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IMPLEMENTATION OF INTEGRATED RURAL DEVELOPMENT CONCEPT (IRD) IN DEVELOPING MUKIM OF SIDAM KANAN, KEDAH, MALAYSIA

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Abstract:

This study investigates the feasibility of an integrated economy of seven (7) villages in the Mukim of Sidam Kanan (sub-district), Kedah, Malaysia, by adopting the 'Integrated Rural Development (IRD)' to develop their economy. The concept of IRD promoted a continuous intervention and collaboration process that involved external parties such as government agencies to improve the rural local economy and quality of life. Villagers' aspiration to improve their economic wealth was blended carefully with preserving local values through local distribution, reducing incongruity between rural-urban and seeking alternatives to strengthen and use natural resources. The economic sectors intended to integrate into this mukim are agriculture, livestock, aquaculture, small and medium entrepreneurs (SME) industries and rural tourism. Therefore, the interest of this paper is to evaluate the feasibility of these economies by using Creativity Index Analysis (C.I), GAP Analysis, SWOT Analysis and Financial Analysis in determining the best practice framework. Return of investment for overall proposed projects shows 20% per cent. Moreover, the 1.0 Creativity Index values can define the economic integration potential and the disparities in this rural area that are overcome from the analysis. Most importantly, more than 70% of the 99 respondents from this area agreed with the project implementation. To ensure the feasibility of the IRD, the development framework proposed at least three potential aspects within five years need to be considered: training, new and existing development and assistance in product marketing.

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Rural, Integrated Rural Development, Feasibility, Creativity Index Analysis

Introduction

The Malaysian's Rural Development Policy indicated the main vision of the rural area development as toward "A prosperous, inclusive and holistic rural area." This paper examines the feasibility of Integrated Rural Development (IRD) implementation to develop the rural economy in the Mukim Sidam Kanan, Kedah, Malaysia, initiated by the Ministry of Rural Development. Project in this area aligns with the national policy and has outlined its vision to improve the rural economy.

An integrated rural development can be defined as a series of mutually supporting (inter-related), agricultural and non-agricultural activities oriented towards a stated objective that involves improvements in the rural system as a whole. The IRD promoted improving productivity, incomes, infrastructure, and social development within a rural area. IRD is based on the principle of indigenous development and growth, community involvement and decentralised government (Tony Gore, 2006).

Another key element of IRD is striking a balance between economic, social, and environmental objectives. This orientation emerges clearly from the definition of integrated rural development projects by the World Bank: "Rural development programs or projects are intended to provide a sustained increased in the output and the level of living of a significant proportion of the rural poor in a given area" (Baltimore, 1975).

The IRD concept used in this study means a continuous process that involves the interference of external parties and is based on the aspiration of the local population that aims to improve the quality of life of the target group and preserve local values through local distribution and redistribution.

At least 5 (five) components of economic activities are involved in this study, namely 1) Agriculture, 2) Livestock, 3) Aquaculture, 4) Small and Medium Industry, and 5) Tourism.

There are 7 (seven) villages selected within Mukim Sidam Kanan (sub-district) Kedah, Malaysia. The study areas cover 1) Kampung Guar Lobak, 2) Kampung Ujong Padang, 3) Kampung Sentosa, 4) Kampung Sidam Kanan, 5) Kampung Bukit Sidam, 6) Kampung Teluk Sera and 7) Kampung Keda. The locations of nearby villages provide opportunities for more integrated development and increase interdependence between proposed economic activities.

To investigate the feasibility of the IRD in these villages, this study uses several techniques of analysis, namely as 1) SWOT analysis is one of the methods to identify Strengths, Weaknesses, Opportunities and Threats, 2) Gap analysis to determine the current achievement and existing economy activities with the proposed project., 3) Creativity Index (C.I) Analysis, an instrument to determine the implementation of the new project that has been structured with the principle of the best value for money, and 4) Financial Analysis, which consists of Return

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of Investment (ROI) as one of the forms of profit ratio to determine the ability of the entrepreneur with the overall funds invested.

There are 80% undeveloped land in the study area, and this issue has become one of the factors that the ministry has considered to implement IRD. Appropriate measures and incentives must be chosen in the light of district particularities. Moreover, such an integrated operation requires effective horizontal coordination at a regional level (Kedah Regional Development Authority, KEDA). For this, multisect-oriented planning, control and administration units with far-reaching competencies in the region concerned must be set up first.

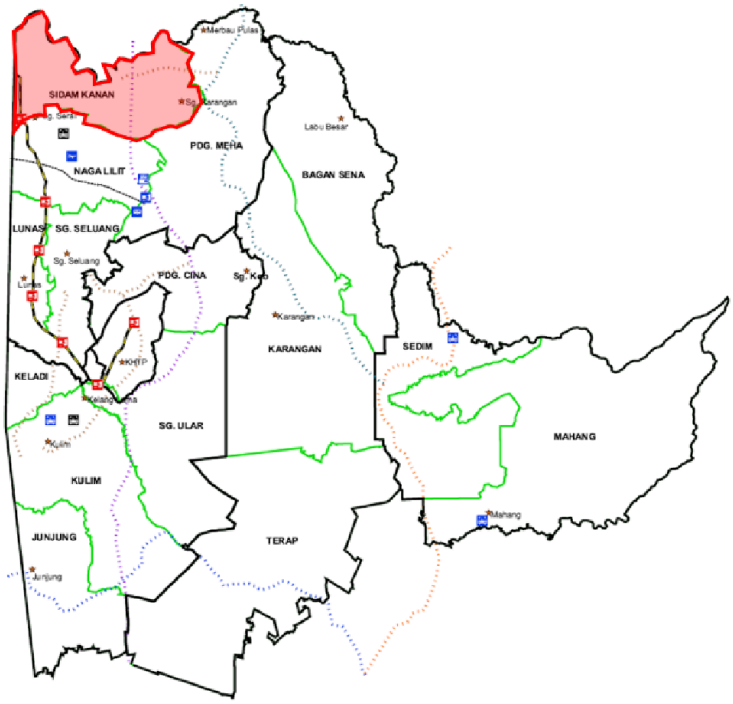

Figure 1: Location of Study Area

Methodology

Gap analysis, SWOT analysis, Creativity Index, and Return on Investment analysis were devised to evaluate the villagers' proposed projects. These analyses were preceded by interviews with the entrepreneurs and villagers on the site subject to the projects they are taking part in.

In this study, data recorded from site visit interviews were codified into the SWOT matrix. SWOT analysis is considered the most accepted tool in strategic planning for simplicity and practicality (Pickton & Wright, 1998). As its name implies, SWOT analysis assesses four elements: 'strength', 'weakness', 'opportunities', and 'threats' (Gurel & Tat, 2017). Aside from its primary purpose for constructing the development plan, it was also used inductively in reasoning components in the development plan.

Another tool used to provide a descriptive context for the development plan is the gap analysis. Conceptually, gap analysis compares the current practices with their respective benchmark

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(Balm, 1996). In this study, a gap analysis was devised to address the existing practices' gap' or weakness and proposed several possible solutions for the targeted projects to be implemented, hence empowering the development plan.

In relative to SWOT and gap analysis, CI and ROI give a numerical evaluation for this study. ROI and CI are used to assess the targeted projects of the development plan. CI was introduced in the 11th Malaysia Plan by the Economic Plan Unit of the Prime Minister's Department of Malaysia as a project selection tool. The proposed project's impact within a set period was estimated to the cost of development and operation of the proposed project projects.

A high CI value indicates a high impact on monetary value compared to the budget. This study evaluated targeted projects for the best value for money and prioritised. While CI is being utilised to assess every project within the development plan, ROI here, in contrast, is more specific to business-oriented projects where the supplement of data on the forecasted net return and the total cost (Phillips & Phillips, 2010) was established during interviews.

For this study, the targeted projects that resulted in a double-digit percentage of ROI are therefore considered feasible.

Result and Discussions

SWOT Analysis

Development potential for the Kedah Regional Development Authority (KEDA) zone area was identified through SWOT and GAP analysis based on field study data. Each village involved has its potential that may be different from other study areas. Each potential is used to upgrade existing activities and introduce new economic activities. Prospects identified in this research, including the administrative institutions of all the villages involved, show good cooperation with each other and with agencies such as KEDA and area cooperatives that can facilitate the implementation of planned development.

Besides that, the potential for the expansion of employment opportunities to the residents may be increased by encouraging the production of downstream products and by-products in the main activities in the village area. Environmental resources in the village area also can be used to generate income in the village's economic improvement activities such as agriculture and fisheries around the river area.

Table 1: SWOT Analysis Findings

SWOT	Findings
Strength	• More than five years of experience • Attractive natural resources • The uniqueness of the products • High interest in the particular field • Systematic financial management • Strong networking between top management and villagers • Effective promotion
Weakness	• Conventional use of equipment • Lack of skilled human resources

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	• Poor marketing system • Poor networking between villagers and agencies
Opportunities	• High supply and demand • High accessibility • Active local participation
Threat	• Difficulties in getting raw materials • Expensive raw materials • Natural Disaster • High competition • Financial aids

Gap Analysis

Immediate discussion on Gap Analysis for this study is divided into five sectors. For agriculture, the targeted projects include 1) maise, 2) mushroom, and 3) mangoes cultivation. This is due to the existing plants that the villagers are working on. Gap identified it is limited land ownership, and the projects that will be implemented might impact the river due to the usage of pesticides and fertiliser to maintain the crops. This can be solved by adapting the organic farming practice while the integration method of farming may alleviate the issue of land matters.

Targeted project for small and medium industry focusing on food truck due to the potential of the high demand of the market and the uniqueness of the products. GAP identified in achieving the target lacks capital and difficulties in mobilising the products to get more customers. Providing food trucks to the entrepreneur will help expand the marketing prospect.

Livestock and aquaculture project targeted quail, cattle farming, and freshwater fish rearing because the existing villagers are already equipped with small-scale farming and the high demand from the market besides having Sungai Muda (Muda River) as a potential for freshwater fish rearing. Concerning the potential, the availability of highly interested youth villagers may become a factor to achieve the targeted project. The gap identified includes a lack of knowledge and an incomplete production ecosystem in livestock management while it requires high capital investment. Programs such as mentor-mentee and diversification of activities may help reduce the gap.

Return on Investment (ROI)

The projects proposed for the development *of Projek Bersepadu Pembangunan Ekonomi Kampung* (PROSPEK) have been scrutinised based on the objectives that have been set. Each project proposed by the KEDA is taken into account to determine the actual needs of village development and the residents' need. Each proposed project has gone through several analytical processes to assess the requirements according to the real potential of the study area. In addition, the determination of the development cost rate, Creativity Index and ROI – Return of investment are stated to facilitate the implementation process.

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Table 2: ROI for IRD Potential Project

Industry	Project	ROI (%)
Agriculture	Chili Fertigation	160
	Mushroom	3680
	Maise	455.4
Livestock	Food Supply Input Shop	18
	Food Process Industry	96
Aquaculture	Freshwater fish rearing	39.53
	Hatchery	27.3
Small and Medium Industry	Product Collection Center	48
Tourism	Boat and Jetty Construction	35.2
	Floating Restaurant	100
	Chalet	27.43

Creativity Index (CI) Analysis

For agriculture, more mushrooms and chilli can be produced in the first year with the CI value of 7.4 and 2.89 when sending the participants to the related courses. By the fifth year of implementation, income from mushroom production can be increased to RM 37,800 with the CI value of 37.8 and income for chilli production may rise to RM58,500 with the CI value of 2.6.

With the RM6,000 cost to send participants on the livestock courses in the first year, the sales market may reach RM7,620 with the CI value of 3.65, and this amount will maintain until the fifth year of implementation. Aquaculture CI value may get 2.26 with implementing a five-year freshwater fish rearing project by providing a hatchery centre.

CI analysis for small and medium industries shows that the development skills program in the first year may reach the value of 5.83 with the involvement of Local Action Groups (LAG) from TEKUN Nasional, People's Trust Council (MARA), Malaysia Entrepreneur Development Center (MEDEC) and Small Medium Industry Development Center (SMIDEC). In the fifth year, with the average sale of RM21,000, the CI value may reach 5.38. While for tourism, the CI value at the fifth year of implementation for the proposed floating restaurant, chalet and other infrastructure related to the water tourism at the Sungai Muda area may reach 5.86 with a total cost of RM 1,449,600 and income of RM 4,908,000.

IRD Implementation Guidelines for KEDA

Any development proposed for agriculture must get land approval from the local authority. Important aspects that need to be considered are that; 3 meters buffer zone needs to be provided from the proposed project area, permanent farming is not allowed due to the temporary land status, and it needs to be renewed. Since the farming location is alongside the Sungai Muda, using the river as the main water resource to water the plant needs to refer to the specific guidelines from the Department of Irrigation and Drainage (JPS).

Farmers need to immediately stop the project if receiving any important notice regarding land matters from JPS without any compensation, and farmers are not allowed to do other activities on the land except for farming. In agriculture, pesticides kill the pests and insects that attack crops and harm them. Pesticides benefit the crops; however, they also negatively impact the environment (Mahmood et al., 2016).

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In terms of sustainability, farmers are highly recommended to use organic pesticides and fertilisers to reduce the river's environmental effect. The application of heavy machinery to improve agriculture needs to be recorded their use and maintenance properly to avoid damage. Skilled workers can only use it with licenses.

The livestock sector proposed courses need to be attended by the villagers. The selection of the participants needs to meet the specific criteria because the cost for each course is very high. Participants must meet the age requirements, be local people, and have a stable financial to sustain the livestock project and qualify for the micro-loan provided by Tabung Ekonomi Belia Skim Belia Tani.

The selection of the panels must be from the qualified officer with a minimum of 30 years in livestock monitored by the Department of Veterinary Services. All of the details of the participants must be recorded and monitored from the early stage and after the end of the course. The integrated food supply that manages livestock food, vaccine, food container, and other important livestock needs must be centralised. The sales revenue can send more participants to the courses offered to encourage more villagers to be involved in the livestock sector.

Linkages between the food processing industry with the farmers need to be strengthened, ensuring they get the food supply from the farmers to give opportunities to the farmers to expand their income. The small-scale factories that operators need to focus on the needs of local livestock farmers. Skilled workers need to control the data management of livestock and online sales, especially youth.

It is important to track and record the integrated livestock sales to minimise the loss. A Memorandum of Understanding (MOU) between ruminant breeders and the estate needs to be signed initiated by KEDA so that estate will be given tax reduction incentives upon the land used for grazing.

The aquaculture sector proposed a rearing cage for freshwater fish. The construction of the cage underneath water must not interfere with the flow of water, and the proposed area must not interfere with the boat or any water transport movement. The same goes for agriculture, farmers need to ensure that the water is not polluted while doing this activity, and as a result, 20 meters of buffer zone need to be built from the breeding area. Sewage from aquaculture activities must be treated before it flows to the river, and the guidelines must be advised by the Department of Environment. All construction structures must obey the Uniform Building by Laws Act, 1984.

In terms of construction, the breeding centre needs to be equipped with important tanks for the fish breeding process, such as the main tank, generator, water pump, ventilators, and water reservoir tank. Besides that, the induction of fish spawning may also help in generating more income for the aquaculture sector. Most importantly, a quality master should be selected to obtain quality seeds. Recommended age for males is four months with 300-600 grams, while for females, five months with 400-800 grams. There is a need to use hormones to stimulate the gonad and encourage ovulation. To get the best result, hormone dosage, timing, and amount need to be considered.

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The small and medium industry sector emphasised villagers to attend several courses to ensure the products can be produced effectively. Financial management, accounting and acquisition courses are examples that all participants need to be exposed to at least once in 6 months. Another course that can be exposed to the participants is an effective marketing strategy by monitoring the achievement in one year to ensure the business runs smoothly according to the training. Skill and development programs may help improve small and medium industry workers skills by providing business clinique, seminars, training and aid.

MARA and *Pusat Pembangunan Usahawan Malaysia* (MEDEC) are agencies involved to provide courses to the participants focusing on the ISO 9000 and knowledge related to business. The location of the integrated centre for village products needs to be identified. Cooperation between *Jawatankuasa Kediaman dan Keselamatan Kampung* (JKKK) may help collect the villagers' products currently produced in all the villages involved in this IRD. Appropriation funds need to be distributed fairly and equitably by KEDA to organise a carnival for entrepreneurs at least twice a year. This carnival may help the entrepreneurs market their products and establish their products.

The tourism economy sector proposed in this IRD must not against the original function of the existing river. Fifteen meters of buffer zone need to be provided on the recreation development at this area to preserve the environment. Besides that, safety features like signage and buoy need to be provided for the water recreation. In contrast, a boat used for this activity needs to use four strokes engine to control the speed and avoid the creation of waves in the water recreation area. One of the important elements is that the structure constructed must collapse and release water during a flood. While for the floating restaurant proposed in enhancing the economy for tourism sector need to take into account the location and application of the jetty construction need to get approval from JPS so that it does not give the effect of the erosion.

Potential Development At Mukim Sidam Kanan

Potential development at the Mukim Sidam Kanan was identified based on the analysis that has been done in this study. Each village involved in this IRD has a potential that might be different because of the original character and natural resources. Each possibility identified was used to upgrade the existing activity and introduce the new economic activities. Village administrative institutions are potentials that every village in this study area has.

The connection and cooperation between all villages may ease the IRD concept. Besides that, IRD may potentially expand the job opportunities to all youth and villagers. All the economic activities from all sectors may create job opportunities to enhance the villagers' economy. Job opportunities created may help solve social problems among youth and the problem of unemployment in the villages.

Apart from that, based on the analysis, natural resources may be optimised at the maximum level to expand the economic activities such as the Sungai Muda area for aquaculture, agriculture and tourism. Active participation from the villagers, especially when they have more than five years' experience in the sector proposed, is a very important potential of the success of IRD in this study area. Using experience as basic makes most of them agree to the project implementation.

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Conclusion

Based on the analysis that has been done, the IRD project proven can be implemented at the Mukim Sidam Kanan, KEDA area according to several factors; SWOT proven that study areas have their strengths and potentials that may help in the succession of the IRD. At the same time, ROI for all of the proposed projects for all sectors shows more than 20% and CI Analysis for all projects exceedingly more than 1.0. More importantly, GAP analysis shows that all gaps can be addressed very well. IRD is a project involving the cooperation of more than one agency. Networking and relationship between agencies are very good, and KEDA as LAG plays a very important role in monitoring the project. Furthermore, IRD is a project that requires active participation from the villagers. 70% of them agree that the project to be implemented is a huge number that can become a reason for the projects to succeed. However, all projects must follow the guidelines proposed to ensure effectiveness.

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