Natural Environment Strategy Data Disclosure Instruments Study On Palm Oil Companies In Riau Province

Mashur Fadli[1], Meyzi Heriyanto[2*],Yusmar Yusuf[3], Isril[4], Mandataris[5], M.Y.Tiyas Tinov[6]

[1,2,3,4,5,6] Lecturer of the Faculty of Social and Political Sciences, Riau University
*Corresponding author
Email: meyzi.heriyanto@lecturer.unri.ac.id

Abstract.
The goal of this research is to create and validate the scale. A total of 126 workers from a palm oil plant in Riau province were included in this investigation. Win step program is used to analyze data using the Rasch model. This is supported by research. In the unsatisfactory category, the Cronbach alpha value, which measures the overall interaction between people and items, is included. Furthermore, the importance of person reliability as a measure of the consistency of respondents' responses is categorized as extremely bad. In the meantime, item reliability as a measure of the instrument's quality falls into a distinct category. The standard items' average difficulty level is below the ability level of the palm oil mill's managers. As a result, palm oil mill management readily approves this natural environment plan instrument item.

Keywords: *Reliability A Scale, Validate Item, palm oil***,** *Rasch Models*

I. INTRODUCTION

The palm oil business plays a crucial role in Indonesia's macro-economy, serving as the country's greatest foreign exchange earner, the locomotive of the national economy, energy sovereignty, driving the people's economic sector, and labor absorption, among other things. The oil palm revolution is reflected in Indonesia's fast-developing oil palm plantations. Oil palm plantations may be found in 22 of Indonesia's 33 provinces. Sumatra and Kalimantan are the two main islands in Indonesia where oil palm plantations can be found. Around 90% of Indonesia's oil palm plantations are concentrated on two oil palm islands, which account for 95% of the country's crude palm oil (CPO) production. The rapid growth of Indonesia's palm oil sector has piqued the interest of the international community, particularly the world's largest producer of vegetable oil. Since 2006, Indonesia has been the world's top producer of palm oil. The palm oil sector began the year 2020 with hope because, in December 2019, the CIF Rotterdam CPO price reached USD 787/ton, up from USD 542/ton since August 2019. However, from January to May 2020, the price dropped. China's demand began to shrink owing to the influence of Covid-19, pressure on China's soybean supply because the trade war with America decreased with the soybean crop in Brazil, and oil prices fell to USD 27/barrel (USD 147/ton). tons). By May 2020, China had recovered from the epidemic and had ramped up imports of vegetable oil and vegetable oil to replenish depleted inventories, driving vegetable oil prices higher. The figures for Oil Palm Production, Consumption, and Export in 2020 are listed below.

description (In 1000 ton)	**Years 2020**												**Total 2020**
	JAN	**FEB**	**MAR**	**APR**	**MEI**	**JUN**	**JUL**	**AGS**	**SEP**	**OKT**	**NOV**	**DES**	
First Stock	4,596	4,519	4,043	3,382	3,373	3,534	3,946	3,616	4,361	5,343	6,081	5,827	4,596
Production CPO	3,486	3,297	3,270	3,683	3,616	4,096	3,849	4,382	4,732	4,768	4,174	3,681	47,034
ProductionCPKO	320	308	307	361	353	407	376	422	457	467	409	362	4,549
Import	4	3	-	-	-	6	3	5	4	7	5	5	44

Production Subtotal	3,810	3,608	3,577	4,044	3,969	4,059	4,228	4,809	5,193	5,242	4,588	4,048	51,627
Local Consumption													
Food Product	801	786	721	725	664	638	642	654	667	692	715	723	8,428
Industry													
Oleokimia	89	91	104	115	133	142	148	151	151	185	189	197	1,695
Biodiesel	604	670	686	563	583	551	638	576	630	599	547	580	7,226
Domestic Subtotal	1,494	1,547	1,511	1,403	1,380	1,331	1,428	1,381	1,448	1,476	1,451	1,500	17,349
Eksport													
CPO	699	524	644	611	515	675	656	510	518	506	579	733	7,171
Processed CPO	1,246	1,661	1,643	1,599	1,460	1,609	1,961	1,719	1,766	1,956	2,210	2,274	21,103
Lauric (PKO and Processed PKO)	121	107	128	129	142	150	182	124	159	154	263	172	1,831
Biodiesel	0	2	-	-	-	6	3		7	3		10	31
Oleokimia	328	244	312	311	312	327	326	331	313	408	339	320	3,871
Eksport Subtotal	2,393	2,537	2,727	2,650	2,428	2,767	3,129	2,682	2,764	3,028	3.391	3,509	34,007
Domestic Subtotal and Eksport	3,887	4,084	4,238	4,053	3,808	4,098	4,557	4,064	4,212	4,504	4,843	5,008	51,356
Last Stock	4,519	4,043	3,382	3,373	3,534	3,946	3,616	4,361	5,343	6,081	5,827	4,867	4,867

Source : Palm Oil Entrepreneurs Association, 2020

Due to the global impact of the pandemic crisis, Indonesia's palm oil export volume decreased in 2020, with a total export of 34.0 million tons, compared to total export of 37.39 million tons in 2019. China (-1.96 million tons), the European Union (-712.7 thousand tons), Bangladesh (-3.23.9 thousand tons), the Middle East (-280.7 thousand tons), and Africa (- 249.2 thousand tons) saw the biggest drops, while Pakistan nails (+275.7 thousand tons) and India nails (111.7 thousand tons) saw the biggest increases. Despite the decrease in export volume, the value of exports in 2020 was USD 22.97 billion, which was greater than the value of exports in 2019. In 2019, Indonesia's monthly trade balance was almost always negative, with a total deficit of USD 3.23 billion, however, in 2020, it was almost always positive, with a total value of USD 21.72 billion, except for January and April. Indonesia's trade balance in 2020 was USD 21.27 billion in excess, with palm oil exports accounting for USD 22.97 billion. These numbers illustrate that palm oil's contribution to foreign exchange was critical in keeping the national trade balance positive during the pandemic. (https://gapki.id/news/18768/releksi-industri-sawit-2020-prospek-2021) The palm oil industry in Indonesia has contributed to the achievement of the Sustainable Development Goals (SDGs), particularly in terms of poverty reduction and economic inequality (Hasan & Hidayat, 2018; Purba, 2019; Purnomo et al., 2018).

In Indonesia, the palm oil industry is predicted to employ 17.5 million people and earn IDR 319 trillion in annual export revenue. According to the Indonesian Palm Oil Association (GAPKI), until February 2020, the palm oil business generated USD 3.5 billion in foreign money for Indonesia, despite the uncertain global economic environment following the coronavirus (COVID-19) epidemic. As a result, Indonesia's trade balance in 2020 will be USD 1.9 billion in surplus. This amount was calculated using USD 4 billion in non-oil and gas export receipts and USD 2.1 billion in foreign exchange expenditures on oil and gas imports (Sardjono, 2018). One of the sectors that are a part of the digital economy age is palm oil (Obado, 2008). Palm oil is one of the world's most widely used and manufactured oils. This less expensive, easier to manufacture, and very stable oil is utilized in a wide range of meals, cosmetics, and hygiene items, as well as as a biofuel or biodiesel source.

Palm oil is Indonesia's most important sector, accounting for 1.5–2.5 percent of the country's GDP. Vegetable oil production will increase by about 30% to 218.9 million tons by 2025. World vegetable oil growth is evenly spread at 2.36 percent per year, whereas CPO rises at 2.75 percent per year (Dirjenbun, 2015). The Indonesian palm oil sector has a bright future, with CPO retaining the world's largest supply of vegetable oil. Indonesia enjoys a competitive advantage in terms of CPO exports. In the downstream palm oil business, however, Indonesia lost to Malaysia. Since 1996, Malaysia has created a downstream palm oil business that generates high-value downstream palm oil products rather than exporting crude palm oil (Rasiah & Shahrin, 2006). If the palm oil sector has a VRIN, it will be able to generate a variety of products and potentially establish new markets (Kim & Mauborgne, 2004).

II. LITERATURE REVIEW

According to research from the World Economic Forum, the expansion of the palm oil business has a negative impact (2018). Palm oil has been the target of negative campaigns in the preceding decade since it is not environmentally friendly (Basiron & Simeh, 2005; Yasin et al., 2017). In Indonesia, oil palm plantations are deemed unsustainable (Hooijer et al., 2012; Murdiyarso, Hergoualc'H & Verchot, 2010), producing environmental harm (Alang Mahat, 2012; Mekhilef, Siga, & Saidur, 2011), deforestation, and biodiversity loss (Hooijer et al., 2012; Murdiyarso, Hergoualc'H & Ver (Fitzherbert et al., 2008; Vijay, Pimm, Jenkins, & Smith, 2016) The natural environment will be dominated by sustainable natural resource approaches in the coming decades (hart, 1995; hart & Dowell, 2011). This is due to the increasing scarcity of natural resources, which increases hurdles to resource exploitation from outside the country (Al-Majed, Adebayo, & Hossain, 2012). According to the Organization for Economic Cooperation and Development's (OECD) environmental outlook until 2050, emerging countries that are less able to manage and adapt would bear the brunt of the environmental consequences. Alternative ways to maximize competitive advantage, according to Oecd (2019), include innovative resource-based solutions. The OECD suggestions are based on the global business climate following the COVID-19 pandemic.

In the year 2020, the global economy is expected to contract (Fernandes, 2020). The Indonesian palm oil industry, on the other hand, is still thriving thanks to strong consumer demand for crude palm oil (CPO) as a food ingredient.According to Ramamurthy et al., companies must be able to recognize resource determinants, both from supply chain restrictions and through continuous innovation projects (2003). The firm's natural environment strategy, according to Barney (1991) and Sharma & Zeller (1997), influences resource-based innovation. Natural environment strategy can be measured by (1) changing business operations, (2) having autonomy in the manufacturing process, (3) being proactive in the natural environment, (4) managing environmental conservation, (5) conducting environmental inspections, and (6) sharing knowledge, according to Sharma & Vredenburg (1998). The ability to effectively solve natural environmental concerns through innovation, according to Amit and Schoemaker (1993), is crucial (Schienstock, 2009).

Businesses consider being able to innovate to be a strategic decision-making process (Feldman, 2014; Ireland, Covin, & Kuratko, 2009; Porter, 1996; Saleh & Wang, 1993; Sambamurthy et al., 2003; Teece, Pisano, & Shuen, 1997). Innovation is a viable solution to the natural environmental problems caused by Indonesia's palm oil industry. The natural environment had a key influence on economic activities during the Covid-19 pandemic, and it will continue to do so in the future, according to most experts. As a result, the palm oil industry faces competition to grow by exploiting natural resources. Innovation is the process of generating, cultivating, and implementing new ideas and practices in the workplace. The drive that exists within the business might aid in the creation of new ideas (Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004; Jenkins, 2014; Rogers, Singhal, & Quinlan, 2019). Market research can be used to evaluate market size and client preferences or wishes, according to Reguia (2014), so that firms can manufacture and supply items that fulfill the needs of customers and the market. An indicator that can be utilized to make a calculation.Development of new products,

improvement of the appearance and performance of existing products, production of specialty products, investment in research and development facilities to gain a competitive advantage, engineering marketing innovation and manufacturing process innovation are all examples of innovations. Rogers, 1983; Rogers et al., 2019) (Greenhalgh et al., 2004; Reguia, 2014; Rogers, 1983; Rogers et al., 2019) .

III. METHODS

An instrument capable of describing self-determination that has been analyzed and declared valid (Planinic et al., 2019; Stout et al., 2012). One of them is the RASCH Model analysis, which may be used to examine the instrument's validity. The quality of the instruments offered in the model is determined by factors such as unidimensionality, Wright map analysis, item analysis, participant ability analysis, and instrument analysis (Fisher, 2007; Planinic et al., 2019; Sumintono, 2018). The self-determination disclosure instrument is the subject of investigation. The RASCH Model gives information about the instrument's scale structure.

Unidimensionalitas

The instrument's unidimensionality analysis determines how many traits or dimensions it measures. On contrasts 1 to 5, Output Table 23 is used to calculate the value of Raw variance explained by measures and unexplained variance. Raw variance can be described by a 20 percent measure, proving measurement unidimensionality. (Note: typical interpretation criteria are: sufficient if 20-40%, good if 40-60%, and very good if over 60%) and if the Unexplained variation in contrast 1 to 5 of the residues is less than 15% each. The raw variance explained by the action was 31.4 percent, including the adequate category, according to the data analysis. In the meantime, the unexplained variance in contrast of 1 to 5 residues was 16.8%, 16.5 percent, 12.7 percent, 12.0%, and 10.6%, respectively. The unexplained variance in contrasts 1 and 2 appears to be underestimating the natural environment strategy variable. Meanwhile, the unexplained variation in contrasts 3–5 is less than 15% in each case, indicating that the instrument employed to quantify natural environment strategy factors in oil palm enterprises is accurate.

Correct Map Analysis (Person-Item Map)

Referring to Table 1 of the Output Table. The natural environment strategy map is known to be variable, ranging from -1 to 4 logit. Their ability level is usually between 0 and 3 SD. The average logit for the natural environment approach is +0.73, which is higher than the average logit item of 0.00 (see Table 17 Order of Measure in the appendix). This signifies that the average skill of palm oil mill managers exceeds the standard items' average level of difficulty. In the meanwhile, item difficulty maps range from -1 to 1 logit. The difficulty level of the four items ranges from -1SD to 1SD, except for two items, the numbers P2 and P5, which are both over +0SD. As a result, item difficulty levels P2 and P5 are outliers. The standard questions have an average difficulty level that is below the skill level of palm oil mill managers. As a result, the palm oil mill managers can quickly approve the components of the Natural Environment Strategy instrument.

Point Analysis

The level of difficulty (item measure), level of item fit (item fit), and item bias detection are all part of this item analysis.

1. Item Difficulty Level

Measurement (Table 13) The level of difficulty of the questions can be determined using questions. According to the table, the SD value is 0.53. The level of difficulty of the questions can be categorized into four categories using this SD value and the average logit value: extremely difficult (greater than +1 SD), tough (0.0 logit + 1 SD), easy (0.0 logit - 1 SD), and very easy (0.0 logit - 1 SD) (less than -1 SD). As a result, the extremely difficult category has a score restriction of more than 0.53, the tough category has a score restriction of 0.00 to 0.53, the easy category has a score restriction of -0.53 to less than 0.00, and the very easy category has a score restriction of less than -0.53. More information can be found in the list of difficulty levels below.

Table 1. Tingkat Kesukaran

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MODEL MEASURE	S.E.	INFIT MNSQ	INFIT ZSTD	OUTFIT MNSQ	OUTFIT ZSTD	PTMEASUR-AL CORR.	PTMEASUR-AL EXP.	EXACT MATCH OBS%	EXACT MATCH EXP%	Item
2	472	126	.89	.10	1.20	1.5	1.16	1.3	.68	.49	36.5	46.8	p2
5	509	126	.44	.12	.60	-3.3	.67	-2.6	.25	.45	55.6	51.7	p5
4	539	126	.00	.13	1.22	1.4	1.08	.6	.43	.40	44.4	55.8	p4
1	554	126	-.28	.14	.82	-1.1	.83	-1.1	.31	.38	54.8	56.1	p1
6	556	126	-.32	.14	1.01	.1	1.08	.6	.36	.37	53.2	56.0	p6
3	574	126	-.73	.16	.77	-1.5	.79	-1.4	.28	.34	56.3	63.3	p3
MEAN	534.0	126.0	.00	.13	.94	-.5	.94	-.4			50.1	54.9	
S.D.	34.1	.0	.53	.02	.22	1.7	.18	1.3			7.3	5.0	

It is known that there is one item in the very tough category, namely item number P2, by looking at the logit value of each item in Table 1 above, sequentially depending on the level of difficulty (from the most difficult item to the easiest one). There are two items in the tough category, notably the numbers P5 and P4. P1 and P5 are the two items in the easy category. Number P3 is a very easy category.

2. Item Suitability Level

Take measurements to ensure that each respondent does not have any illusions about the item's appropriateness with the model (item fit), which explains whether the item is functioning appropriately. The data in Table 10 can be used to assess these items: The mean square OUTFIT (MNSQ), the OUTFIT Z-standard (ZSTD), and point correlation are all examples of item fit order (PT MEASURE CORR). According to Booner et al. (2014), the criteria for determining item suitability (item fit) or item inconsistencies (outliers or misfits) are as follows: (1) The MNSQ OUTFIT value should be larger than 0.5 and less than 1.5, with the closer to 1 the better; (2) the ZSTD OUTFIT value should be greater than -2.0 and less than +2.0, with the closer to 1 the better.

Table 2. Tingkat Kesesuaian Butir Item

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MODEL MEASURE	S.E.	INFIT MNSQ	INFIT ZSTD	OUTFIT MNSQ	OUTFIT ZSTD	PTMEASUR-AL CORR.	PTMEASUR-AL EXP.	EXACT MATCH OBS%	EXACT MATCH EXP%	Item
4	539	126	.00	.13	1.22	1.4	1.08	.6	A .43	.40	44.4	55.8	p4
2	472	126	.89	.10	1.20	1.5	1.16	1.3	B .68	.49	36.5	46.8	p2
6	556	126	-.32	.14	1.01	.1	1.08	.6	C .36	.37	53.2	56.0	p6
1	554	126	-.28	.14	.82	-1.1	.83	-1.1	c .31	.38	54.8	56.1	p1
3	574	126	-.73	.16	.77	-1.5	.79	-1.4	b .28	.34	56.3	63.3	p3
5	509	126	.44	.12	.60	-3.3	.67	-2.6	a .25	.45	55.6	51.7	p5
MEAN	534.0	126.0	.00	.13	.94	-.5	.94	-.4			50.1	54.9	
S.D.	34.1	.0	.53	.02	.22	1.7	.18	1.3			7.3	5.0	

Based on criterion 1, the six items have an MNSQ OUTFIT value larger than 0.5 and less than 1.5, with values of 1.08 (P4), 1.16 (P2), 1.08 (P6), 0.82 (P1), 0.77 (P3), and 0.60 (P4), respectively (P5). Only one number does not match the second standard, which is 5 with an OUTFIT ZSTD value of -2.6. Meanwhile, based on the third criterion, two items have a PT MEASURE CORR value of higher than 0.4 but less than 0.85. While the four pieces (6, 1, 3, and 5) have a PT MEASURE CORR value of 0.25 or less than 0.4, they are classified as ensembles. According to Booner et al. (2014), four of the six natural environment strategy components were found to be inappropriate. As a result, as many as two components of the natural environment strategy were certified fit in the sense that they functioned normally, were easily understood by palm oil sector managers, and could measure what should be measured in this case, the natural environment strategy.

3. Diagnostic Rating Scale

On a scale of 1, 2, 3, 4, and 5, this diagnosis was used to see if the participants grasped the distinctions in the answer choices. If the average and Andrich threshold values in Table 3.2 demonstrated conformity and both increased in the alternatives, respondents grasped the differences in answers. 1, 2, 3, 4, and 5 are the correct answers.

Table 3. Rating Scale Diagnostic

CATEGORY LABEL	SCORE	OBSERVED COUNT	%	OBSVD AVRGE	SAMPLE EXPECT	INFIT MNSQ	OUTFIT MNSQ	ANDRICH THRESHOLD	CATEGORY MEASURE
1	1	3	0	.00	.30	.80	.67	NONE	(-3.18) 1
2	2	36	5	.46	.67	.82	.68	-2.01	-1.15 2
3	3	60	8	.97	1.12	.85	.76	.38	.01 3
4	4	336	44	1.76	1.64	1.04	1.13	-.35	1.16 4
5	5	321	42	2.18	2.25	1.09	1.06	1.98	(3.16) 5

Table 3 illustrates the applicability of the alternative levels 1, 2, 3, 4, and 5, as well as the growth potential. The results of the analysis suggest that the Natural Environment Strategy instrument's level is highly correlated with the manager's palm oil mill's condition.

4. Individual Ability Analysis.

Table 4. Person Measure

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MODEL MEASURE	S.E.	INFIT MNSQ	INFIT ZSTD	OUTFIT MNSQ	OUTFIT ZSTD	PTMEASUR-AL CORR.	PTMEASUR-AL EXP.	EXACT MATCH OBS%	EXACT MATCH EXP%	Person
1	29	6	3.74	1.08	1.15	.5	1.43	.7	-.27	.21	83.3	83.7	01
2	29	6	3.74	1.08	1.15	.5	1.43	.7	-.27	.21	83.3	83.7	02
33	29	6	3.74	1.08	.89	.2	.69	.0	.37	.21	83.3	83.7	33
51	29	6	3.74	1.08	.89	.2	.69	.0	.37	.21	83.3	83.7	51
69	29	6	3.74	1.08	.89	.2	.69	.0	.37	.21	83.3	83.7	69
107	29	6	3.74	1.08	.89	.2	.69	.0	.37	.21	83.3	83.7	107
7	28	6	2.87	.82	.49	-.6	.44	-.8	.89	.27	83.3	68.7	07
10	28	6	2.87	.82	.94	.2	.92	.1	.11	.27	50.0	68.7	10
12	28	6	2.87	.82	.86	.0	.78	-.1	.29	.27	50.0	68.7	12
46	28	6	2.87	.82	.94	.2	.92	.1	.11	.27	50.0	68.7	46
47	28	6	2.87	.82	.94	.2	.92	.1	.11	.27	50.0	68.7	47
91	28	6	2.87	.82	.94	.2	.92	.1	.11	.27	50.0	68.7	91
99	28	6	2.87	.82	.86	.0	.78	-.1	.29	.27	50.0	68.7	99
101	28	6	2.87	.82	.86	.0	.78	-.1	.29	.27	50.0	68.7	101
13	27	6	2.31	.70	.94	.2	.99	.2	-.18	.31	50.0	60.4	13
14	27	6	2.31	.70	1.18	.5	1.23	.5	-.63	.31	16.7	60.4	14
17	27	6	2.31	.70	1.02	.3	1.09	.4	-.35	.31	50.0	60.4	17
25	27	6	2.31	.70	.58	-.5	.74	-.2	.38	.31	83.3	60.4	25
26	27	6	2.31	.70	1.15	.4	.95	.2	.73	.31	50.0	60.4	26
31	27	6	2.31	.70	2.06	1.4	2.24	1.6	-.26	.31	33.3	60.4	31
34	27	6	2.31	.70	.83	.0	.78	-.1	.10	.31	50.0	60.4	34
50	27	6	2.31	.70	1.09	.4	1.03	.3	-.38	.31	16.7	60.4	50
54	27	6	2.31	.70	.94	.2	.99	.2	-.18	.31	50.0	60.4	54
61	27	6	2.31	.70	1.20	.5	1.24	.6	-.66	.31	16.7	60.4	61
62	27	6	2.31	.70	1.02	.3	1.09	.4	-.35	.31	50.0	60.4	62
63	27	6	2.31	.70	.64	-.3	.69	-.3	.35	.31	50.0	60.4	63
65	27	6	2.31	.70	1.18	.5	1.23	.5	-.63	.31	16.7	60.4	65
70	27	6	2.31	.70	.83	.0	.78	-.1	.10	.31	50.0	60.4	70
75	27	6	2.31	.70	.84	.0	.79	-.1	.08	.31	50.0	60.4	75

	85	27	6	2.31	.70	.47	-.7	.53	-.6	.66	.31	83.3	60.4	85
	87	27	6	2.31	.70	.39	-.9	.43	-.9	.83	.31	83.3	60.4	87
	88	27	6	2.31	.70	.72	-.2	.79	-.1	.18	.31	50.0	60.4	88
	93	27	6	2.31	.70	.84	.0	.79	-.1	.08	.31	50.0	60.4	93
	104	27	6	2.31	.70	1.02	.3	1.09	.4	-.35	.31	50.0	60.4	104
	110	27	6	2.31	.70	.83	.0	.78	-.1	.10	.31	50.0	60.4	110
	121	27	6	2.31	.70	2.73	1.9	1.96	1.4	.75	.31	66.7	60.4	121
	122	27	6	2.31	.70	.47	-.7	.53	-.6	.66	.31	83.3	60.4	122
	123	27	6	2.31	.70	1.03	.3	1.10	.4	-.38	.31	50.0	60.4	123
	125	27	6	2.31	.70	1.90	1.2	2.10	1.5	-.08	.31	66.7	60.4	125
	126	27	6	2.31	.70	.58	-.5	.74	-.2	.38	.31	83.3	60.4	126
	8	26	6	1.88	.62	1.11	.4	1.01	.2	-.89	.34	50.0	51.9	08
	9	26	6	1.88	.62	.76	-.1	.66	-.3	-.10	.34	83.3	51.9	09
	18	26	6	1.88	.62	.42	-.8	.54	-.6	.40	.34	50.0	51.9	18
	35	26	6	1.88	.62	.95	.2	.90	.1	-.59	.34	50.0	51.9	35
	36	26	6	1.88	.62	.40	-.9	.48	-.7	.49	.34	83.3	51.9	36
	38	26	6	1.88	.62	1.11	.4	1.01	.2	-.89	.34	50.0	51.9	38
	39	26	6	1.88	.62	.40	-.9	.48	-.7	.49	.34	83.3	51.9	39
	41	26	6	1.88	.62	.71	-.2	.68	-.3	.82	.34	50.0	51.9	41
	45	26	6	1.88	.62	.95	.2	.90	.1	-.59	.34	50.0	51.9	45
	49	26	6	1.88	.62	.87	.0	.82	-.1	-.40	.34	50.0	51.9	49
	53	26	6	1.88	.62	1.27	.6	1.09	.4	.26	.34	50.0	51.9	53
	55	26	6	1.88	.62	.42	-.8	.54	-.6	.40	.34	50.0	51.9	55
	58	26	6	1.88	.62	1.79	1.1	1.37	.7	.88	.34	33.3	51.9	58
	59	26	6	1.88	.62	.91	.1	.91	.1	.63	.34	50.0	51.9	59
	64	26	6	1.88	.62	.63	-.4	.59	-.5	.93	.34	50.0	51.9	64
	66	26	6	1.88	.62	.42	-.8	.54	-.6	.40	.34	50.0	51.9	66
	71	26	6	1.88	.62	.75	-.2	.83	.0	-.29	.34	50.0	51.9	71
	76	26	6	1.88	.62	.95	.2	.90	.1	-.59	.34	50.0	51.9	76
	79	26	6	1.88	.62	.42	-.8	.54	-.6	.40	.34	50.0	51.9	79
	82	26	6	1.88	.62	.50	-.6	.63	-.4	.22	.34	50.0	51.9	82
	95	26	6	1.88	.62	1.72	1.1	1.87	1.3	-.39	.34	16.7	51.9	95
	97	26	6	1.88	.62	1.36	.7	1.18	.5	.12	.34	50.0	51.9	97
	100	26	6	1.88	.62	.86	.0	.81	-.1	-.38	.34	50.0	51.9	100
	108	26	6	1.88	.62	1.02	.3	1.07	.3	.44	.34	16.7	51.9	108
	111	26	6	1.88	.62	.40	-.9	.48	-.7	.49	.34	83.3	51.9	111
	113	26	6	1.88	.62	.71	-.2	.68	-.3	.82	.34	50.0	51.9	113
	116	26	6	1.88	.62	.50	-.6	.63	-.4	.22	.34	50.0	51.9	116
	3	25	6	1.53	.56	.32	-1.2	.39	-1.0	.24	.37	66.7	52.9	03
	6	25	6	1.53	.56	1.26	.6	1.05	.3	.83	.37	50.0	52.9	06
	15	25	6	1.53	.56	.85	.0	1.07	.3	.31	.37	66.7	52.9	15
	16	25	6	1.53	.56	.77	-.2	.78	-.1	.93	.37	33.3	52.9	16
	19	25	6	1.53	.56	1.27	.6	1.06	.3	.82	.37	50.0	52.9	19
	22	25	6	1.53	.56	1.04	.3	.83	.0	.13	.37	66.7	52.9	22
	28	25	6	1.53	.56	.56	-.6	.54	-.6	-.37	.37	66.7	52.9	28
	32	25	6	1.53	.56	1.53	.9	1.27	.6	.57	.37	16.7	52.9	32
	43	25	6	1.53	.56	1.27	.6	1.06	.3	.82	.37	50.0	52.9	43
	44	25	6	1.53	.56	.56	-.6	.54	-.6	-.37	.37	66.7	52.9	44
	48	25	6	1.53	.56	1.37	.7	1.19	.5	.70	.37	16.7	52.9	48
	52	25	6	1.53	.56	.21	-1.6	.26	-1.4	.61	.37	100.0	52.9	52
	57	25	6	1.53	.56	1.65	1.0	1.41	.8	.92	.37	16.7	52.9	57
	60	25	6	1.53	.56	1.15	.4	.96	.2	-.07	.37	33.3	52.9	60
	68	25	6	1.53	.56	.38	-1.0	.42	-.9	.88	.37	66.7	52.9	68
	73	25	6	1.53	.56	1.03	.3	1.27	.6	-.02	.37	33.3	52.9	73
	77	25	6	1.53	.56	1.09	.4	1.14	.4	-.06	.37	33.3	52.9	77
	78	25	6	1.53	.56	1.08	.3	1.27	.6	.58	.37	33.3	52.9	78
	81	25	6	1.53	.56	.21	-1.6	.26	-1.4	.61	.37	100.0	52.9	81
	92	25	6	1.53	.56	1.37	.7	1.19	.5	.70	.37	16.7	52.9	92

94	25	6	1.53	.56	1.23	.6	1.03	.3	-.20	.37	33.3 52.9	94
102	25	6	1.53	.56	.32	-1.2	.39	-1.0	.24	.37	66.7 52.9	102
103	25	6	1.53	.56	.38	-1.0	.42	-.9	.88	.37	66.7 52.9	103
105	25	6	1.53	.56	1.19	.5	1.35	.7	-.22	.37	33.3 52.9	105
117	25	6	1.53	.56	2.37	1.7	2.34	1.7	.05	.37	50.0 52.9	117
118	25	6	1.53	.56	.21	-1.6	.26	-1.4	.61	.37	100.0 52.9	118
4	24	6	1.24	.52	.87	.0	.76	-.2	.79	.40	50.0 48.1	04
5	24	6	1.24	.52	.96	.2	.87	.0	.66	.40	50.0 48.1	05
20	24	6	1.24	.52	.54	-.7	.57	-.6	.79	.40	50.0 48.1	20
21	24	6	1.24	.52	2.54	2.0	2.54	1.9	-.06	.40	16.7 48.1	21
23	24	6	1.24	.52	.57	-.6	.54	-.6	.24	.40	50.0 48.1	23
27	24	6	1.24	.52	1.53	.9	1.65	1.1	.33	.40	33.3 48.1	27
29	24	6	1.24	.52	2.12	1.6	1.70	1.1	.72	.40	33.3 48.1	29
80	24	6	1.24	.52	1.61	1.0	1.80	1.2	.60	.40	33.3 48.1	80
83	24	6	1.24	.52	2.28	1.7	1.76	1.2	.62	.40	33.3 48.1	83
90	24	6	1.24	.52	1.15	.4	1.05	.3	.89	.40	16.7 48.1	90
96	24	6	1.24	.52	1.16	.5	1.06	.3	.88	.40	16.7 48.1	96
98	24	6	1.24	.52	1.14	.4	.94	.1	.50	.40	50.0 48.1	98
106	24	6	1.24	.52	1.39	.8	1.42	.8	.69	.40	16.7 48.1	106
124	24	6	1.24	.52	1.37	.7	1.23	.6	.00	.40	33.3 48.1	124
30	23	6	.99	.49	.92	.1	.99	.2	.75	.43	33.3 48.9	30
42	23	6	.99	.49	.65	-.5	.57	-.6	.62	.43	66.7 48.9	42
67	23	6	.99	.49	.94	.1	1.02	.2	.72	.43	33.3 48.9	67
72	23	6	.99	.49	.64	-.5	.70	-.3	.28	.43	66.7 48.9	72
120	23	6	.99	.49	.95	.1	.95	.1	.70	.43	33.3 48.9	120
11	22	6	.77	.46	.29	-1.7	.23	-1.8	.75	.45	66.7 44.5	11
24	22	6	.77	.46	.92	.0	.81	-.1	.07	.45	50.0 44.5	24
37	22	6	.77	.46	1.33	.7	1.43	.8	.44	.45	16.7 44.5	37
56	22	6	.77	.46	.61	-.6	.66	-.4	.73	.45	33.3 44.5	56
74	22	6	.77	.46	.89	.0	.92	.1	.53	.45	50.0 44.5	74
84	22	6	.77	.46	1.13	.4	1.20	.5	.54	.45	.0 44.5	84
86	22	6	.77	.46	.99	.2	.99	.2	.40	.45	50.0 44.5	86
109	22	6	.77	.46	1.00	.2	1.00	.2	.39	.45	50.0 44.5	109
112	22	6	.77	.46	.67	-.5	.74	-.3	.93	.45	33.3 44.5	112
119	22	6	.77	.46	.81	-.2	.78	-.2	.48	.45	33.3 44.5	119
40	21	6	.56	.45	.32	-1.6	.28	-1.7	.73	.46	50.0 43.6	40
115	21	6	.56	.45	1.15	.5	1.16	.5	.70	.46	33.3 43.6	115
114	20	6	.37	.44	.23	-2.1	.22	-2.0	.80	.47	66.7 42.6	114
89	19	6	.18	.43	.73	-.4	.74	-.4	.69	.47	50.0 32.8	89
MEAN	25.4	6.0	1.81	.62	.96	.0	.94	.0			50.1 54.9	
S.D.	2.0	.0	.73	.14	.47	.7	.43	.7			20.7 9.1	

Table 4: Person Measure provides information on individual capabilities. The SD value is 0.73, as determined by the table. When this SD value is coupled with the average logit value (mean) of 1.81, oil palm firm workers' abilities can be classified as high ability (higher than 1.81 + 0.73 = 2.53), medium ability (between 1.08 and 2.53), or low ability (less than 1.81 – 0.73 = 1.08). As a result, the logit value limit for high ability is greater than 2.53, the medium ability is 1.08-2.53, and the poor ability is less than 1.08. Looking at the logit value of each individual in Table 4 above, there are 126 people in total, with 14 people in the high ability category, 93 people in the medium ability category, and 19 people in the lowest ability category. poor aptitude.

5. Instrument Analysis

The data from the Statistical Summary Table was utilized to analyze the instruments. The following information is known based on the table:

Table 5. Summary Statistic

SUMMARY 126 MEASURED PERSON

	TOTAL SCORE	COUNT	MODEL MEASURE	S.E.	INFIT MNSQ	INFIT ZSTD	OUTFIT MNSQ	OUTFIT ZSTD
MEAN	25.4	6.0	1.81	.62	.96	.0	.94	.0
S.D.	2.0	.0	.73	.14	.47	.7	.43	.7
MAX.	29.0	6.0	3.74	1.08	2.73	2.0	2.54	1.9
MIN.	19.0	6.0	.18	.43	.21	-2.1	.22	-2.0

REAL RMSE .68 TRUE SD .26 SEPARATION .38 PERSON RELIABILITY .13
MODEL RMSE .64 TRUE SD .35 SEPARATION .54 PERSON RELIABILITY .23
S.E. OF PERSON MEAN = .06

PERSON RAW SCORE-TO-MEASURE CORRELATION = .96
CRONBACH ALPHA (KR-20) PERSON RAW SCORE "TEST" RELIABILITY = .10

SUMMARY OF 6 MEASURED ITEM

	TOTAL SCORE	COUNT	MODEL MEASURE	S.E.	INFIT MNSQ	INFIT ZSTD	OUTFIT MNSQ	OUTFIT ZSTD
MEAN	534.0	126.0	.00	.13	.94	-.5	.94	-.4
S.D.	34.1	.0	.53	.02	.22	1.7	.18	1.3
MAX.	574.0	126.0	.89	.16	1.22	1.5	1.16	1.3
MIN.	472.0	126.0	-.73	.10	.60	-3.3	.67	-2.6

REAL RMSE .14 TRUE SD .51 SEPARATION 3.74 ITEM RELIABILITY .93
MODEL RMSE .13 TRUE SD .51 SEPARATION 3.85 ITEM RELIABILITY .94
S.E. OF ITEM MEAN = .24

The average score of all participants in working on instrument items to provide data on natural environment tactics is shown in the Person Measure. People with mean scores higher than the item mean (where the average item is 0.00 logit) have abilities that are normally stronger than the difficulty of the instrument items. The Cronbach Alpha rating for the overall interaction of people and items is 0.10, which includes the unsatisfactory category. In addition, the Person Reliability rating is 0.13, which indicates the consistency of respondents' responses, including those in the very low category. While the items' reliability as a measure of the quality of the instrument items classed as special categories is 0.93.INFIT MNSQ and OUTFIT MNSQ, both in the Person and Item tables, are other data in Table 5 that can be used. The average values of INFIT MNSQ and OUTFIT MNSQ are 0.96 and 0.94, respectively, according to the Person table. Meanwhile, according to the Item table, the average values of INFIT MNSQ and OUTFIT MNSQ are 0.94 and 0.94, respectively. The conditions are that the value should be as close to 1 as possible because 1 is the optimum number. As a result, the typical person and item are near to meeting the ideal standard. The average score for each person is 0.0, even though it is related to INFIT ZSTD and OUTFIT ZSTD. The INFIT ZSTD and OUTFIT ZSTD values for items are respectively -0.5 and -0.4. The optimum ZSTD value is zero, or as near to zero as possible. As a result, the quality of people and commodities might be regarded to be good.

The latter is concerned with the separation or grouping of individuals and goods. Individual separation displays how well the natural environment strategy instrument's set of items spreads across the logit ability range. Because the things in the instrument can reach persons with high levels of ability to those with poor skills,

the bigger the individual separation, the better the instrument is prepared. Item split, on the other hand, reflects how evenly the measured sample is distributed along a linear interval scale. The better the measurement, the higher the grain separation. This index can also be used to determine how meaningful the concept being measured is. The separation for individuals is 0.38 and for goods is 3.74, according to Table 5's result. The higher the separation value, the higher the person's and instrument's overall quality. The formula H=(4 x divides) + 1/3 is used to calculate values more precisely. As a result, the split value for individuals is 0.87, rounded to 1, and the split value for items is 5.32, rounded to 5. This means that participants in the study have a range of talents that can be divided into four categories. Meanwhile, the complexity of the questions is separated into five categories, with the easiest group being the easiest and the most difficult group is the most difficult.

IV. CONCLUSION

There is one (one) item in the natural environment strategy instrument that is deemed inappropriate since it is too difficult for most participants to agree on. As a result, 5 items are sufficient for use in the environmental strategy data instrument. All participants have access to the whole scale of response options, which range from 1 to 5. Also included in the unsatisfactory category is the Cronbach Alpha value, which measures the overall interaction between people and items furthermore, Person Reliability's value as a measure of the consistency of respondents' answers are categorized as very bad. Item Reliability, on the other hand, is a unique indicator of the quality of the items on the instrument. The average difficulty level of standard items is below the ability level of palm oil mill managers. The palm oil mill's managers might accept the instrument plan for natural environment items in this method.

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