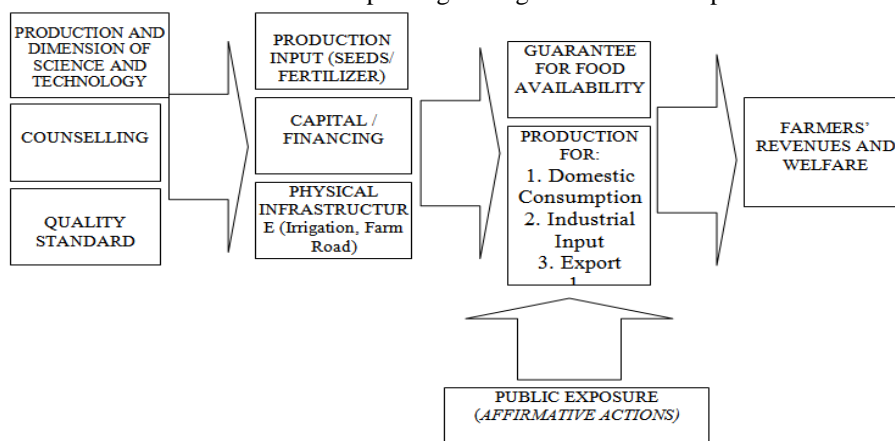
1. Private profits Coefficient Ratio (PCR) =  $C : (A - B)$
2. Domestic Resource Cost (DRC) =  $G : (E - F)$
3. Nominal Protection Coefficient (NPC)
4. Nominal Protection Coefficient of Input (NPCI) =  $B : F$
5. Nominal Protection Coefficient of Output (NPCO) =  $A : E$
6. Effective Protection Coefficient (EPC) =  $(A - B) : (E - F)$

#### IV. Discussion

The role of local government in the implementation of agricultural revitalization prepared in the RPJMD of North Sumatra Province is intended to realize the acceleration and improvement of public welfare that has not run optimally due to coordination that has not been directed. On the priority of development in RPJMD of North Sumatera Province, it is stated that the promotion of smallholder agriculture, intensification of horticulture crop, rice field printing, limitation of land conversion still need serious attention. This happens because the government's role in the production credit, counseling, provision of inputs felt by the farmers has not been implemented properly in accordance with the established policy. The best way is through coordination between the central and regional governments to realize an effective way to support the development of agriculture, because the government intervention to issue regulations on maintaining agricultural land is needed and in the effort of printing the right rice fields are realized in North Sumatra.

The production credits required by farmers should also be real as long-term investment credit provision, provision of initial capital, venture capital development, and the development of rural credit institutions and the presence of special agricultural banks (agribusiness) in the region. On the other hand, the demand for agricultural products is generally not elastic so the price tends to decrease secularly. The combination between the impact of government policy and the intrinsic nature of agribusiness causes the terms of trade of farmers and agribusiness in general tends to decrease, thus inhibiting the growth of regional agribusiness. Therefore, one of the most indispensable policies to encourage the development of agriculture in North Sumatra is to prevent the decline in agricultural and agribusiness exchange rates in general. The government's role that is expected to increase income in achieving the welfare of farmers more clearly can be seen in the role of government in improving agricultural development in North Sumatra as in Figure 1.

Figure .1 The Role of Government in Improving the Agricultural Development in North Sumatra



To see the welfare of farmers to increase revenue related to the achievement of targets such as through agricultural revitalization directed to encourage the security of food security, increasing competitiveness, diversification, increasing productivity and added value of agricultural products, all of which boils down to the welfare of farmers. Some policies related to efforts to achieve food self-sufficiency include: (a) policies that have a very positive impact in the short term, namely input subsidies and increases in output prices and food trade including distribution interventions; (b) a very positive long-term policy, namely technological change, extensification, safety nets for food security, infrastructure investment, and macro, education and health policies; (c) policies that promote the growth of domestic production provision by: (1) improving the quality of intensification, expanding the area, improving irrigation networks, providing affordable production facilities by farmers, providing production incentives through the application of input price and output price policies, (2) development of harvest and post harvest technology to reduce yield loss, and (3) development of new varieties with high productivity for commodities with good market prospects. The general strategy of agricultural development is to promote agribusiness, which is to develop synergistically and harmonious aspects: (1) upstream agricultural industries including seeds, other inputs and agricultural machinery; (2) primary agriculture (on-farm); (3) downstream agricultural industries (processing of products); and (4) related support services. Given that the main agribusiness actors are farmers and entrepreneurs, and without incentives their income will be reluctant to pursue agribusiness, the key word in improving the performance of this sector is to create economic incentives that support the attractiveness of agribusiness. In line with the implementation of regional autonomy policy, Provincial Government and Regency/City Government in North Sumatra can play an active role in increasing food security in their respective working areas. Such participation is expected to pay attention to several principles:

1. Developing a comparative advantage owned by each region in accordance with the potential of its specific resources, and adapted to local social and cultural conditions.
2. Implementing an open policy in the sense of harmonizing local food security policy with national food security policy.
3. Encouraging the occurrence of inter-regional trade.
4. Encouraging the creation of fair market mechanisms.

The role of central government and local governments is still very important in supporting the agricultural development in North Sumatra, although recently there has been a tendency for increasingly important private sector functions and market institutions. The central government determines the policy direction, the strategy to be pursued, and the targets to be achieved towards the level of agricultural development and public welfare in general. The lack of clarity between the political-strategic hierarchy, organization, and implementation greatly influences the travel and quality of agricultural development resulting in the creation of food security, including the dimensions of availability, accessibility and price stability, and the utilization of food products in Indonesia. Production, productivity and efficiency in strategic food crops such as rice, corn and soybeans are still weak, both due to seasonal factors, weather, and other uncertainties, as well as due to technological changes that are not as good as in the 1970s and 1980s. Such food production systems, both in the upstream and downstream sectors, plus a distribution system that does not provide fair remuneration among economic actors and stakeholders, still affect the productivity and supply of food in the country. The current rice production may have achieved good self-sufficiency and self-sufficiency as the level of dependence on imported rice supplies is less excessive and at times when national food reserves are insufficient. However, the production of sugar, rice and maize still need to rely on imports from the world market because the level of production and productivity in the country is still quite low.

The substance of the most common policy of agricultural development is expected to guide the government, the private sector and the community to jointly achieve food security at the household, regional and national levels. Besides providing clearer and easier to digest policy directions, governments play a role in elaborating other policies that can provide incentives from upstream to downstream or protection to farmers and consumers alike. Concrete steps relating to the following are essential in the form of: provision, distribution, accessibility, and stability of food prices, business diversification and food diversification, post-harvest handling, food security, and prevention of food insecurity. In the era of regional autonomy, the role of local government is very large in the development of peasant society. The process of development of the peasants should be categorized based on the potential of the region and the locality of the region's superior commodities so that each region can grow and develop with its own excellent commodities and in the development of different strategies are needed. The agricultural sector as an element of the dynamics of development, besides being demanded to be able to realize food security, is also required to increase its contribution to the Indonesian economy as a national rice granary, in line with the vision of national agricultural development that is the development of modern agriculture, tough and efficient. In a very long period time the government's attention in agricultural development has focused on increasing production, especially to increase the production of food

crops, especially rice and traditional commodities. Food fulfillment through food self-sufficiency (rice) has attracted considerable attention and funding. These conditions cause agricultural development has not been optimal in accordance with its potential. Agricultural policy is a series of actions that have been, are and will be implemented by the government to achieve certain objectives, such as promoting agriculture, making farming more productive, production and production efficiency up, farmers' level of living, and welfare more equitable. The same opinion was also expressed by Sarjana (1985), that the general goal of agricultural policy is to promote the agricultural sector, which in a further sense covers:

1. Increased productivity and efficiency of agriculture sector
2. Increased agricultural production
3. Increasing the living standards and welfare of farmers, as well as equal distribution of income levels.

In national development, the agricultural sector occupies an important priority. This is because an agricultural commodity in the form of food is one of the basic human needs and is considered strategic, and often includes things that are emotional and even political. The fulfillment of food in quantity and quality is very important as a foundation for the development of Indonesian people in the long term. Among the 12 groups of food commodities are rice, corn, tubers, fish, meat, eggs, milk, tofu, tempeh, vegetables, fruits, gouramy oil and sugar, where rice occupies the top position. Agricultural policy is the means used to change the environment in agricultural production. In general, policy objectives are directed to economic growth (efficiency) and to improve the distribution of income (equity). More focused policies are directed at sectoral policies of some of these policies, for example:

1. Price policy which is a policy designed to influence the level and stability of prices received by the farmers and the results of farming.
2. Marketing policy which is a policy on the transfer of farm products to farmers from consumers.
3. The input policy which is designed to influence the price and purchase system of variable inputs.
4. Credit policy, for the acquisition of working capital.
5. The mechanization policy, to adopt mechanical technology.
6. The benevolence of land reform, changing the distribution of ownership or land-related conditions.
7. Research policy, new technology spread and productivity improvement.
8. Irrigation policy, water acquisition as a resource in farming.

The objectives of agricultural development policy include consideration of political and social stability, national economic integration, improvement of food security, increased export acceptance, malnutrition prevention, economic growth, employment opening both local, provincial and national scale. The implementation of the policy should also be able to adjust to the constraints that arise in the agricultural sector. For example, due to the occurrence of unstable prices, the policy applied is the stabilization of the price of farming results, water shortage constraints hence the policy applied in relation to the waters, in case of pest attacks then the policy applied on pest eradication research and so on. In essence if you want to raise the welfare of farmers then all policies should be directed to increase agricultural productivity both physical and added value. The role of other governments concerning the availability of facilities and infrastructure has been running as determined, but still need supervision. In terms of marketing concerning price guarantees, support lowers transaction costs that have not been effective, and distribution of marketing results that are still needed by farmers to side with them. In terms of technological improvements, training activities related to the application of technology is needed by farmers in the form of assistance in increasing post-harvest technology and increasing knowledge and skills of farmers. This problem can not be separated from the low quality of apparatus resources and the quality of service apparatus and coupled with the still weak supervision on various policies.

## **V. Conclusion**

Agricultural development programs in North Sumatra include the increasing production, improving farmers' welfare, improving product marketing, improving food security, empowerment of extension workers and improving technology application, with policy classification, policy alignment and policy compliance. The role of government in supporting the agricultural development in North Sumatra has not been fully effective. This can be seen from the welfare of farmers who are still perceived lack of, marketing of products that are not impartial farmers, extension programs that have not been sustainable. The role of local government in agricultural development, especially the implementation of agricultural revitalization which is arranged in RPJMD North Sumatra Province has not run optimally because the coordination has not been directed. The agricultural development that has been done has been targeted and provides an increase for regional development and income increase of farmers in North Sumatra, the results of this study indicate that all leading commodities have Profit Coefficient Ratio (PCR) < 1 which means that the commodity has a competitive advantage and high competitiveness.

## References

- [1]. Budiharsono, Sugeng, 1989. Perencanaan Pembangunan Wilayah. Teori Model Perencanaan dan Penerapannya. Bogor, Jawa Barat.
- [2]. Budi Winarno, 2002. Teori dan Proses Kebijakan Publik. Yogyakarta: Media Pressindo.
- [3]. Darmaji, 2001. Deskripsi Pertembakauan, Kajian Aspek Sosial dan Ekonomi. Malang, Jawa Timur.
- [4]. Dorfman, Robert, Samuelson, Paul A, Solow, Robert M, 1958. Linear Programming and Economic Analysis. Models I-0, The Leontif Dynamic System. McGraw-Hill Book Company. New York. P 215-227.
- [5]. Gibson, Ivanicevich dan Donelly, 1991. Organisasi; Perilaku, Struktur, Proses. Terjemahan Djoerban Wahid, Erlangga, Jakarta.
- [6]. Imam Supardi, 2003. Lingkungan Hidup dan Kelestariannya. Bandung: PT. Alumni.
- [7]. Jules N. Pretty, 1995. Participatory Learning For Sustainable Agriculture. World Development, Vol. 23 No. 8 by International Institute for Environment and Development, London, UK.
- [8]. Koesnadi Hardjasoemantri, 2002. Hukum Tata Lingkungan. Yogyakarta: Gadjah Mada University Press.
- [9]. Nganro Noorsalam Rahman, 2009. Dukungan Kebijakan Pemerintah Dalam Pengembangan Komoditas Pertanian yang Mendukung Ketahanan Pangan Nasional. SEMILOKA "Pengembangan dan Penerapan IPTEK Dalam Mendukung Ketahanan Pangan dan Energi". Diselenggarakan oleh Kedeputusan Bidang Dinamika Masyarakat, Kementerian Negara Riset dan Teknologi. 10 November 2009, Jakarta.
- [10]. Pembangunan Daerah Provinsi Sumatera Utara. [www.pemprovsumu.go.id](http://www.pemprovsumu.go.id), 20 Januari 2011.
- [11]. John, 2011. Optimalisasi Usahatani Berkelanjutan Pada Rumahtangga Tani di Daerah lahan Rawa Pasang Surut Kabupaten Kapuas Kalimantan Tengah. Draft Disertasi Program Pascasarjana UGM Yogyakarta.
- [12]. Laporan Akuntabilitas Kinerja Instansi Pemerintah Dinas Pertanian dan Peternakan Kabupaten Serdang Bedagai, 2007. Pemerintah Kabupaten Serdang Bedagai.
- [13]. Laporan Akuntabilitas Kinerja Instansi Pemerintah Dinas Pertanian dan Peternakan Kabupaten Serdang Bedagai, 2008. Pemerintah Kabupaten Serdang Bedagai.
- [14]. Laporan Akuntabilitas Kinerja Instansi Pemerintah Dinas Pertanian dan Peternakan Kabupaten Serdang Bedagai, 2009. Pemerintah Kabupaten Serdang Bedagai.
- [15]. Laporan Akuntabilitas Kinerja Instansi Pemerintah Dinas Pertanian dan Peternakan Kabupaten Serdang Bedagai, 2010. Pemerintah Kabupaten Serdang Bedagai.
- [16]. Laporan Akuntabilitas Kinerja Instansi Pemerintah Dinas Pertanian dan Peternakan Kabupaten Serdang Bedagai, 2011. Pemerintah Kabupaten Serdang Bedagai.
- [17]. Laporan Akuntabilitas Kinerja Instansi Pemerintah Dinas Pertanian dan Peternakan Kabupaten Serdang Bedagai, 2007. Pemerintah Kabupaten Deli Serdang.
- [18]. Laporan Akuntabilitas Kinerja Instansi Pemerintah Dinas Pertanian dan Peternakan Kabupaten Serdang Bedagai, 2008. Pemerintah Kabupaten Deli Serdang.
- [19]. Laporan Akuntabilitas Kinerja Instansi Pemerintah Dinas Pertanian dan Peternakan Kabupaten Serdang Bedagai, 2009. Pemerintah Kabupaten Deli Serdang.
- [20]. Laporan Akuntabilitas Kinerja Instansi Pemerintah Dinas Pertanian dan Peternakan Kabupaten Serdang Bedagai, 2010. Pemerintah Kabupaten Deli Serdang.
- [21]. Laporan Akuntabilitas Kinerja Instansi Pemerintah Dinas Pertanian dan Peternakan Kabupaten Serdang Bedagai, 2011. Pemerintah Kabupaten Deli Serdang.
- [22]. Rencana Kerja Strategi Satuan Kerja Perangkat Daerah (Renstra-SKPD) Tahun 2011-2015. Pemerintah Kabupaten Karo.
- [23]. Rencana Kerja Strategi Satuan Kerja Perangkat Daerah (Renstra-SKPD) Tahun 2011-2015. Pemerintah Kabupaten Langkat.
- [24]. Rencana kerja Strategi Satuan kerja Perangkat Daerah (Renstra-SKPD) tahun 2011-2015. Pemerintah Kabupaten Simalungun.
- [25]. Rencana Kerja Strategi Satuan Kerja Perangkat Daerah (Renstra-SKPD) Tahun 2011-2015. Pemerintah Kabupaten Serdang Bedagai.
- [26]. Rencana Kerja Strategi Satuan Kerja Perangkat Daerah (Renstra-SKPD) Tahun 2011-2015. Pemerintah Kabupaten Deli Serdang.
- [27]. Ralin, 2011. Budidaya Cabe Tanah Karo. Kelompok Tani Sejahtera Bersama, Karo.
- [28]. Sri, 2011. Politik Pertanian. Jurusan Sosial Ekonomi Pertanian Fakultas Pertanian Universitas Gadjah mada Yaogyakarta
- [29]. Sarim, 2011. Analisis Komparasi, Analisis Finansial dan Analisis Ekonomi produk Pertanian. Jurnal Universitas Widiagama malang.2011.
- [30]. Solichin Abdul Wahab, 2004. Analisis Kebijakan Dari Formulasi Ke Implementasi Kebijakan Negara. Kakarta: Bumi Aksara.
- [31]. Soekanto, Surjono, 1990. Sosiologi Suatu Pengantar. Rajawali, Jakarta.
- [32]. Syahyuti. agricultural sociologist. <http://sejarahpertanian.blogspot.com/>. [ 21Maret 2010 pukul 16.43].
- [33]. Soetrisno, dkk. 2006. Pengantar Ilmu Pertanian. Malang: Bayumedia Publisng.
- [34]. Saptana dan Ashar, 2007. Pembangunan Pertanian Berkelanjutan Melalui Kemitraan Usaha. Jurnal Litbang Pertanian, 26(4), Kementerian Pertanian Republik Indonesia.
- [35]. Subejo, 2007. Memahami dan Mengkritisi Kebijakan Pembangunan Pertanian di Indonesia.
- [36]. Thoha, Miftah, 1993. Perilaku Organisasi; Konsep Dasar dan Aplikasinya. Rajawali, Jakarta.
- [37]. Totok Mardikanto, 2009. Membangun Pertanian Modern. Surakarta : Sebelas Maret University Press.
- [38]. William N. Dunn, 2003. Pengantar Analisis Kebijakan Publik. Yogyakarta: Gadjah Mada University Press.
- [39]. Undang-Undang Nomor 41 Tahun 2009 tentang Perlindungan Lahan Pertanian Pangan Berkelanjutan.

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