The study was conducted in December 2019. The population in this study were all soybean farmers, amounting to 49 people. Determination of the sample used census method. Types and sources of data in the study included primary data and secondary data. The data collection techniques used in the study were direct interviews with respondents and literature studies. The variables in the study included income, tradable inputs, non-tradable inputs, production, private prices, and social prices. The data analysis used was the Policy Analysis Matrix (PAM). The results showed that soybean farming in Landawe Sub-District, North Konawe District had competitiveness, namely the value of the private cost ratio (Private Cost Ratio) of 0.30 which is smaller than one, which means that to produce a product, a smaller additional cost is required. However, it does not have comparative competitiveness because the value of the ratio of domestic resource cost ratio was greater than one, namely 5.07 which means inefficient farming.

**Keywords**: competitiveness; farming; soybeans.

**INTRODUCTION**

Agriculture is still a sector that plays an important role in improving the regional economy. To develop the agricultural sector, Indonesian government has set the direction of national food policy as an effort to encourage food security that is independent and sovereign with various programs, including determining food commodities as a staple and strategic food which is a top priority in achieving food self-sufficiency. One of them is the development of soybean commodities (Hermanto et al., 2015). Based on data issued (Pangan, 2012), it was explained that the national demand for soybeans each year is on the average of 2,300,000 ton, while domestic soybean production is only able to meet the needs of 907,031 tons (41.22%). This means that domestic soybean production is still low, so it has not been able to meet the increasing demand for soybeans every year.

Southeast Sulawesi Province is one of the potential areas for soybean plant development so that it is expected to be able to contribute to meet the national demand for soybeans through land expansion. Data from the Central Statistics Agency for the last five years shows that the production and a land area of soybean plants in Southeast Sulawesi have decreased from 12,799 tons with an area of 7,888 hectares in 2015 to 1,540 tons with an area of 5,421 hectares in 2019 (BPS, 2013). Seeing these conditions, it does not rule out that to meet the demand for national and local soybeans, regions must import soybeans from abroad because currently, Southeast Sulawesi has not been able to contribute significantly to national soybean production.

One area in Southeast Sulawesi that has contributed to increasing soybean production is in Landawe Sub-District, North Konawe District, which makes soybean farming as a source of livelihood for the community by utilizing agricultural assets so that soybean farming that is cultivated by the community has the opportunity to have good competitiveness. (Sarwono & Pratama, 2014). Soybean farms are planted simultaneously in one season and in the same area as other crops such as corn and peanuts. The decline in soybean harvesting areas is due to competition for land use with
competing crops such as corn and peanuts. The consequence is that land use for competing crops will automatically reduce the harvested area for soybean crops, because the land used is the same land, while to maintain soybean competitiveness, soybean farming must have high productivity (Saraswati et al., 2011). In addition to low land use which causes weak competitiveness of soybean crops, the increase in the price of competitor crops also affects the competitiveness of soybean farming. Theoretically, an increase in the price of competing crops will encourage farmers to plant these commodities, causing the potential for soybean production to decrease due to the lack of public interest in soybean farming (Simatupang et al., 2005). The price of soybean plants in other areas will also affect the competitiveness of soybeans so that in some areas, soybeans tend to be uncompetitive (Sukmaya et al., 2017), but in some other areas, they are efficient and have sufficient competitive advantages (Zakaria et al., 2016). Based on data issued (FAO, 2004), it shows that in terms of market price competition, it turns out that the real price of imported soybeans is much cheaper than domestically produced soybeans. As long as the price of imported soybeans is low, the flow of imports will be heavier so that the price of domestically produced soybeans will decrease. Based on these conditions, the purpose of this study was to analyze the competitiveness of soybean farming in Landawe Sub-District, North Konawe District.

**MATERIALS AND METHOD**

The research was conducted in Landawe Sub-District, North Konawe District in December 2019. The study population was all soybean farmers, totaling 49 people. Determination of the sample used census method with the consideration that taking the entire population as a research sample if the population is less than 50 people (Rianse & Abdi, 2009). Types and sources of research data included primary data and secondary data. Research data collection techniques were direct interviews and literature studies. Research variables included income, tradable inputs, non-tradable inputs, production, and private prices, and social prices. The data analysis used was the Policy Analysis Matrix (PAM) (Pearson et al., 2005).

**Competitive advantage**

The competitive advantage of soybean farming was analyzed using the Private Cost Ratio (PCR). Mathematically:

\[
PCR = \frac{C}{A - B}
\]

Information:
- PCR = Private Cost Ratio
- A = Acceptance at Private Prices
- B = Tradable Input Costs at Private Prices
- C = Non-Tradable Input Costs at Private Prices

Criteria:
- PCR < 1, meaning soybean farming has a competitive advantage.
- PCR > 1, meaning that soybean farming has no competitive advantage.

**Comparative Advantage**

The comparative advantage of soybean farming was analyzed using the Domestic Resource Cost Ratio (DRCR). Mathematically, it is formulated as:

\[
DRCR = \frac{G}{E - F}
\]

Information:
- DRCR = Domestic Resources Cost Ratio
- E = Acceptance at Social Prices
- F = Tradable Input Costs at Social Prices
- G = Non-Tradable Input Costs at Social Prices

Criteria:
- DRCR < 1, meaning that soybean farming has a comparative advantage.
- DRCR > 1, meaning that soybean farming does not have a comparative advantage.
RESULTS AND DISCUSSION

The competitiveness of soybean farming was measured based on competitive advantage and comparative advantage through private price and social price approaches. The discussion of the shadow price is described as follows:

**Shadow Pricing**

The use of input and output factors in soybean farming is a foreign component and a domestic component calculated based on private and social prices. The use of private prices in conducting economic analysis often does not represent the real situation (Aliyatillah, 2009). Therefore, any use of input and output used in the economic analysis must first subject to the level of social prices. Determination of the input and output shadow prices are explained based on the following sections.

**Output Shadow Prices**

The approach to the output shadow price was determined based on the border price, namely the FOB (Free on Board) price for commodities that were oriented towards export activities, then multiplied by the shadow exchange rate (SER) price. The FOB price of soybean was 0.6 US$/kg (BPS, 2019). Meanwhile, the price of the shadow exchange rate (SER) is IDR. 11,269 per dollar, which was then reduced by trading costs and distribution costs from the farm location to the export destination port of IDR. 35 kg so that the shadow price of soybeans was IDR. 6,593/kg.

**Input Shadow Price**

The use of inputs in soybean farming activities included urea fertilizer, TSP fertilizer, pesticides, gasoline, machetes, hoes, tanks, sacks, and tarpaulin. An illustration of the shadow input price can be seen in Table 1.

Table 1. Image price of soybean farming in Landawe Sub-District, North Konawe District in 2019

| No. | Input       | Unit    | Shadow Price |
|-----|-------------|---------|--------------|
| 1   | Urea Fertilizer | IDR/Kg  | 24.792       |
| 2   | TSP fertilizer | IDR/Kg  | 24.792       |
| 3   | Pesticide    | IDR/Liter | 156.414     |
| 4   | Fuel         | IDR/Liter | 5.522       |
| 5   | Machete      | IDR/Pcs  | 100.000      |
| 6   | Hoe          | IDR/Pcs  | 100.000      |
| 7   | Tank         | IDR/Unit | 600.000      |
| 8   | Bag          | IDR/Pcs  | 5.000        |
| 9   | Tarpaulin    | Rp/Unit  | 350.000      |

Source: Secondary Data Processed, 2019.

Table 1 shows that there were 9 inputs used in soybean farming activities. The input was divided into two groups based on the method of determining the shadow price, namely internationally traded inputs such as urea fertilizer, TSP fertilizer, pesticides, and gasoline. Meanwhile, domestic inputs or inputs that were not traded internationally were machetes, hoes, tanks, sacks, tarpaulin, and labor.

The shadow price of internationally traded inputs such as urea and TSP fertilizers was based on the CIF (Cost Insurance and Freight) value of 2.2 US$/kg multiplied by the shadow exchange rate of IDR. 11,269/US $, then the shadow price for fertilizer input was IDR 24,792/kg. The shadow price of pesticides based on the CIF value was 13.88/US $ multiplied by the image exchange rate to obtain IDR 156,414/liter. The shadow price of gasoline based on the CIF value was 0.49/US $ multiplied by the image exchange rate to get IDR 5,522/liter. Meanwhile, the use of other inputs such as machetes, hoes, tanks, sacks, and tarpaulins used in soybean farming activities was not traded internationally so that the approach used for determining the shadow price was the same as the price prevailing or accepted by farmers.

**Price of Shadow Labor Input**

The labor used in soybean farming activities was uneducated labor or workers who used physical abilities to work. Determination of the shadow price for uneducated workers was adjusted to the average wage of workers multiplied by the unemployment rate at the research location. The shadow price of labor can be seen in Table 2.
Table 2. Shadow input prices for labor in soybean farming activities in Landawe Sub-District, North Konawe District in 2019

| No. | Activities                        | Soybean (IDR / Working Day) |
|-----|-----------------------------------|------------------------------|
| 1   | Planting                          | 320.179                      |
| 2   | Land Clearing                     | 326.000                      |
| 3   | Fertilization                     | 326.000                      |
| 4   | Pest and Disease Control          | 349.286                      |
| 5   | Spraying                          | 357.048                      |
| 6   | Harvesting                        | 326.000                      |
|     | **Total**                         | **2,004.513**                |
|     | **Average**                       | **334.086**                  |

Source: Secondary Data Processed, 2019.

Table 2 shows that activities that used labor in soybean farming included planting, clearing land, fertilizing, controlling pests and diseases, spraying, and harvesting. The average shadow price for labor input used was IDR 334,086 per person working day. Determination of the shadow price of labor in soybean farming was obtained from the multiplication of the average labor wage, which was IDR 102,480 per HOK multiplied by the unemployment rate of 3.26%. Based on these conditions, it can be concluded that in addition to the use of the number of people working, working days and working hours, one of the factors that determine the size of the shadow price of labor was the high and low unemployment rate in the research location.

Policy Analysis Matrix (PAM)

The competitiveness of soybean farming was determined based on the Policy Analysis Matrix (PAM) method, which consisted of two indicators, namely indicators of competitive advantage and comparative advantage. In the indicators of competitive advantage, the approach was based on private prices, and the comparative advantage was based on social prices. An overview of the Policy Analysis Matrix can be seen in Table 3.

Table 3. Policy analysis matrix of soybean farming in Landawe Sub-District, North Konawe District in 2019

| Description         | Revenue (Rp/Season) | Cost (IDR/Season) | Income (IDR/Season) |
|---------------------|---------------------|-------------------|---------------------|
|                     | Input Tradable      | Input Non Tradable|                     |
| Private Price       | 8.150.000           | 3.532.143         | 1.364.422           | 3.253.435         |
| Social Pricing      | 7.676.136           | 8.229.856         | 2.807.289           | -3.361.009        |
| Effect of Divergences| 473.864            | -4.697.713        | -1.442.867          | 6.614.445         |

Source: Secondary Data Processed, 2019.

Table 3 shows that in soybean farming activities there was a negative divergence in the use of input costs for both tradable and non-tradable inputs. The negative divergence showed that the existence of government policies caused the private prices of domestic and foreign inputs to be lower than the social prices.

Private Benefits

The private profit of soybean farming illustrates the large amount of profit received by soybean farmers at the price prevailing at the farmer level at the time of the research. The results of the Policy Analysis Matrix (PAM) showed that the private profit generated in soybean farming activities was IDR 3,253,435/season. This condition illustrated that the management of soybean farming based on the prevailing price at the farm level was still able to provide benefits. Apart from a description of this situation, private profits also indicated the fact that soybean was still able to compete with other food commodities at the price level prevailing in the research location.

Social Benefits

The social benefits of soybean farming activities illustrate the benefits received by farmers if the soybean plant is traded internationally. This means that the price used was a social price. This condition was also an indicator that the soybean plant was able to compete with other commodities in foreign countries under these social price conditions. The results of the Policy Analysis Matrix (PAM) showed that the social benefits generated by soybean farming were negative IDR 3,361,009. The results of the analysis of social benefits in the Policy Analysis Matrix (PAM) method illustrate that...
social revenues and the use of input costs at social prices were higher than those at private prices. So this shows the position of soybean competitiveness is quite weak when using the price prevailing in the global market.

Analysis of Soybean Competitiveness

The competitiveness of soybean farming was analyzed based on two main indicators, namely competitive advantage calculated using private prices and comparative advantage calculated using social prices. Regarding the competitiveness of soybean farming as seen in Table 4.

Table 4. Parameters of competitive and comparative advantage of soybean farming in Landawe Sub-District, North Konawe District in 2019

| No. | Parameter                  | Value |
|-----|----------------------------|-------|
| 1.  | Competitive Advantage (PCR)| 0.30  |
| 2.  | Comparative Advantage (DRCR)| 5.07  |

Source: Secondary Data Processed, 2019.

Table 4 shows that soybean farming activities had competitiveness in private price conditions or competitive advantage. However, viewed based on social price, it did not have a comparative advantage. This is based on the value of the Private Cost Ratio (PCR) which was smaller than one and the value of the Domestic Resource Cost Ratio (DRCR) greater than one. The smaller the PCR and DRCR values, the higher the level of competitive and comparative advantage of the farm (Fadli et al., 2017). Regarding the competitive and comparative advantages in soybean farming is described based on the following sections.

Competitive advantage

The competitive advantage of soybean was indicated by the value of the private cost ratio (PCR) and private profit (Private Province/PP). The PCR value for soybean farming was 0.30. This shows that to get one unit value-added output at the private price, an additional domestic factor cost of 0.30 is required. Based on the PCR value, it can be concluded that soybean farming had a competitive advantage. This illustrates that the soybean farming production system can pay for its domestic factors. Meanwhile, the private profit value of soybean farming was IDR 3,253,435/season which was the nominal value that would be obtained if the soybean plant was still cultivated. Thus, soybean farming is profitable privately and can compete at the private price level or the price prevailing at the farmer level.

Comparative Advantage

Comparative advantage is one indicator to assess whether soybean plants are competitive, able to develop without government assistance, and have large export opportunities. The value of the Domestic Resource Cost Ratio (DRCR) was 5.07. This indicates that to get one unit value-added output at the social price, an additional domestic resource cost of 5.07 is required. This means that to produce soybean plants, it requires domestic resource costs of 50.7% of the required import costs. In other words, soybean farming was not economically efficient and did not have a comparative advantage, namely that the DRCR value was greater than one. It is suspected that this is due to the abundance of imported soybeans that are available at any time which causes the competitiveness of domestic soybeans to below. On the other hand, the weakening of soybean competitiveness was followed by the development of competing crops such as corn and peanuts. A strategy to increase competitiveness is needed by taking into account determinants (Krisdiana, 2012). For this reason, a strategy to increase soybean competitiveness needs to be emphasized on efforts to fulfill determinant factors in selecting a commodity. Another effort in order to increase competitiveness is the use of superior varieties in accordance with user preferences. This condition is supported by a statement (Krisdiana & Heriyanto, 2001) which states that the industry’s point of view as users and traders is different. Traders are more concerned with purchasing prices but less considerate of user preferences, resulting in a decrease in soybean commodity competitiveness because it does not match the needs (demands) of users. As a result, users will look for suitable soybeans, for example choosing imported soybeans.
CONCLUSIONS

Based on the results of the study, it can be concluded that soybean farming in Landawe Sub-District, North Konawe District has competitiveness, namely the value of the private cost ratio (Private Cost Ratio) of 0.30 is smaller than one, which means that to produce a product, a smaller additional cost is required. However, it does not have comparative competitiveness because the value of the Domestic Resource Cost Ratio is greater than one, namely 5.07 which means that farming is inefficient.

REFERENCES

Aliyatillah, F. M. (2009). Analisis Daya Saing dan Dampak Kebijakan Pemerintah terhadap Komoditas Kakao (Kasus: PTPN VIII Kebun Cikumpay Afdeling Rajamandala Bandung) Institut Pertanian Bogor.
BPS. (2013). Sulawesi Tenggara dalam Angka. Badan Pusat Statistik.
BPS. (2019). Bulan Statistik Perdagangan Luar Negeri Menurut Kelompok Komoditi dan Negara. Badan Pusat Statistik Indonesia.
Fadli, Pambudy, R., & Harianto. (2017). Analisis Daya Saing Agribisnis Rumput Laut di Kabupaten Lombok Timur. Jurnal Agribisnis Indonesia, 5(2), 89-102.
FAO. (2004). Socio-Economic Analysis and Policy Implications of the Roles of Agriculture in Developing Countries. Summary Report Roles of Agriculture Project.
Hermanto, Azahari, D. H., Rachmat, M., Ilham, N., Kariyasa, I. K., Supriyati, Setiyanto, A., Yofa, R. D., & Yusuf, E. S. (2015). Laporan Analisis Kebijakan Tahun 2015: Outlook Komoditas Pangan Strategis Tahun 2015-2019. Badan Penelitian dan Pengembangan Pertanian.
Krisdiana, R. (2012). Daya Saing dan Faktor Determinan Usahatani Kedelai di Lahan Sawah. Penelitian Pertanian Tanaman Pangan, 31(1), 6-12.
Krisdiana, R., & Heriyanto. (2001). Karakter Penentu dan Model Transaksi Dalam Pemasaran Komoditas Kedelai di Jawa. Makalah Seminar Nasional Pengembangan Teknologi Pertanian di BPTP.
Pangan, D. J. T. (2012). Pedoman Teknis SL-PTT Kedelai Tahun 2012. Direktorat Budidaya Aneka Kacang dan Umbi Direktorat Jenderal Tanaman Pangan.
Pearson, S., Gotsch, C., & Bahri, S. (2005). Aplikasi Policy Analysis Matrix Pada Pertanian Indonesia. Yayasan Obor.
Rianse, U., & Abdi. (2009). Metodologi Penelitian Sosial dan Ekonomi Teori dan Aplikasinya. Alfabeta.
Saraswati, R., Sutrisno, S., & Adisarwanto, T. (2011). Analisis Daya saing Kedelai Terhadap Tanaman Padi dan Jagung. Buana Sains, 11(1), 97–102.
Sarwono, & Pratama, W. (2014). Analisis Daya Saing Kedelai Indonesia. JEJAK Journal of Economics and Policy, 7(2), 100–202. https://doi.org/10.15294/jejak.v7i1.3596
Simatupang, P., Marwoto, & Swastika, D. K. S. (2005). Pengembangan Kedelai dan Kebijakan Penelitian di Indonesia. Lokakarya Pengembangan Kedelai di Lahan Sub Optimal di BALITKABI.
Sukmaya, S. G., Rachmina, D., & Saptana, S. (2017). Analisis Daya Saing Dan Dampak Kebijakan Pemerintah Terhadap Komoditas Kedelai Vs Pengusahaan Kedelai Di Kabupaten Lamongan, Jawa Timur. Forum Agribisnis, 6(1), 21–52. https://doi.org/10.29244/fagb.6.1.21-52
Zakaria, A. K., Sejati, W. K., & Kustiari, R. (2016). Analisis Daya Saing Komoditas Kedelai Menurut Agro Ekosistem: Kasus di Tiga Provinsi di Indonesia. Jurnal Agro Ekonomi, 28(1), 21. https://doi.org/10.21082/jae.v28n1.2010.21-37