

## SCAVENGER AT MARELAN WATERFALL LANDFILL IN RENGAS ISLAND SUBDIVISION IN MARELAN TERRAIN: EVALUATION OF CREATIVITY AND WELL-BEING

Annisa Ilmi Faried<sup>1</sup>, Rahmad Sembiring<sup>2\*</sup>, Uswatun Hasanah<sup>3</sup>, Handayani<sup>4</sup>

<sup>1,2,3</sup>Department of Development Economics, Faculty of Social Science, University of Pembangunan Panca Budi, North Sumatera, Indonesia.

---

**Keywords:**

Resources, Social, Income, Welfare and Creativity

**\*Correspondence Address:**

rahmadsembiring@dosen.pancabudi.ac.id

**Abstract:** The lack of income for scavengers, the low level of education of scavengers, and the inability of scavengers to innovate in the face of a growing problem in waste recycling and landfill management are all factors that prompted this investigation. This study was carried out on the island of Medan known as TPA Falls Marelan Rengas. Geographical Region of Marelan. Research examines the potential for a connection between the How scavengers' well-being and ingenuity are affected by monetary, social, and environmental factors. Finding and analyzing social and financial resources is the focus of this study. for the greater good and originality. Two hundred people are randomly selected for the samples, data gathered with the use of questionnaire distribution and SEM analysis Using Amos SEquence 23.0 (Structural Equation Modeling) Software Results from hypothesis testing on available funds and potential gains Well-being is significantly impacted by a number of factors. In addition, there are resource variables, Creativity is significantly impacted by one's social, financial, and welfare status. This is necessary so that the waterfall For obvious reasons, the sub-district of Marelan has the highest level of economic success. The Terjun TPA is a hotbed of originality.

---

### INTRODUCTION

The Fourth Industrial Revolution is defined by a fusion of technologies that blur the boundary lines between the physical plane and the digital plane, as well as other planes as well as biological(Faried et al., 2019). Development-oriented on its human qualities promise the results of development good and sustainable(Sembiring et al., 2021) The RPIJM produced is required to pay attention to the feasibility aspects of the program of each activity and Spatial feasibility according to the scenario Stated regional development in the existing Spatial Plan, and social feasibility and Environment(Sembiring et al., 2023). To achieve the goal such development requires economic development planning that good(Purba et al., 2021). When we talk about planning, we're talking about how

development demands and government administration are inextricably linked (Faried & Sembiring, 2019).

People who have the ability to recognize and evaluate business opportunities, the power to collect the resources needed to take appropriate action and make a profit, and the disposition, nature, and willingness to realize innovative ideas into the real world creatively in order to achieve success and increase revenue (Hastuti et al., 2020). One strategy to raise the average income of a population is to foster economic growth (Basmar et al., 2021; Faried, Purba, et al., 2022). Elements of community empowerment are a necessary feature of any community development program, as are attempts to encourage participation and a sense of community belonging to the program (Sudarmanto et al., 2020); (Sartika et al., 2022).

The ever-increasing population makes it challenging for the government to generate sustainable employment opportunities through the use of renewable natural resources. The government should provide assistance in terms of developing the skills of the workforce through the management of natural resources. The industrial sector is undergoing a number of changes, some large, some modest, in this age of strong competition (Faried et al., 2020). For example, the government could support efforts to reduce trash that can be recycled again by optimising the resources that are already available to realise a circular economy through waste management. To make a real difference for those working in the creative economy, local governments must work together to find common ground and agree on concrete steps forward (Faried, Sirojuzilam, et al., 2022). Method or procedure the process of converting inputs into outputs, but the definitions vary when viewed through the lens of economics, the concept of production takes on a considerably broader scope. Enhancing the economy while adhering to environmental regulations, finding new sources of energy through the use of local resources, and creating jobs (Faried, 2020).

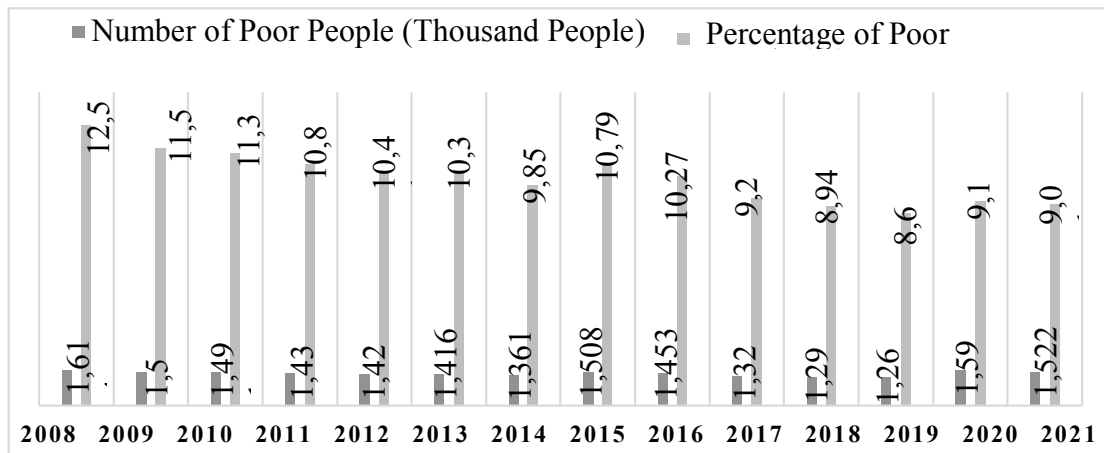


Figure 1.1 Number and Percentage of Poor People in North Sumatra Year 2008 – 2021 Source: BPS (Central Statistical Agency) 2022

The rise in the cost of living between 2013 and 2015 is reflected in the table and figure 1 above, which show that the number of poor individuals grew during that time period. After that, the number of individuals living in poverty began to fall. This time it was the Corona pandemic of 2020 that was to blame for the rise, which erupted in March of that year. However, North Sumatra's poverty rate again decreased by 0.13 points, from 9,14 percent in September 2020 to 9,01 percent in March 2021. At the very least, dedication and action are realized through the creation of policies on the growth of the creative economy(Faried et al., 2021).

**Table 1. Data on Monthly Waste Volume in 2022 TPS and Landfill Section of Medan City**

Month	Garbage
January	32.224,50
February	28.253,89
March	33.698,12
April	33.978,29
Mei	33.670,08
Juny	31.587,74
July	35.048,62
August	35.119,91
September	35.344,00
October	34.760,32
November	33.730,57
December	33.180,75
<b>Total</b>	<b>400.596,79</b>

Source: Rengas Pulau Landfill Office, 2023

The landfill area of 14 hectares is the fulcrum of hope for the community to be able to manage their respective household waste before being quoted by the Hygiene Office which is usually taken every morning according to the garbage collection route. The quota received per day is at least 1,000 tonf waste entering the Waterfall Landfill (interview with Mr. Azhar as chairman of the Rengas Pulau Landfill). A primary objective of the work that is being done to develop the region is to increase both the total number and the range of employment possibilities available to the residents of the area(Faried & Sembiring, 2020). Efficiency in allocation refers to the delivery of goods and services to customers in an economy in the most effective manner possible(Sudarmanto et al., 2021).



Figure 2. Marelan Rengas Island Landfill Condition (August 2023)

The challenges of resource allocation brought on by Stakeholder Economic Decision Making will be overcome by regional economic growth. Social and ecological value and variation will also be taken into account(Faried, Sembiring, et al., 2022). This process has a certain rate of development, which ultimately leads to the creation of a dynamic process community(Gandasari et al., 2021). The community's reaction to changes in environmental quality is an important consideration while constructing industrialisation that supports growth economy and absorbs workers. Policies on the part of the government that encourage various aspects of development. The proportion of a government's budget allocated to development and the percentage of that budget that is actually spent can provide insight into human beings(Purba et al., 2021). The greater the pace of technological advancement and industrialization, the greater the threat to ecological stability(Sitorus et al., 2022). Lack of labor during the production process(Uswatun et al., 2022)

While the Cleanliness Office at Landfills (TPA) collects garbage every day, the Medan City Government (Pemko) has adopted a sanitary landfill system in waste

management in Terjun, with the expectation that daily garbage collection will involve approximately 120 garbage trucks. This method has not been fully implemented because some waste management still involves landfilling and hence relies on the outdated open dumping system. Most waste pickers don't realize that they participate in overcoming the waste pandemic, which they see as a means to an end (earning money), but their awareness encourages them to be able to control the existing potential so that they can control socio-economic conditions in realizing community development by existing. Lack of comprehensive waste management skills, available human resources, and sufficient landfills all contribute to this problem, which has far-reaching effects on the environment and society (Faried et al., 2023).

## **RESEARCH METHODS**

This type of research is experimental in nature, which means that the researcher will handle the independent variable in a controlled manner in order to observe the impact on the dependent variable directly. Methods for collecting data in the form of original data as well as secondary data. Research is scheduled to take place between May and August 2023 in the Marelan Rengas Waterfall Landfill, which is located in the Medan Marelan District.

## **RESULTS AND DISCUSSION**

### **1. Validity and Reliability Testing**

#### **a. Validity Testing**

To determine the appropriateness of the items in the list of questions (questionnaire) that have been presented to respondents, it is necessary to carry out a validity test. If the validity of each question is greater ( $>$ ) 0.30, then the question item is considered valid (Rusiadi, 2013).

**Table 1 Validity Test (X1) ResourceItem-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
X1.1	16.3900	12,963	,409	,281	,691
X1.2	17.9450	14,203	,340	.134	,708
X1.3	18.2350	14,703	,362	.144	,703
X1.4	15.8350	13,817	,627	,419	,656
X1.5	16,3000	11,869	,430	.304	,690
X1.6	16.7200	9,409	,667	,493	,596

*Source: SPSS Version 23.0 Processing Results*

From the table above the SPSS output results, it is known that the validity value is in the Corrected Item-Total Correlation column, which means the correlation value between the score of each item and the total score in the tabulation of respondents' answers. The validity test results of the 6 (six) statement items on the resource variable can be declared valid because all coefficient values are greater than 0.30.

**Table 2 Validity Test (X2) SocialItem-Total Statistics**

	Scale Mean if Items Deleted	Scale Variance if Items Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Items Deleted
X2.1	13.6100	21,988	,808	,864	,924
X2.2	13.7600	21,269	,841	,922	,920
X2.3	13.8050	21,032	,866	,933	,916
X2.4	13.7700	21,786	,777	,609	,928
X2.5	13.7850	22,170	,756	,602	,930
X2.6	13.5950	21,539	,806	,866	,924

*Source: SPSS Version 23.0 Processing Results*

From the table above the SPSS output results, it is known that the validity value is in the Corrected Item-Total Correlation column, which means the correlation value between the score of each item and the total score in the tabulation of respondents' answers. The validity test results of the 6 (six) statement items on social variables were declared valid because all coefficient values were greater than 0.30.

**Table 3 Validity Test (X3) IncomeItem-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
X3.1	14.9100	14,987	,469	,315	,678
X3.2	14.3700	13,089	,475	,246	,670
X3.3	14.6500	14,651	,392	,231	,694
X3.4	14.2650	13,754	,366	,291	,708
X3.5	14.5850	12,224	,549	,349	,644
X3.6	14.8450	14,574	,495	,352	,669

*Source: SPSS Version 23.0 Processing Results*

From the table above the SPSS output results, it is known that the validity value is in the Corrected Item-Total Correlation column, which means the correlation value between the score of each item and the total score in the tabulation of respondents' answers. Validity test results of 6 (six) statement items on the income variable.

**Table 4 Validity Test (Y1) Well-beingItem-Total Statistics**

	Scale Mean if Items Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Items Deleted
Y1.1	10.3600	12,262	,714	,996	,793
Y1.2	10.3550	12,250	,704	,996	,795
Y1.3	10.0300	14,833	,485	,268	,837
Y1.4	10.4650	13,325	,659	,461	,806
Y1.5	10.4900	13,316	,612	,429	,815
Y1.6	10.5250	13,477	,534	,352	,831

*Source: SPSS Version 23.0 Processing Results*

From the table above the SPSS output results, it is known that the validity value is in the Corrected Item-Total Correlation column, which means the correlation value between the score of each item and the total score in the tabulation of respondents' answers. The validity test results of the 6 (six) statement items on the welfare variable can be declared valid because all coefficient values are greater than 0.30.

**Table 5 Validity Test (Y2) CreativityItem-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Y2.1	16.6400	19,860	,451	,219	,746
Y2.2	17.3850	15,394	,564	,378	,722
Y2.3	16.6000	19,940	,588	,375	,726
Y2.4	17.8800	15,302	,671	,489	,682
Y2.5	17.9100	20,183	,375	,223	,762
Y2.6	16.9850	18,296	,487	,256	,737

Source: SPSS Version 23.0 Processing Results

From the table above the SPSS output results, it is known that the validity value is in the Corrected Item-Total Correlation column, which means the correlation value between the score of each item and the total score in the tabulation of respondents' answers. The validity test results of the 6 (six) statement items on the creativity variable can be declared valid because all coefficient values are greater than 0.30.

**b. Reliability Testing**

Reliability is the degree of precision, precision or accuracy demonstrated by a measurement instrument. Questionnaire items are said to be reliable or reliable if a person's answers to the questionnaire are consistent. In this study, to determine whether the questionnaire is reliable or not, Cronbach's alpha was used. The questionnaire is said to be reliable if Cronbach's alpha is > 0.60 and unreliable if it is equal to or below 0.60. The reliability of the questionnaire questions that the author has asked respondents in this study can be seen in the Reliability Statistics table which is presented in the table below:

**Table 6 Reliability Test (X1) ResourceReliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,717	,731	6

Source: SPSS Version 23.0 Processing Results

From the table above, the SPSS output results show that the Cronbach's Alpha value is  $0.717 > 0.60$  so it can be concluded that the questions that were presented to respondents consisted of 6 (six) items. the statement on the resource variable is reliable or said to be reliable.



**Table 7 Reliability Test (X2) SocialReliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,936	,936	6

*Source: SPSS Version 23.0 Processing Results*

From the table above, the SPSS output results show that the Cronbach's Alpha value is  $0.936 > 0.60$ , so it can be concluded that the questions that have been presented to respondents consisting of 6 (six) statements on social variables are reliable or can be said to be reliable.

**Table 8 Reliability Test (X3) IncomeReliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,716	,725	6

*Source: SPSS Version 23.0 Processing Results*

From the table above, the SPSS output results show that the Cronbach's Alpha value is  $0.716 > 0.60$ , so it can be concluded that the questions that have been presented to respondents consisting of 6 (six) statements on the income variable are reliable or can be said to be reliable.

**Table 9 Reliability Test (Y1) Well-beingReliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,840	,839	6

*Source: SPSS Version 23.0 Processing R*

From the table above, the SPSS output results show that the Cronbach's Alpha value is  $0.840 > 0.60$ , so it can be concluded that the questions that have been presented to respondents consisting of 6 (six) statements on the welfare variable are reliable or can be said to be reliable.

**Table 10 Reliability Test (Y2) CreativityReliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,766	,773	6

*Source: SPSS Version 23.0 Processing Results*

From the table above, the SPSS output results show that the Cronbach's Alpha value is  $0.766 > 0.60$ , so it can be concluded that the questions that have been presented to respondents consisting of 6 (six) statements on the creativity variable are reliable or can be said to be reliable.

## **CONCLUSION**

To achieve the goal such development requires economic development planning that based on the analysis and discussion of the Analysis of Creativity and Welfare of Scavengers at the Marelan Rengas Waterfall Landfill, Medan Marelan District, the following conclusions can be drawn:

- 1 There is a significant influence of resources on the welfare of waste pickers at the Marelan Rengas Waterfall Landfill, Medan Marelan District.
- 2 There is a significant influence of resources on the creativity of waste pickers at the Marelan Rengas Waterfall Landfill, Medan Marelan District.
- 3 There is no significant social influence on the welfare of waste pickers at the Marelan Rengas Waterfall Landfill, Medan Marelan District.
- 4 There is a significant social influence on the creativity of waste pickers at the Marelan Rengas Waterfall Landfill, Medan Marelan District.
- 5 There is a significant effect of income on the welfare of waste pickers at the Marelan Rengas Waterfall Landfill, Medan Marelan District.
- 6 There is a significant influence of income on the creativity of waste pickers at the Marelan Rengas Waterfall Landfill, Medan Marelan District.
- 7 There is a significant influence of welfare on the creativity of waste pickers at the Marelan Rengas Waterfall Landfill, Medan Marelan District.

**REFERENCE**

- Basmar, E., Sartika, S. H., Suleman, A. R., Faried, A. I., Damanik, D., Amruddin, Purba, B., Wisnujati, N. S., & Nugraha, N. A. (2021). *Ekonomi Pembangunan: Strategi dan Kebijakan* (J. Simarmata, Ed.). Yayasan Kita Menulis.
- Faried, A. I. (2020). Analisis Meredam Angka Kemiskinan Melalui Pendekatan Ekonomi Hijau di Desa Pahlawan Kecamatan Tanjung Tiram Kabupaten Batu Bara. *Ekonomikawan: Jurnal Ilmu Ekonomi Dan Studi Pembangunan*, 20(1), 1–11.
- Faried, A. I., Basmar, E., Purba, B., Dewi, I. K., Bahri, S., & Sudarmanto, E. (2021). *Sosiologi Ekonomi* (J. Simarmata, Ed.). Yayasan Kita Menulis.
- Faried, A. I., Purba, B., Hasliah, Manaf, S., Rozaini, N., Nugraha, N. A., Susilowati, E., Anas, A., Nurhaedah, Wisnujati, N. S., Amruddin, & Agusta, R. (2022). *Bisnis dan Perekonomian Indonesia*. Yayasan Kita Menulis.
- Faried, A. I., Sebayang, S., & Sembiring, R. (2020). Optimalisasi Usaha Mikro Produksi Tempe Terhadap Kesejahteraan Ekonomi di Desa Sei Mencirim. *Ekonomikawan: Jurnal Ilmu Ekonomi Dan Studi Pembangunan*, 20(2), 170–178.
- Faried, A. I., & Sembiring, R. (2019). *Perekonomian Indonesia: Antara Konsep dan Realita Keberlanjutan Pembangunan*. Yayasan Kita Menulis.
- Faried, A. I., & Sembiring, R. (2020). Creative Economy Potential through Typical Ulos Fabric Small Industries to Promote the Economy of Lumban Suhi-Suhi Village, Toruan Samosir Regency. *International Journal of Management and Humanities (IJMH)*, 4(5).
- Faried, A. I., Sembiring, R., & Hasanah, U. (2022). *Pembangunan Ekonomi Pertanian Perdesaan Melalui Potensi Integrasi Tanaman Cabe dan Ternak Ayam*. MITRA CENDEKIA MEDIA.
- Faried, A. I., Sembiring, R., & Nasution, L. N. (2019). *POTENSI INDUSTRI HALAL FASHION DI INDONESIA*. Qiara Media Partner.

- Faried, A. I., Sembiring, R., Wardhani, N. S., & Hasanah, U. (2023). Transition To A Circular Economy-Inspired Waste Management System. *World Journal of Advanced Research and Reviews*, 19(1), 145–153.
- Faried, A. I., Sirojuzilam, Harahap, R. H., & Hawariyuni, W. (2022). ANALYSIS OF SUSTAINABLE WASTE MANAGEMENT FROM THE PERSPECTIVE OF SUSTAINABLE DEVELOPMENT GOALS (SDGS) IN MEDAN CITY. *The Seybold Report Journal*, 17(6), 676–685.
- Gandasari, D., Tamrin, A. F., Syafrizal, Prijanto, J. H., Bahri, S., Sugiarto, M., Yusa, I. M. M., Faried, A. I., Hidayatulloh, A. N., Anggraini, D., & Sakirman. (2021). *Dasar-Dasar Ilmu Sosial* (J. Simarmata, Ed.). Yayasan Kita Menulis.
- Hastuti, P., Nurofik, A., Purnomo, A., Hasibuan, A., Aribowo, H., Faried, A. I., Tasnim, Sudarso, A., Soetijono, I. K., Saputra, D. H., & Simarmata, J. (2020). Kewirausahaan UMKM. In A. Rikki (Ed.), *KEWIRAUSAHAAN DAN UMKM* . Yayasan Kita Menulis.
- Purba, B., Rahmadana, M. F., Basmar, E., Sari, D. P., Klara, A., Damanik, D., Faried, A. I., Lie, D., Fazira, N., Rozaini, N., Tanjung, R., & Nugraha, N. A. (2021). *Ekonomi Pembangunan* (R. Watrianthos, Ed.). Yayasan Kita Menulis.
- Sartika, S. H., Mashud, Hasan, M., Syam, A., Susilowati, E., Purba, B., SN, A., Jufri, M., Faried, A. I., Rosihana, R. E., Raditya, & Amruddin. (2022). *Ekonomi Kreatif*. Yayasan Kita Menulis.
- Sembiring, R., Yusuf, M., & Faried, A. I. (2021). “COVID-19 : *PRODUKTIVITAS DAN KESEJAHTERAAN KELUARGA NELAYAN DI DESA PESISIR BATU BARA*.
- Sembiring, R., Yusuf, M., Irawan, & Faried, A. I. (2023). Structural Equation Modelling : Pembangunan Desa Pesisir dan Pemberdayaan Masyarakat Terhadap Kesejahteraan Masyarakat. *Jurnal Akuntansi Dan Pajak (JAP)*, 23(2), 1–14.
- Sitorus, E., Herawati, J., Simarmata, M. M., Munthe, S. A., Faried, A. I., Syahrir, M., Ganing, A., Diniah, B. N., Widiyanti, S. E., Budiharto, T., & Amruddin. (2022). *Pengantar Pengetahuan Lingkungan*.

Yayasan Kita Menulis.

Sudarmanto, E., Revida, E., Zaman, N., Simarmata, M. M., Purba, S., Syafrizal, Bachtiar, E., Faried, A. I., Nasrullah, Marzuki, I., Hastuti, P., Jamaludin, Kurniawan, I., Mastutie, F., & Susilawaty, A. (2020). *Konsep Dasar Pengabdian Kepada Masyarakat: Pembangunan dan Pemberdayaan*. Yayasan Kita Menulis.

Sudarmanto, E., Syaiful, M., Fazira, N., Hasan, M., Muhammad, A., Faried, A. I., Tamara, S. Y., Mulianta, A., Nainggolan, L. E., Prasetyo, I., SN, A., Ahmad, Muh. I. S., Fitriana, L., Damanik, D., Basmar, E., Zaman, N., & Purba, B. (2021). *Teori Ekonomi: Mikro dan Makro*. Yayasan Kita Menulis.

Uswatun, H., Faried, A. I., & Sembiring, R. (22 C.E.). Perbandingan Model Pola Pengembangan dan Strategi Kemitraan UMKM Danau Siombak. *Jurnal Pendidikan Dan Konseling*, 4(4), 2579–2588.