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RESEARCH ARTICLE

PLANNING AND JOURNALING THE AGROPOLITAN PROJECT: A FOCUS ON INCOME ANALYSIS FOR POVERTY ALLEVIATION

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Abstract

Although Malaysia's poverty rate has decreased, there are still people who suffer from extreme poverty, especially in rural areas. The agropolitan project under the Rural Mega Leap Program (PLMLB) is a program aimed at eradicating extreme poverty and expediting progress in rural regions. The achievements of agropolitan projects are evaluated through the extent to which they help participants to get out of extreme poverty and are measured using Poverty Line Income (PGK). However, PGK only takes into account income and consumption and does not take into account non-monetary aspects such as living conditions, basic facilities and so on. Therefore, this research intends to examinethe effects of the implementationof this project on the participants in eradicating poverty and towards a sustainable livelihood. Multidimensional Poverty Index (IKPD) is used to measure poverty in this study along with its applicationof PGK. A study using the Sustainable Livelihood Framework (KPL), was conducted at the Gahai Agropolitan Project in Lipis, Pahang, involved 45 participants. Research data was obtained through the distribution of questionnaires and analyzed using SPSS version 22 software and Microsoft Excel. Studies show that theproposed project is useful to eradicating poverty and contributing to sustainable livelihoods. Calculation of the Multidimensional Poverty Index (IKPD) shows that the individuals involved are not subjected to multidimensional poverty.In addition, the participants are also exempted from extreme poverty and experience increased income within five years of participating in the Gahai Agropolitan Project. From the aspect of sustainable living, the results of the study show that the participants experience high vulnerability. Analysis of asset ownership shows that the participants of theAgropolitan Project have good asset ownership. Analysis of the regression model of income determinants for the participants demonstrate that financial assets are an important factor affecting income. According to the findings of this study, there are several recommendations for policy implications to evaluate participants or non-participants of agropolitan projects, which is to consider the Sustainable Livelihood Framework (KPL) in rural development and use the Multidimensional Poverty Index (IKPD) as a complement to the PGK.

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Introduction:-

Poverty is an issue that is still a concern in most countries of the world. It is a complex phenomenon and covers many dimensions and is closely related to human and social behaviour (Chamhuri et al., 2014). It is estimated that over 1.2 billion people around the world are in a state of poverty in which 26% are categorized as low national income, 58% with moderate national income, and 17% as medium high national income (Kanbur et al., 2012). Poverty in many countries also tends to be concentrated in rural areas than in the city. According to Ravallion (2007), more than three quarters of poor society members are those who live in rural areas. The poor are expected to continue to live in rural areas for several decades. The issue of poverty is giving a signal to all parties to continue efforts to eradicate poverty.

Presently, efforts to eradicate poverty continued through the implementation of Sustainable Development Goals (SDG). SDG has established the eradication of all forms of poverty in the society. In the year 2030, all individuals are targeted to not suffer any form of poverty where people strive to live with a minimum of USD$1.25 per day. In addition to that, some of the goals were also determined, that is:

1. Eradicate extreme poverty for all people everywhere
2. Reduce at least by half the proportion of men, women, and children of all ages living in poverty according to the dimensions determined by the respective nation
3. Implement nationally appropriate social protection systems and measures for all, including the poor, and by 2030 achieve substantial coverage of the poor and the vulnerable
4. Ensure that the poor and vulnerable have equal access to economic resources, as well as access to basic services, ownership, and control over land and other ownership.
5. Building the resilience of the poor toward vulnerability.
6. Implementation of policies and programs that can eliminate multi-dimensional poverty. vii. Establish a strong framework at the national, regional, and international level that addresses development strategies for poverty alleviation.

In the Malaysian context, the reduction of poverty rates is strongly contributed by the policy implementation by the government, through four major policies, namely New Economic Policy (NEP) (1970–1990), the National Development Policy (NDP) (1990–2000), National Vision Policy (NVP) (2001–2010), New Economic Model (MBE) (2010), and Shared Prosperity Vision (SPV 2030). Malaysia has managed to reduce the rate of poverty based on region (refer Table 1).

Table 1:-Malaysian Poverty Line Income 1970 -2022.

Wilayah	1970	1980	1990	1995	1999	2002	2004	2009	2014	[1]2016	2019	2022
Semenanjung	180	274	370 (185)	425 (212.5)	510 (255)	529 (264.5)	661	763	940	2141	2208	2589
Sabah	410	544	544 (272)	601 (300.5)	685 (342.5)	690 (345)	888	1048	1160	2514	2537	2131
Sarawak	347	452	452 (266)	516 (258)	584 (292)	600 (292)	765	912	1040	2108	2742	2618

Source: Economic Planning Unit and Department of Statistics Malaysia (2023)

Among the programs to eradicate extreme poverty was implemented through the Rural Mega Uplifting Program (PLMLB) is Agropolitan project. Since 2006 till 2007, a total of 44,000 people from extreme poverty have been identified in Malaysia. Four ministries, inclusive of the Ministry of Agriculture, the Ministry of Women, Family and Community Development and Ministry of Rural and Regional Development (MRRD) were responsible for eradicating poverty which involves 10,000 people from extreme poverty cluster. At the same time, the government established five development corridors namely the Northern Corridor Economic Region (NCER), East Coast Economic Region (ECER), Sabah Development Corridor (SDC), Sarawak Renewable Energy Corridor (SCORE), and Iskandar Malaysia (ISKANDAR). Through the implementation of the five corridors, 4400 individuals from extreme poverty were placed under the implementing agencies of the respective corridors. The remaining 5600 individuals coming from extreme poverty group were handed over to MRRD for poverty eradication planning and become a focus for participating in the Agropolitan program (Shaffril et al., 2010).

As of 2017, there were 11 projects under agropolitan programs which have been implemented and involved five states under the supervision of the Ministry of Rural Development Affairs and Regional Development (MRRD) [9]. According to the ministry, there are two successful agropolitan programs which are Gahai Agropolitan Programme, Lipis, Pahang and Batang Lupar Agropolitan Program, Sarawak. Based on the poverty index, namely Poverty Lines Income (PLI), all participants for both agropolitan programs have been classified as non-poor after joining the agropolitan programs which were implemented since 2007 (MRRD, 2013).

Rural poverty remains a pressing issue in many regions worldwide, with significant portions of the population living below the poverty line. Traditional agricultural practices, while sustaining livelihoods, often fail to generate sufficient income for poverty alleviation. In response to this challenge, the concept of agropolitan development has emerged as a potential solution. Agropolitan projects aim to transform rural areas into hubs of agricultural productivity and economic growth, thereby uplifting communities out of poverty. The primary objective of this paper is to analyze income dynamics within the context of the Agropolitan Project, focusing on its potential for poverty alleviation.

Literature Review:-

Development of Gahai Agropolitan for Rural Development and Poverty Eradication

The Agropolitan project is one of the government's initiatives to eradicate poverty and also involves several districts in the state of Pahang, Malaysia. According to records, there are 11 agropolitan projects which were launched by the government under the Ministry of Rural and Regional Development (MRRD) until 2016, and Pahang have two agropolitan projects which are the Chemomoi Agropolitan Project and Gahai Agropolitan Project (MRRD, 2013). The implementation of Chemomoi Agropolitan still runs and ends in September 2016. While the process of development of the Gahai Agropolitan Project, Lipis, Pahang has stopped in 2012 and has shown results to participants through the income acquisition.

The selection of the Gahai Agropolitan Project, Lipis for this study is based on the following criteria:

1. Gahai Agropolitan Project has surpassed the development of more than 5 years and allows the impact study to be conducted.
2. Gahai Agropolitan Project is in Pahang, which is among the state with highest poverty rate (Malaysia 2015), and it is compatible with the objectives of the study in evaluating the impact of the Agropolitan project in eradicating poverty.
3. The selection of Gahai Agropolitan Project was proposed from the Ministry of Rural and Regional Development (MRRD) as it is an early established Agropolitan project and has showed good performance and exist necessity in evaluating the project

Gahai Agropolitan Project, Lipis, Pahang encompasses the area of 238.76 hectares, which involves a total of 80 projects participants. Each participant of the project was selected from the extreme/hardcore poor group. The participants of the project were divided into two categories: 50 individuals with house placements and 30 individuals without placements. Although there are 80 registered participants of the Gahai Agropolitan Project, only 50 local participants are actively involved in economic activities and utilize the benefits of the development of economic components, physical components, and human capital components in the Gahai Agropolitan Project. While another 30% are registered participants but are not involved in economic activities, living in the Gahai Agropolitan Project area and they only receive an annual dividend from the Rubber Industry Smallholders Development Authority (RISDA). Gahai Agropolitan Project, Lipis is managed by the implementing agency, Rubber Industry Smallholders Development Authority (RISDA) which was entrusted by the Ministry of Rural and Regional Development (MRRD). The Gahai Agropolitan Project involves the development of economic, physical, and human capital components.

Research Methodology:-

This study involves Gahai Agropolitan Project participants. The rational of this selection is that they were involved directly with the project, as hardcore poor selected to participate in the early stage of the project development. This study uses purposive sampling; this sampling method is able to reach a targeted sample quickly, and proportionality is not the main concern. A total of 45 Agropolitan Project participants consisting of 252 household members were chosen as the sample for this study. The determination of the number of respondents, or sample for this study was based on the number of samples as proposed by Krejcie and Morgan (1970). The data collection was done via a

questionnaire survey which includes the respondent's profile. The analysis of this study will be using income analysis based on Discrete Income Analysis, Income Parametric Analysis, Poverty Analysis Using Poverty Line Income (PLI).

Income Analysis:
Income analysis plays a crucial role in understanding economic dynamics within communities and regions, particularly in the context of poverty alleviation and development initiatives. By examining various aspects of income, such as its sources, distribution, and stability, policymakers and researchers can gain insights into the economic well-being of populations and identify areas for intervention. One key aspect of income analysis is its ability to highlight disparities in income levels among different demographic groups, which can inform targeted interventions to address inequality and promote inclusive growth (Moser, 1998).

Furthermore, income analysis provides valuable information for evaluating the effectiveness of poverty alleviation programs and development projects. By tracking changes in income levels over time and comparing them with pre-intervention data, policymakers can assess the impact of specific interventions on poverty reduction and economic empowerment. This evidence-based approach allows for the refinement and optimization of strategies aimed at improving livelihoods and enhancing economic opportunities for marginalized populations (World Bank, 2020).

Moreover, income analysis serves as a foundation for evidence-based policymaking and resource allocation in the field of economic development. By providing policymakers with comprehensive data on income trends, disparities, and determinants, income analysis enables informed decision-making and the prioritization of interventions with the greatest potential for poverty reduction and sustainable development (Deaton, 1997). Ultimately, income analysis not only sheds light on the complex dynamics of poverty and economic inequality but also empowers policymakers and practitioners to design more effective strategies for promoting inclusive growth and shared prosperity.

Analysis And Discussion:-

Profile:
This section discusses the respondents' profile. Based on Table 2, the majority of the participants (82.2 percent) were male and the remaining 17.8 percent were female. The breakdown by age of the respondents shows that participants' age between 46-50 years old made up the majority of the respondents with 28.9 percent, followed by participants between 36-40 and 41-45 years old with 22.2 percent each. This is then followed by participants who were 56 years and above with a small percentage of 11.1 percent. The smallest percentage is for participants below 35 years of age, making up a mere 2.2 percent.

The analysis on education level shows that the majority of the Gahai Agropolitan Project particpants have completed their secondary education with 51.1 percent of them having Sijil Pelajaran Malaysia (SPM) while 17.8 percent of them only have a lower secondary level of education (PMR/SRP). Of the total number of respondents, 26.7 percent of them only have primary school education, i.e., the sixth grade. Although this number is quite high, most of them were 50 years old and above. For the number of dependents, the data shows that most of the respondents have more than four dependents or household members with the highest number of households memberd recorded at 5-6 people per household. Meanwhile, data for respondents with 1-2 household member and 3-4 household member shows values of 11.1 percent and 26.7 percent, respectively.

Table 2:- No of respondent, n = 45.

Item	Percentage (%)
Gender	
Male	82.2
Female	17.8
Age	
Below 35 years old	2.2
36 – 40 years old	22.2
41 – 45 years old	22.2
46 – 50 years old	28.9
51 – 55 years old	11.1
56 years old and above	13.3

Education	
Primary school/ UPSR	26.7
Lower Secondary school/PMR/SRP	17.8
Secondary school/ SPM	51.1
Higher secondary: STPM/certificate	2.2
Main Occupation	
Rubber Tappers	88.9
Others	11.1
Number of household members	
1 – 2 people	11.1
3 – 4 people	26.7
5 – 6 people	44.4
7 – 8 people	13.3
More than 9 people	4.4

Source: Field Study (2017)

Discrete Income Analysis:

Table 3 shows the participants monthly income before and after participating in the Gahai Agropolitan Project. The left side of Table 4 shows the income before participating in the Agropolitan project. The analysis shows the majority of respondents (75.5%) earn income of less than RM1, 000 which is below the poverty line income. There are 17.8% of participants earning incomes of between RM1001 and RM1500 and 4.4% have income of between RM1501 and RM2000. Only 2.2% of participants received income exceeding RM2,000. The average monthly income of the participants before participating in the Gahai Agropolitan Project is RM920.22. This total income is almost similar to the national PLI. The right side of Table 4 also shows the participants income after participating in the Agropolitan Project. The value of the incomes is based on the respondents' feedback on questions related to the monthly average income earned after participating in the project. The income analysis shows all participants of the Agropolitan project obtain incomes exceeding RM 500 a month. There are 8.9% of the participants of the project receiving incomes between RM501 and RM1000. Most of the respondents had income above PLI which is RM850. A total of 91.1% respondents earned incomes above RM1000. Details on the incomes amount show 31.1% of respondents earn incomes RM1001–RM1500, 42.2% earn incomes between RM1501–RM2000, and 17.8% earn more than RM2, 000 and above. Income comparison before and after participating the project shows a significant increment. The average monthly income of the participant after participating in the Gahai Agropolitan Project was RM1628.33. This average income is higher compared to monthly average income prior to joining the Gahai Agropolitan Project.

Table 3:- Participants income before and after participating in Gahai Agropolitan Project.

n = 45			
Before		**After**	
Income	**Percentage (%)**	**Income**	**Percentage (%)**
RM500 and below	11.1	RM500 and below	0.0
RM501-RM1000	64.4	RM501-RM1000	8.9
RM1001 – RM1500	17.8	RM1001 – RM1500	31.1
RM1501 – RM2000	4.4	RM1501 – RM2000	42.2
RM2000 and above	2.2	RM2000 and above	17.8

Source: Field survey (2017)

Income Parametric Analysis:

To further strengthen the analysis, the findings of an increase in a participant's income for involvement in Gahai Agropolitan Project were analyzed using a parametric test, paired sample t-test. The test is carried out using the data of the participants' income before and after participating in the project. Table 5 shows income differences before and after participating in the Agropolitan project. The analysis shows significant differences to the participants' income with a value of t = 8196 and the value of p = 0.000, indicating that there is a significant income difference

before and after participating in the Agropolitan project. Participant's income increased and significant differences were significant before and after participating in the Gahai Agropolitan Project.

Table 4:-Participants income difference before and after joining Gahai Agropolitan Project.

Paired t- test				
Pair differences		**t-value**	**Degree of freedom (df)**	**Significance (2 sides)**
Average income	Standard deviation	8.190	44	0.000
718.01111	588.08925			

Source: Field survey (2017)

Poverty Analysis using Poverty Line Income (PLI):

Table 5 shows the poverty analysis for the Gahai Agropolitan Project's participants using the poverty line income (PLI). Based on the table above, the household is categorized poor should the household receive an income less than the poverty line. This case study applied PLI at a national level in 2014 for Peninsular Malaysia and rural area at RM 840. RM840 value means the households earning incomes less than this value is considered poor. Based on Table 6, 95.6% of the Agropolitan project participants are considered not poor, earning income exceeding RM840 per month. This income is derived from active involvement in the Well-Being Farm which was the main income source. However, there were still poor participants (4.4%).

Table 5:- Gahai Agropolitan Project's participant's poverty based on the Poverty Line Income (PLI).

Category	Percentage (%)
Poor	4.4
Not poor	95.6

* Participant's income was compared to rural national PLI 2014 = RM 840
Source: Field Survey (2017)

Conclusion:-

Agropolitan project development throughout Malaysia is a recognition of Malaysian government's effort to improve socioeconomic development and improve quality of life and ultimately eradicate poverty, especially in the rural areas. Toward this goal, responsible ministries and agencies, including state government, must have a mechanism in drawing up an effective program for ensuring the goals of the program can be achieved, thus providing positive impacts to participants. The Gahai Agropolitan Project case study has shown how its implementation can contribute to poverty eradication through increasing the participant's income so that they are able to move out of poverty. In the long run, poverty among the participants and their second-generation households could be eradicated through improved human capital development involving improvement in education and health facilities and sustained by institutional support that would benefit the rural community as a whole.

In planning future agropolitan projects aimed at increasing income, it's essential to adopt a holistic and community-centered approach that integrates various components of agricultural and rural development. Firstly, thorough assessments of local resources, market dynamics, and socio-economic conditions should inform project design, ensuring alignment with the unique needs and potentials of the target communities. Emphasizing diversified agricultural production, value addition, and market-oriented strategies can help capitalize on emerging market opportunities while mitigating risks associated with single-crop dependency. Moreover, investments in infrastructure, such as road networks, storage facilities, and processing centers, are crucial for improving market access and reducing post-harvest losses. Integrating technology and innovation, including precision agriculture techniques and digital platforms for market information, can enhance productivity and efficiency throughout the agricultural value chain.

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