

## THE SUSTAINABILITY ANALYSIS OF THE CHRYSANTHEMUM FLOWER BUSINESS IN BANDUNGAN SUB-DISTRICT SEMARANG DISTRICT

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### ABSTRACT

Chrysanthemums are ornamental plants with the most production in Indonesia in 2021, amounting to 344,031,088 stalks. One of the largest chrysanthemum producers in Indonesia is the province of Central Java. Bandungan District, Semarang Regency is the largest contributor to chrysanthemum production in Central Java. Bandungan District has a harvest area of 1,692,000 m<sup>2</sup> and the highest chrysanthemum production of 121,135,000 stalks compared to other districts, but the productivity is low at 71 stalks / m<sup>2</sup> and has an impact on the low profits obtained by chrysanthemum flower farmers. The chrysanthemum business in Bandungan District has the potential to continue to be increased. This can be seen from the strategic role of Bandungan District as the main producer of chrysanthemums in Semarang Regency and in Central Java Province. The demand for chrysanthemum flowers in the market is very high, resulting in the growth of the chrysanthemum flower business is increasing. So efforts are needed to realize the sustainability of the chrysanthemum flower business. The study aims to analyze the sustainability of the chrysanthemum business in terms of social, economic and environmental aspects. The number of samples taken was 72 chrysanthemum farmers by proportional random sampling in three villages which represented the largest land area. Multidimensional Scaling (MDS) analysis with the Rapfish approach is used to see the sustainability status of the chrysanthemum business based on three dimensions, namely social, economic and environmental aspects. Based on the results of the study, the status of the social dimension of the sustainability of the chrysanthemum flower business is classified as less sustainable, with a score of 46.53; the status of the economic dimension is classified as good or very sustainable, the value is 88.35; and the status of the environmental dimension is classified as less sustainable, the value is 27.94.

**Keywords:** *chrysanthemum flower, profitability, sustainability*

### BACKGROUND

Chrysanthemums are ornamental plants with the most production in Indonesia in 2021, amounting to 344,031,088 stalks. One of the largest chrysanthemum producers in Indonesia is the province of Central Java. Bandungan District, Semarang Regency is the largest contributor to chrysanthemum production in Central Java. Bandungan District has a harvest area of 1,692,000 m<sup>2</sup> and the highest chrysanthemum production of 121,135,000 stalks compared to other districts, but the productivity is low at 71 stalks / m<sup>2</sup> and has an impact on the low profits obtained by chrysanthemum flower farmers. The chrysanthemum business in Bandungan District has the potential to continue to be increased. This can be seen from the strategic role of Bandungan District as the main producer of

chrysanthemums in Semarang Regency and in Central Java Province. The demand for chrysanthemum flowers in the market is very high, resulting in the growth of the chrysanthemum flower business is increasing. So, efforts are needed to realize the sustainability of the chrysanthemum flower business.

The chrysanthemum business in Bandungan District has the potential to continue to be developed. This can be seen from the strategic role of Bandungan District as a chrysanthemum producing center in Semarang Regency and Central Java Province. The demand for chrysanthemum flowers tend to increase, this can be seen from the increase in the harvest area of chrysanthemum flower businesses in Bandungan Regency, especially in 2020, from 1,567,935 m<sup>2</sup> to 1,852,100 m<sup>2</sup> in 2021 (BPS, 2022). Facts in the field also show that the high contribution of chrysanthemum business income to the total income of farmer households is 59.34% (Maghfira et al. 2017). The social potential of chrysanthemum flower business can be seen from the number of chrysanthemum flower growers. Based on the current conditions and situation in Bandungan District, there are 360 chrysanthemum flower farmers. In addition, some chrysanthemum farmers in Bandungan District has made their chrysanthemum seeds. Chrysanthemum flower farmers in Bandungan District has also followed the development of the area, namely as an area or natural tourism area. This is evidenced by the existence of several special tourist areas for chrysanthemums in Bandungan District.

Economic potential can be seen from the income, profitability, and land area of the chrysanthemum flower business. The average land area of chrysanthemum flowers in Bandungan district is 1,111 m<sup>2</sup>. The minimum area of a chrysanthemum flower business required to obtain an income of \$ 3,500 in one year is 908.39 m<sup>2</sup>. Meanwhile, to obtain an income of \$ 2,000, a minimum area of chrysanthemum flower business of 519.08 m<sup>2</sup> is required (Ridwan et al., 2005). In 2017, the profitability of chrysanthemum farming in Bandungan District was 86.03% higher than the bank interest rate for 4 months, which was 1.67% (Maghfira et al. 2017). The potential of the environmental aspects of chrysanthemum business in Bandungan District is seen from the fertility of the land, some chrysanthemum flower farmers have used organic fertilizers. Judging from the application of the agribusiness system. Some farmers have implemented agribusiness systems from the upstream aspect, namely by making seeds. However, no farmer has implemented an agribusiness system from the downstream aspect, namely post-harvest processing of chrysanthemum plants. Some farmers still sell chrysanthemums in the form of cut flowers.

Based on conditions in the field, the demand for chrysanthemums in Bandungan District will be a lot but farmers have not been able to meet market demand related to the variety of types and colors of chrysanthemums. The resulting chrysanthemum flower seedlings are not yet diverse. Judging from the environmental aspect, most chrysanthemum flower growers still use chemical fertilizers and pesticides. The use of chemical fertilizers also causes a decrease in land quality because it is degraded from excessive use of inorganic fertilizers so soil fertility decreases (Herdiyantoro & Setiawan, 2015). Then it causes the productivity of chrysanthemum flowers to decrease and production costs to increase, causing the profits obtained by chrysanthemum flower growers to also decrease. Excessive use of chemical pesticides can also increase the attack of plant-disturbing organisms that are resistant to the use of these chemical pesticides (Chrisdiyanti & Yuliawati, 2019). Judging from the social aspect, most chrysanthemum flower farmers have not made organic fertilizers and organic pesticides. Then there is no counseling on the manufacture of organic fertilizers and pesticides. There is no counseling about marketing chrysanthemum products offline or online. There is no extension on making processed

products from chrysanthemum flowers. Judging from the economic aspect, most chrysanthemum flower farmers have not made and sold chrysanthemum flower seeds, organic fertilizers, and organic pesticides. There is no marketing and sale of chrysanthemum products online or through social media and only sold offline either to middlemen or sold directly in the market. This is because farmers are in the comfort zone, where offline sales are felt by farmers to be quite profitable. Then there are no institutions or partners that cooperate with chrysanthemum flower growers. Through this research, it is hoped that recommendations can be produced to chrysanthemum flower business actors and others as well as to the government in order to realize the sustainability of the chrysanthemum flower business in the future.

## RESEARCH METHODS

This study was conducted in Bandungan District, Semarang Regency in 15 March – 15 May 2023. A survey method was applied for this study. Based on data from BPP Bandungan District in 2020 the population in this study is all farmers who are owners and/or tenants who cultivate chrysanthemums with a total of 260 farmers spread across 3 villages, namely Candi Village (78 farmers), Kenteng Village (95 farmers) and Duren Village (87 farmers). A sample is a portion of the number and characteristics possessed by that population (Sugiyono, 2017). The sampling technique is carried out randomly. Sampling of the study population was carried out using the slovin formula with an error rate of 10%. Then the number of farmer samples was obtained as many as 72 samples. Furthermore, to determine the sample in each village, the proportional random sampling method was used for villages that have the largest area of chrysanthemum producing land in Bandungan District, namely in Candi Village, Kenteng Village, and Duren Village. According to Arikunto (2010) explained that proportional random sampling is a proportional sampling technique to obtain a representative sample, taking subjects from each region or strata is determined to be balanced or proportional to the number of subjects from each region or strata. The number of samples for each village is 22 samples for Candi Village, 26 samples for Kenteng Village, and 24 samples for Duren Village. Primary data and secondary data were used for this study. Primary data were gathered through questionnaires and interviews, while secondary data were gathered from the outcome of earlier research and other sources.

Sustainability analysis was conducted using a multidimensional scaling (MDS) approach with the Rapfish (Rapid Assessment Techniques for Fisheries) method (Susanto et al. 2022). Analysis of chrysanthemum business sustainability in Bandungan District is a statistical technique for rapid appraisal. The tool used is Rapfish, so the approach is Rapfish rapid appraisal technique (Rapfish analysis) for chrysanthemum flower business in Bandungan District. Rapfish was developed in 1998 at the Fisheries Centre at the University of British Columbia to evaluate fisheries sustainability from various aspects / attributes namely social, economic, ecological, ethical and technological (Wibowo et al., 2007). According to Noviani & Setiawati (2021) explained that the Rapfish application is a third-party application using excel as a place to set the ALSCAL Algorithm. According to Mailena et al. (2021) explained that this multidimensional scaling (MDS) approach performs multidimensional transformations into 2 dimensions and determines the relative aspect of sustainability between 2 extreme points in bad (0%) and good (100%) ordinations for each dimension and combined dimensions.

Analysis of the sustainability status of the chrysanthemum flower business in Bandungan District with the Rapfish technique is carried out with the following stages: a) Analysis of data related to

chrysanthemum cultivation based on the results of surveys in the field, and literature studies; b) Determine attributes and scores on each social, economic and environmental dimension which refer to the Rapfish literature, c) Scoring each attribute through observations, interviews and literature studies, d) Conducting multidimensional scaling (MDS) analysis to determine coordination and stress values through ALSCAL Algorithm using MS excel-based Rapfish software, e) Rotating to determine the position of attributes in the bad and good ordination, and f) Conducting Leverage analysis to determine attribute sensitivity and Monte Carlo analysis to take into account the uncertainty aspect (Riza et al. 2019). The attributes of the social dimension are the receipt of production sarpras information, the procurement of production sarpras, the receipt of cultivation system information, farmer cooperation in the cultivation process, participation in extension activities, the receipt of information & post-harvest, and farmer cooperation in postharvest & marketing. The attributes of the economic dimension are capital sarpras upstream activities, upstream labor, sarpras needs upstream activities, sales & profits of chrysanthemum seeds, sales of chrysanthemum seeds based on media, capital cultivation activities (on farm), cultivation labor (on farm), sarpras cultivation needs (on farm), land ownership status, sarpras capital downstream activities, postharvest activity labor, postharvest activity sarpras needs, sales & harvest profits, as well as the sale of chrysanthemum flowers by the media. The attributes of the environmental dimension are making chrysanthemum seeds, making organic fertilizers, making organic pesticides, using chrysanthemum seeds, using organic fertilizers, using organic pesticides, collecting chrysanthemum harvests, and post-harvest handling of chrysanthemums.

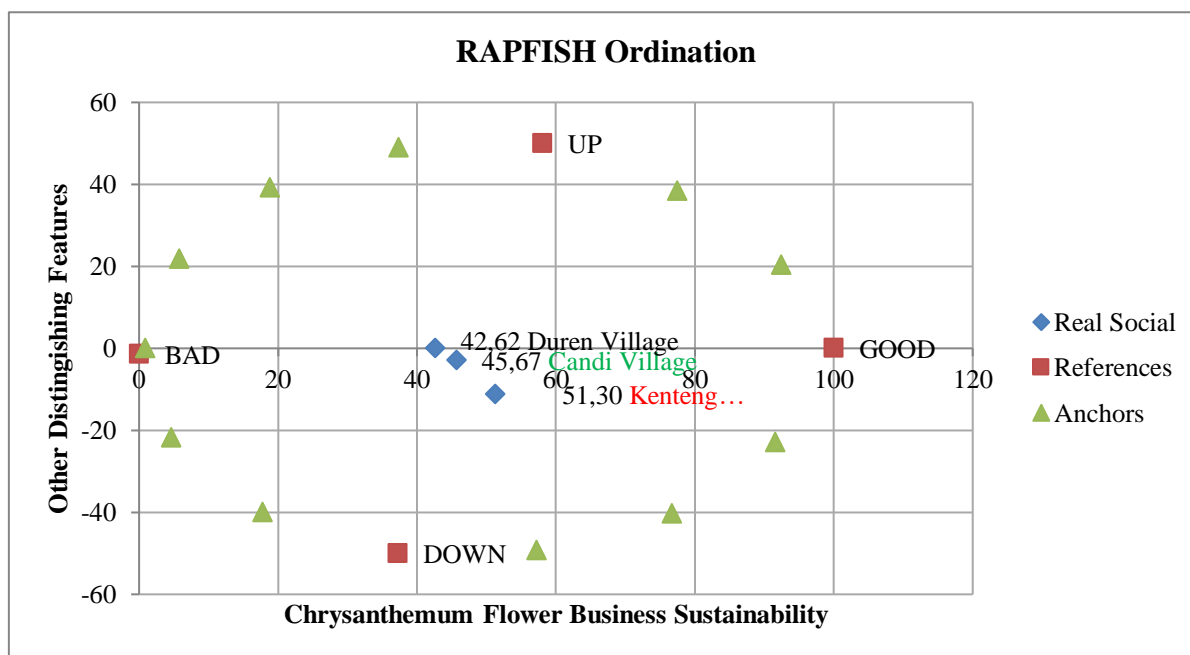
The sustainability index values and sustainability status are grouped into four categories: 0.00-25.00% (unsustainable), 25.01-50.00% (less sustainable), 50.01-75.00% (moderately sustainable), and 75.01-100.00% (very sustainable). A stress value of less than 0.25 and an R-squared (RSQ) close to 1 indicate the correctness of the measurement model (good fit) for each dimension and attribute in the MDS (Ramadhanty et al. 2022). In addition, leverage analysis is used to identify attribute sensitivity to sustainability through changes in the Root Mean Square (RMS) in ordination on the X-axis. The error rate of sustainability analysis is predicted using Monte Carlo analysis with a confidence interval of 95%. Monte Carlo analysis also serves to test the stability and accuracy of attributes in this study (Maulidah & Muhaimin, 2021).

## RESULT AND DISCUSSION

The sustainability analysis of chrysanthemum flower business in Bandungan District has a multidisciplinary nature because it includes several dimensions such as economic, social, and environmental. Economic dimension, sustainability seen from the economic dimension is interpreted as a system that must be able to produce goods and services continuously to maintain business sustainability and to avoid sectoral imbalances that damage agricultural and industrial production. In addition, it is also to obtain income and profits from the business. Social dimension, sustainability seen from the social dimension is interpreted as a system that is able to achieve equality, provide adequate social services including education, gender equality, as well as accountability and political participation. Environmental dimension, sustainability seen from the environmental dimension is defined as an environmental sustainability system that must be able to maintain a stable resource base, avoid overexploitation of natural resources and environmental absorption functions (Mucharam et al., 2022).

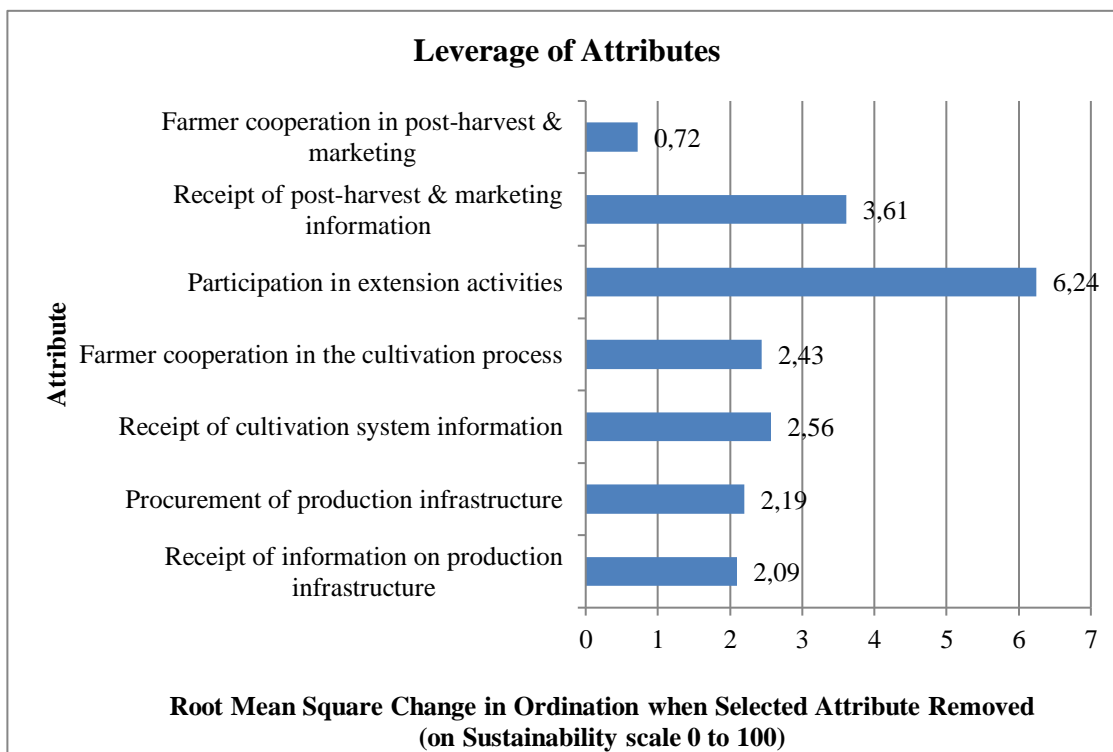
**Index Value and Sustainability Status of Social Dimension**

The sustainability value of the chrysanthemum flower business in Bandungan District for the social dimension can be seen in Figure 4.1 shows the average sustainability value of the social dimension of 46.53, so it can be concluded that the social dimension of the chrysanthemum flower business in Bandungan District is less sustainable because the value is between 25.01 and 50.00.



**Figure 1.** Social Dimension RAP-CFB Ordination Graph

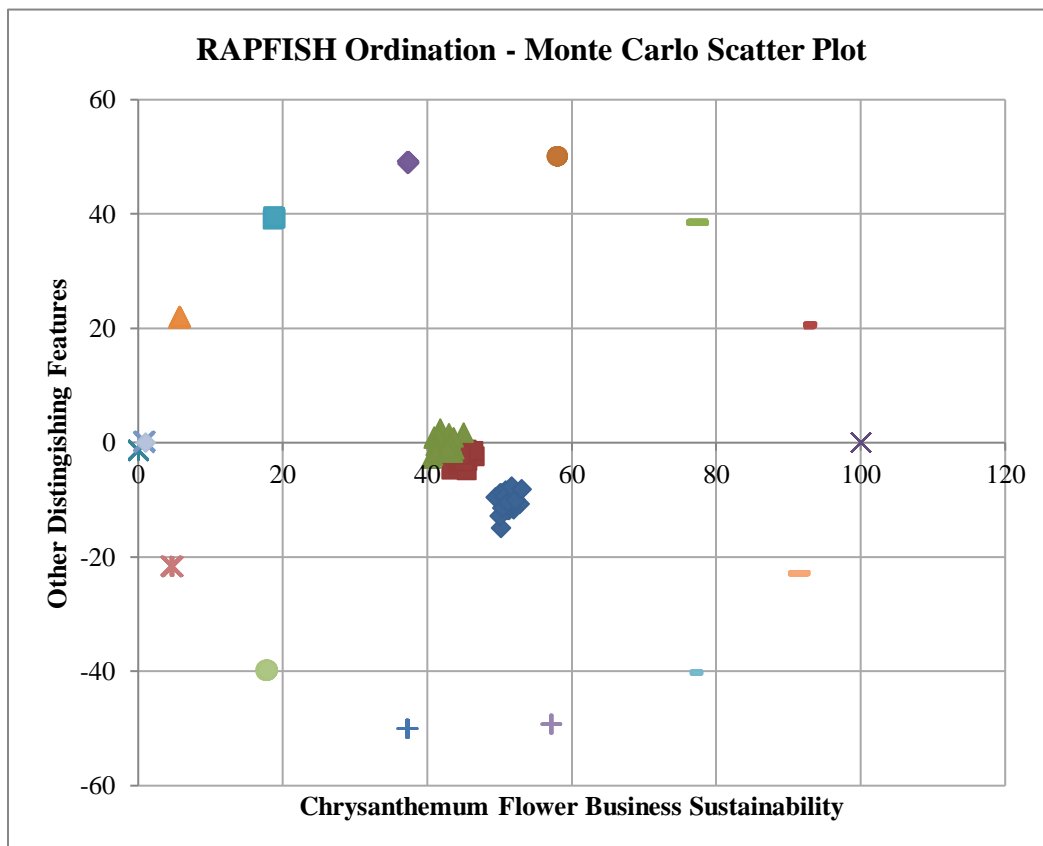
Based on Figure 1. It can be explained that the most sustainable social dimension of the chrysanthemum flower business is in Kenteng Village with a value of 51.30 which is quite sustainable. Kenteng Village has a better position than Candi Village and Duren Village in terms of sustainability because its attributes outperformed those of the latter in the field. Candi Village has a value of 45.67 and Duren Village has a value of 42.62 thus Candi Village and Duren Village are in the less sustainable category. It is brought on by the unfavorable attribute state. The stress value in the model is 0.16 or less than 0.25, while the R-squared value (RSQ) is 0.94 or close to 1. This shows that the model formed from the MDS analysis is good and does not require adding attributes. This is because the attributes of the social dimension of business sustainability of chrysanthemum flowers used have represented the nature of the object studied. The results of the sensitivity analysis (leverage) of each attribute in the social dimension of chrysanthemum business sustainability can be seen in Figure 2.



**Figure 2.** Social Dimension Attribute Sensitivity Graph

Based on Figure 2. The total attributes in the social dimension are 7 attributes with 3 sensitive attributes that greatly affect the sustainability of the chrysanthemum business. The three sensitive attributes and the most influential on sustainability are: (1) participation in extension activities (on farm), (2) receipt of postharvest and marketing information (downstream), (3) receipt of cultivation system information (on farm). If there is a slight increase or decrease in conditions in these three attributes, it will significantly change the sustainability value of the social dimension. Participation in extension activities was in the first position as a sensitive attribute of the social dimension with a change in the root mean square (RMS) value of 6.24 when coordination on the X axis was observed. The current condition of the attribute in the field is best compared to other attributes. The majority of 62 farmers or 86.11% of the total farmer respondents always participate in extension activities. Receipt of postharvest and marketing information was in second place as a sensitive attribute of the social dimension with a change in the root mean square (RMS) value of 3.61 when ordination on the X-axis was observed. The current condition of the attribute in the field is at least good compared to other attributes. The majority of farmers as many as 39 people or 54.17% of the total farmer respondents received post-harvest and marketing information but were still in one farmer group. The reception of cultivation system information in the third position as a sensitive attribute of the social dimension with a change in the value of the root mean square (RMS) of 2.56 when ordination on the X-axis is observed. The current condition of the attribute in the field is not good compared to other attributes. The majority of farmers as many as 56 people or 77.77% of the total farmer respondents received information on the cultivation system but were still in one farmer group. The results of the Monte Carlo analysis for the social dimension

can be seen in Figure 3.

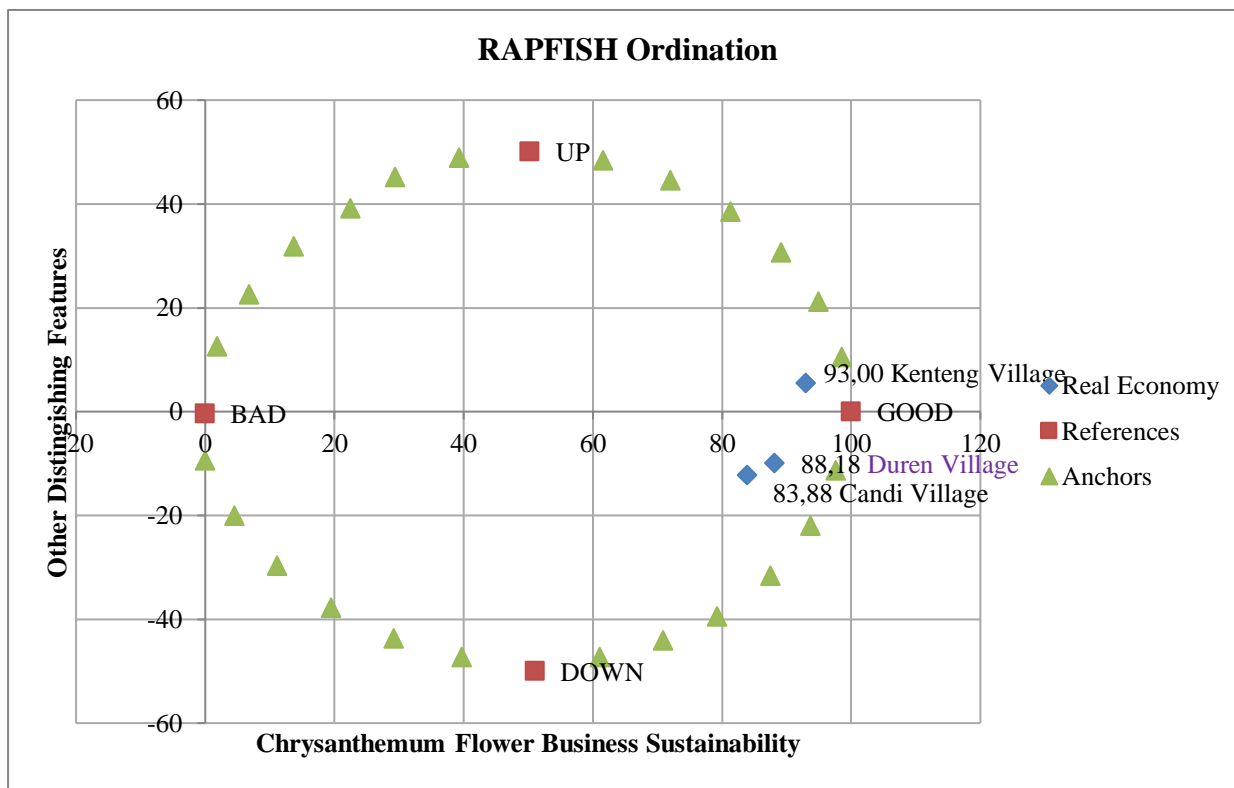


**Figure 3.** Monte Carlo Graph Social Dimension

Monte Carlo scores for the social dimension of chrysanthemum business sustainability in Bandungan District were collected at one point and the average value was 46.20. The difference between the Monte Carlo analysis results (46.20) and the MDS analysis results (46.53) was 0.33. A difference of  $< 5$  means that the social dimension sustainability index shows a small difference between the MDS and Monte Carlo sustainability index values at a 95 percent confidence interval. This is in line with (Dzikrillah et al. 2017), who explain that (1) errors in scoring each attribute are relatively small, (2) the variety of scoring dueto differences in opinion is relatively small, (3) the analysis process is repeatedly stable, and (4) dataentry errors and lost data can be avoided.

**Index Value and Sustainability Status of Economic Dimension**

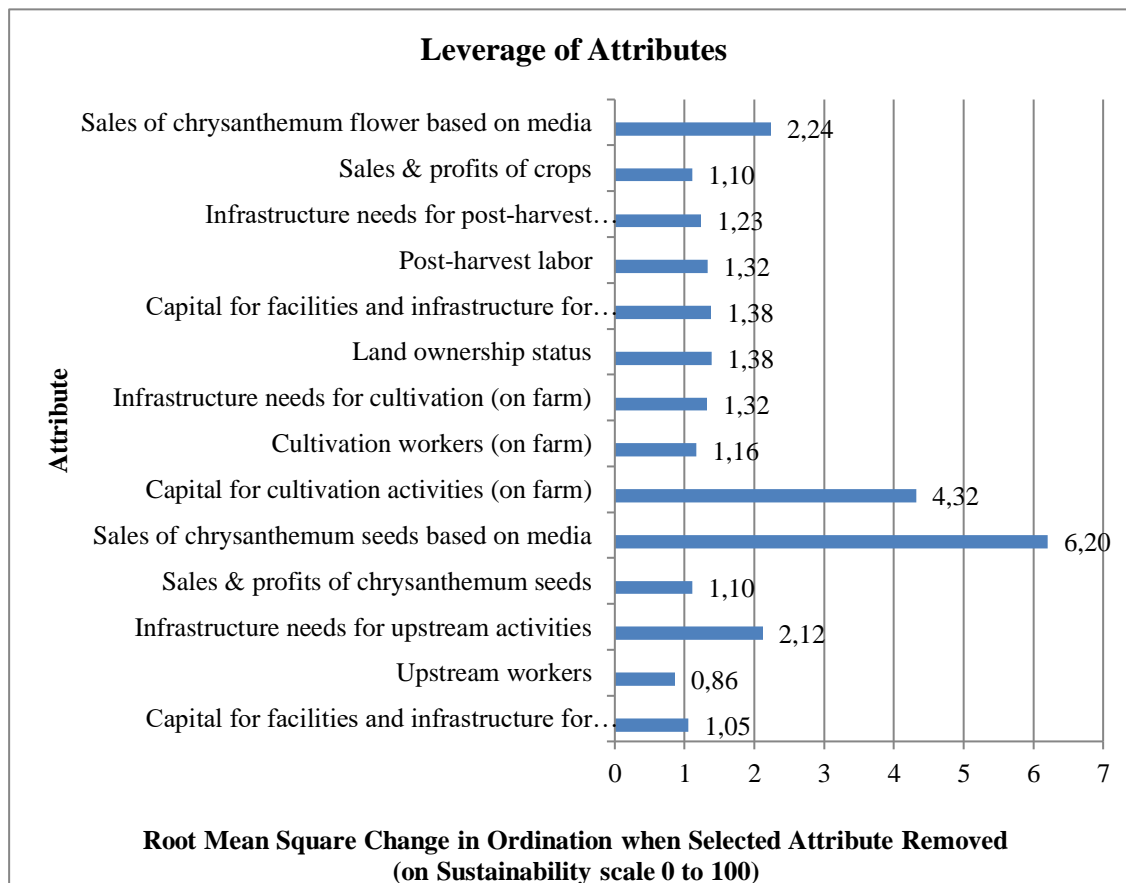
The sustainability value of chrysanthemum flower business in Bandungan District for the economic dimension can be seen in Figure 4.



**Figure 4.** Ordination Graph of RAP-CFB Economic Dimension

The average sustainability value of the economic dimension is 88.35, so that the economic dimension of the chrysanthemum flower business in Bandungan District has a very sustainable status because the value is between 75.01 and 100.00. Based on figure 4. It can be explained that the economic dimension of the most sustainable chrysanthemum flower business is in Kenteng Village with a value of 93.00. Candi Village has a value of 83.88 and Duren Village has a value of 88.18 thus Candi Village and Duren Village are in the very sustainable category. Kenteng village is slightly more sustainable because its attributes performed better than those of Duren and Candi villages during the research. The stress value in the model is 0.12 or less than 0.25, while the R-squared value (RSQ) is 0.94 or close to 1. The model formed from the MDS analysis is good and does not require the addition of attributes and economic dimension attributes used to represent the properties of the object under study. The results of the sensitivity analysis (leverage) of each attribute in the economic dimension of chrysanthemum business sustainability can be seen in Figure 5.

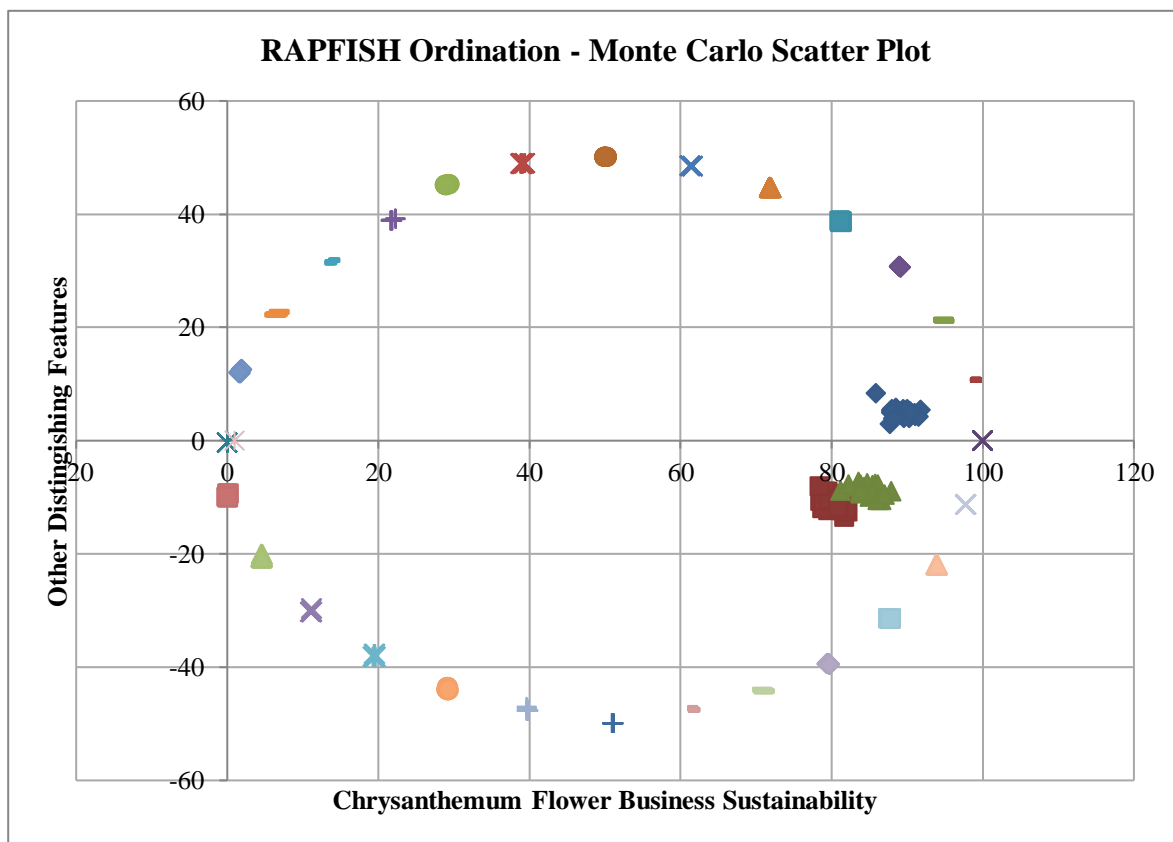




**Figure 5.** Economic Dimension Attribute Sensitivity Graph

Based on Figure 5. The total attributes in the economic dimension are as many as 14 attributes with 3 sensitive attributes that greatly affect the sustainability of the chrysanthemum flower business, namely: (1) sales of chrysanthemum seeds based on the media used (upstream), (2) capital cultivation activities (on farm), (3) sales of chrysanthemum flowers based on the media used (downstream). If there is a slight increase or decrease in conditions in these three attributes, it will significantly change the sustainability value of the economic dimension. Sales of chrysanthemum seeds based on the medium used (upstream) are in the first position as a sensitive attribute of the Economic dimension with a change in the root mean square (RMS) value of 6.20 when ordination on the X axis is observed. The current condition of the attribute in the field is the worst compared to other attributes. The majority of farmers as many as 58 people or 80.56% of the total respondents of chrysanthemum flower farmers in Kenteng Village, Temple Village, and Duren Village do not sell chrysanthemum flower seeds and the seeds are used for their own cultivation. This can save the cost of chrysanthemum seedlings. Capital cultivation activities (on farm) in the second position as a sensitive attribute of the economic dimension with a change in the value of the root mean square (RMS) of 4.32 when ordination on the X axis is observed. The current condition of the attributes in the field is quite good compared to other attributes. The majority of farmers as many as 39 people or 54.17% of the total respondents of chrysanthemum farmers in Kenteng Village, Temple Village, and Duren Village use their own capital in cultivation activities (on farm). Sales of

chrysanthemums based on the medium used (downstream) are in third position as a sensitive attribute of the economic dimension with a change in the root mean square (RMS) value of 2.24 when ordination on the X-axis is observed. The current condition of the attribute in the field is neither good nor bad compared to other attributes. The majority of farmers as many as 48 people or 66.67% of the total respondents of chrysanthemum flower farmers in Kenteng Village, Temple Village, and Duren Village sell chrysanthemum flower harvests through word of mouth or sold offline and directly sold in the market and not sold online. The results of Monte Carlo analysis for the economic dimension can be seen in Figure 6.

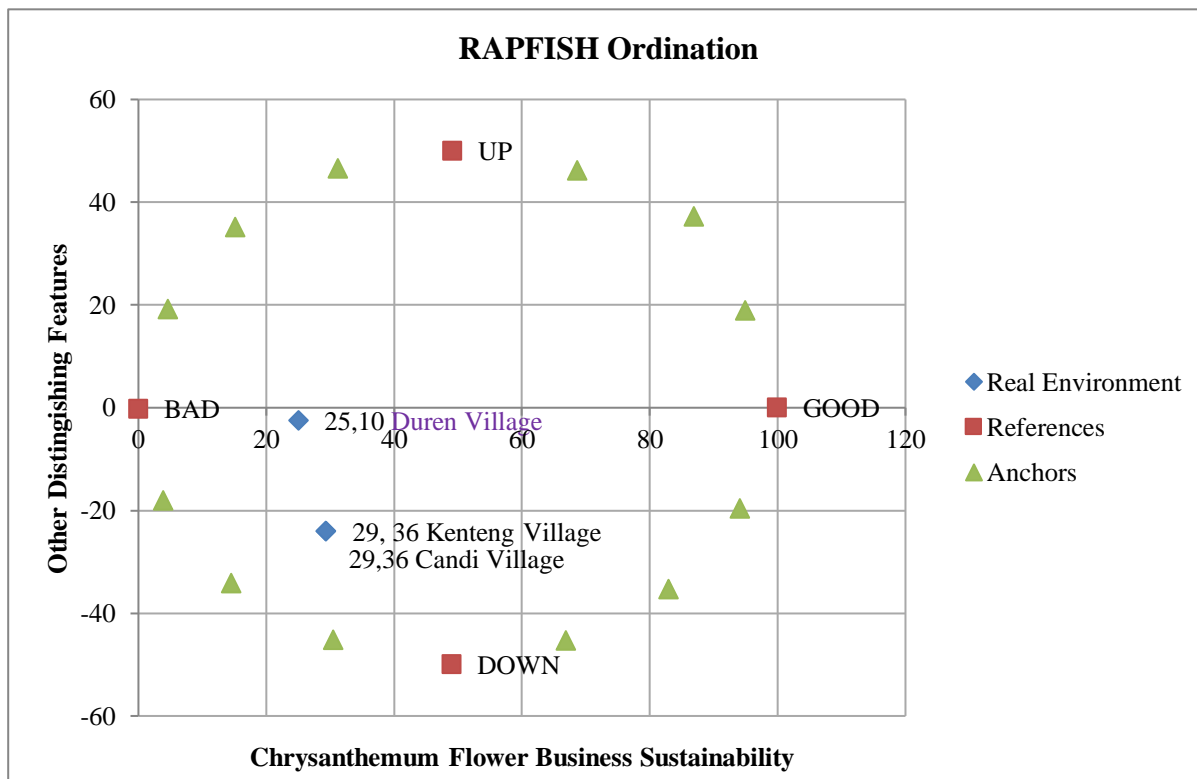


**Figure 6.** Monte Carlo Graph Economic Dimensions

Based on figure 6. Monte Carlo values for the economic dimension of chrysanthemum business sustainability in Bandungan District were collected at one point and the average value was 84.79. The difference between Monte Carlo analysis results (84.79) and MDS analysis results (88.35) was 3.56. A difference of < 5 means that the social dimension sustainability index shows a small difference between the MDS and Monte Carlo sustainability index values at a 95 percent confidence interval. This is in line with (Dzikrillah et al., 2017), who explain that (1) errors in scoring each attribute are relatively small, (2) the variety of scoring due to differences in opinion is relatively small, (3) the analysis process is repeatedly stable, and (4) data entry errors and lost data can be avoided.

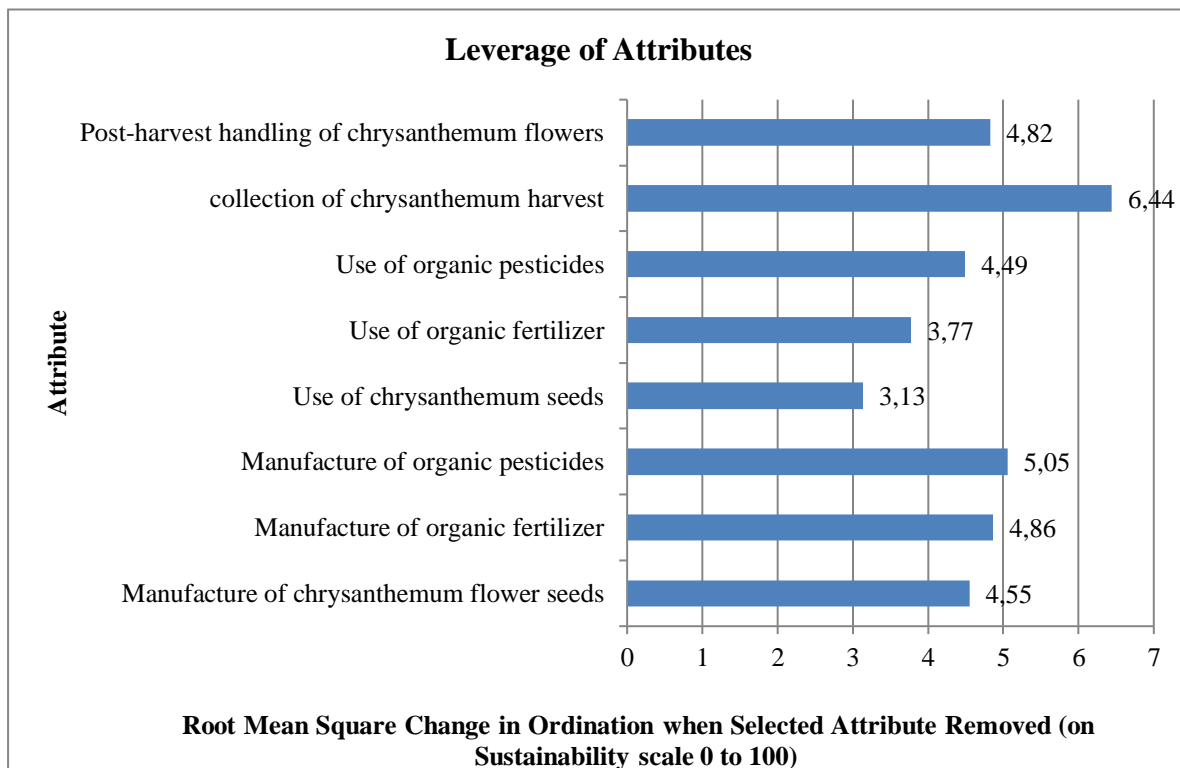
**Index Value and Environmental Dimension Sustainability Status**

The sustainability value of chrysanthemum flower business in Bandungan District for the environmental dimension can be seen in Figure 7.



**Figure 7.** Environmental Dimension RAP-CFB Ordination Graph

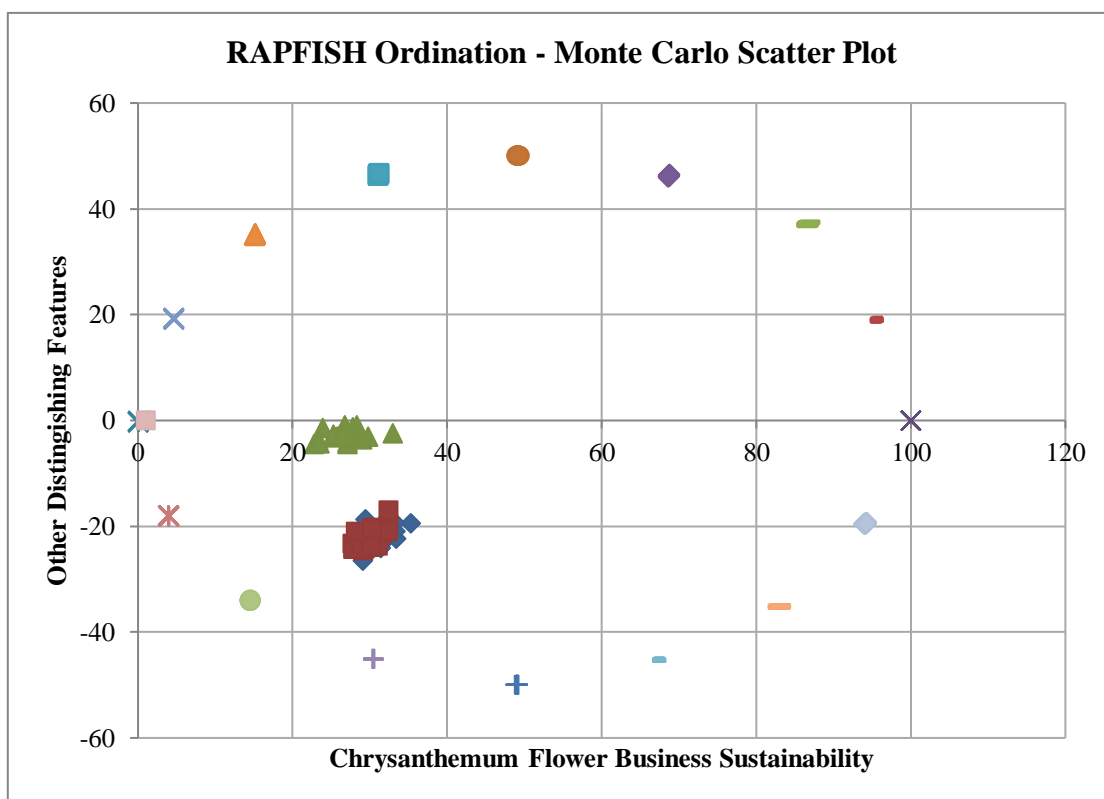
The average sustainability value of the environmental dimension is 27.94, so it can be concluded that the environmental dimension of the chrysanthemum flower business in Bandungan District is less sustainable because the value is between 25.01 and 50.00 sustainability indicators. Based on Figure 7. it can be seen that the least sustainable chrysanthemum business environment is in Duren Village with a value of 25.10. Candi Village has a value of 29.36 and Kenteng Village has a value of 29.36 thus Candi Village and Kenteng Village are in the less sustainable category. Duren Village is the least sustainable, this is because the attributes do not outperform the attributes of the social and economic dimensions in the field. The stress value in the model is 0.13 or less than 0.25, while the R-squared value (RSQ) is 0.94 or close to 1. A good model is shown by an S-Stress value smaller than 0.25 and an R-squared (RSQ) close to 1. The model formed from the MDS analysis is good and does not require the addition of attributes and attributes of environmental dimensions, business sustainability, chrysanthemums used have represented the nature of the object studied. Furthermore, the results of the sensitivity analysis (leverage) of each attribute on the environmental dimension of chrysanthemum business sustainability can be seen in Figure 8.



**Figure 8.** Environmental Dimension Attribute Sensitivity Graph

Based on Figure 8. The total attributes in the environmental dimension are as many as 8 attributes with 3 sensitive attributes that greatly affect the sustainability of the chrysanthemum business. The three sensitive attributes and the most influential on sustainability are (1) collection of chrysanthemum harvest (downstream), (2) manufacture of organic pesticides (upstream), (3) manufacture of organic fertilizer (on farm). If there is a slight increase or decrease in conditions in these three attributes, it will significantly change the sustainability value of the environmental dimension. The collection of chrysanthemum harvest (downstream) is in the first position as a dimension-sensitive attribute of the environment with a change in the root mean square (RMS) value of 6.44 when ordination on the X-axis is observed. The current condition of the attribute in the field is best compared to other attributes. The majority of farmers as many as 65 people or 90.28% of the total respondents of chrysanthemum flower farmers in Kenteng Village, Temple Village, and Duren Village collected chrysanthemum flower harvests, namely chrysanthemum flowers grouped by type and color. The manufacture of organic pesticides (upstream) is in second position as a sensitive attribute of environmental dimensions with a change in the root mean square (RMS) value of 5.05 when ordination on the X-axis is observed. The current condition of the attribute in the field is not good compared to other attributes. The majority of 66 farmers or 91.66% of the total respondents of chrysanthemum farmers in Kenteng Village, Temple Village, and Duren Village did not make organic pestisda. The manufacture of organic fertilizer (upstream) is in third position as a sensitive attribute of environmental dimensions with a change in the root mean square (RMS) value of 4.86 when ordination on the X-axis is observed. The current condition

of attributes in the field is classified as the least compared to other attributes. The majority of farmers as many as 52 people or 72.22% of the total respondents of chrysanthemum flower farmers in Kenteng Village, Temple Village, and Duren Village did not make organic fertilizer but bought organic fertilizer (cage) even though all respondents of chrysanthemum flower farmers used organic fertilizer (cage). The use of organic fertilizers can increase chrysanthemum production both quality and quantity, reduce environmental pollution, and improve land quality in a sustainable manner. The results of Monte Carlo analysis for environmental dimensions can be seen in Figure 9.

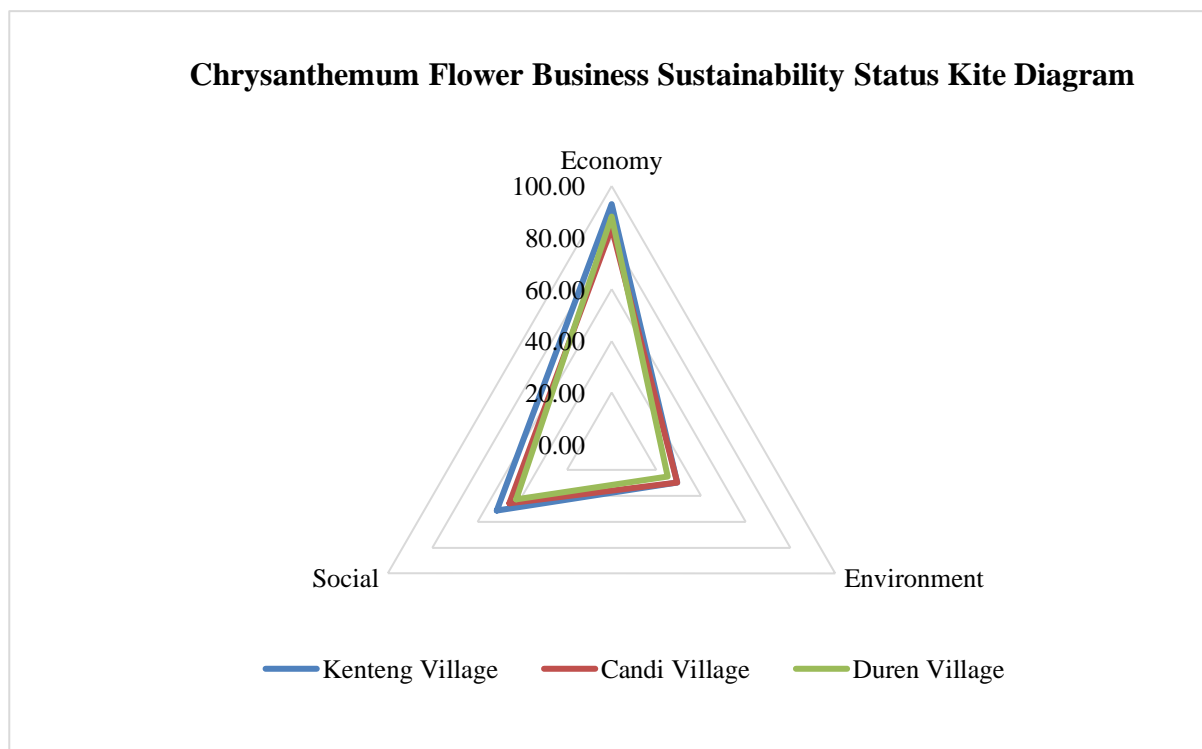


**Figure 9.** Monte Carlo Graph of Environmental Dimensions

Based on Figure 9. Monte Carlo values for the environmental dimension of chrysanthemum business sustainability in Bandungan District were collected at one point and the average value was 29.26. The difference between Monte Carlo analysis results (29.26) and MDS analysis results (27.94) was 1.32. A difference of < 5 means that the social dimension sustainability index shows a small difference between the MDS and Monte Carlo sustainability index values at a 95 percent confidence interval. This is in line with (Dzikrillah et al., 2017), who explain that (1) errors in scoring each attribute are relatively small, (2) the variety of scoring dueto differences in opinion is relatively small, (3) the analysis process is repeatedly stable, and (4) dataentry errors and lost data can be avoided.

**Chrysanthemum Business Sustainability Status Kite Diagram**

The following is a diagram of the sustainability of chrysanthemum business in Bandungan District, Semarang Regency.



**Figure 10.** Chrysanthemum Business Sustainability Status Kite Diagram

Based on Figure 10. The glider diagram formed from three dimensions which is an indicator of the results of the sustainability analysis shows a big difference. Two dimensions of chrysanthemum business sustainability in Bandung District, consisting of Kenteng Village, Candi Village, and Duren Village, show less sustainable status with a value index between 25.01-50.00, namely the social dimension and the environmental dimension. The sustainability status of the environmental dimension was the worst with an average score of 27.94, The most sensitive attributes on the environmental dimension are the collection of chrysanthemum crops (downstream), the manufacture of organic pesticides (upstream), the manufacture of organic fertilizers (on farm). While the social dimension received an average score of 46.53. The most sensitive attributes on the social dimension are participation in extension activities (on farm), receipt of postharvest and marketing information (downstream), receipt of cultivation system information (on farm). These two dimensions need to be prioritized for development in the future sothat the sustainability condition of the chrysanthemum flower business in Bandung Districtbecomes better. The economic dimension of chrysanthemum business sustainability is the only dimension that has a very sustainable status, the average value is 88.35 and is between 75.01-100.00. The most sensitive attributes on the economic dimension are the sale of chrysanthemum seeds based on the media used (upstream), capital of cultivation activities (on farm), sales of chrysanthemum flowers based on the media used (downstream). Although the condition is very good, it is necessary to continue to be maintained and developed so that the economic dimension remains sustainable both now and in the future.

## CONCLUSION AND SUGGESTION

The status of the social dimension of chrysanthemum business sustainability in Bandung District is classified as less sustainable with a value of 46.53. The status of the economic dimension is classified as good or very sustainable with a value of 88.35. The status of the environmental dimension is classified as less sustainable with a value of 27.94. The suggestions proposed are based on the results of the analysis and discussion as recommendations for improving the chrysanthemum business so that it has a sustainable business category, namely:

1. Viewed from the social dimension: chrysanthemum flower farmers should increase participation and relationships with other farmers outside the farmer group or farmers outside their own territory who have succeeded in developing better ways of cultivating chrysanthemum.
2. Looking at the economic dimension: we recommend (a) chrysanthemum flower farmers to carry out and increase sales of chrysanthemum flower seeds to get added value economically, increase sales of chrysanthemum cut flowers through social media (online) in addition to being sold directly to the market (b) chrysanthemum flower farmers reduce or be wise in the use of chemical fertilizers and pesticides and can make organic fertilizers and pesticides in order to save production costs and increase production yields chrysanthemum flowers (c) The profit of chrysanthemum cultivation business can still be increased by increasing the variety of flowers (diversification), which aims to increase the volume / quantity of sales by chrysanthemum flower farmers.
3. Judging from the environmental dimension: chrysanthemum flower growers should reduce or be wise in the use of chemical fertilizers and pesticides. This is because excessive use of chemical fertilizers and pesticides can pollute the environment, make chrysanthemum production decrease, and plants become resistant to pests and diseases. Chrysanthemum flower farmers are expected to make organic fertilizers and pesticides that are safer for the environment and can increase chrysanthemum production yields.

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