

## **SUSTAINABLE ECONOMIC DEVELOPMENT: GREEN AND CIRCULAR ECONOMIC DURING THE COVID-19 ECONOMIC RECOVERY IN LOMBOK**

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### **Abstrak**

This study aims to measure the success of the vision and mission of the NTB governor Mr. Dr. Zulkiflimansyah, S.E, M.Ec as the current NTB Governor, namely the sub-vision of the mission of the original and sustainable NTB. This vision and mission has been implemented since he took office. It is proposed in this study whether this model is able to become an economic recovery model using zero waste-based economic development sub-theme green and circular economy. The method used is descriptive qualitative sampling technique purpose sampling 4 indicators namely policy makers namely DLHK Prov NTB, UMKM Lombok Island, Academics and the community. The results of this study indicate that the form of success of the NTB governor by building a plastic-based school, the central Lombok area has used GAS made from organic waste, 126 waste banks recorded in various locations and special waste management sites Reuse, Reduce and Recycle at 25 points and the last is the 369 location waste team and several forms of training programs conducted at all points in NTB. Some MSMEs have used waste as the basic material for business, the community at the collection and separation stage has not yet been able to manage it into goods of economic value.

**Keywords:** NTB, UMKM, Masyarakat, Waste.

### **INTRODUCTION**

One of the missions of Dr. Zulkieflimansyah, S.E., M.Ec. as the current Governor of West Nusa Tenggara is NTB Asri and Lestari. The objectives or elaboration of the mission are sustainable spatial development, NTB Green, NTB Zero Waste, Waste Bank and Taman Asri. To realize this, one of the concepts built is sustainable economic development with the concept of zero waste: green and circular economy.

In NTB, especially on the island of Lombok in 2018 before the SAMPUN program and the governor's vision and mission were implemented, waste in NTB was as follows, (1). Mataram city waste per kg / person / day is 0.338, West Lombok 0.298, Central Lombok 0.300, East Lombok 0.301 and finally North Lombok 0.300 kg / person / day.

The latest data in 2021 in the form of projected waste generation per ton / day, in Mataram City with 340.49, in West Lombok with 501.46. Central Lombok with 353.24. Central Lombok with 353.24. East Lombok with 506.03, and the last is North Lombok with 88.94. These figures when compared to the year before the SAMPUN program were still classified as no change and even increased waste generation, but had the potential for good management.

After talking about the NTB program, what needs to be highlighted is the economy on the island of Lombok during covid-19. Mansur Afifi as the chairman of the Mataram branch of the Indonesian Economics Bachelor Association explained the impact of covid-19 on the

island of Lombok was April Inflation: deflation of 0.28 percent (-0.21%: March). u TPT February: 3.14 percent (3.27%: February 2019). For March Starred Hotel TPK: 19.07 percent (36.70%: February). On April 15, 180 companies laid off 11,000 employees. The Tourism Industry laid off 100 employees and laid off 4,000 employees through April. And for Investment Flows to decline (negative growth).

This impact is the basis for economic development of course in various fields, such as social and environmental restrictions, the Government has budgeted Rp 500 billion for handling Covid-19 with allocations: Rp 300 billion for health services u Rp 200 billion for economic stimulus for SMEs and SME assistance (capital and machinery assistance), Social Safety Net (JPS) "Gemilang" with details: 105,000 households throughout NTB, Sembako Plus Package (rice, eggs, cooking oil, tea, eucalyptus oil, etc.), Package Value: Rp250,000 per household per month during the Covid-19 Emergency period for three months from April 16 to June 2020.

Assistance from the government is not sustainable, so there is economic development with the concept of Green and circular economy on the island of Lombok. Sustainable economic development is a plan designed to overcome poverty, reduce inequality while protecting the environment. Sustainable economic development with the concept of Zero waste where the concept of Green economy is applied in West Nusa Tenggara is a program that has been implemented in recent years with several programs that continue to be socialized to the community.

In terms of regulations, there are two models of waste management obligations, namely waste reduction and waste management. Targets for both types of waste have been set nationally through Presidential Regulation 97/2019 on national policies and strategies (jakstranas) for the management of household waste (STR) and waste similar to household waste (SSRT). Since this program was rolled out, there has been an increase in the percentage of SRT/SSRT waste management. In terms of SRT/SSRT handling, the amount of waste handled was only 20 percent in 2018 or 513.55 tons/day. This number increased to 37.63 percent or 980.35 tons in 2020. A number of SRT/SSRT reduction programs include waste banks, biopores, compost bags, independent BSF (Black Soldier Fly), TPS3R, independent waste management, neighborhood-scale waste management, and activities in educational institutions. Zero Waste is based on the concept of green economy, which has the indicators or achievements such as utilizing the economy with several principles, such as welfare, justice, environment, efficiency, sufficiency, and good government principles. In addition to Green economics, circular economics is also used as a model in the economic recovery period which has the concept of conserving resources that can be used as long as possible by the process of waste-waste or production and consumption.

To measure the implementation and achievement of the vision and mission of the Governor of West Nusa Tenggara from the concept of Green and circular economy cannot be separated from the 3P theory, namely (People, profit and planet / environment). The 3P theory is a benchmark for sustainability or economic recovery by looking at the planet which is defined as the environment, profit is defined as profit and people are defined as social interaction. These 3Ps are the basic objectives in the application of Green and circular economics during the economic recovery period after the decline in the Covid-19 rate. In addition, the concept of Green and circular economics is also a very important concept to be applied during the economic recovery period after the decline in the Covid-19 rate.

In addition, the concept of Green and circular economy must be supported by institutions that have an important role in a region, namely by utilizing the Quadruple Helix, which is a concept that encourages innovation in its application. This concept is a development of the Triple Helix in integrating the concepts of civil society and innovation and knowledge. Quadruple Helix strongly encourages the growth of innovation. The concept of the Quadruple Helix theory contains four elements that have a role to support the 3P theory, namely knowledge from the academic field, the government field, the business field and the community field.

The latest economic news during the pandemic as of August 05, 2021 in a fairly high number position, quoted from the statement of the coordinating ministry for the economy of the republic of Indonesia issued a statement about economic growth in the second quarter of 2021 grew by 7.07%. The highest figure in the last 16 years and at the same time the highest quarterly growth record since the subprime mortgage crisis, even higher than peer countries. This growth was achieved at a time when the average active covid-19 cases during the second quarter of 2021 was recorded at 113. 218 cases. This shows that the pace of economic recovery continues and the high level of public confidence in the government's handling of covid-19 and economic recovery. This economic growth was supported by strong growth from both the demand and supply sides.

In general, all regions in Indonesia are experiencing economic recovery. Java Island as the first contributor to the national economy was able to grow high and then followed by Bali and West Nusa Tenggara. Economic recovery in the midst of this pandemic requires a green and circular economy by the government to continue implementing the ideas of the Green economy concept and sustainable development economy that were initiated in 1972 and regulated in natural resource policy number IX/MPR/2001 Explaining agrarian reform and natural resource management. So far, the right recovery method in Indonesia is still economic growth during the pandemic through the Green economy and circular economy which is considered a sustainable strategy or model both in terms of economic consumption and infrastructure. So in this case NTB is a research sample in Indonesia on how the economic recovery model with the concept of Green economy during the Covid-19 pandemic, and how the economic recovery model with the concept of circular economy during the Covid-19 pandemic. The results of this study can be a reference and contribution of the author for the island of Lombok and generally Indonesia to continue to implement the Green economy and circular economy.

Based on the above background, the focus of the problem formulation in this study is how the economic recovery model with the concept of Zero Waste sustainable economic development (Green and circular economy) after the Covid-19 pandemic gradually declined. This study aims to look at the economic recovery model with the concept of sustainable economic development, namely zero waste (Green and circular economy) in the period after the co-19 pandemic on the island of Lombok, West Nusa Tenggara.

## **METHODOLOGY**

The research approach that will be used in this research is a descriptive qualitative approach. In theory, this research concept is a research procedure that produces descriptive data in the form of speech or writing and behavior that can be observed from the subjects themselves. (Furchan, 1992). This research was conducted on the island of Lombok involving

institutions that are influential in sustainable economic development with Green capital and circular economy such as: first, educational institutions represented by the Mataram State Islamic University, Mataram University and Muhammadiyah part of the circular economy study center. Second, business institutions involving Mataram city MSMEs and NTB provincial MSMEs. third, Government Institutions involving the Environment and Forestry Service Prov. West Nusa Tenggara. And finally, the fourth: The community, in this case represented by 30 people from the city of Mataram in particular and the people of Lombok island in general with the Purposive Sampling technique which is usually done to produce a sample that is considered representative of the entire research population.

The research subjects in this study involved informants or resource persons who determine policies in the field of sustainable economic development with the Green and circular economic model, and among the institutions involved in West Nusa Tenggara, especially the island of Lombok, are the government represented by the environmental and forestry service, business institutions represented by MSMEs in the city of Mataram and NTB Province MSMEs, educational institutions involving or represented by Mataram State Islamic University, Mataram University, and Mataram Muhammadiyah University And finally the people of Mataram city and several qualified informants on the island of Lombok represented by 30 people. The techniques and data collection carried out in this study are as follows: Observation (Observation), Interview. In testing the validity of the data in this study using trust. Certainty, triangulation. (Moleng, 2012)

## **RESULT AND DISCUSSION**

### **A. The economy during the covid-19 economic recovery period on Lombok Island.**

In 2020, the peak of the covid-19 case, said that positive economic growth in NTB was marked by the 2020 quarterly report that the economy grew positively with a figure of 3.01% better than the previous quarter which was in the range of 0.2% to 0.6%. And in 2021 it is optimistic with an estimate of 3.8%. Head of Bank Indonesia Heru Septadji explained that this happened in reference to global conditions where the level of COVID-19 facilities globally tends to continue to improve at 2.32%. (Ntb. ptov, 2020).

Data from the central statistics agency generally outlines several indicators that are used as a reference to see economic conditions during the pandemic. This study uses several of these indicators, including:

#### **1) Growth Rate of GRDP by Business Field (Percent) in West Nusa Tenggara**

Brothu regional domestic product is the sum of added value arising from all economic sectors in a region. GRDP is used to help make regional policies or planning, evaluate development results, provide information that can describe the performance of the regional economy. This GRDP is used to describe the general state of the NTB economy during the pandemic, especially in 2020 and 2021.

**Table 1 GRDP by Business Field**

GRDP Sub Categories	GRDP Growth Rate by Business Field (Percent)	
	2020	2021
A. Agriculture, Forestry, and Fisheries	-0.41	1.14
B. Mining and Quarrying	27.66	-0.15
C. Processing Industry	-2.41	2.10
D. Electricity and Gas Procurement	8.87	7.73
E. Water Supply, Waste Management, Waste and Recycling	4.19	0.49
F. Construction	-14.26	8.94
G. Wholesale and Retail Trade; Repair of Cars and Motorcycles	-4.98	1.72
H. Transportation and Warehousing	-31.36	2.14
I. Provision of Accommodation and Drinking Food	-28.24	1.35
J. Information and Communication	12.38	4.98
K. Financial and Insurance Services	11.12	4.39
L. Real Estate	1.04	1.47
M, N. Corporate Services	-3.44	0.33
O. Government Administration, Defense and Compulsory Social Security	2.92	1.74
P. Education Services	0.82	1.67
Q. Health and Social Services	-2.38	7.87
R,S,T,U. Other Services	-6.20	1.65
<b>GROSS REGIONAL DOMESTIC PRODUCT</b>	<b>-0.62</b>	<b>2.30</b>

Based on the table above, the gross regional domestic product in 2020 and 2021 has increased, which in 2021 amounted to 2.30%, with details of a significant increase in the plantation crops, livestock, forestry and logging sectors, fisheries, food and beverage industry, health services and social activities with a high enough figure, namely in 2020 of -2.38% and in 2021 to 7.87%. These figures are a stable GRDP category because the year before covid-19 experienced an increase in the direct line of GRDP attached to the research document shows that the agriculture, forestry and fisheries sector amounted to 136.81 and in 2019 amounted to 140.87. mining and quarrying sector in 2018 amounted to 132.96 and in 2019 amounted to 137.43. health services and social activities in 2018 amounted to 124.04 and in 2019 amounted to 128.12. (Ntbbps.id, 2022).

## **2) Growth of GRDP per Capita at Constant Prices by Regency/City in West Nusa Tenggara Province (Thousand Rupiah)**

GRDP at constant prices shows the value added of goods or services calculated using prices prevailing in a particular year to know real economic growth from year to year. GRDP at constant prices is also a measure used by the government to determine future development policies. The following is GRDP at constant prices in NTB in general and especially the island of Lombok which is the sample research location.

**Table 2 GRDP per Capita at Constant Prices by Regency/City in West Nusa Tenggara Province (Thousand Rupiah) (ntb.bps.go.id, 2022)**

District/City area	GRDP per Capita at Constant Prices		
	2019	2020	2021
Kabupaten Lombok Barat	15425	14082	14310
Kabupaten Lombok Tengah	12880	11217	11468
Kabupaten Lombok Timur	11823	10577	10723
Kabupaten Lombok Utara	15543	13056	12974
Kota Mataram	27915	30377	31193

Lombok Island consists of East Lombok, Central Lombok, West Lombok, North Lombok and finally Mataram City. GRDP per capita at constant prices decreased on average in several districts including East Lombok, West Lombok, Central Lombok and North Lombok. The average GRDP increased at constant prices in Mataram city in 2019 GRDP at constant prices in the range of Rp. 27,915, in the early year of the 2020 pandemic at constant prices in the range of Rp. 30,377. and in the peak year of the pandemic at constant prices GRDP at Rp. 31,193. Apart from GRDP, economic recovery using the Green and circular economy model is supported by government programs in the form of facilities for waste management:

**Table. 3 Command Facilities and Infrastructure to Support the Economic Sustainability Program with the concept of Zero Waste: Green Economy and Circular Economy (bps.go.id, 2022).**

#	Kabupaten/Kota	Truk	Pick Up	Roda 3	Gerobak	Timbangan
1	<a href="#">Kab. Lombok Barat</a>	6	17	203	35	32
2	<a href="#">Kab. Lombok Tengah</a>	1	2	5	23	34
3	<a href="#">Kab. Lombok Timur</a>	0	3	13	26	74
4	<a href="#">Kab. Sumbawa</a>	0	0	2	0	3
5	<a href="#">Kab. Dompu</a>	0	0	0	0	0
6	<a href="#">Kab. Bima</a>	0	0	0	0	0
7	<a href="#">Kab. Sumbawa Barat</a>	0	0	1	2	2
8	<a href="#">Kab. Lombok Utara</a>	0	0	0	2	2
9	<a href="#">Kota Mataram</a>	1	0	3	10	10
10	<a href="#">Kota Bima</a>	0	0	0	0	0
Total		8	22	227	98	157

Based on the overall facilities and infrastructure table, West Nusa Tenggara province, and Lombok Island consist of Mataram city, West Lombok, Central Lombok, North Lombok and East Lombok districts. Each of these areas is provided with facilities and infrastructure from the government, especially to preserve the environment and waste management, where the city of Mataram has facilities and infrastructure from the government in the form of 1 truck, 3 wheel3, 10 carts, and 10 waste scales. In West Lombok Regency, 6 trucks, 17 pick-ups, 203 3-wheelers, 35 carts and 32 waste scales. In Central Lombok District, 1 truck, 2 pick ups, 5 3-wheelers, 23 carts, and 34 waste scales. In East Lombok Regency, the facilities and infrastructure provided are 3 pick-ups, 13 3-wheelers, 26 carts and 74 waste scales.

Departing in the context of the economy of the island of Lombok above, actually Green and circular economy has been echoed by NTB since the Governor of NTB took office, and many in various regions have implemented it, but in NTB it still feels unfamiliar if no one has tried to study its application. so that the concept of Green and circular economy carried in this study answers the concept of Zero Waste on the island of Lombok, including the following:

## **B. Green and Circular Economy for the Government**

The economic recovery model using the concept of Green and circular economy on the island of Lombok according to the environmental and forestry service is seen in several angles, including:

### **a) Potential for Implementing Green and Circular Economy**

The potential for economic growth by implementing Green and circular economy on the island of Lombok is very large, as measured by the stable GRDP in the midst of a pandemic, namely between 2020 and 2021 around Rp. 30,377 and GRDP in 2021 as the peak of the pandemic of Rp. 31,193. Because in theory GRDP is used by the government to measure the success of development implementation, which can be used as a macro benchmark is economic growth which is reflected in changes in GRDP (Gross Regional Domestic Product) in an area. With increasing economic growth, it means that the production of the types of services and goods produced is also increasing, which can absorb a large number of workers. So that unemployment decreases and poverty decreases. (Romhadhoni, Faizah, arafah, 2018).

In addition to Lombok's GRDP, the potential for implementing Green and circular economy is supported by the types of community businesses that do not require large capital. For example, waste management. Information from the environmental and forestry services is said to be potential because people who are members of MSMEs manage waste not only one type of waste but various types of waste. An example is NTB Mandiri, a waste bank whose turnover reached 10-30 million during the pandemic while before the pandemic it ranged from 50-70 million.

### **b) Government policies and programs**

Government policies and programs begin with the sorting of hazardous waste that cannot be managed by the community by providing a special place. Furthermore, the government provides facilities and infrastructure to the community in several forms.

The forms of government programs and policies are as follows: (1.) Socialization with the theme Bersih Mandiri Hamzanwadi Waste Bank, June 2022 in sanggeng, Sekarteja village, East Lombok; (2). Socialization of Zero Waste and Biopore Making and the formation of waste banks, attended by 50 participants on March 16, 2022 in setungkep village, lingsar, keruak East Lombok; (3). Establishment of Nurul Fallah Waste Bank, February 25, 2022, in the hamlet of mapak kuranji labuapi West Lombok; (4). Clean action, Bilebante village, sesele, jai stone dam, clean beach, river in February 2022, (5). Socialization, education, and clanup in ampenan February 20, 2022. (6). UNRAM Thematic KKN on Waste in Ranjok village, jurit baru, mertak tombok, in January 2022; (7). Socialization of Zero Waste concept, mertak tombok Central Lombok 2022. (8). Management of residues and organic waste in leneng, Central Lombok in 2022. (9). Clean Environment Action and Tree Planting in 2021, in Semoyang, Central Lombok; (10). Zero Waste training on waste management strategies and biogas production by Zero Waste team and blue biogas house/home energy in toya village, East Lombok district, August 31, 2021. (11). There was a presentation of the results of data input in the signsmart application to

determine greenhouse gas emissions in NTB. (related to the energy and waste sectors) which was carried out in July 2021. (12). There is a facility for providing greenhouse gas investigation data in NTB, presentation of GHG emission achievements in the forestry, waste and waste sectors by the secretary of the LHK service in collaboration with the climate change monitoring center wiyah jabalnusra. (13). Meeting of water resources development team; (14). Synchronization of biogas digester construction activities in 2021.

### **c) Categories of waste management classification**

On the island of Lombok as a whole, the details of waste management are: (1). Especially for waste business in the form of waste banks as many as 126 waste banks, (2). Waste collectors as many as 13 collectors, (3). 7 waste processing productions, (4). 1 waste care community, (5). Management in landfills in 11 locations, (5). Integrated waste management sites that are still empty on the island of Lombok and NTB in general, (6). Waste management sites that specialize in Reuse, Reduce and Recycle at 25 points, (7). Waste collection sites on the island of NTB in 17 locations, (8). And the last is an illegal waste team that is not registered by the government or the environmental and forestry service as many as 369 locations.

The 369 locations that are not registered with the environmental agency are half of the population of villages on the island of Lombok. Referring to the latest data collection, the number of villages on the island of Lombok is 598 villages with 54 sub-districts. In contrast to the results of research by Muhammad Zamzami, et al on waste management in rural communities in the sresih sub-district of Sampang Madura, waste management in the village is still not good, this is due to the absence of land for the construction of temporary shelters, facilities and infrastructure that are still not good. (zamzami, ilhami, 2018).

### **d) Successful waste management on the island of Lombok**

Other forms of success in Lombok are: (1). Building schools from plastic materials, (2). Successfully providing 9 waste management packages/training to various regions; (3). Building the foundation of the community's mindset about waste management awareness, (4). Minimizing the cost of waste management. (5). The target of mapping priority villages for reforestation is decreasing because the land categorized as critical and very critical land is decreasing.

## **C. Academics' Views on the Concept of Zero Waste (Green and Circular Economy)**

The next benchmark that is used as the main indicator in the development and sustainability of the regional economy is the views of several experts in the field of Green and circular economy on the island of Lombok, these three universities are the most popular universities in the city of Mataram, namely Mataram University, Muhammadiyah University, and Mataram State Islamic University. The views of experts in the field emphasize several main points, including:

### **1. Zero Waste Means Zero Waste activities**

Zero Waste is a waste management concept based on recycling activities. Waste management is carried out by sorting, composting and collecting goods worth selling, so according to information in the field, academics consider that Zero Waste is impossible because if he thinks Zero Waste means zero activity and what must be supported is to zero. And on the island of Lombok, the application of Green and circular economy in Lombok has begun to be implemented slowly with the support of government policies and programs accompanied by facilities and infrastructure.



## **2. Government governance (SOP for collection, separation of bins, waste management methods)**

The next point that must be considered according to experts in the field of economics, especially Green and circular economy, is related to the governance set by the government. For example, some areas in Lombok that are used as samples for organic waste management are still minimal compared to non-organic waste.

According to the academician, there should be emphasis from the government such as separating waste bins by providing two to three bins. For example, fancy colors for organic waste, green for non-organic waste and yellow for B3 waste bins. For people who do not obey the rules about disposing of waste in its place, a fine is imposed, thus supporting public awareness about the importance of waste management.

Departing from some of these views must be supported by garbage collection with scheduled cleaning tasks. For example, Monday for organic waste collection, Tuesday for non-organic waste, Wednesday for B3 waste or B3 waste. In addition to scheduled waste collection, it is supported by different waste destinations. For example, specifically for organic waste in TPA A, and non-organic waste in TPA B, and so on.

The proposal was answered with some information from the community in the ampenan area that janitors in the ampenan neighborhood are given training on waste selection and are a condition of being accepted as janitors.

## **3. Cross-generational justice**

In the KKBI, cross is defined as distance and generation is defined as offspring. So in this case, the concept of cross-generational justice according to the akademisi informant is justice designed so that economic activities are not only beneficial to oneself but benefit the next generation so that it can be called cross-generational justice. Because the current generation can protest about environmental damage, what about the cross-generation 100 years in the future will guide who? For this reason, what must be wise is the current generation how economic activities are managed properly, one of which is by implementing Green and circular economics.

This view is supported by one of the studies used as a reference on the role of the millennial generation in environmental improvement efforts, namely by contributing labor in the form of community service and participating in plastic waste management (ayu, dewi, 2018).

## **4. Economic value**

The green economy is indeed present as a form of the importance of natural efficiency from reducing natural resources, reducing ecological risks, a low-carbon economy and being able to reduce poverty. In addition, the economic benefits based on the green economy are as follows: 1). Utilization of environmental resources and services; 2). Utilization of low carbon economy; 3). Can reduce environmental risks; 4). Bio-based economy; 5). Measures macroeconomics; 6). Beneficial for the region (Tanjung, 2020).

## **5. Achieving a Green and circular economy**

As stated in the previous point, starting from government policies, it is sharpened by providing several programs to instill public awareness of Green and circular economy. This point is in line with several government policies on the island of Lombok carried out by the government starting from other training on Zero Waste which is supported by the facilities and infrastructure that the government has provided.

## **6. Government support for MSEM**

The next point is the government's support for MSMEs, not just the community. Because MSMEs have enormous economic recovery potential. For example, development by providing training in fracking, labeling and the use of environmentally friendly materials. This has been done in Lombok, the provincial and city MSME offices provide training to MSMEs as a form of government support.

#### **7. Achievement of NTB Governor's Vision and Mission**

The next view highlighted by academics is the achievement of the VISION and MISSION of the Governor of NTB among the people on Lombok Island. According to academics, government policies should not only reach the policy level, but must reach the lower level, namely the community and MSMEs.

On Lombok Island, the level of government policy has begun to be implemented, although not yet as a whole. Mataram City as the research location has established waste management and green economy with several categories, ranging from managing their own waste, to being managed by janitors. In West Lombok and outside the city of Mataram in general, they have begun to use the concept of Green and circular economy slowly by separating organic and organic waste.

#### **8. Public understanding of green and circular economy**

According to informants of economic studies as well as academics explained that our people in Lombok on average do not understand the terms Green and circular economy. However, the application of these methods has begun to be applied at several points. So that continuous socialization is needed.

When asked to use terms echoed by the government such as the terms Green economy, circular economy, and Zero Waste, the people of Lombok answered that they did not know at all. But when asked how to utilize waste, the answers varied, for example at community points.

#### **9. Curriculum on circular economy**

The next view promoted is the design of a curriculum on Green and circular economy. A circular economy study center in Lombok has just been established at Muhammadiyah University in Mataram. Outside Lombok, Gadjah Mada University has also established a world trade study center. According to the UGM study center, the initiative to establish a "Twin Center on the Circular Economy" is the result of UGM's PSPD Trade Labs program. The Twin Center program is expected to encourage the circular economy transition in Indonesia to achieve sustainable development goals (SDGs). Through the Twin Center initiative, PSPD UGM has produced training modules, class syllabus, and accessible website.

#### **10. PSPD UGM in Lombok has conducted webinars and FGDs on circular economy in collaboration with UD. Bintang Sejahtera.**

This activity initiated the establishment of a Sharia Waste Bank (BSS) at Muhammadiyah Mataram University which will be fully assisted from the technical side by Bintang Sejahtera NTB and assistance in applying sharia economic principles by a team from the Faculty of Sharia Economics, Muhammadiyah Mataram University. Universitas Muhammadiyah Mataram (UMM) collaborates with the World of Business and the World of Industry (DUDI) in order to help the government solve waste problems while developing the potential for utilizing waste into industrial resources and raw materials that can contribute significantly to economic recovery, both locally and nationally. In addition, the study center from UM mataram formed a curriculum on circular economy by cooperating with several PGMI departments.

### **11. Changing people's paradigm**

The next area of concern for academics is how to change people's paradigms regarding the implementation of green and circular economy. Especially the waste management part. Waste is not just the business side. However, public awareness about the importance of a clean and healthy environment. Based on the results of research in various regions, there are still few who practically apply the concept of Green and circular economy, for example, organic waste that is processed is Duman Village, West Lombok, and Bilebante, Central Lombok. In Mataram City, the average sample is transported and separated by cleaning staff, not individuals / houses. Overall on the island of Lombok, the average waste is only of economic value by separating the saleable waste. Such as plastic and iron. Other waste such as organic waste is still disposed of in ditches, and others provided by the government.

### **12. Waste is not the government's job**

Academics see that we cannot put it on the government, because we are the ones who create waste. Waste is the task of the government, the task of housewives, students and us as academics who certainly have the responsibility to provide proper and easy-to-understand education. As an example of the success of waste management from households is research from Tri Kharisma Jati, on the role of the Boyalali government in managing urban residential environmental waste, this is supported by the role of the government in collaboration with the community. The results of his research show the success of Boyolali city in obtaining the Adipura trophy for five consecutive times. One of the Adipura assessments is waste management at the scale of the residential environment. Bumi Singkil Permai Housing which has successfully managed household waste into useful goods so that the transportation of waste from this housing has been reduced (jati, 2013).

### **13. Building networks with waste banks**

The next point of concern for academics is to build a network with waste banks on Lombok Island. In addition to the mandate from the NTB governor, every village has a waste bank, so a waste bank unit was formed whose job is to go directly to the field to educate, process and collect waste, such as dry waste that has economic value.

### **14. Garbage disposal in Lombok**

Waste in landfills in Lombok has started to decrease. It is marked by the recognition of the scavengers because it has begun to be selected and sold. What is still a lot is wet waste, which is still poorly managed. This is in accordance with the community's statement that the selected waste is economically valuable waste that can be directly sold such as plastic bottles and certain iron. This is also evidenced by the many waste banks and other facilities described in the previous point.

## **D. Green and Circular among MSMEs**

As in theory, MSMEs are vital to the regional economy, so here the UMKM office of Mataram city and NTB Province MSMEs provide several programs that encourage the success of our MSMEs on the island of Lombok. Departing from this, this study took five MSMEs domiciled in various regions, especially on the island of Lombok, as research samples. The five MSMEs sampled on average have implemented the concept of Green and circular economy.

There are two forms of programs carried out by the Provincial and Mataram City MSME offices in terms of encouraging the sustainability of MSMEs, as follows: 1). MSME data collection and 2). Training and mentoring to all MSMEs.

After collecting data on MSMEs on Lombok Island, several periodic trainings are provided by the trade office as well as the city and provincial MSME offices. Examples of programs and training provided by NTB provincial MSMEs are being included in the JPS program. The assistance provided is in the form of tools, machines, and other items that can help MSMEs. In addition to assistance in the form of tools, further forms of programs on the island of Lombok are: 1) Providing buyers to MSMEs with the aim of encouraging MSME businesses during the recovery period after the recurrence of income during the previous Covid-19 period. 2) Cooperation with modern markets such as UNIQLO, 3) Providing stalls at various events such as the moto GP event in 2021.

MSME informants who have implemented the concept of Green and circular economy in their business are as follows: 1). Bag entrepreneurs from recycled plastic materials. 2). Catrting entrepreneurs by maintaining cleanliness 3). Lamp entrepreneurs from pipe materials. 4). Bag and apron entrepreneurs from plastic waste materials; 5). Sopa and calligraphy entrepreneurs from wood and plastic materials.

The entrepreneurs who are members of MSMEs in the city and province of NTB are in line with the economic growth indicators that form the basis of research on the green economy. These indicators are: Energy and extractive industries, Manufacturing industries involving production and processing activities, clean technology, and waste recycling, Connectivity involving telecommunications and transportation, New Natural Resources including forestry, agriculture, fisheries, land use and marine activities, New markets and business models that provide financial value from non-consumptive uses such as natural capital and environmental services (djailil, 2015).

## **E. Green and Circular Economy in Society.**

The main actor in the concept of Green and Circular Economy on Lombok Island is the community. In addition to being the main actor in economic development, the community is one of the goals of the success of this concept. There are two groups measured in the community, namely the research sample group and the comparison group. The research sample group is the people of Mataram city, and the comparison group is a group of people in various sub-districts on the island of Lombok. The following are the application and public perception of Green and circular economy, including:

### **a. Community Groups in Mataram City**

Based on the findings, the implementation of Zero Waste with the green economy and circular economy sub-models in Mataram City has begun to be implemented at several points by sorting dry waste and wet waste, in Sekarbela, kekalek jaya, ampenan, pejeruk, dasan agung, udayana, sweta Mataram city for example. Segregation is done on the grounds that it helps with cleaning tasks so that these tasks are reduced.

The collection is done two to three times on Monday, Thursday and Sunday. In pejeruk, dasan agung, ampenan, Mataram city, garbage collection is done twice a week with payment rates starting from Rp. 20,000. Collection is done collectively, the separation of organic and inorganic waste is done on the spot or at the landfill (TPA) by bringing several different plastic bags.

For the people of Mataram city, the concept of Green economy and circular economy only reaches the separation stage, not to the stage of processing into usable goods such as the circular economy concept, namely the concept of the 5R approach in circular economy which consists of: Reduce: Eliminate waste in production and supply chains (such as 3D printing),

Reuse; Reuse existing assets (such as houses, cars, and other equipment), Recycle; Reuse existing materials, Refurbish: Re-manufacture products or components, Renew; Prioritize renewable energy and materials (such as replacing plastic packaging with paper-based ones). (manoarfa, 2021)

#### **b. Community groups outside Mataram city**

Furthermore, groups outside the city of Mataram have diverse perceptions. At some point, they have started to apply the concept of Green and circular economy. Especially in the Duman area of West Lombok, Bilebante Central Lombok. As explained in the previous section in Bilebante village, they have used Biomiru gas, which is made from organic waste. While in Duman village, West Lombok, they have processed organic waste into chicken feed, namely BSP (Bulgarian Seal Point) cultivation.

The rest of the samples taken randomly, have not implemented the concept of Green economy and circular economy partially. However, they sell their waste to waste bank units in each region, which are classified as plastic and iron waste. For example, in Mantang village, Central Lombok, the community's perception is still oriented towards instant economic value, by sorting, selecting and selling. The remaining waste that has no economic value is collected and then burned. Community recognition of the socialization carried out by the government is still lacking, so the application of Green and circular economy only lasts a few months

### **CONCLUSION**

The conclusion in this research is measured using the zero waste theory of local wisdom, especially economic development using the SED concept: Zero waste sub-theme green and circular economy. Other terms for local wisdom include local wisdom, local knowledge and local genius (jatrijani, 2013). The results of the study used four indicators that were used as a measure to measure post-covid-19 economic recovery by using zero waste economic development, especially green and circular economy on the island of Lombok, namely 1). Regional policy, PERDA regulation No. 5 in PERGUB No. 14 of 2020 concerning policies and strategies in waste management, with one of the details being the handling of STR and SSSTR as referred to in paragraph 1 letter b is carried out through the stages of selection, collection, transportation, processing and final processing. Article 16 concerning Regional BSI is obliged to provide guidance to unit waste banks through the parent waste bank in the regency or city. The Regional BSI as referred to in paragraph (1) may enter into a cooperation agreement with other parties in the management of segregated waste. One of the most different community policies is the policy of aiq berik village, central lombok, which has its own regulation called "awik-awik gubuk" which makes it illegal to litter. 2). The knowledge and intelligence of the people of Lombok about the term Zero Waste is generally still low, as evidenced by the results of interviews with several villages that were used as research samples both in the city of Mataram and outside the city of Mataram. People's knowledge about Zero Waste is only at the stage of sorting and collecting, which is done to separate items that have economic value directly by selling them. However, the people of Lombok Island have started to be environmentally conscious, by separating organic and anoragi waste. Some smart examples are the MSME players on Lombok Island who have processed some waste to be used as a business and a source of income.

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