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Implementation of Global Sustainable Development Goals at the Local Level: Studies of Home Industry in Kedunglengkong Village, Simo sub-district, Boyolali District, Central Java Province, Indonesia

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Abstrak

Pembangunan dilakukan untuk mengurangi kesenjangan antarwilayah. Peningkatan jumlah penduduk manusia diikuti oleh intensitas penggunaan lahan dan sumber daya, interaksi, dan perubahan yang terjadi hingga alam mencapai batas-batas tertentu, yang dikenal sebagai planetary boundaries. Pembangunan berkelanjutan memiliki 17 tujuan yang bersifat universal, komprehensif, dan melibatkan semua negara. Bagaimana cara mengimplementasikan tujuan pembangunan berkelanjutan di tingkat lokal? Penelitian ini bertujuan untuk menganalisis pelaksanaan tujuan pembangunan berkelanjutan di tingkat lokal, khususnya pada industri yang bertanggung jawab dan pola konsumsi yang berkelanjutan. Penelitian ini menggunakan pendekatan kuantitatif, dengan lokasi penelitian di Desa Kedunglengkong, Kecamatan Simo, Kabupaten Boyolali, Provinsi Jawa Tengah. Populasi penelitian adalah pemilik industri rumahan dengan jumlah populasi sebanyak 35 orang, menggunakan total sampling atau seluruh populasi sebagai unit analisis. Variabel penelitian adalah indikator Tujuan Pembangunan Berkelanjutan (SDG) ke-12, yaitu konsumsi dan pola produksi yang bertanggung jawab. Sumber data yang digunakan adalah data primer yang dikumpulkan melalui observasi dan wawancara mendalam. Analisis data dilakukan secara deskriptif persentase, menggunakan tabel dan diagram. Hasil penelitian menunjukkan bahwa terdapat 35 industri rumahan yang menggunakan bahan baku dari limbah plastik. Bahan baku yang digunakan berasal dari limbah plastik di lingkungan sekitar. Industri rumahan yang memanfaatkan limbah plastik sebagai bahan baku merupakan wujud nyata dari implementasi industri yang bertanggung jawab dan konsumsi berkelanjutan, sesuai dengan indikator Tujuan Pembangunan Berkelanjutan pada poin 12.5, yaitu pada tahun 2030 secara signifikan mengurangi produksi limbah melalui pencegahan, pengurangan, daur ulang, dan penggunaan kembali.

Abstract

A Development is carried out to reduce disparities between regions. The increase in human population is followed by the intensity of land and resource use, interactions and changes that occur, until nature has boundaries, or planetary boundaries. Sustainable development has 17 goals that are universal, comprehensive and involve all countries. How to implement sustainable development goals at the local level. This research aims to analyze the implementation of sustainable development goals at the local level, namely responsible industry and consumption. This research uses a quantitative approach, the research location is Kedunglengkong Village, Simo District, Boyolali Regency, Central Java Province. The research population is home industry owners with a population of 35 people, using total sampling or the entire population as the unit of analysis. The research variables are indicators of sustainable development goal 12, responsible consumption and productive patterns. The data source used is primary data collected through observation and in-depth interviews. Data analysis uses descriptive percentages, with tables and figures. The research results show that there are 35 home industries that use raw materials from plastic waste. The raw material used is plastic waste originating from the surrounding environment. Home industries that use plastic waste as raw material are a concrete manifestation of the implementation of responsible industry and consumption, in accordance with the Sustainable Development Goal indicators at point 12.5., namely by 2030,

substantially reducing waste production through prevention, reduction, recycling and use return.

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INTRODUCTION

The world population is increasing over time, in the 1980s the world population was 1.1 billion people, and in 2020 it will be 7,773 billion. It only took about 40 years for the population to increase 7 times. The population will be 8 billion in 2022. [1]. It is estimated that in 2030 the world population will increase by around 10 percent, to 8.5 billion, in 2050 it will be 9.7 billion, and in 2100 it will be 10.9 billion [1]. Apart from the increasing number, their distribution is not balanced. The world's population is distributed unevenly across all countries, the largest population is in China, reaching 1,439,323,776 people, and Indonesia is in 4th place with a population of 273,523,615 people [2].

The increasing population is followed by an increase in energy needs, so that industrialization is needed, which results in an increasingly heavy burden on the planet Earth, even though there is only one planet Earth and it must be sustainable. Industrialization, which began in the 19th century with the industrial revolution 1.0, 2.0, 3.0, and until now, in the position of industrial revolution 4.0, has brought various problems that are increasingly widespread. In these conditions, the United Nations (UN) made a global agreement, which began in 2000, known as the Millennial Development Goals (MDGs) which lasted until 2015. [3]. The Millennial Development Goals only involve developed countries. These global development goals are continued with the Sustainable Development Goals (SDGs) which started in 2016, and will end in 2030, involving all countries and all the inhabitants of the earth [3] [9][4].

The Sustainable Development Goals or SDGs are a new global agreement to replace the MDGs which have broader universal targets and for all countries, with four pillars, namely social, economic, institutional and environmental pillars. Apart from that, SDGs have 5 elements, namely people, planet, prosperity, peace and partnership. Efforts to achieve these goals, by 2030, seek to end poverty, achieve equality, and address climate change. Sustainable development goals are a series of collective and global commitments. SDGs are global, universal, impartial, and for all without exception, have 17 goals, 169 targets and around 245 indicators [9][4].

The national SDGs program is led by the State, and each country is given the freedom to establish a national framework for achieving the SDGs. In Indonesia, the government together with various parties is aligning with the National Long Term Development Plan (RPJPN) for 2005-2025 and the National Medium Term Development Plan (RPJMN) for 2020-2024 [5]. Based on these considerations, Presidential Regulation No. 59 of 2017 concerning Implementation of the Achievement of Sustainable Development Goals on 4 July 2017 [6]. This presidential decree was established in order to realize the implementation of the SDGs program. The SDGs program also serves as a guide for Ministries/Institutions and Regional Governments in the preparation, implementation, monitoring and evaluation of National Action Plans. In article 17 paragraph (2) Presidential Decree no. 59 of 2017, states that every year the Governor is obliged to submit an achievement report on the implementation of sustainable development targets in the regions to the Minister of Home Affairs and the Minister of National Development Planning/Head of Bappenas. City and district governments also play an important role in realizing the SDGs agenda, so that the slogan emerged from the Regional Government, namely 'SDGs are us' [7]. Likewise, the United Nations, through the Voluntary National Review, must periodically submit reports on the achievements and sustainable development targets that have been implemented by each member country [8].

The Indonesian government has proactively committed to achieving the SDGs program. Indonesia's national development agenda is aligned with 17 SDGs goals and targets which have been integrated into the National Medium Term Development Plan (RPJMN) and the Government's Annual Work Plan (RKP) at the national level and the Regional Medium Term Development Plan (RPJMD) and Regional Annual Work Plan (RKPD) at the regional level. This action plan is expected to clearly show the relationship between government and non-government activities and the SDG indicators in question, along with baselines, targets, budgets, and responsible bodies [9].

Indonesia has prepared and developed a 10-year Framework document for the Sustainable Production and Consumption Program (10YFP SCP), under the coordination of the Ministry of Environment and Forestry together with various parties. The program is structured thematically, namely: (1) ecolabel and green public procurement, (2) green industry, (3) environmentally friendly buildings and sustainable construction, (4) sustainable tourism and sustainable tourism awards/ISTA, (5) waste and waste management, (6) new renewable energy, energy efficiency, (7) sustainable ports (green port), (8) environmentally sound communication and information (green ICT), (9) green innovation and technology, (10)

sustainability finance, (11) agriculture and ISPO, (12) sustainable fisheries, and (13) forestry with environmental services, SVLK, SILIN, HHK, HHBK, energy plantation forests [4][3].

Sustainable Development Goals-12, namely balanced consumption and production, has 8 targets, with 22 indicators [9]. The research aims to analyze the implementation of indicator 12.5 of the sustainable development goals, at a very narrow local level, namely in a village that has a home industry [10]. Research related to waste management has been widely carried out [11] [12] 13] [14] [15] [16] [17], this research focuses on home industrial processes that use plastic waste as raw materials, by prioritizing a geographical approach. "Geography is a science that studies the causal relationship of earth's surface phenomena and events that occur on the earth's surface, both physical and those involving living creatures and their problems through spatial, ecological and regional approaches for the benefit of development programs, processes and success [18]. The geographic approach includes 1) spatial, environmental and regional approaches. The spatial approach has nine themes in analysis, namely: a) Spatial pattern analysis b) Spatial structure analysis c) Spatial process analysis d) Spatial interaction analysis e) Spatial system analysis f) Spatial association analysis 12 g) Spatial comparative analysis h) Trend analysis spatial i) Spatial synergism analysis [19].

RESEARCH METHODS

This research is a type of quantitative research, with an emphasis on a spatial approach. The research location was carried out in Kedunglengkong Village, Simo District, Boyolali Regency. The research population is 35 home industries, the sample was taken by total sampling, because the number is less than 100. The unit of analysis is home industries, and the respondents are industrial players. The research variables are the raw materials used in industrial processes, and the area of origin of the raw materials. Data collection was carried out by means of direct observation in the field and indirectly by searching documents from various related parties. Data analysis was carried out descriptively, with tables and figures

RESULTS AND DISCUSSION

General conditions in Kedunglengkong Village

Kedunglengkong Village is one of 13 villages in Simo District, Boyolali Regency (Figure 1). Kedunglengkong Village is surrounded by several villages, located to the north of Simo Village and Teter Village, to the West of Talakbroto Village and to the East of Wates Village and Blagung Village.

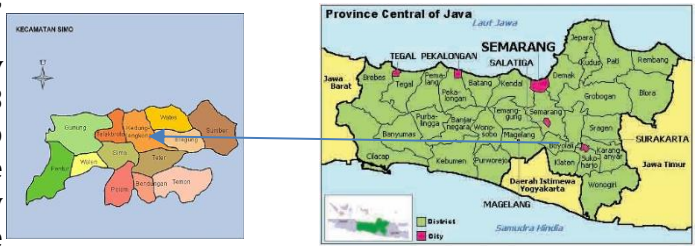

Figure 1. Map of Simo District, Boyolali Regency, Central Java Province

Kedunglengkong Village has an area of 470.25 hectares, consisting of rice fields, yards/residential buildings, and moors. The rice fields depend on semi-technical irrigation, and are rain fed. The area is a dry village, with the highest number of rainy days being only 24 days in February, and the lowest rainy days being 2 days in July.

Table 1.1. Geographical Conditions of Kedunglengkong Village

Nu	Geographical Conditions	Condition
1	Location	
2	Spacious, ha	470.25
3	Rice fields, ha	144,33
	Semi-technical irrigation, ha	98.02
	Its'raining, ha	46,31
4	Dry land, ha	325,87
	Yard/building, ha	162,24
	Moorland/garden, ha	155,05
5	Number of rainy days Highest Lowest	 24 2

Source: BPS, 2022

The infrastructure of an area greatly determines the smooth running of residents' activities in that area, apart from that, it is also beneficial for residents who pass through that area. Kedunglengkong Village consists of 21 neighborhood units, 5 community units, 17 sub-villages and 5 sub-villages.

Table 1.2. Infrastructure and Institutions in Kedunglengkong Village

No	Insfrastructure Institutious	Condition
1	Neighborhood Assosiation (RT)	21
2	Residens Association (RW)	5
3	Hamlet (Dukuh)	17
4	Hamlet (Dusun)	5
5	Medical facility	0
6	Trading facilities	0

Source: BPS, 2022

In Kedunglengkong Village, access to public facilities is still low, public facilities are still very limited, and they don't even have public health and trade facilities. Village residents must move outside the village or sub-district to meet the needs of these public facilities. Village residents fulfill communication between neighbors by meeting residents at the neighborhood (RT), neighborhood (RW) and hamlet levels. Meetings at each village institution at least once a month. The lowest village institution is RT, above it is RW, and Dusun, each has an administrator.

The population in Kedunglengkong Village, Simo District is very dynamic, both in terms of number and structure. The number of male residents is greater than the number of female residents. Population growth is included in the moderate category, namely 1.95 percent in 2021-2022. The structure of the population of productive age is greater than that of those who are not yet and who are no longer productive (Table 1.3).

Table 1.3. Condition of Population in Kedunglengkeng Village

Number	Population aspect	Total
1	Population number	5076
	Male	50,3
	Female	49,7
3	Population growth 2021-2022	1,95
4	Age structure	
	0-14	29,2
	15-64	63,4
	65+	7,4

Source: BPS, 2022

Home industry in Kedunglengkong Village

Industries made from plastic waste in Kedunglengkong Village are included in the household industry classification, this is in accordance with the classification carried out by BPS, namely based on the number of workers. Home industry is an activity that processes raw materials into finished or semi-finished materials with a workforce of less than 5 people [10]. There are 35 household industries in Kedunglengkong Village, which are located in a centralized cluster in one hamlet, namely in Dukuh Sirah. Dukuh Sirah is one of 17 hamlets in Kedunglengkong Village. The household industry is located in one yard with the residence.

The household industry made from plastic waste has a very good organizational structure. Each industry is led by an organizational leader, namely the industry owner, with members of his family, wife and children, and/or parents. The number of workers in the home industry is around 2 -4 people, consisting of family workers and non-family workers. Family labor is unpaid, while paid labor is industrial labor. The workforce comes from outside the village, outside the sub-district and outside the district. So, for workers from outside the district, they do not go home every day, but stay at the work location. This condition gives rise to the phenomenon of spatial interaction between the location of Kedonglengkong village and the village of origin of the workforce.

Implementation of SDGs 12 at the local level

Sustainable Development Goals or abbreviated as TPB means that development carried out by all countries aims to improve the quality of human life on earth in all aspects of life, including physical and non-physical aspects, by always taking into account natural resources and their carrying capacity, taking into account generations. present and future. Sustainable Development Goals have four pillars, the first is the social and humanitarian development pillar, the second pillar is economic development, the third pillar is environmental development, the fourth pillar is legal and governance development [20].

In Indonesia, the implementation of Sustainable Development Goal 12 is structured through a framework from 2013 to 2030. The 2013-2023 period, and systematically updated for the 2015-2019 period, the acceleration stage in 2020-2024, and the mainstreaming stage in 2025-2030 [4]. This document is intended to provide direction for implementing changes in sustainable consumption and production patterns together at all levels.

Sustainable Development Goal 12 sustainable consumption and production, in English is sustainable Consumption and Production (SCP), is a joint effort to realize sustainable consumption and production activities by all stakeholders globally [4] [20]. Sustainable Development Goal 12 has 8 targets, One of the targets, namely target 5 or 12.5, is by 2030 to substantially reduce waste production through prevention, reduction, and recycling and reuse [20]. The regulations underlying these activities are laws, government regulations, Ministerial regulations, including Law Number 18 of 2008 concerning Waste Management, Minister of Home Affairs Regulation Number 33 of 2010 concerning Waste Management Guidelines, Government Regulation Number 81 of 2012 concerning Management Household Waste, Regulation of the Minister of Public Works and

Public Housing Number 3 of 2013 concerning the Implementation of Waste Infrastructure and Facilities in Handling Household Waste and Similar Household Waste, Regulation of the Minister of Public Works and Public Housing of the Republic of Indonesia Number 5 of 2021 concerning Operational Guidelines for Fund Management Special allocation for Public Works and Public Housing Infrastructure in 2021, Regulation of the Minister of Public Works Number 21 of 2006 concerning National Policy and Strategy for the Development of Waste Management Systems (KSNN-SPP), SNI 19-3964-1994 concerning Methods for Collecting and Measuring Waste Generation and Composition Factors.

These various regulations are actually implemented at the national, regional and local village levels. In addition, all regions have prepared regulations for technical guidance. Each village refers to the village's sustainable development goals. Each village plans and implements and uses finances using the regulations of the Minister of Villages and (Kemendes) regarding the use of village funds [21].

Sustainable development 12, at target 12.5, namely reducing waste production through prevention, reduction and recycling. At the local, village level, these activities are carried out through a recycling process. The methods used are still very simple, both in terms of equipment and technology. Apart from that, the assets owned by home industries are still very limited.

The conditions that exist at the local level, Kedunglengkong village, are a form of implementation of sustainable development goal 12, indicator 12.5 regarding recycling. The household industry uses plastic waste as the main raw material for industrial processes. This activity is an effort to reduce plastic waste, in line with sustainable development goals [4]. Utilizing plastic waste as industrial raw materials is an effort to reduce the generation of plastic waste. Home industries use plastic waste as raw materials, including in a series of 3 R processes, especially recycling or recycling. Recycling carried out by home industries is using plastic waste as raw material for industrial processes, the result of which is plastic powder (semi-finished material) which is then used as industrial material. This is in accordance with the opinion expressed by Some of the studies that have been done [12][13][17].

The home industry in its process goes through various stages, which can be explained as follows. First, the home industry buys raw materials in the form of plastic waste consisting of various types. Second, the plastic waste is sorted according to its type, namely 1) polyethylene terephthalate, 2) high density polyethylene, 3) polyvinyl chloride, 4) low density polyethylene, 5) polypropylene, and polystyrene. The types of plastic waste are in accordance with the division of plastic types [12][17]. Third, plastic waste that has been sorted, ground, put into a grinding machine. Fourth, the results of grinding plastic waste are in the form of plastic powder. Fifth, the plastic powder is dried in the sun until dry. Sixth, the dry plastic powder is put into sacks measuring around 50-90 kg. Seventh, dry plastic waste powder is transported to the plastic industry, where it is processed into various plastic materials, which are located outside the area.

Home industries obtain plastic waste which will be used as raw material, imported from various surrounding areas. The area around where the raw material for plastic waste originates is from outside the village, outside the sub-district, and mostly from outside the district area. The areas of origin of these raw materials mostly include the Central Java Province, such as Semarang Regency, Semarang City, Grobogan Regency, Klaten Regency, Demak Regency. Conditions like this are repeated regularly, and form spatial interactions [10][19]. The area of origin of the raw material, the area where the home industry is located, and the large industry that consumes plastic powder, form a spatial relationship or spatial interaction. This phenomenon is in accordance with the concept of interaction in geography [18][19]. Spatial interaction is a concept that provides an overview of the conditions of mutual influence and dependence between components of the earth's surface, both between natural factors, natural factors and humans, nature and socio-cultural conditions, as well as between social factors. Apart from geographic concepts, the process of home industry activities forms a value stream concept or flow chain concept, this is in accordance with the opinion of previous researchers [Andi and Stringer, 2010][22][23]. The concept of value chain is coordinating all parties involved in a value chain sharing information transparently within the chain to ensure efficient product flow processes and fair benefits for each actor.

CONCLUSION

The household industry in Kedonglengkong Village in its production process uses plastic waste as raw materials, this activity is a concrete form at the local level which

implements one of the indicators of the targets formulated in sustainable development goal-12, namely responsible consumption and production, especially in target 12.5 specifically indicators for prevention, reduction, and recycling and reuse.

Home industries using plastic waste as raw materials are processed using simple tools, without using personal protective equipment, so further research still needs to be carried out, in the framework of improving the home industry, starting from sorting raw materials, processes, output and workforce.

REFERENCES

[1] Population Reference Bureau. 2020 World Population Data Sheet. https://www.prb.org/wp-content/uploads/2020/07/letter-booklet-2020-world-population.pdf.

[2] Central Bureau of Statistics. 2020. Results of the 2020 Indonesian Population Census. Jakarta. Central Bureau of Statistics.

[3] Word Bank Group. 2019. The 2030 Sustainable Development Agenda and The Word Bank Group: Closing the SDGs Financing Gap.

[4] Ministry of National Development Planning/Bappenas. 2020. Strategy Framework for Achieving Sustainable Consumption and Production in Indonesia for 2020-2030. Jakarta. Ministry of National Development Planning/Bappenas collaborates with the Ministry of Environment and Forestry. Center for Environmental and Forestry Standardization.

[5] Ministry of National Development Planning/Bappenas. 2019. Technocratic Design. Indonesia's 2020-2024 National Medium Term Development Plan. Prosperous, fair and sustainable middle-high income. Jakarta. Ministry of National Development Planning/Bappenas.

[6] RI. 2017. Presidential Regulation of the Republic of Indonesia Number 59 of 2017. Sustainable development. www:// Hukumonline.com.

[7] Hoelman, Mickel B., Bona Tua Parlinggoman Parhusip., Sutoro Eko., Sugeng Bahagijo., Hanung Santoso. 2015. Sustainable Development Goals (SDGs): Guide for Regional Governments (City and Regency) and Regional Interest stakeholders. Revised edition. Jakarta: INFID.

[8] IHCR. Human Right Indicators Tables. Uppdate with Sustainable Develompent Goals (SDGs) Indicarors. Untaited Nation Human Right.

[9] Ministry of National Development Planning/Bappenas, 2020 edition 2. Indicators of Environmental Pillar Sustainable Development Goals. Jakarta. Ministry of National Development Planning/Bappenas.

[10] Hardati, P., et al. 2023. Home Industry Spatial Interaction and Its Contribution to the Environment. Research Result. Semarang. UNNES. Not published.

[11] Capah, BM, Hadiyanto Abdul Rachim, Santoso Tri Raharjo. Implementation of SDGs-12 through Community Development in the CSR Program. Share: Journal of Social Work. Vol. 3 Number 1. Pages 151-160. ISSN: 2339-0042 (p) ISSN: 2528-1577 (e) https://doi.org/10.45814/share.v13i1.46502.

[12] Setianingsih, R., M, Baiquni., Andri Kurniawan. 2019. Modeling of Sustainable Development Goals Indicators in Indonesia. Journal of Economics and Development Vol 27, No.2, 2019.

[13] CPC. 2022. Overseeing the implementation of SDGs in Indonesia. Examiner News Journal. Edition 1, Vol. January 5, 2022. Pages 17-18.

.[14] Sapri. 2023. Creating a Sustainable Society Through SDGs 12 Based Waste Management in Regional Governments in Indonesia. Journal of Government Science Studies. Jurnal Studi Ilmu Pemerintahan. JSIP Jilid 4, No.01 2023. ISSN : 2722-7405. Hal 69-80.

[15] Chan, S., Weitz, N., Persson, A dan Trimmer, C. 2018. SDG 12: Responsible Consumption and Production. Research Needs Overview. Technical attachment to the Forskning Formation Report for the 2030 Agenda.: Oversikt av forskningsbehov och vagar framat. Institut Lingkungan Stockholm, Stockholm.

[16] Dewan Menteri Nordik. 2018. Implementation of SDGs 12 in the Nordic Countries According to Civil Society. Compilation of Nordic CSO Reports on SDG 12. Gruppen Forum for Beredygting udvikling, Concord everigs Fingo, Norvegian Forum for development and Environment. With Support from the Nordic Council of Ministers.

[17] Arifin, S., S., Muhammad Rijal Syukri. 2022. Implementation of SDGs Through Organic Waste Management Training. Buleten SDGs UNG, Vol. 1, Nomor 01, 2022. 6-9.

[18] Bintarto, R., 1983. Village-City Interaction and Its Problems. Jakarta. Ghalia Indonesia.
[19] Yunus, H., S., 2010. Contemporary Regional Research Methods. Yogyakarta. Pustaka Pelajar.
[20] Alisyahbana, A.,S., Endah Murtiningtyas. 2018. Development Goals in Indonesia: Concepts, Targets and Implementation. Bandung. UNPAD Press.
[21] Ministry of Villages, Residential Areas and Transmigration, Republic of Indonesia. 2023. Use of Village Funds. Jakarta. Ministry of Villages, Disadvantaged Regions and Transmigration of the Republic of Indonesia. Jakarta. Ministry of Villages, Residential Areas and Transmigration, Republic of Indonesia.
[22] Andri K.B. and Stringer. 2010. Implementation Guide for Implementing VCA (Value Chain Analysis) for BPTP and Hidayat Research Staff, Rice Value Chain. BBP2TP. Agricultural Research and Development Agency, Ministry of Agriculture. Bogor.
[23] Hidayat, M., Pujiharto, Sulistyani Budiningsih. 2017. IR64 Rice Value Chain in Wanareja District, Cilacap Regency. Jurnal AGRITECH. Vol. XIX No. 2. Desemebr 2017. Halaman 121-129. ISSN: 1411-1063.