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Implementation of Sustainable Development Goals (SDGs) No. 12: Responsible Production and Consumption by Optimizing Lemon Commodities and Community Empowerment to Reduce Household Waste

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ABSTRACT

Currently, the agricultural sector is still experiencing obstacles due to the large amount of food waste sourced from households and business actors. Thus, the purpose of this study is to determine public understanding related to how to process lemon commodities to reduce waste and to find out the role in achieving sustainable development goals (SDGs) No. 12 Responsible Production and Consumption. The method in this study uses quantitative description to provide an overview and study phenomena based on data that have been obtained from an event. The sampling technique used is purposive sampling.

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1. INTRODUCTION

Sustainable Development Goals (SDGs) are goals that are planned to ensure sustainable development. The United Nations (UN) established the path or goals of SDGs to guide every country towards sustainable development. The SDGs are designed to address poverty, preserve and protect the environment, and ensure a safe and decent life for all by 2030 (Safitri *et al.,* 2023). The SDGs have changed the way the Government of Indonesia plans development policy. This approach encourages broad involvement from various parties, including government and non-government organizations, to make National Development more participatory. Development policies involving various parties or multi-stakeholders aim to make the sense of sustainable development grow more progressive and stronger (Ciasullo *et al.,* 2021). The country of Indonesia is a country that is very abundant in human resources and also natural resources (Annisa & Najicha, 2021). Therefore, we need to maintain this sustainability better and pay attention to the natural resources that exist and can utilize them as a form of natural resources that exist and can utilize them as a form of participation towards achieving sustainable development (Rochman, 2016). Indonesia is also a developing country, where synonymous with the development of a goal, namely to achieve the prosperity of the people, especially in the agricultural sector which is the the most important sector for human life and needs to be well maintained because it is a source of food producers that can be consumed by humans as an essential need to fulfill the needs of to meet the needs of survival. Seeing this, it can be said to be important for us to ensure the development of an agricultural sector that is sustainable agriculture. This is a form of implementing development or SDGs (Pratama, 2022).

Sustainable development of the agricultural sector is not just a form of implementing sustainable development but is an important matter of urgency for the nation (Iskandar & Akbar, 2019). However, agriculture is currently still experiencing obstacles. There is a lot of food waste carried out at the consumption stage of households and businesses (Luna & Suryana., 2022). Crops grown by households are food crops that tend to lead to the highest losses, this was also conveyed by (Thornton *et al.,* 2014), which said that measuring food crops grown by households is difficult and tends to experience high food losses. Data obtained from the National Development Planning Agency (BAPPENAS) shows that 80% of consumption comes from households (Santika *et al.,* 2020). Furthermore, Bappenas also reminded us that of the 5 food sectors, food crops have the highest average proportion of Food Loss and Waste (FLW), which is around 46.2% or equal to 14-24 million tons of FLW per year. This will have a negative impact on the surrounding environment such as waste. This situation is related to the increase in the amount of waste in line with the growth of consumption and production patterns (Beylot *et al,* 2018). This happened in one of the villages in Lembang District where the lemon farmer had difficulty in distributing lemons so that more spoilage occurred than lemons were sold and ultimately produced waste that could not be utilized. The problem of this waste, if not resolved immediately, will contribute to many negative impacts on the environment in the village. Agricultural waste can pollute the environment and impact on environmental quality and public health (Tentama *et al*., 2022).

The PPK Ormawa HIMAGRIN FPTK UPI team is an Agro-industrial Technology Education student in Universitas Pendidikan Indonesia who has contributed and provided solutions to overcome post-harvest commodity problems to minimize the increase in the amount of waste in the village. An important effort of this activity is to create local products based on lemon fruit, namely lemon juice and lemon jelly candy. PPK Ormawa HIMAGRIN FPTK UPI intends to provide initiatives that play an important role in supporting sustainable development by

optimizing the lemon commodity and empowering the community. PPK Ormawa HIMAGRIN FPTK UPI has made various efforts to overcome this problem. One of these efforts is to hold seminars aimed at increasing public understanding of the potential of lemons as raw materials for products. In addition, they also organize demonstrations and provide practical guidance on how to produce lemon-based products. This effort is complemented by monitoring sociopreneur groups that play a role in reducing waste problems in households, which ultimately contributes positively to sustainable development, especially to SDGs No. 12 Responsible Production and Consumption. Thus, the initiative taken by PPK Ormawa HIMAGRIN FPTK UPI not only aims to reduce the wastage of lemon commodities and waste problems but also to support sustainable development in Suntenjaya village.

Research Objectives are:

(i) To find out the community's understanding of how to process lemon commodities to reduce waste.

(ii) To know the role of PPK Ormawa HIMAGRIN in achieving the goals of Responsible Production and Consumption.

2. METHODS

2.1. Types of Research

In this study, researchers used quantitative descriptive methods. Quantitative descriptive research is to make a detailed explanation of the data that has been obtained to assist in understanding and decision-making based on available data. The quantitative descriptive method is a method that describes, analyzes, and discusses events based on numbers without having the intention to test a particular hypothesis (Sulistyawati *et al.*, 2022). Based on the explanation above, the quantitative descriptive method is a method that provides an overview and studies phenomena based on data that have been obtained from an event.

2.2. Sampling Techniques

The sampling technique used in this study is Purposive Sampling. This technique is carried out by adjusting the necessary prerequisites before sampling. Sampling is carried out intentionally, where only samples that have special characteristics, characteristics, criteria, or properties are taken (Atkins *et al.*, 2019). Based on this information, Purposive Sampling is a sampling technique, referring to certain characteristics and criteria of the sample to be taken. This study uses purposive sampling with the Suntenjaya village community as respondents who have lemon commodities that will be optimized to reduce waste problems.

2.3. Data Collection Techniques

The data collection technique used in this study was using questionnaires or questionnaires. A questionnaire or questionnaire is a method of collecting information consisting of a series of questions that are appropriate to the topic concerned, which are then submitted to participants intended to fill out. A questionnaire is a data collection method that contains questions that follow the problem and is submitted to the targeted respondents (Cahyo *et al*., 2019).

3. RESULTS AND DISCUSSION

3.1. SDGs No. 12: Responsible Production and Consumption

SDGs paradigm has changed the way the Government of Indonesia plans development policies. However, the implementation of SDGs still faces challenges that need attention. Based on data obtained by the National Development Planning Agency (BAPPENAS), the

consumption stage reaches 80% sourced from households (Kerstens *et al.,* 2016). Not only that, but Bappenas also said that food crops currently have the highest average proportion of FLW, which is around 46.2%, which is equivalent to 14-24 million tons of FLW per year. FLW includes fishery (10%), crops (46%), poultry farms (8%), plantation (1%), and horticultural plants (35%). Sustainable Development or SDGs are aligned with the National Medium-Term Development Plan (RPJMN) Policy 2020-2024. Especially SDGs No. 12 Responsible Production and Consumption. This harmony can be seen from several aspects (Fristikawati *et al*., 2022). First, it is necessary to improve the quality of the environment. Second, it is necessary to carry out effective handling of waste. Third, it is necessary to develop a sustainable industrial sector (green industry). Finally, efforts are needed to increase efficiency in reducing and managing household waste, including plastic waste.

The condition experienced by the people of Suntenjaya Village is the difficulty in distributing lemons so that more decay occurs than lemons sold and eventually becomes waste that cannot be used because often waste is considered useless because it comes from the rest of human activities and then disposed of into the environment. In this case, the PPK Ormawa HIMAGRIN FPTK UPI Team contributes positively to sustainable development, especially to SDGs No. 12 Responsible Production and Consumption by providing education to the public to optimize their lemon commodities into a product, namely lemon juice and lemon jelly candy. The PPK Ormawa HIMAGRIN FPTK UPI team organized a demonstration and provided practical guidance to produce lemon-based products. The initiative of PPK Ormawa Team HIMAGRIN FPTK UPI is complemented by monitoring sociopreneur groups that have been formed to reduce waste in households. Thus, in the end, it contributes positively and progressively to sustainable development which leads to the achievement of SDGs No. 12 Responsible Production and Consumption.

3.2. Community Understanding of Processing Lemon Commodities to Reduce Waste

Based on the results of the questionnaire, it was found that as many as 19 people in Suntenjaya Village understood the material presented regarding the benefits of lemons to be optimized to reduce waste. The respondent's statement on this product demonstration activity was *"Finally our group can understand how to optimize lemons," said Mrs. Siti. In addition, one of the respondents in this product demonstration also stated the conclusion obtained from the activity that "this activity adds insight and can be understood related to how to make it and is eager to try it at home"* said Mrs. Sari Hayati.

This product demonstration can increase knowledge and create different experiences for the community through activities after being given material to make creative products (Novita, 2023). Knowledge absorbed by the community can potentially create a product to reduce waste problems as a form of implementation of SDGs No. 2, namely Responsible Production and Consumption (Capah *et al.,* 2023). So that this effort is very effective in handling waste, besides that this effort has alignment with the National Medium-Term Development Plan (RPJMN) Policy 2020-2024.

3.3. The role of PPK Ormawa HIMAGRIN in Achieving the Goals of Responsible Production and Consumption

Based on the results of the questionnaire, 19 people in Suntenjaya Village felt that the material delivered was following the needs of the community by holding product demonstration activities. The product demonstration activities carried out have added insight and provided new experiences to the community in Suntenjaya Village to utilize lemon fruit in lemon jelly candy and lemon juice.

One of the respondents gave her response about this activity, namely "*I am very interested in the material presented and I want to follow and practice it*".

By involving the community in product demonstrations, PPK Ormawa HIMAGRIN has a role in empowering residents. Increasing community skills and knowledge in processing local commodities can be a driver to support SDGs No. 12 Responsible Production and Consumption. As mentioned earlier, there is more spoilage of lemons than they are distributed, resulting in waste that cannot be utilized. Based on researchers' research on the 2021 FLW Study in Indonesia, food should be processed into other food products. This is a form of effort that can reduce waste that often occurs throughout the food supply chain (Kerstens *et al.,* 2016). Considering the waste of households that tend to experience high food losses (Kerstens *et al.,* 2016). PPK Ormawa HIMAGRIN has a role in increasing public awareness by carrying out counseling related to lemon processing and providing education to the community. This effort is needed to present insights into managing and processing waste properly (Rosa *et al.*, 2022). This processing can be done by the community by utilizing the results of lemon commodities to make more durable products.

4. CONCLUSION

Based on the results of the research that has been done, it can be concluded as follows: (i) The initiative of the Ormawa HIMAGRIN FPTK UPI PPK Team is in harmony with the National Medium-Term Development Plan (RPJMN) Policy 2020-2024 which also has the same goals as sustainable development, especially in achieving SDGs No. 12 Responsible Production and Consumption. (ii) Through counseling and demonstration, this product increases the knowledge and experience of the community who have the potential to create a product to reduce waste problems as a form of implementation of SDGs No. 2, namely Responsible Production and Consumption. The PPK Ormawa HIMAGRIN FPTK UPI team has a role in increasing public awareness by carrying out counseling related to lemon processing and providing education to the community so that it becomes a driver to support SDGs No. 12 Responsible Production and Consumption.

5. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. The authors confirmed that the paper was free of plagiarism.

6. REFERENCES

Annisa, H., and Najicha, F. U. (2021). Konsekuensi geopolitik atas perdagangan internasional Indonesia. *Jurnal Global Citizen: Jurnal Ilmiah Kajian Pendidikan Kewarganegaraan*, *10*(2), 8-14.

Atkins, S., Clear, J., and Ostler, N. (1992). Corpus design criteria. *Literary and Linguistic Computing*, *7*(1), 1-16.

Beylot, A., Boitier, B., Lancesseur, N., and Villeneuve, J. (2018). A comparison of scenarios of consumption growth using input-output analysis. *Journal of Industrial Ecology*, *22*(2), 356-368.

Cahyo, K. N., Martini, M., and Riana, E. (2019). Perancangan sistem informasi pengelolaan kuesioner pelatihan pada PT Brainmatics Cipta Informatika. *Journal of Information System Research (JOSH)*, *1*(1), 45-53.

Capah, B. M., Rachim, H. A., and Raharjo, S. T. (2023). Implementasi SDGs-12 melalui pengembangan komunitas dalam program CSR. *Share: Social Work Journal*, *13*(1), 150-161.

Ciasullo, M. V., Troisi, O., Grimaldi, M., and Leone, D. (2020). Multi-level governance for sustainable innovation in smart communities: An ecosystems approach. *International Entrepreneurship and Management Journal*, *16*(1), 1167-1195.

Fristikawati, Y., Alvander, R., and Wibowo, V. (2022). Pengaturan dan penerapan sustainable development pada pembangunan ibukota negara nusantara. *Jurnal Komunitas Yustisia*, *5*(2), 739-749.

Iskandar, A., and Aqbar, K. (2019). Green economy Indonesia dalam perspektif maqashid syari'ah. *Al-Mashrafiyah: Jurnal Ekonomi, Keuangan, dan Perbankan Syariah*, *3*(2), 83-94.

Kerstens, S. M., Spiller, M., Leusbrock, I., and Zeeman, G. (2016). A new approach to nationwide sanitation planning for developing countries: Case study of Indonesia. *Science of the Total Environment*, *550*(1), 676-689.

Luna, P., and Suryana, E. A. (2022). Implementasi sistem pengelolaan food loss and waste (FLW) di Indonesia sebagai inisiatif presiden G20. *Jurnal Analis Kebijakan*, *6*(1), 46-61.

Novita, N., and Sundari, R. (2023). Demonstrasi pembuatan kreasi produk jajanan pasar pada anggota kelompok usaha bersama graha permai. *Jurnal Pengabdian Kompetitif*, *2*(1), 41-45.

Pratama, R. A. (2022). Irigasi way tebu: Penguatan agraria dalam mewujudkan sustainable development goals. *Jurnal Humanitas: Katalisator Perubahan dan Inovator Pendidikan*, *9*(1), 62-70.

Rochman, N. (2016). Model pengembangan desa wisata berbasis pemberdayaan masyarakat. *Jurnal Equilibria Pendidikan*, *1*(1), 59-70.

Rosa, M. K. A., Rodiah, Y., and Kurniawan, A. (2022). Edukasi pengelolaan sampah rumah tangga di kelurahan Sawah Lebar Baru kota Bengkulu. *Abdi Reksa*, *3*(1), 52-58.

Safitri, A. O., Yunianti, V. D., and Rostika, D. (2022). Upaya peningkatan pendidikan berkualitas di Indonesia: analisis pencapaian sustainable development goals (SDGs). *Jurnal Basicedu*, *6*(4), 7096-7106.

Santika, W. G., Anisuzzaman, M., Simsek, Y., Bahri, P. A., Shafiullah, G. M., and Urmee, T. (2020). Implications of the sustainable development goals on national energy demand: The case of Indonesia. *Energy*, *196*(1), 1-15.

Sulistyawati, W., Wahyudi, W., and Trinuryono, S. (2022). Analisis motivasi belajar siswa dengan menggunakan model pembelajaran blended learning saat pandemi covid-19 (deskriptif kuantitatif di SMAN 1 babadan Ponorogo). *Kadikma*, *13*(1), 68-73.

Tentama, F., Mulasari, S. A., and Kusuma, D. R. (2017). Pemberdayaan masyarakat melalui pemanfaatan limbah jerami dan sekam padi menjadi super karbon di kecamatan Moyudan, Sleman. *Jurnal Pengabdian Pada Masyarakat*, *2*(2), 119-126.

Thornton, P. K., Ericksen, P. J., Herrero, M., and Challinor, A. J. (2014). Climate variability and vulnerability to climate change: A review. *Global Change Biology*, *20*(11), 3313-3328.