

**PERFORMANCE OF CENTRAL AND REGIONAL GOVERNMENTS IN
SUPPORTING OF SHALLOT SEEDS IN SOLOK DISTRICT WEST SUMATERA
PROVINCE, INDONESIA**

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ABSTRACT

Shallots Solok, West Sumatra, is different from shallots from other regions. Solok farmers have 'magical' onion seeds which are now gaining in popularity and will be developed by another region, namely SS Sakato. When you look at the onion in Solok, the amount of the onion is much bigger, the smell is more fragrant, with a more attractive color, bright red and fresh. Glance like an onion from India. But its development on the island of Sumatra has not been as rapid as the development of onion seeds in Java, especially in Brebes. SS Sakato variety is suitable to be planted in highland dry land. Even though the rainy season, which is generally in other areas is stopped planting onions, SS Sakato can still be planted and grow well. Even Solok does not know the onion season because farmers can routinely plant and harvest 3-4 years. The government will make Solok Regency, West Sumatra, a priority for the development of shallot production outside Java, in order to meet domestic and export onion needs. For this reason, efficient and effective coordinated support from the central and regional governments is needed

Key Words: Seed, Shallot, Development, West Sumatera, Government.

1. INTRODUCTION

Development Of Shallot Seeds Now

The shallot seedling program which began in 2014 until now has not run smoothly as expected. However, hopes for developing shallot seedling are still wide open. Among them are the program to develop shallots seed production centers in new areas, one of which is Solok Regency, West Sumatra Province. So far, the center of onion seed production is concentrated in Java, namely in Central Java, East Java and West Nusa Tenggara. So that with increasing consumption of shallots, the potential for the development of new regions for seedling of shallots becomes important to be considered by the Central Government and Regional Governments.

The development of new production centers is expected to be able to supply national onion needs, especially in certain seasons when onion supply decreases. Most farmers in production centers that use paddy fields for onion cultivation will continue to plant rice in certain seasons

(Purba 2014), although according to Aldila, Fariyant & Tinaprilla (2015) research, onion farming is far more profitable than rice farming. However, because rice is a political commodity (Sudaryanto & Agustian 2002), and is a symbol of food security and welfare for some farmers, farmers in shallots production centers will still plant rice when the rainy season arrives. The development of new production centers can also minimize the scarcity of onion production in certain seasons due to climate (Pranata & Umam 2015; Purba & Astuti 2013).

As one of the horticultural commodities that has an important role in the national economy, onion seeds have begun to be developed not only in the main production centers which are mostly in Java (Kiloes et al 2018). Until now the largest onion production center is Brebes Regency which has its own brand image as the largest onion center in Indonesia (Rosyadi & Purnomo 2014). Previously, it was seen that only Brebes Regency was given priority in the formulation of national shallot agribusiness policies because of its position as the main production center for shallots (Rasoki, Fariyanti & Ririn 2016) so with the existence of new production centers, the preparation of national strategic policies for the fulfillment of shallot commodities which is one of the basic necessities is no longer based solely on conditions in the main production centers of Brebes Regency.

According to Irawan (2007) that to minimize fluctuations in the price of vegetables including shallots, efforts are needed to develop more regionally distributed vegetable production centers. Several new onion production development centers have begun to show their performance in supplying shallots on the national market. One of the production centers that has become a new development in the national onion agribusiness is Solok Regency in West Sumatra Province. Rusli & Burhanuddin (2014) stated that Solok Regency is one area that has the potential to become one of the centers of onion production because it has been the area with the largest production and planting area of shallots in West Sumatra. This area also has the potential to fill market supply in big cities on the island of Sumatra so that it does not depend on supplies from Brebes Regency.

The concept of regional development that so much needs to be integrated in its implementation given the diversity of physical, social, economic, and cultural potential in an area. In addition, several things need to be considered to address various issues and challenges in development such as conflict between cross-sector and regional space use, environmental quality degradation, inter-regional development gaps, and weak coordination and development control (Hariyanto & Tukidi 2007). The identification of supporting and inhibiting factors originating from within and from outside is the first step in strategic planning for the development of an agricultural area (Ommani 2010), or is a further step after determining organizational goals (Gürel & Tat 2017) which in this case is the production center Solok Regency shallots. These factors need to be mixed in such a way as to formulate a regional development strategy. For this reason, it is necessary to study how the central and regional governments support the shallots seeding program in West Sumatra.

Technical Implementation Unit Of Seed Control And Certification Center (Bpsb Of Province)

Onion seed production is carried out by breeders who are scouted by BPSB. In Solok Regency, there are 8 (eight) shallot seed breeder farmer groups established since 2016. The breeder groups are mostly inactive because there is no more shallot seed development program in Solok Regency. Now there are only 2 (two) farmer groups (KT) onion seed breeders, namely KT Sukamaju in Jorong Lengkok, Nagari Sungai Nanam and KT Joker Merah in Jorong Koto, Sungai Nanam Lembah Gumanti District each with a capacity of 60 tons and 300 tons of scatter seeds the majority of which are not certified. Certified seeds are produced if there is a request through partners from the Ministry of Agriculture from other districts in West Sumatra. The advantage of onion seed production is relatively high due to the assumption of very high selling prices and productivity.

The largest shallot development center in West Sumatra is in Solok Regency, Alahan Panjang Sub District, in addition there are a few Agam and Tanah Datar districts, namely in Lubuk Agung sub-district. Onion seed productivity is in the range of 15 tons / ha for consumption, while for seeds around 9-12 tons / ha. Usually farmers store seeds in a warehouse about 2 weeks to 1 month. Although there is no dormancy, but to be completely dry, dried in the sun for 1 month, because farmers are not necessarily ready to plant when it's time to harvest. Usually for seeds it can shrink up to 75% from the warehouse, after that it shrinks again 60%, until the consumer shrinks to reach 40-50%. The price of seeds for consumption is in the range of IDR 30,000 / kg, while the price of seeds as seeds can be above IDR 30,000 / kg to IDR 35,000 / kg. Calculation of average production costs in the range of Rp. 15,000 / kg to Rp. 20,000 / kg.

The problem that often occurs is that during the harvest season in West Sumatra, some traders buy from Brebes or around Java, so that the price of local shallots falls. In addition, in West Sumatra, farmers do not have an association of onion farmers like in other places, so that monopoly or oligopolistic trading can control prices and bring down prices at the farm level. Then the shallots are stored and when they are rarely sold to consumers at high prices.

Viewed from the level of prosperity, vegetable farmers are more prosperous than other food farmers. For farmers in Alahan Panjang sub-district, farmers are already good at concocting themselves fertilizers and medicinal pests for plant diseases. In 2017 the official use of local seeds is SS (Solok Sumbar) Sakato, but the history of the seeds comes from Brebes (called Bima Brebes). For labeled seeds (certificates) farmers usually do it if there are only projects. But because farmers are generally already good at making their own seeds, so there are always seeds that are both certified and unlabeled. For shallots seeds there are no fake seeds, because indeed all farmers are already good at producing seeds.

The process of labeled seed mechanism is usually through the appointment of a tender / auction conducted by BPSB in coordination with the Solok District Agriculture Office. For regular planting, farmers only produce 100-200 kg of seeds / 0.25 ha. For farmers who are given permission to make labeled seeds, they are farmers who have obtained certification recommendations appointed by the local Regent. Submission of free seed certification. A fee is charged for the use of tools such as lab tests and field tests.

Another dynamic is that there are farmer groups that have marketed labeled seeds through online. However, for the requirement that there must be a PTM (Minimum Technical Requirements) ie certified seeds must be resold for seeds, not for consumption), while for unlabeled seeds are generally sold for consumption. Actually, the type of seed is the same as between labeled with no, but for those labeled there is usually a process of sorting (rogging) for uniformity of seeds, as well as storage in warehouses. Whereas seeds not labeled size are not uniform. Many farmers also sell their seeds to fellow farmers in the range of an average of 200 kg. In Solok District there are 8 farmer groups that have recommendations for seed certification, which are active to date (2019), there are 2 farmer groups, namely the Joker Merah farmer group and the Sukamaju farmer group. Harvest age of shallots is generally between 85-90 days, but in some areas such as flat land only reaches 70 days. It is recommended by BPSP of West Sumatra that shallot farmers meet the harvest standard, namely shallots for seeds having a minimum harvest age of 90 days, while for consumption between 65-70 days.

Assessment Institute For Agricultural Technology (Aiat/bptp) Of West Sumatera

West Sumatra BPTP supports shallot seed development programs through the production of True Shallot Seed (TSS) at the Sukarami Experimental Garden in 2018. The TSS production area is 1.3 ha at an altitude of 930 meters above sea level (masl) with a realization of planting 1,035 m². The total seeds used were 700 kg of Trident varieties from the 2017 Proliga crop. TSS seeds were harvested gradually starting at 95 days after planting. The net production of TSS seeds is 4.9 kg. only a few farmers use TSS as seeds, for example in Tanah Datar District. A longer and more complicated planting process makes most farmers still choose tubers as shallots seeds.

There was a concept change that was previously only for the central agency of assessment, now (also) as a center for research and study tours, by building synergy between agencies associated with BPTP, in a backup of 60 work units under the Indonesian Agency for Agricultural Research and Development, so all activities must be in the name of the Indonesian Agency for Agricultural Research and Development. In conducting a national program, the concept of seeding for the needs of local government must consider the agroecosystem in each region. In the concept of edu tourism development as a source of seed supply, where 2019 has become the ecotourism year for Agricultural Infrastructure and Facilities, with funding of around Rp2.7 billion also to build city parks.

For the seeding of shallots, the Sapirah program (Beef and Shallots) is carried out by all BPTPs in Indonesia, also coordinated with the local agriculture office, where technical implementation is carried out by the BPTP and the end result leads to the Ministry of Agriculture. The target of the program is that communication between research institutions at IIARD must also be carried out by all relevant researchers, one of which is the availability of a Agricultural Science Park which aims to get agricultural education. Specifically in West Sumatra, it involves researchers who are retired to carry out the West Sumatra region seeding program, namely the rice commodity, the Sapirah (prosperous agricultural area) program, which includes seed shallots, targeting local shallot varieties released by West Sumatra AIAT in 2020.

For the development of the seeding program, West Sumatra is the second largest onion production and buffer region in Indonesia after Brebes, and is the largest buffer and producer of shallots in Jakarta and Sumatra, especially in Alahan Panjang sub district. Coordination of the shallot seedling system has been carried out by the local Agriculture Service in collaboration with third parties through auctions, but in reality in the field, the Agriculture Service has instead taken / imported seeds from Malang (2018), this is sad for BPTP, the provision of seeds must be done by BPTP and BPSB, which should be taken from the local area (local), not from outside the source. However, again because this is done through a third party, so the work units in the local area only become distributors to produce it, but to take goods that are for resale remain from outside the source, this is one of the problems that quite often occurs in the West Sumatra and must be fixed immediately.

The seed system from the center (top down) to BPTP includes: (1). Directives from the direct center (Directorate General of Horticulture integrated with the IAARD) for example there is a seed need program then the program is disposable down or related agencies to be implemented; (2). AIAT conducts site-specific studies, starting from production, distribution have been carried out and will continue to be carried out, and are currently conducting studies and developing seed systems with fog-resistant seeds; (3). The seeds produced are distributed to the community, but at certain times if the community does not need shallots, the production will be developed by the local work unit.

The beef and shallots (Sapirah) program in West Sumatra also links to institutional and aquaculture. For Farmers Groups such as Kayu Ambon Saiyo, Sakato Sapake Farmers Groups can produce an average of 15 tons / ha. But there is a problem that has not been solved from generation to generation, namely the shallot center in Alahan Panjang Sub District is called the skull triangle, precisely in Sungai Nanam Village, in Kampung Lembah Gumanti with a potential of 13000 ha but only 6000 ha which has been planted.

The production of shallots in the largest plateau is only in Solok and is sold to Pekanbaru and Medan, with a productivity of 15 tons / ha of dry harvest. Another problem is that farmers need a shallot farmers association to legalize seeding activities to marketing (from upstream to downstream). The shrinkage of SS Sakato variety reaches 20% but it depends on the weather and water content contained in shallots. Ideally dormancy is around 40 days after harvest, but in reality many farmers replant at the age of 3-7 days after harvest, but the results are many that are not uniform, while demand in the lowlands is the dry-harvest which is 40 until 60 days after harvest, because it is this procedure that makes the seeds suitable for planting in low-lying areas. However, because the majority of farmers in the lowlands do not perform the standard procedure, it often happens when the goods arrive at their destination, because it does not match the standards requested by the buyer, so it is not suitable for planting in the lowlands, so the selling price is cheap / falling, to anticipate things this is ultimately the demand from buyers brought in from Brebes and its surroundings, because the shallots originating from there are in accordance with the requirements of agroecosystems in the lowlands in the West Sumatra, and because the price of shallots for both seeds or consumption from Brebes is cheaper with better quality, so at finally the selling price of seeds originating from the highlands in West Sumatra

(especially in Alahan Panjang sub-district which is the largest center in West Sumatra) is cheap and falls, this is caused by the "mischief" of the farmers themselves who do not follow the standard dry harvesting procedures for sale.

The effect of shallots on its quality, among others: (1). Large expanse, with simultaneous planting throughout the year, will make the magnitude of the intervention either comes from internal or external; (2). Recent weather factors have become increasingly erratic and unpredictable; (3). Air circulation and nutrients in the soil become damaged due to land use throughout the year without dormancy. But if a smaller stretch of land will produce more uniform see The effect of shallots on its quality, among others: (1). Large expanse, with simultaneous planting throughout the year, will make the magnitude of the intervention either comes from internal or external; (2). Recent weather factors have become increasingly erratic and unpredictable; (3). Air circulation and nutrients in the soil become damaged due to land use throughout the year without dormancy. But if a smaller stretch of land will produce more uniform seed quality, because the agroecosystem will be more uniform as well. d quality, because the agroecosystem will be more uniform as well.

The Sapirah program was initially targeted to be around 6000 ha, which includes expansion, but the potential could reach 13000 ha, where the development is particularly in highland areas such as Alahan Panjang District. The sapirah program specifies the existence of a certified seed program and must comply with standard procedures if labeled seeds are to be made. The labeled seed standard is 1: 7, for example, from 1 ton of yield, 800 kg should be sold at Rp.32,000 / kg, of course, this high selling price requires labeled seeds. Suggestions from BPTP researchers to produce quality seeds according to the procedure, give more P fertilizers than other types of fertilizers, so that at harvest 20-60 days will be less shrinkage, and the red color is also more sleek / attractive.

The dynamics that occur at the farmer level are usually as follows: the habits of farmers in giving information that is still not honest / not open, the amount of information circulating at the farm level (such as the use of fertilizers and excessive crop pests) which is not necessarily true, that is simply accepted by farmers , and often farmers are persuad promotion from fertilizer and pest traders of plant diseases, this is because of their fear of crop failure; In addition, there are also many farmers who when interviewed claimed that they harvested 40 tons, but when checked in the field only ranged from 12 tons to 15 tons per ha; farmers who are too extravagant in the use of branded fertilizers and medicines that are not infrequently even farmers mix it up, even though many fertilizers and medicines used are the same content, only selling different brands. In addition, the main problem that has not been resolved at this time is the composition of the soil also affects, if it is too dense in the nursery on the same stretch of land, the higher the spread of pesticides used on the expanse of land, and this will make the resulting seeds less good quality or even ugly. In addition, cases such as the volume of the shallots decreases when reaches the spot, what had happened was the sale to Riau, until there, many shallots have shrunk, so the price is not appropriate, the buyer complains and lowers the purchase price, so that the price received by farmers is sure to be lower.

In West Sumatra historically became the first area to use an organic farming system, but because of the character of farmers in West Sumatra has ingrained (hereditary from the 1970s) that is always using drugs that are too excessive, both because of the prestige or victims of promotion from third parties. This problem is still difficult to solve and given a solution, for this reason, it is expected that research results will no longer provide camouflage solutions, it is hoped that agricultural researchers can provide solutions that work directly to overcome residues that have been polluted by farmers' farm production, especially at shallot seed commodities in West Sumatera.

West Sumatera Province Department Of Agriculture For Horticultural And Plantation Food Crops (Dinas Pthp Of West Sumatera)

Through the Horticultural Main Seed Center (BBIH), the PTPHP Department produces shallots seeds of the main seed class (BP) and is sold to seed growers to be produced into scatter class seeds (BR). The BBIH Experimental Garden in Solok district produced BP in 2018 covering 1 hectare but failed. In 2019 there were no onion seed production activities because there was no budget through the state budgets (APBN). Each regency / city began the autonomy era (2002) producing its own seeds with regional budgets (APBD).

By the Department of Agriculture, captive breeding has been prepared by supplying seeds shallots in 2017. There is also a demand for onion seeds from Jambi. The average onion seed technology in West Sumatra is still not quite right, so it is necessary to develop seed breeding. In addition, the problem that is currently happening is the sudden onion farmers because of the project demand for shallots seeds. This is also an opportunity because of crop failures in Brebes, Klanten and surrounding areas that have only occurred in the last 1-2 years, so that farmers in West Sumatra are using it to cultivate shallots, because demand for shallots is on the rise lately. Shallots according to the requirements and DNA content are lowland plants, but cultivated in the highlands only in West Sumatra, especially in the Sub District of Alahan Panjang. The history of the SS Sakato variety itself after being tested by lab and DNA tests compared to Bima Brebes, there is same compatibility and suitability.

Rusli and Burhanuddin (2013) said that shallot farmers in West Sumatra try to use varieties with varieties whose origin is unclear. They get seeds in the market or are bought with farmers who grow shallots. This situation is also one of the factors causing the low yield of onion tubers in West Sumatra. A number of shallots varieties for lowlands have been produced by Balitsa such as Bima, Brebes, Ampenan, Maja Cipanas, Keling, Medan, Timor, Banten and Lampung (Puslitbanghorti, 2006). Recently, new shallot varieties have been released such as Yellow, Kramat 1 and Kramat 2 (Sumarni and Hidayat, 2005). However, this variety has not yet developed in West Sumatra, because farmers do not yet know the shallot varieties for the lowlands. And now it has been inaugurated by the regional government, in this case by the Ministry of Agriculture and BPTP namely SS Sakato variety which is claimed to be a native variety of West Sumatra.

The Ministry of Agriculture is fully committed to following up the direction of Indonesian President Joko Widodo to export farmers. This was confirmed by the issuance of Permentan

18/2018 concerning Guidelines for Farmer-Based Regional Development. Therefore, the Ministry of Agriculture requests government assistance so that the agricultural sector is not evenly distributed throughout Indonesia. Company locations, especially shallots and chilies that are encouraged and focused in 2019, are Solok and Malang for onions, while Blitar and Garut are for chili. This shows that assistance in the agricultural sector must focus on location, commodities, and the upstream and downstream aspects as a whole and can certainly have an impact on increasing productivity. The positive impact can increase the added value of agricultural products so that the welfare of farmers is getting better.

The Department of Horticultural Food Crops and Plantation of West Sumatra Province explained that the various onion areas in Solok are very prospective to be developed into a corporate-based area. The West Sumatra Provincial Government strongly supports the onion development area in Solok whose harvest area reaches 8,000 ha and the potential for garlic development reaches 5,000 ha. The current approach for shallots is to strengthen downstreaming by encouraging postharvest processing industries such as the pasta industry, onion oil and tightly and consistently guarding crop management so that supply and price stabilization is safe. Solok will be the largest onion production area in Sumatra with a harvest area of about 7,300 ha in a year. Specifically in Lembah Gumanti District it has reached 4,600 Ha and other Central Districts are also very prospective namely Lembang Jaya 860 ha, Twin Lakes 567 ha, Mirror Beach 479 ha and widened to other districts and beyond. Solok's market share includes South Sumatra, Jambi, Riau and North Sumatra can even penetrate Greater Jakarta. The varieties of shallots planted are SS Sakato, Singkil Medan, Gajah, Bima Brebes and Maja Cipanas. Generally these varieties have adapted to the natural conditions of Solok in cold climates (Rusli and Burhanuddin, 2013 and Kustiari, 2017).

Shallot production in West Sumatra during 2017 reached 96,045 tons or did not reach the target of 200 thousand tons. Not achieving these targets is due to several factors, one of which is the unfavorable weather. Shallot seed production is found in several regions, such as Solok Regency 82,667 tons, Agam 4,970 tons, Solok Selatan 4586 tons, Tanah Datar 1,957 tons and Limapuluh Kota 592 tons, then followed by Payakumbuh City, Pesisir Selatan Regency, Bukittinggi City, and Padang Pariaman Regency with a production value below 500 tons. To reach the target and increase the production of shallots in the future, the local government in this case the Agriculture Service of West Sumatra Province provides assistance such as seeds, training in improving human resources with field schools, assistance in facilities and pre-harvest and post-harvest facilities (Soepatini et al, 2017 ; Suliansyah et al., 2017; Basuki, 2010).

Sukamaju Farmers Group And Joker Merah Farmers Group, Sub District Alahan Panjang, District Solok

The average production in this Farmer Group can reach 60 tons / ha. Sales are only between sub-districts and districts in the province of West Sumatra. Varieties that are frequently used are Cerban, Sigi Kemumu, Sigi Gajah, Sigi Medan. SS Sakato has the advantage of perfectly round fruit, easy maintenance, reaches 3 months of age. The growing season in the Farmer Group can reach 4x per year. Usually the cultivation of land once a year, mulch can be used 4x per year, high rainfall. For shallots, consumption twice per year and shallots for seeds twice per year. What is common here is that initially the main seed then becomes the scatter seed. Generally, the

price of seeds for consumption is in the range of IDR 20,000 / kg and for seeds around IDR 30,000 / kg.

Labeled seeds are usually checked in the field by BPSB officials or the office. Seed labeled: higher selling price, hard / not soft, uniform. Whereas for unlabeled seeds: rather soft, not uniform, low selling price. The Farmer Group has 8 seed breeders. Partnering since 2018, initially only had 2 ha of land, after partnering it became 4 ha of planting land for sample breeders (Sukamaju Farmers Group). Reasons to partner in order to get more buyer orders, besides, if you try yourself, other members will often protest. For this Farmer Group, the production cost reaches Rp 100,000 / kg with the need for seeds of 1 ton per ha, with a productivity result of around 15 tons to 60 tons per ha with a selling price in the range of Rp.30 thousand / kg, the farmers here are very prosperous. However, the use of fertilizers and medicines is generally wasteful, so the biggest cost is in fertilizers and drugs. The certificate fee is Rp. 25,000 / unit / ha, usually per unit can be up to 40 kg. Tuber inspection Rp.25 / kg and label examination Rp.200 / sheet. Rent land in Alahan Panjang Rp.4 million / ha / year. Organic fertilizer using is done on average only 1x per year. Rogguing is usually done before harvest, after harvest there is no sorting again. The biggest cost is in the manufacture of storage warehouses called "irok" to reach Rp.50 million with usage can reach 5 years with a capacity of 10 tons / irok.

The planting season for seeds is between April-June and October-December, while the growing season is for consumption between January-March and July-September. Usually January to May it rarely rains more dry season, especially for last year (2018). 15 days after harvest is stored in a warehouse about 1 month later sold, no dormancy, immediately replant. Some problems that often occur at the Farmer Group level include: (a). buyer complained because of the watery / moist onion, even though there was a buyer's mistake because it was placed on a tile with no basis whatsoever; (b) the storage area is not large enough, there are also 3 other farmers taking part in borrowing the warehouse of the head of the Farmer Group, so that the size of the warehouse becomes less / narrow; (c). If selling for seeds cannot receive cash, because the contractor who cooperates with the Department of Agriculture also receives no cash, so that capital in farmers becomes an obstacle, generally it can wait 1-3 months after the sale transaction; (d) farmers prefer to sell for consumption because it is directly cash and carry. Suggestions that farmers want include: (a). need technical assistance and guidance to make good seeds; (b) need assistance for building warehouses; (c). Need seed producer information or market opportunities. But the advantages of selling labeled seeds, that is, between traders and buyers (in this case farmers) can be mutually demanding or responsible for the quality of seeds in the future. Generally selling unlabeled seeds is broken selling without any responsibility between the buyer and the seller. However, the quality of labeled and unlabeled seeds is essentially the same, and more farmers cultivate unlabeled shallots, because labeled seeds are cultivated only if there are projects. Usually the selling price in Alahan Panjang sub-district can reach IDR 30,000 / kg up to IDR 35,000 / kg if in Brebes and its surroundings there is a dry season and no harvest, so the selling price in West Sumatra increases.

2. CONCLUSION

The main strategy in developing Solok Regency as a center of seed shallots production is mainly emphasized on how to use the available power to seize available opportunities markets. Some key alternative policy recommendations that can be applied include developing Integrated Crop Management (PTT) technology for site-specific shallots, developing postharvest shallots technology, opening new markets in addition to existing markets to further introduce shallots from Solok Regency, and seed breeders shallot from this location. Other policy recommendations besides the main recommendations can also be implemented to support the development of Solok Regency as a national seed shallots production center, mainly in the context of increasing farm efficiency and environmental sustainability. These things can be done especially so that the shallots farming in Solok Regency which is a new development center area can run in a sustainable manner.

Due to the limited resources available, the Central Government and Regional Governments in developing this shallot seeds production center, are advised to choose priority activities that can be carried out based on the recommendations that have been given, so that priorities in the development of shallots can be recommended in the development of the shallot area. Synergy between the central and regional governments in the use of the budget will streamline the development of the Solok Regency as a center production and will be able to support efforts to stabilize the national supply and price of shallots. Meanwhile, for local seeds that have long been cultivated by local farmers (ie SS Sakato) must be refined by purifying back again to maintain local varieties that are now almost extinct. And this must be supported by the Central Government in synergy with the local Government both technically and non-technically.

Acknowledgements

Thanks to the Management and Researchers at the Center for Socio Economic and Agricultural Policy (PSEKP), the Ministry of Agriculture for supporting us both materially and morally in carrying out our research in West Sumatra.

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