IMPACTS OF RURAL - URBAN INTERACTION ON RURAL COMMUNITY, AGRICULTURAL PRACTICES AND MECHANIZATION, AND LAND USE: A CASE STUDY OF BIDAYUH COMMUNITY IN KAMPUNG STASS, KAMPUNG SKIBANG, KAMPUNG SEBOBOK AND KAMPUNG SERASOT, BAU

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This dissertation is submitted in partial fulfilment of the requirements for the degree of Master of Environmental Management (Development Planning) by Maybal Polycarp.

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ABSTRACT

Impacts of rural-urban interaction on agriculture are examined to identify and evaluate the characteristics of agrarian community in Kampung Stass, Skibang, Sebobok and Serasot, the agricultural mechanization, agriculture system as well as to determine the mode of rural-urban interaction and evaluate development of rural infrastructure. One hundred and twenty respondents are selected using simple random sampling from four different villages. Questionnaire survey was used to collect data. The survey way analyzed by using the Statistical Package for Social Sciences (SPSS). The findings indicate that the agrarian community is categorized under medium mechanization with four similar type agricultural activities. The mode of rural-urban interaction was identified as symbiotic. In addition, better rural infrastructure has changed the agriculture practice from intensification of shifting cultivation to permanent cultivation and commercialize agricultural system but major negative impact is loss of farm labour because of high rate of migration. Therefore, rural-urban interaction coupled with rural development has both positive and negative impacts on agrarian community, agricultural practices, system and mechanization.
ABSTRAK

CHAPTER ONE
INTRODUCTION

1.0 Introduction

Rural (agricultural) and urban (industrial) interactions are increasingly linked by flows of human and environmental resources. By highlighting the influence of rural-urban linkages in facilitating rural development, this study will determine the consequential impacts of rural-urban interactions and discuss in detail of how these interactions will affect agrarian community in rural areas.

In the context of rural-urban interaction, much of this study will focus on whether such relationship should be viewed as parasitic, symbiotic or simply commensalist. The impacts of these interactions will be viewed in the scope of changes in agricultural practices and mechanization, and land use patterns.

1.1 Study background

Over the past decade, the debate relating to rural-urban interaction has focused on the nature of the production, consumption and investment linkages between urban and rural areas, and their recent changes as well as the role of small centres in supplying services to rural areas.
The classic ideal view of rural–urban linkages is one of symbiosis. In a distinct geographical area, urban area functions as service centres for their rural hinterlands, offering outlets for rural products, public and commercial services, and employment opportunities. Rural areas provide raw and processed materials, labour and demand for urban goods and services. This complementary relationship has changed in many countries.

Rigg (1997) mentioned that peripheral areas may retain the traditional clear distinction between urban centres and their rural hinterlands, expanding core areas increasingly show more diffused patterns of interaction. He also stated that more people combine different income sources and environments in their livelihood. As a result, increasing integration and interaction blurs the traditional urban–rural divide, giving way to diffuse ‘network’ regions. Changing linkages and changing patterns of governance undoubtedly have implications for rural–urban linkages, especially in the more remote areas.

Young (1992) stated that in economic terms, there are three types of rural–urban linkages that are usually distinguished. The linkages are consumption linkages (demand for final products), production linkages (‘backward’ or ‘forward’ supply of inputs among businesses), and financial linkages (e.g., remittances by migrants).

The rise of network societies may contribute to bypass effects, when economic flows link rural areas directly with distant, larger cities at the expense of local towns.
(Young, 1992) According to Rigg (1997) the flow of migrants from the countryside to towns is a major theme in rural–urban linkages. He added that small towns tend to have limited production structures, and are often less engaged in production than in consumption and distribution. Their production tends to be small-scale, catering to local low-income clients or attracted by local raw materials or cheap labour. Employment is typically concentrated in commerce and services, and frequently the public sector is more prominent than in larger cities.

Migrants move towards the urban area is strongly motivated by economic reasons. Limited employment and earning opportunities push them out of their villages. This is coupled with greater accessibility due to developed road and transport network. Commonly migrants remit to their households in the place of origin in the form of money, gifts and urban goods. Apart from the use of remittance money for household consumption, this is also used productively by investing in agricultural inputs and equipments. This results to changes and diversification of agricultural activities and increase production, consequently raising family income.

This dissertation assesses some of the recent literature on rural-urban interactions, with particular attention to the ways in which they have been affected by recent and current socio-economic transformations. This dissertation is prepared based on definitions of rural and urban areas and activities, conceptual frameworks and review empirical studies on different flows connecting rural and urban areas (flows of people
and goods), and on sectoral interactions (specifically for agriculture in the rural and non-agricultural employment in the rural area) activities.

1.2 Study site background

The Bau district is situated in the first division of Sarawak. It was known as North Sarawak or ‘Bukit Mas’ in the 1880s. This area was well known for its richness in antimony and minerals (gold). The Bau district is located about 35 kilometres from Kuching and is connected by the Kuching-Bau road. It has an area of 884.40 km², which is 0.7 percent of the total area of Sarawak.

Chang (2002) mentioned that Bau district has about 43,190 persons in the year of 2000. The majority of the residents are the Bidayuh followed by the Chinese and the Malay (Table 1a).


<table>
<thead>
<tr>
<th>Ethnic group</th>
<th>Population in (year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bidayuh</td>
<td>21,120</td>
</tr>
<tr>
<td>Chinese</td>
<td>8,528</td>
</tr>
<tr>
<td>Malays</td>
<td>2,624</td>
</tr>
<tr>
<td>Iban</td>
<td>233</td>
</tr>
<tr>
<td>Melanau</td>
<td>21</td>
</tr>
<tr>
<td>Other indigenous</td>
<td>45</td>
</tr>
<tr>
<td>Others</td>
<td>53</td>
</tr>
<tr>
<td>Non-Malaysians</td>
<td>132</td>
</tr>
<tr>
<td>Total</td>
<td>32,624</td>
</tr>
</tbody>
</table>

* Source: Chang, 2002
According to Chang (2000: 142) Bau district was known for its rich of valuable resources because from early 19th century until 1985, the district produced 90 000 tonnes of high-grade antimony. Since 19th century until the closure of gold mines in 1996, total production of gold was 44.7 tonnes. Bau town was and still known as Gold Town.

Bau is covered with rugged terrain and sporadic limestone hills and mountains. Farming is one of the most important economic activities of the people in Bau district. About 451.9 hectares of the area is utilised for crop production such as hill rice and wet rice, pepper, cocoa and oil palm.

The Department of Agriculture (DOA) divided the Bau district into five zones for the purpose of management and monitoring agricultural activities. The zones are Jagoi, Singgai, Krokong, Serumbu and Bratak. This study was carried out in the Jagoi zone that covers the area between latitude 1°18' and 1°27' and between longitude 109° 56.4' and 110° 6.6'. Demographically, the total population in the Jagoi zone is 4441 person with 652 farm families.

1.3 Problem statements

The rural community move to urban area is strongly motivated by economic reasons. Limited employment and earning opportunities push them out of their village. This is coupled with better accessibility due to developed road and transport network
from Bau to Kuching that take about 45 minutes drive. In economic view, labour movement from rural to urban area causes a decrease in human resources in rural area.

This situation not only impinges on labour division but also agricultural practice as a whole. In a sense almost all the major transformations in agriculture can be viewed as being carried by labour loss, changing tenancy arrangement, changes in land use, land abandonment, mechanization, intensification, and disintensification. An added element to the transformation relate to farmers’ response to the prevailing rural-urban interaction.

Triggered by more infrastructure improvements, the entire socio-economic situation has experienced an amazing growth and change process. This interaction has brought employment opportunities, public and commercial services, resource distribution, knowledge and technologies and so forth. The classic ideal view of rural-urban linkages is one of symbiosis. As such, the interaction would also benefit the agrarian community. Study discussions entail; how do farmers respond to the rural development? Issues arise from those characteristics are:

- Does migration actually result in labour disintensification in agricultural activities?
- Does an enhanced rural infrastructure result in changes in traditional agriculture practices and mechanization?
- Do rural-urban interaction endorse marketing in agriculture products overall?
1.4 Objectives

Based on the problem statement, the general objective of this study is to highlight the impacts of rural-urban interaction on rural (agrarian) community, agricultural practices and land use.

The main objectives of this study are:

i. To identify and evaluate the characteristics of agrarian community in Kampung Stass, Skibang, Sebobok and Serasot.

ii. To identify the mode of rural-urban interaction in relation to resources distribution, management and utilization via marketing accessibility of agricultural products.

iii. To determine the level of agricultural mechanization in relation to land use and selected socio-demographic variables.

iv. To assess the relationship between agriculture system and selected socio-demographic variables.

v. To evaluate development of rural infrastructure in relation to diversification of economic activities.

1.5 Significance of study

This study is based on rural-urban interaction that integrates changes in the rural community while managing limited resources. Significance to the possible changes on rural community, and resources management and utilization, this study will determine the
better conditions for sustainable rural development guidelines through identifying the importance of rural-urban interaction as well as verifying the impacts of this interaction on the rural community. Local resources management articulates the communities' knowledge and management skills. Divergence between demands for the socio-economic development of agrarian community, as the cause of rural-urban interaction, and preserving the natural ecosystems, this study seek resolution of various related issues such as land use, agricultural practice and sustainable resources management. The main beneficiaries of the study will be agricultural undertakings, rural undertakings, non-profit associations, and indirectly also local government bodies and the rural population as a whole.

2.1 Paradigm of agricultural sector in Malaysia

According to Ablize (1989), in the last decade, growth in agricultural sector has been particularly poor compared to the plantation crop sector. He mentioned that in 1992, the agricultural sector only grew at 2.4 percent per annum, which is actually way below the target level of 3.5 percent that was set in the Sixth Malaysian Plan. Development in this country has essentially emphasized the agricultural sector. This is because the agricultural continues to represent the largest component in public development expenditure after forestry.

The strategy to achieve the overall economic growth is to transform the agricultural sector which is from subsistence farming to commercializing plantation. Audace (1999) also
CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction

In this chapter, discussions are focussed on agricultural system which consists of development in Malaysia and Sarawak. The concepts of rural development and how the interaction between rural and urban likes were also discussed. Finally, the characteristics of the impacts on rural-urban interaction especially sectoral interaction on agricultural produce and transformation of economics sector were highlighted.

2.1 Paradigm of agricultural sector in Malaysia

According to Joharie (1995), in the last decade, growth in agricultural sector has been particularly poor compared to the plantation crop sector. He mentioned that in 1992, the agricultural sector only grew at 2.4 percent per annum, which is actually way below the target level of 3.5 percent that was set in the Sixth Malaysian Plan. Development in the country has continually emphasized the agricultural sector. This is because agricultural continues to represent the largest component in public development expenditure after security.

The strategy to develop an overall economic growth is to transform the agriculture sector which is from subsistence farming to commercialize plantation. Joharie (1995) also
mentioned that to boost agricultural sector, the development planner have to developed rural area at the same time. Stimulating economic growth means attacking the problem of rural poverty and under development.

There are various plans to setting up of agro-based industries as means to inject value added to agriculture. Through government support services and incentives especially in Research and Development (R&D), extension services, provision of infrastructural facilities such as roads, drainage and irrigation, storage, grading and marketing network and also other post-harvest pre-requisites were provided.

Joharie (1995) also mentioned that Malaysia does not possess a comparative advantage in the food production in livestock project. Only some levels of the production will be pursued for certain food items. Malaysia has to rely on imports to fulfil some of our food needs.

Joharie (1995) also lists out major issues in Malaysian agriculture. The major issues are mainly on labour shortage, income differences because of substantial labour productivity, low investment from private, competition in the market place, and farmers are not ready to involve in commercialize of agricultural activities.
2.2 Agriculture development in Sarawak

Dandot (1995) outline the existing position of agriculture development in Sarawak particularly on structural transformation, policy, strategy and spatial approach in terms of the ‘stylized’ facts. He also draws some implications on possible future of agriculture development. Dandot (1995) mentioned that in land development and agriculture commercialization programme, it was given a renewed emphasis during 1980s whereby the focus in objectives shifted from 1970s. thus, in-situ development, the SALCRA scheme, nucleus estate development, LCDA and private sector plantation work together to commercialize agricultural activities with new approaches in the rural sector.

In promoting rural development, various measures have been taken but varieties of physical and socio-economic constraint have become the deterrent factors to raise productivity, income and quality of life of the agrarian community. Dandot (1995) discussed issues in economic recon structuring and diversification. He mentioned that structural transformation of the state economy not just dependent on agriculture, forestry and mining but manufacturing and tourism sector have also been given priority.

According to Dandot (1995) the most important in state development is the people’s participation. The community’s participation is viewed critical in the development of the state. The people are not geared to think of development and do not understand in what way they can participate with the government to achieve the socio-
economic progress of the state. Thus, the people need to be transformed into a discipline and positive thinking force.

Dandot (1995) also points out that infrastructure development is a key to support structure for sectoral integration. Local roads are developed for the ease of transportation and communication and external roads are developed to provide greater mobility and spatial or functional links between the rural and urban areas. The other components in public amenities include water supply, sanitation infrastructure solid waste collection and disposal, electricity, telecommunications and so forth.

2.3 Definitions of urban and rural areas

The distinction between “rural” and “urban” is probably inescapable for descriptive purposes; however, it often implies a dichotomy, which encompasses both spatial and sectoral dimensions. According to Baker, (1995), in censuses and other similar statistical exercises, rural and urban populations are usually defined by residence in settlements above or below a certain size; agriculture is assumed to be the principal activity of rural populations whereas urban dwellers are thought to engage primarily in industrial production and services.

Baker (1995) explained that the definition tend to be far more complex: the ways in which nations define what is urban and what is rural can be very different; the boundaries of urban settlements are usually more blurred than portrayed by
administrative delimitations, especially when towns' use of rural resources is considered; population movement, especially temporary and seasonal migration, is not usually reflected in census figures and can make enumerations of rural and urban populations unreliable; finally, a large number of households in urban areas tend to rely on rural resources, and rural populations are increasingly engaged in non-agricultural activities.

Demographic and economic criteria on which definitions of urban and rural areas are based can vary widely between different nations, making generalizations problematic. Another uncertainty regarding a definition of urban and rural boundaries is the fact that depends for basic resources and ecological functions on an area. Potts, (1995), stated that definitions are based on a sharp distinction between urban and rural settlements often assume that the livelihoods of their inhabitants can be equally reduced to two main categories that are agriculture based in rural areas, and a reliance on manufacture and services in urban centres.

Davis and Henderson (2002) argued that interaction between urban and rural settlements retains strong links with their relatives in rural home areas; households can be defined as multi-spatial, combining farm and non-farm activities and rural and urban residence. Even where activities can be described as either rural or urban and are spatially separated, there is a continued and varied exchange of resources.

Urban centres may provide markets as well as social and producer services for the rural population whereas, for many urban individuals, access to rural land or produce
through family or reciprocal relationships can be crucial. The policy implications of sectoral interactions are particularly important (Potts, 1995). For example, rural development programmes have traditionally tended to increase agricultural production but have rarely included non-farm activities such as the processing of raw agricultural materials and the manufacturing of agricultural equipment, tools and inputs, and this has resulted in the marginalization of some groups in rural areas.

Glaeser, Kallal, Scheinkman and Shleifer (1992) stated that urban housing strategies for low-income groups tend to neglect their need to diversify their incomes or produce foodstuffs for household consumption (for example, through urban agriculture) and maintain and/or expand their social networks with rural areas (for example, by hosting newly arrived migrants in their homes) which can be restricted by narrow controls over settlement and land use in public housing projects. Straddling the rural-urban divide is, in some cases and for some groups, an important part of survival strategies. Policies that neglect this may increase their poverty and vulnerability (Chase, 1997).

2.4 Flows of people

While international migration has attracted increasing attention in recent years (often because of its political implications in destination countries), little is known about internal migration despite the fact that its scale, direction and demographic characteristics