



SOCIAL AND ECONOMIC CAPITAL ON SUSTAINABILITY OF SAGO PROCESSING BUSINESS

David Oscar Simatupang, Merry Dawapa, Riza Fachrizal and Untari

Agribusiness Department, Faculty of Agriculture, Universitas Musamus, Merauke, Indonesia

ABSTRACT

The aspects of social capital and economic capital can support business sustainability, such as the sago processing business in Tambat Village, Tanah Miring District, Merauke Regency. Tambat villagers are dominated by two tribes, namely the Marind Tribe and the Mandobo Tribe who have one of their livelihoods as a sago producer. The objectives to be achieved in this study are to know the importance level of social capital aspects and sago processing capital in Tambat Village towards the sustainability of the sago starch processing business and to know the dominant aspects of the continuation of sago starch processing efforts in Tambat Village. This study uses a sample of research in the form of respondents totaling 60 respondents from a total population of 153 heads of households. The results of the research data were analyzed tabulated and described to answer the research objectives. The results of the study show that the aspects of social capital that play a dominant and primary role in the sustainability of the sago processing business are 1) the collaboration between the Marind and Mandobo tribes; 2) implementation of written rules; 3) responsibility for work as a sago processor and the role of the village in supporting business. Whereas the aspect of economic capital which has a very important role to support the sustainability of the sago starch processing business is 1) the quality of production produced, 2) maintenance and supervision of machinery, and 3) labor performance.

Keywords: Sago, capital, social, economic

Cite this Article: David Oscar Simatupang, Merry Dawapa, Riza Fachrizal and Untari, Social and Economic Capital on Sustainability of Sago Processing Business, International Journal of Civil Engineering and Technology, 10(3), 2019, pp. 273-281

<http://www.iaeme.com/IJCIET/issues.asp?JType=IJCIET&VType=10&IType=03>

1. INTRODUCTION

Sago plant (*Metroxylon sp.*) is one of the commodities of food which contains a lot of carbohydrates, so sago is a staple food for several regions in Indonesia such as Maluku,

Papua, Kalimantan and parts of Sulawesi. The area of sago in Indonesia is around 1,000,000 hectares. Papua, one of the provinces in Indonesia with the largest sago potential, even the largest in the world. The area of sago in Papua is 771,716 hectares or about 85% of the national sago forest area. The sago distribution areas in Papua are in Waropen Bawah, Sarmi, Asmat, Merauke, Sorong, Jayapura, Manokwari, Bintuni, Inawatan, and areas that have not been inventoried (Samad, 2002).

If it is examined more deeply, sago plants have great potential besides rice which can be used as staple food and various foods from the results of food diversification and this plant is very widespread in the Indonesian mainland because it is adaptable and does not require intensive care. The plant is a source of organic matter. Biodegradability of organic matter can be found in some research results (Al-Rosyid and Mangkoedihardjo, 2019; Mangkoedihardjo and April, 2012). In 1993, Indonesia experienced a shortage of basic commodities (rice), so at that time the first rice import was opened in Indonesia. Therefore, there is a need for government policies for the community to be able to diversify the consumption of food other than rice such as sago, breadfruit, corn and tubers. Sago for indigenous people of Eastern Indonesia, especially those in Papua and Maluku provinces, the main food is sago. Along with the times, information and technology, processed sago products are diverse, which are made into various processed products such as snacks as regional souvenirs. With the increasing use of sago in human life in meeting food needs, it is necessary to carry out various concrete efforts to extend the sago plant area.

One of the distributions of sago in Indonesia especially in Papua is in Merauke Regency. Merauke Regency has sago forests spread in low, humid, wet areas, swamps, and river banks. Sago as the staple food of the indigenous people of Southern Papua, namely the tribe: Marind, Mandobo, Muyu, Asmat, Mappi, Auyu. Sago consumption can be said to be high in this region, especially indigenous Papuans who still live in local villages, besides that they analyze tubers as staple food, people living in local villages have not been affected by the rapid development of introduced food from outside regions such as rice, instant noodles, corn and other introduced foods. Local people retain sago and tubers as the family's staple food because of the social culture of the community since the ancestors inherited life patterns as gatherers, namely living by utilizing natural products. Sago and tubers as already stated above do not require intensive cultivation systems so that the community. In addition to the local community, sago is also widely attracted by the community in general with its use in the form of sago flour which is processed into various processed products such as snacks or regional specialties such as papeda for Papua and Maluku, lime for Palopo specialties, Bagea as a typical Maluku island food.

Sago plants in Merauke are spread in several districts in Merauke, of the 20 districts in Merauke there are 11 districts with sago plants. One of them is in Tanah Miring District which has an area of sago palm trees covering an area of 12.6 ha. This area is still low compared to the distribution of sago in the districts of Kurik and Naukenjerai which reached 60 dd 66 ha per district from the total sago plant area in Merauke Regency 203.5 ha (BPS, 2013). For Tanah Miring district, one of the villages that has sago plants and is used by the community as a source of family life both as a family staple is also sold to the market to support the family economy, namely Tambat Village. Tambat village is one of the villages that is active in processing sago to meet the needs of the Merauke market.

Based on the description above, the objectives achieved in this study were to know the importance of social capital and sago processing capital variables in Tambat Village on the sustainability of the sago starch processing business and to know the dominant aspects of the ongoing processing of sago starch in Kampung Tambat.

2. METHODOLOGY

The research was conducted in Tambat Village in Tanah Miring District in 2015, Merauke Regency. Location determination is done intentionally with the consideration that the local community in Kampung Tambat is included in the community that is active in processing sago which is economic in nature. The population was 153 heads of households who lived in Tambat Village. The number of research samples is 60 respondents with the sampling technique randomly using the Slovin formula with a standard error of 10%. Field data was analyzed by tabulation and descriptive to be able to answer the research objectives.

3. RESULTS AND DISCUSSION

3.1. Social capital aspects of sago farmers

Social capital as one of the strategies for developing strategic networks, in a broader scope, is believed to influence economic change. Social capital based on the level of trust and emotional relationships in a group and organization can influence the level of participation and the level of welfare in the group and the level of the organization (Suwandi in Yusnitasari 2006).

Table 1. Variable aspects of social capital

Item statement		Number of respondent answer scores					Total Score
		SR	R	C	T	ST	
		1	2	3	4	5	
1.	The close relationship between members and groups	0	4	75	88	55	222
2.	The responsibility of members of the sago processing community	0	6	72	76	70	224
3.	Responsibility for work as a sago processor	0	12	57	60	100	229
4.	Implementation of written rules	0	8	60	60	110	238
5.	Rule awareness (custom)	0	12	63	64	85	224
6.	The collaboration between the Marind and Mandobo tribes	0	4	39	84	125	252
7.	The role of village officials in supporting businesses	0	10	54	80	85	229
Total							1618
Average score							231

Source: treated primary data, 2015.

Remarks: Very low (SR) given a score of 1, Low (R) given a score of 2, Enough (C) given a score of 3, High (T) given a score of 4, Very High (ST) given a score of 5.

The results of the research presented in Table 1 show that from several social aspects that encourage the sustainability of the sago processing business in Kampung Tambat that strongly supports the sustainability of the sago processing business with the highest score of 252 in terms of the cooperation between Marind and Mandobo tribes. Kampung Tambat is one of the local villages in the Tanah Miring district, which is dominated by the Marind and Mandobo tribes. The source of livelihood in general is meramu sago, hunting, and cultivation or gardening. The community in Tambat Village is familiar with cultivation, especially for

the cultivation of rice and bananas. One source of community livelihood in Kampung Tambat is gathering mixed sago or smelling sago to sell and some on self-consumption. In this case, the collaboration between the two tribes in Tambat Village in smelling sago / sago processing was very strong. Based on the results of interviews with respondents in the field that the sago which is processed into starch is already already cultivated by the local community. Sago cultivation is carried out in hamlets or customary land belonging to each tribe. Collaboration between the two tribes in the processing of sago in the felling stage of the sago tree and bringing the sago to the spot or extraction of sago starch. Because the amount of sago cultivated is still limited and many people still cut sago from the wild, where it grows on Marind tribal land. In Papuan culture, the community can only take natural products in their own customary or hamlet areas so that the processing of sago in Kampung Tambat is carried out in collaboration with the Marind and Mandobo tribes in terms of the agreement on the use of sago that grows in the Marind Tribe. In the collaboration system, the use of sago processing with a profit sharing system. The system is done because they feel they live in a group and need each other. Putri et al., 2011 stated in her study that social capital (social capital) is always colored by the tendency of mutual exchange between individuals within a group or between groups themselves. The stages of sago processing that require considerable energy, namely when the process of squeezing sago, sometimes people will help each other to do sago extortion if that is produced at that time in large quantities. This collaboration system is mutually beneficial so that they will take turns using each other's energy in processing sago in Kampung Tambat.

The second social aspect that was considered very important by the people of Kampung Tambat in supporting the sustainability of sago processing in their area was the implementation of written rules with a total score of 238 which were dominated by very high answers. Written rules are used by the community in supporting the development of the sago processing business, namely in the case of a written agreement on the system for using the sago grated machine. The sago grated machine used by the community in Kampung Tambat comes from government assistance, currently the sago grated machine in Tambat Village is 3 machines used together by the Mandobo or Marind tribes. The grate machine is operated by a special technician who operates the machine. The technical appointment was agreed upon by the two tribes because they were trained. Machine use systems that use operators are paid by the community using 2 systems, cash or also paid for with sago starch. Technicians will get a 15 kg sack after getting 6 - 9 sacks of production. So, if the starch production gets 6 - 9 sacks, the technician will get 1 sack of sago starch. One sago sack will be sold between Rp. 200,000 Rp. 250,000 / sack.

The social aspects of responsibility for work as a sago processor and the role of village officials in supporting businesses have an important and very important dominant influence with a total score of 229. The social aspects of responsibility for work as sago processing in Kampung Tambat are in the form of responsibility for processing sago and responsibility as member of the sago processing group. The production of sago starch in Kampung Tambat is a family economic livelihood which is very important to support the family's economic needs. The fulfillment of sago consumption in the Merauke market is mostly filled with production from Kampung Tambat because the quality of the sago starch is better than the sago produced from other local villages around Merauke Regency. this makes the community accountable for sago processing work to maintain the quality and quantity of sago starch produced, moreover the economic value of sago has been very competitive with other staple food commodities, namely rice. This is driven by the increasing use of sago into various forms of processed food, whether it is processed into bicycles (typical Papuan food), and other processed products such as cakes or light snacks that are commercially available on the

market. The amount of citizens' sense of responsibility for processing sago is supported by the support of village officials for the sustainability of sago processing. Village officials have a role to encourage the growth or development of sago production business by establishing communication with the district or district government to pay attention to the community in Kampung Tambat in terms of providing guidance to improve skills and provide equipment other than sago grated machines such as sago press machines and sago starch dryers so that it can be used as sago flour and can increase the shelf life of sago and increase its economic value which can encourage improvement in the family economy. In addition, sago processors are required to work actively in carrying out production, are responsible for carrying out their duties, are responsible for maintenance of sago hamlets, maintenance and maintenance of machinery, and are responsible for ecosystems around the production area so that water, plants and other living creatures are not disturbed.

Social capital aspects for the responsibilities of sago processing community members and awareness of written rules are considered by the community to have an important influence to be very important in supporting the sustainability of sago processing business in Kampung Tambat with a total score of 224. The community has a responsibility to maintain their sources of income, especially maintaining the sustainability of starch production sago which is supported by the availability of sufficient ingredients and production factors. However, this still needs attention from various parties to encourage the sustainability of processing businesses, especially to improve the quality of human resources to be able to have the ability to process sago by promoting technological innovations in producing sago starch or other processed products with the aim of increasing the economic value of sago itself. The responsibility for processing sago in Kampung Tambat is also bound by local customary rules. In processing sago into sago starch according to the Marind tribe custom as the holder of customary rights in Tambat Village that the community can take trees or the community can cut sago trees on their own land or even though the land can be said to be forest which our law can say the land belongs to the State. With the existence of special autonomy that the State acknowledges sovereignly that customary land ownership is inherited from generation to generation by their ancestors. Customary rules that apply in the community of Tambat Village that bind the pattern of life of the people in Tambat Village which are dominated by two tribes namely the Marind Tribe and the Mandobo Tribe. Customary rules are one of the most important social capitals for increasing trust in groups, mutual tolerance and as a guide in creating values in life in their environment. This is in line with what was expressed by Fanbellisa S., et.all., 2017, namely social capital is a relationship that occurs and is bound by a trust (trust), mutual understanding (mutual understanding), and shared values (shared value) which binds group members to make the possibility of joint action efficient and effective. Social and customary norms are written rules, hereditary oral rules and awareness which are aspects of social capital from sago processing, that is, sago processors are required to comply with all rules that have been made and agreed, both written rules and verbal regulations and down-regulation. generation. These rules are that the sago processors must take the sago in their respective hamlets, the price of the sago trees according to the joint conditions, the rules of the machine, which are the obligation to pay for sago, the rules for cutting sago and planting sago trees again and cleaning the environment after logging sago to obey customary rules. The other aspects of social capital are close relations or social networks that are established between members and groups, an akrab relationship between producers and traders where traders usually come directly to production sites to order and buy sago, and there are also permanent consumers.

3.2. Economic aspects of local farmers

Every effort that is carried out, of course will have a positive and negative impact. This positive and negative impact will be felt by various parties, both for the company itself, the government, or the wider community. In the economic and social aspects the positive impact provided by investment is more emphasized to the community in particular and the general government. For the community, the investment in terms of the economic aspect will provide an opportunity to increase their income. As for the government the positive impact obtained is that the economic aspect provides income for both the central government and regional governments.

Several aspects of economic capital in the development of sago processing in Tambat Village studied in the field are several things that can encourage the development of sago processing business. Data on the level of influence of several aspects of economic capital that can support the development of efforts to process sago starch are presented in Table 2.

Table 2. Variable aspects of economic capital

Item statement		Number of respondent answer scores					Total Score
		SR	R	C	T	ST	
		1	2	3	4	5	
1.	Quality of production produced	0	2	75	88	60	225
2.	Workforce performance	0	24	57	36	100	217
3.	Maintenance and supervision of the engine	0	8	60	56	110	234
4.	Business capital assistance	0	18	69	60	65	212
5.	Financial management	0	24	57	64	60	205
Total							1093
Average score							218

Source: treated primary data, 2015.

Table 2 shows that the aspect of economic capital that supports the sustainability of the sago processing business in Kampung Tambat which is considered very important by the community with the highest score with a total score of 234 is maintenance and supervision of the machine. The machine is one of the economic capital in the sago processing business carried out by the community in Kampung Tambat. The machine is one production factor that supports the increase in sago starch production both in quality and quantity. At present the sago machines used by the community are only in the form of sago grater machines which amount to 3 units managed by the group. Machines owned by the community are assistance from the central government. In management in the field, sago grater machines are treated by technicians who have been trained in operating the machine. In addition to maintenance, the monitoring system for the use of tools is the responsibility of all members to ensure the condition of the equipment is maintained and can operate properly. Maintenance costs come from the operating costs of the machines operated by the operator. The equipment used in the processing of sago starch in addition to the grated machine also uses equipment that is still manual such as axes and machetes and boats as a seat for sago that has been crushed. More sophisticated equipment and machines are needed to facilitate the production process so that production time can be faster and on target and does not require many workers to carry out the production process, making it more efficient.

The second aspect of economic capital that affects the sustainability of the sago starch processing business in Kampung Tambat is the quality of the production of sago starch produced. The total score is 225 with the dominance of answers between important and very

important. The quality of starch production will affect the sustainability of the sago starch processing business. The quality of sago production has been determined from the color of sago produced and the aroma of sago starch itself. In the sago extraction process, water plays an important role in producing the quality of sago which has a white color and good aroma. The community in Kampung Tambat takes a source of water to squeeze sago starch from the tributary of the time Maro is unsatisfactory. Poor water quality will cause the color of sago starch not white and the aroma of sago will be less delicious. In addition to water quality, the extraction process of sago starch must be considered and can reduce the quality of the resulting sago starch, namely dissolution and squeeze. If the sago stem has been shredded it must be done immediately to the next stage, namely squeezing so that the starch produced both the color of starch and the aroma of starch do not deviate. If the quality of the sago decreases, then automatically the demand for sago starch produced in the mooring village by consumers will decrease which can reduce the family's economic income.

The aspect of economic capital for labor performance is considered very important for the sustainability of the processing of the sago starch business in Kampung Tambat with a score of 100 from a total score of 217. The labor force used in the sago starch processing business in Kampung Tambat is a family workforce. Where the families are members of sago starch processing groups. Where the function of group formation is in the form of facilitating the distribution and utilization of the assistance of production factors from governing the community so that management can be controlled properly within the group. Whereas in the production of sago starch itself is carried out independently by each family by using productive family workforce, and skilled consists of father, mother or children who play a role in extracting sago starch.

Other aspects of economic capital are business capital assistance and financial management. So far, the effort to process sago starch by the people in Tambat Village uses limited capital or a source of personal or family capital. So far no party has provided venture capital to encourage the sustainability or scale-out of the business of processing sago starch. The lack of business capital has made people unable to expand the sago business scale and improve sago starch processing technology to become more modern. In this case, it is still very necessary to get the attention of various parties in terms of encouraging increased funding both for the operation or procurement of large capacity equipment or machinery in order to increase production in terms of quality and quantity of sago starch business in Kampung Tambat. In addition, the low level of education of sago processors in Kampung Tambah influences the ability of the community to manage financial management in processing sago starch to be sustainable. Business records and bookkeeping have not been carried out by the community. So that people do not know for sure how much capital is in the family each time the production and how much income and business profits in supporting the family economy. This might be the responsibility of various parties to improve the quality of human resources, especially in terms of increasing community capacity in terms of recording and bookkeeping of sago starch processing business so that it can be used as a basis for business supervision to make business plans in the future so as to ensure sustainability the effort to process sago starch in Kampung Tambat.

4. CONCLUSION

The results of the study concluded that the aspects of social capital and economic capital have a very important role in the promotion of the sustainability of sago starch processing business in Tambat Village, Tanah Miring District, Merauke Regency. Some aspects of social capital that play a major role in the sustainability of the sago processing business, namely 1) the

collaboration between the Marind and Mandobo tribes; 2) implementation of written rules; 3) responsibility for work as a sago processor and the role of the village in supporting business. Whereas the aspect of economic capital which has a very important role to support the sustainability of the sago starch processing business is 1) the quality of production produced, 2) maintenance and supervision of machinery, and 3) labor performance. In carrying out its role, social capital and economic capital to support the sustainability of the sago starch processing business in Kampung Tambat, the current economic value in the market is getting better. agribusiness, increasing community capacity to access business capital to be used to increase business capital.

REFERENCES

- [1] Al-Rosyid, LM and Mangkoedihardjo, S. 2019. Relationship between BOD/COD Ratio and Octanol/Water Partition Coefficient for Glucose, Lactose, Sucrose, Formaldehyde, Acetic Acid and Oxalic Acid. *International Journal of Civil Engineering and Technology*, 10(01), pp. 691–696.
- [2] Ariffin Zainal. 2012. *Evaluasi Pembelajaran*. PT. Remaja Rosdakarya. Bandung.
- [3] Badan Pusat Statistik. 2013. *Data Luas Tanaman Tahunan*. Tidak dipublikasikan. Merauke
- [4] Bulu G. Yohanes. 2009. *Jurnal Agro Ekonomi*, Volume 27. Pengaruh Modal Sosial dan Keterdedahan Informasi Terhadap Tingkat Adopsi Inovasi Jagung Di Kabupaten Lombok Timur Nusa Tenggara Barat. (5 April 2015)
- [5] Distrik Tanah Miring. 2013. *Data Penduduk Distrik Tanah Miring*. Tidak dipublikasikan. Merauke
- [6] Djamali, R.A., Betaubun, P. 2018. Design of Agroindustry Development Strategy Based on Fisheries Cacthe of Merauke Regency. *IOP Conference Series: Earth and Environmental Science* 207 012016.
- [7] Djoefrie.M.H.Bintoro. 2013. *Sagu Mutiara Hijau*. Digreat Publishing. Bogor.
- [8] Fanbellisa S., S. Satmoko., T. Dalmiyatun, 2017. Pengaruh Modal Sosial terhadap Keberlanjutan Gaoktan Sumber Mulyo di Desa banjaran Kecamatan Bangsri, Kabupaten Jepara. *Jurnal Sosial Ekonomi*.
- [9] Ghozali Imam. 2011. *Aplikasi Multivariate Dengan Program SPSS*. Universitas Diponegoro. Semarang.
- [10] Hakim Nukmal. 2010. *Jurnal Pembangunan Manusia* Volume 4. No 12. (12 Oktober 2015)
- [11] Harsanto P. B. 1986. *Budidaya dan Pengolahan Sagu*. Kanisius. Yogyakarta.
- [12] Ineke Nursih Widyantari, Jamhari, Lestari Rahayu Waluyati, Jangkung Handoyo Mulyo. 2018. Does the Tribe Affect Technical Efficiency? Case Study of Local Farmer Rice Farming in Merauke Regency, Papua, Indonesia, *International Journal of Mechanical Engineering and Technology* 9(11), 2018, pp. 37–47.
- [13] Kadir. 2015. *Statistika Terapan*. Raja Grafindo Persada. Jakarta.
- [14] Lestari Martina dan Sihombing Sri. 2010. Implementasi Teknologi Pengolahan Sagu Rakyat. <http://papua.litbang.pertanian.go.id> (13 April 2015)
- [15] Mangkoedihardjo, S. and April, SAL. 2012. Compost On Evapotranspiration Bed Planted With Yellow Flag For Treatment Of Wastewater Containing Anionic Surfactant. *Journal of Applied Sciences Research*, 8(3): 1630-1633.
- [16] Putri Ica Febrianti dan Hamid Hidayat, 2011. Analisis Persepsi Modal Sosial (Sosial Capital) dan Hubungannya dengan Eksistensi Kelompok Tani (Kasus pada kelompok

- Tani Wanita “Sri Sejati 2”, Desa Junrejo, Kecamatan Junrejo, Kota Batu). Wahana. Vol. 14, No. 1. E-issn:12338-1884.
- [17] Arpit Shukla and Dr. Sudhir Y Kumar, A Review on Exergy, Life Cycle and Thermo Economic Analysis of Sugar Industry, International Journal of Mechanical Engineering and Technology 8(10), 2017, pp. 108–119.
- [18] Santoso dan Singgih.2004. Buku Latihan SPSS Statistik.PT. Elex Media Komputindo Gramedia. Jakarta.
- [19] Sawitri Dewi dan Soepriadi Ishma.2014.Jurnal Perencanaan Wilayah dan Kota, Volume 25.Modal Sosial Petani Dan Perkembangan Industri Di Desa sentra Petanian.(5 april 2015)
- [20] Sektor Pertanian. 2011. <http://sidikaurora.wordpress.com/2011/03/24/sektor-pertanian/>
- [21] Sendana Gede. 2013. Jurnal Modal Sosial Dalam Pengembangan Agribisnis Petani. (5 April 2015)
- [22] Sugiyono. 2005. Metode Penelitian Bisnis Edisi Revisi. CV. Alfabeta. Bandung.
- [23] Sugiyono. 2013. Metode Penelitian Bisnis. Alfabeta. Bandung.
- [24] E. V. Ziuzya, O. Yu. Voronkova, D.K. Umirzakova, V. I. Rakovskiy, P. A. Qurbanov and A.V. Kazakov, A Methodological Approach to Assessing the Efficiency of the Economic Mechanism for Formation and Development of Intersectoral Linkages, International Journal of Civil Engineering and Technology, 10(02), 2019, pp. 920–925
- [25] Sugiyono.2007. Statistik Untuk Penelitian. Alfabeta. Bandung.
- [26] Sukino.2013. Membangun Pertanian Dengan Pemberdayaan Masyarakat Tani.Pustaka Baru Press.Yogyakarta.
- [27] Supriyono, R.A. 1999. Manajemen Biaya Suatu Reformasi Pengelolaan Bisnis. BPFEE.Yogyakarta.
- [28] Wahid, R.A. dan Lestari, S.M. 2009.Jurnal Litbang Pertanian 28(2). Pemanfaatan Pangan Lokal Sebagai Sumber Pangan Alternatif Di Papua. (5 April 2015)
- [29] Wiraatmadja Soekandar. 1981. Pokok-Pokok Penyuluh Pertanian. CV. Yasaguna. Jakarta
- [30] Wuysang Rendy.2014. Jurnal Acta Diurna, Volume III, No 3.Modal Sosial Kelompok Tani Dalam Meningkatkan Pendapatan Keluarga. (5 April 2015)