

## FACTORS THAT CONTRIBUTE TO SUSTAINABLE LIVELIHOOD OF THE ORANG ASLI COMMUNITIES

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**Abstract:** The concept of sustainable livelihood appeared in the report of an advisory panel of the World Commission on Environment and Development in 1987. The report refers to the human basic needs, food security, sustainable agriculture practice and poverty. Sustainable livelihood refers to a way of approaching development that incorporates all aspects of human livelihoods and the means whereby people obtain them. The study examines the factors that contribute to sustainable livelihood of the Orang Asli community in Malaysia. Based on a case study of Orang Asli communities in Pekan, Pahang, this study evaluates the level of sustainability of the communities using indicators covering economic, social and physical dimensions. Based on the regression analysis, total income, education level and health show positive relationship with sustainable livelihood while main job, marital status and dependents show negative relationship. The results suggest that higher level of education and income contribute to sustainable livelihood among the Orang Asli.

**KEYWORDS:** livelihood, Ecology-based Communities, sustainable livelihood framework, Orang Asli

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### Introduction

The concept of sustainable livelihood (SL) was acknowledged when it appeared in the report of an advisory panel of the World Commission on Environment and Development (WCED) in 1987. The report refers to the human basic needs, food security, sustainable agriculture practice and poverty. The concept of sustainable livelihood has its origins in the UN system, particularly the United Nations Conference on Environment and Development (UNCED), and refers to a way of approaching development that incorporates all aspects of human livelihoods and the means whereby people obtain them (IFAD, 2003). A 'livelihood' consists of assets, activities and entitlements that enable people to make a living. SL also deals with risks, as well as how people cope with stresses and adapt to long-term changes that affect livelihoods.

Sustainable livelihoods are a way of thinking about the objectives, scope and priorities for development. There is no set 'recipe' for a sustainable-livelihoods approach, though there are

some core principles that underlie SL thinking. These include maintaining a focus on people and their strengths (rather than more technical project outputs), taking a wide view of the options for assistance and making links between local issues and wider concerns about policies, institutions and processes. At an individual level, the attainment of a sustainable livelihood is a must. Sustainable livelihood is not only concerned with material aspects but also in terms of satisfaction with life.

The discussion here focusses on the Orang Asli communities. The Orang Asli communities appear just like any other communities in Malaysia, but upon closer examination, they differ in many respects. They are closest to the environment and deserve to be known as the Ecology-based Communities (EBC). Poverty is prevalent among the Orang Asli communities. In general, the sources of poverty are directly related to the weaknesses in the five types of capital – human, social, physical, natural, and financial capitals. Lack of asset, low-level skills, lack of influence, low economic and social opportunities, limited communication, and avoidance of innovation and risk (Sulaiman, *et al.* 2002) are the common factors that cause poverty.

The Orang Asli communities confront the same problem that their counterparts elsewhere face. The fish population is dwindling, the resources available in the ecologically-sensitive areas are declining, the cost of fuel is rising fast, and the middlemen are the winners in product-marketing arrangements. The mangrove areas are being converted to aquaculture using non-sustainable practices, causing damages and reducing the ecosystem function and services. Under such a scenario, how would the Orang Asli communities sustain their livelihood?

Nogaard (1988) proposed some criteria in planning to achieve sustainable livelihoods. Applying this concept to the community, we can start at the local level and simply ask whether the current economic practices of Orang Asli can continue indefinitely. Will economic development destroy the local resource base and environment or, just as bad, the local people and their cultural system? Or will the resource base, environment, technologies and culture evolve over time in a mutually-reinforcing manner? The concept of sustainable development as well as living, as applied to orang Asli, is therefore directly concerned with increasing the material standard of living of the poor at the “grassroots” level. This standard can be quantitatively measured in terms of increased food, real income, educational services, health care, sanitation and water supply, and having emergency stocks of food and cash. In general, the primary objective is reducing the absolute poverty of the poor through providing lasting and secure livelihoods that minimise resource depletion, environmental degradation, cultural disruption and social instability.

Since the Orang Asli communities are Ecology-based Communities (EBC), the issue here is how best can the community adopt the “sustainable living” concept. Western concept of sustainability is ‘being able’ to ‘maintain; keep in existence; prolong...’ It is a means of approaching the world that has to be based on practice.’ With a given stock of resources there are specific do’s and don’ts in order to sustain worldly life. Intergenerational and intergenerational distribution of resources is considered. Sustainable living (in the Islamic context) means being able to

maintain, keep in existence, prolong a balanced life – world and hereafter (Nik Fuad, K, 2006). The worldly part is based on Maslow hierarchy of needs (at least up to stage 3 – basic needs, security and socialisation). The hereafter is based on belief, knowledge, and practice of Islamic teachings.

Following Salzburg (1994), the Orang Asli communities must strive for achieving high quality of life based on humanism; preserve the culture and diversity of humankind; ensure a more equitable distribution of wealth and resources among community members; prevent irreversible deterioration or exploitation of natural resources; stay within the carrying capacity of ecosystems; and preserve the domestic biodiversity. With regards to equity, the communities concerned must pursue a sufficient per capita income for the greatest number of community members over time. Concerning the quality of life, beyond some level of sufficiency, further increase in per capita goods does not increase the quality of life and may diminish it (Daly, 1990). Key macro-level measures identified in Steady State Economics are: service efficiency, measured in terms of allocative efficiency and distributive efficiency (“is the distribution of the stock among alternative people such that the trivial wants of some people does not take precedence over the basic needs of others”).

In terms of sociological perspective, the Orang Asli community members must be exposed to the virtues of empowerment, public participation, social mobility, social cohesion, cultural identity, and institutional development (Loucks, 1994).

### **The Sustainable Livelihoods Framework**

The Sustainable Livelihoods Framework can be used as a strategy to reduce poverty among the Orang Asli communities in Malaysia. Figure 1 explains the components of livelihood assets and their relationship with the poor. The poor individual (in this case, the Orang Asli) is placed in the middle and he or she faces five types of capital – human capital, social capital, natural capital, physical capital, and financial capital. These five categories of capital would influence

the economic status of a particular person, in this case “the poor”.

#### *Human Capital*

The human capital is the most important type of capital since it will determine the value of a particular individual and it comprises health, nutrition, education, knowledge and skills, capacity to work and capacity to adapt. To be healthy is of paramount importance and it is largely dependent on the status of nutritional intake. The level of education as well as life learning efforts would enrich the human capital of a person and these attributes directly build up the knowledge which defines the skills possessed by the individual. The capacity to work and the capacity to adapt would depend on the elements described earlier and would place a person in a more versatile or flexible position as far as sustainable livelihood is concerned.

#### *Natural Capital*

The natural capital is the natural resources provided by nature and it comprises of vast and varied elements that make life possible. The components of natural capital are Land and produce; Water and aquatic resources; Trees and forest products; Wildlife; Wild foods and fibres; Biodiversity; and Environmental services. Basically, the natural capital serves many ecosystem functions and is therefore extremely important for the survival of humans and non-humans. De Groot *et al.*, (2000) define ecosystem functions as ‘the capacity of natural processes and components to provide goods and services that satisfy human needs, directly or indirectly’. Hence ecosystem functions are regarded as a subset of ecological processes and ecosystem structures. Each function is the result of the natural processes of the total ecological sub-system of which it is a part.

The ecosystem functions are grouped into four primary categories ( De Groot *et al.*, 2002):

1. *Regulation functions*: the capacity of natural ecosystems to regulate ecological processes and life-support systems through biogeochemical cycles and other biospheric processes. Besides maintaining ecosystem health, these regulation functions provide

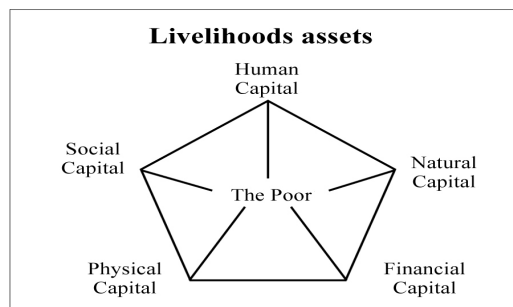


Figure 1: Livelihoods Assets

direct and indirect benefits to humans (such as clean air, water and soil, and biological control services).

2. *Habitat functions*: natural ecosystems provide refuge and reproduction habitat to wild plants and animals, consequently they contribute to the in-situ conservation of biological and genetic diversity and evolutionary processes.
3. *Production functions*: photosynthesis and nutrient uptake by autotrophs converts energy, carbon dioxide, water and nutrients into several carbohydrate structures which are then used by secondary producers to create an even larger variety of living biomass. This diversity in carbohydrate structures provides wide-ranging ecosystem goods for human consumption, from food and raw materials to energy resources and genetic material.
4. *Information functions*: natural ecosystems provide an important ‘reference function’ and contribute to the maintenance of human health through spiritual enrichment, cognitive development, recreation and aesthetics.

#### *Social Capital*

The social capital also determines the economic status of a particular person or community. It is often described as the “politics” of life. The first element of this capital is Networks and connections and it covers patronage, neighborhoods, and kinships. Second, the relations of trust and mutual support; third, the formal and informal groups; fourth, the common rules and sanctions; fifth, collective representation; sixth, the mechanisms for participation in decision-making; and finally leadership. Certainly, leadership is important as it garners support, amalgamates mutual interests,

strengthens the relationship between community members, and works towards achieving common goals. However, on an individual or household basis, a person or household head must create or enrich his or her own social capital for the long-term survival.

#### *Physical Capital*

The physical capital comprises two components, first is Infrastructure (transport - roads, vehicles, etc.; secure shelter and buildings; water supply & sanitation; energy and communications). Tools and technology is the second component of physical capital and it includes tools and equipment for production; seeds, fertilizer, pesticides; and also traditional technology. In many countries the government is directly involved in developing the physical capital. Technology as we know has been the single most important factor that has catapulted productivity of many enterprises including fishing.

#### *Financial Capital*

The financial capital includes savings; Credit/debt - formal, informal, Non Governmental Organisations (NGOs); Remittances; Pensions; and Wages. The current economic system that operates in most countries requires capital input and this element has often been the hindering block for the poor to get out of the poverty syndrome.

#### *The Asset Mix*

The five types of capitals as described above form the Asset Mix of a particular Orang Asli household. Certainly, different households would have different access to livelihood "assets" and the livelihoods of each household would be affected by the diversity of assets, amount of assets, and balance between assets.

### **Method**

To represent the marginalised coastal community, the Orang Asli community in Pekan, Pahang was selected. There are six Orang Asli villages located about 5 to 10 km from the coastal area of Pekan. The villages are Permatang Keledang,

Serun, Sekukuh, Sena, Selingkong and Sungai. The total population of Orang Asli at the selected villages is estimated as 1, 500 comprising 308 families. Their lifestyle and means of subsistence varies from agriculture, hunting and gathering, to trading non-timber forest products and coastal fishing. A total of 252 respondents were selected from the six villages.

The demographic analysis was conducted using SPSS version 15.0. A descriptive analysis and inference analysis (chi-square, factor analysis, t test and ANOVA, correlation test, and regression analyses) were conducted.

### **Results and Discussion**

#### *Demographic Analysis*

The demographic profile analysis of Orang Asli covers sex, race, marital status, age, and household size. The respondents comprised 67% male and 33% female. Majority (76.6%) of the Orang Asli do not subscribe to any religion, 2% are Christians, while the rest are Muslims. All respondents belong to the Jakun sub-group. Majority (93%) of the respondents are married, followed by divorcees (4.8%) and single (2.0%). Majority (86%) of the respondents are the original settlers of the villages while the rest are outsiders who stay in the villages through marriage or employment in the surrounding areas. Age wise, the average for the male is 40 years and 30 years for the female. The size of the household does not vary much among the villages with an average of 6 in Permatang Keledang, Sena, Selingkong and Sungai Kalong and 5 in Kg.Serun and Sekukuh. The average number of children is 5 and the number of dependents is 3.

#### *Health and Eating Habit*

The health status of respondents is classified into four categories - good, less satisfactory, critically ill, and requires lifelong treatment. Majority (88%) is classified as good, 9.6% is less satisfactory while 1.2% is critically ill and requires lifelong treatment. The survey indicated that 25.7% of the Orang Asli population is infected with critical diseases, with the highest in Kg Sg Kalong (31.6%). Almost all respondents

(95.2%) go to government clinics or hospitals for treatment. Only 4.4% go to private hospitals for treatment of their diseases or illness.

The eating habit was also examined. About 23% of Orang Asli believe that taking food supplement is important while the rest think otherwise. The percentage of those who take food supplement varies from 19% (Kg Serun) to 32% (Kg Selingkong). Based on the 252 respondents surveyed in Pekan, Pahang, the eating habit showed that majority (58.3%) eat only twice per day while 33.7% eat thrice a day and 4% eat either once or more than three times a day.

### *Education*

The level of education determines the quality of life of a family. Education level, employment opportunities, and income are closely related. About half (51.2%) of the respondents did not attend formal education, 31% attended primary education, and 24% had secondary education, and only 1.2% reached the university level. This means that the non-educated members dominate the life of Orang Asli communities. Lack of facilities and low motivation for acquiring a better life may contribute to this phenomenon. In Kg Permatang Keledang 84% of households reported that at least one of their children attended formal education but lower for Kg Serun (65%) and Kg Sekukuh (58%). Only 48% meet the 3M (Membaca, Menulis, Mengira) with the best in Kg Serun (63%) and the lowest in Kg Sekukuh (25%).

### *Employment*

In all the six Orang Asli villages in Pekan, the employment status is rather weak. 71% of the respondents are employed, leaving a high 29% unemployed, a much higher figure compared to the national level. The worst is in Kg Sena with 50% unemployed. The nature of employment varies widely and includes self employment, farming, collecting products from the nearby forests, fishing, hunting, small business, house construction, and others. In Kg Permatang Keledang, the percentage of self employment is highest (21.6%), followed by construction (9.5%), fishing (5.4%), farming (4.1%) and

gathering of forest products (2.7%). Fishing is highest in Kg Sekukuh which includes sea fishing and crab catching in the mangrove areas. In each village, the employment pattern differs with self employment dominating in Permatang Keledang, fishing in Kg Sekukuh, and gathering of forest products in Kg Selingkong.

### *Income and Expenditure Patterns*

The income and expenditure pattern of the respondents was examined. Household head and wife team (HWT) obtained monthly minimum wage of between RM200 to RM600 for all villages, with highest in Kg Sungai Kalong (RM600) followed by Permatang Keledang (RM562), and Serun (RM533). In Kg Permatang Keledang minimum wage was RM32 higher for HWT than for household head (HH). Minimum wage for household members (HM) in Permatang Keledang was RM299 and RM988 for Kampung Serun and M633 for Sungai Kalong. The higher HM wages were due to presence of higher educated household members. HM wages were RM 313 (Sekukuh) dan RM 344 (Selingkong) but RM0 for Sena. In conclusion although household head and wife team (HWT) obtained high wages, AIR may not be necessarily high; the opposite is also true.

Besides, Orang Asli households also receive aid from government or family members. Those in Kg Permatang Keledang received government aid of RM200, Kampung Selingkong (RM100) and Sungai Kalong (RM300). The other three villages did not receive aid. The average monthly contribution from family members was RM126 for all respondents. With respect to expenditure, the average monthly expenditure for Orang Asli household in Kg Permatang Keledang was RM711 comprising of RM284 for food, RM89 for clothing, RM30 (house), RM76 (schooling), RM66 (health), RM101 (communication and transportation and RM66 (others). Monthly household expenditure was highest for Kg Serun (RM1454) and lowest in Sekukuh (RM439).

Saving was low with 39% for Kg Serun, 29% (Sena), 21% (Sekukuh), 9% (Selingkong) and 34% (Sungai Kalong). More than 70% of respondents do not save. About 66% of respondents save in

Table 1: Income per Month.

Villages	Monthly Income (Mean)					Total
	Household Head (HH)	Spouse	Households	Government support	Families contribution	
Permatang Keledang	530	562	299	200	125	567
Serun	628	533	988	0	113	731
Sekukuh	377	0	313	0	50	425
Sena	361	350	0	0	200	357
Selingkong	254	240	344	100	117	326
Sungai Kalong	625	600	633	300	200	797
Total	497	441	453	233	126	555

banks, and 19% at home, 2.9% in shares and 11.8% in other ways. Household saving was examined based on daily, weekly, monthly and yearly. Majority (53%) of Kg Permatang Keledang residents reported uncertainty in savings, followed by 23.5% involved in monthly saving, 11.8% (weekly) and 5.9% (monthly and yearly). The worst is in Kg Sena and Selingkong with 100% uncertainly. Loan taking is high among the Orang Asli community with 93% in Permatang Keledang, Serun (67.4%), Sekukuh (87.5%), Sena (96.4%), Selingkong (92.9%) and Sungai Kalong (94.7%). The sources of loan are financial institutions (60%), friends (20%) and other sources (20%).

Sustainable living perception was regressed against income, education, marital status, asset ownership, facilities, and saving. The estimated equation is as follows:

$$Y = 5.388 + 0.072 X_1 + 0.099 X_2 - 0.066 X_4 - 0.308 X_5 + 0.371 X_6 - 0.008 + \varepsilon_1$$

Based on the regression analysis in Table 2, total income, education level and health show positive relationship with sustainable livelihood at 99%, 95% and 90% respectively. However, main job, marital status and dependents had negative relationship with sustainable livelihood. The results suggest that higher level of education and income contribute to sustainable livelihood among the Orang asli. The negative relationship among variables such as main job and marital status suggests that those who were married could not attain sustainable livelihood. Main job actually plays an important role in achieving

sustainable livelihood. Better job will most likely lead to sustainable livelihood.

As shown in Table 2,  $R^2$  recorded a value of 0.100, meaning that 10% of the variation in sustainable living perception was explained by the selected variables with three factors having significant values.

## Conclusion

Based on a case study of Orang Asli communities in Pekan, Pahang, this study evaluates the level of sustainability of the communities using 45 indicators covering economic, social and physical dimensions. Total income, education level and health show positive relationship with sustainable livelihood at 99%, 95% and 90% respectively. However, main job, marital status and dependents had negative relationship with sustainable livelihood. The results suggest that higher level of education and income contribute to sustainable livelihood among the Orang asli. Every society must strive for achieving sustainable livelihood for it is the only prerequisite for long-term survival. Thus, the Orang Asli communities, with help of responsible governments and other parties, must ensure that certain objectives be met. First, the very poor must be helped because they are left with no option other than to destroy their environment; second, self-reliant development be emphasised but within natural resource constraints; development is cost-effective and should not degrade environmental quality, nor should it reduce productivity in the long run; provision of health control, appropriate technologies, food self-reliance, clean water and

Table 2: Regression analysis.

Model	Unstandardised Coefficients		Standardised	t	Sig.
	B	Std. Error	Coefficients Beta		
(Constant)	5.388	.417		12.923	.000
Total income	.072	.034	.153	2.133	.034*
Education level	.099	.054	.133	1.835	.068
Main Job	-.066	.033	-.139	-1.973	.050*
Marital Status	-.308	.177	-.117	-1.744	.083
Health	.371	.130	.189	2.858	.005**
Dependent	-.008	.017	-.031	-.472	.637

\*\* significant at the 0.01 level \* significant at the 0.05 level  $R^2 = 0.100$

shelter; and people-centred initiatives are needed with human beings as the resources in concept.

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