

MULTIPLE DRIVING FORCES OF PADDY LAND CONVERSION: A LESSON FROM MALAYSIA'S RICE BOWL STATE

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Graphical abstract



Abstract

Land is an important but finite natural resource, crucial for numerous human activities such as for settlement, transportation, forestry, agriculture, animal husbandry, industry and recreation. Land can be seen as parallel to economic growth. With a rapid growth in development and urbanisation, there is an increase need for land and for that paddy land face with the paradox of allocation for agricultural and non-agricultural sector. The allocation of land for optimal agricultural use has become a paramount issue. This paper tries to analyse the revolution of paddy land in Kedah, what drives the conversion that resulted it, so that preservation mechanism on paddy land can be outlined in the future.

Keywords: Land conversion, land use change, agriculture, paddy, Kedah

Abstrak

Tanah merupakan sumber semula jadi yang sangat penting bagi aktiviti manusia seperti penempatan, pengangkutan, pertanian, perhutanan, penternakan, industri dan rekreasi. Ia cukup sinonim dengan pertumbuhan ekonomi. Dengan pertumbuhan ekonomi dan proses perbandaran yang rancak, permintaan terhadap tanah makin meningkat. Lantaran itu, sawah padi turut menghadapi tekanan sama ada daripada aktiviti pertanian itu sendiri atau aktiviti bukan pertanian. Maka, penyediaan tanah bagi tujuan pertanian secara optimum telah menjadi satu isu yang paling ketara. Artikel ini cuba untuk menganalisis revolusi tanah padi di Kedah, apa yang mendorong penukaran guna tanah yang menghasilkan revolusi, dengan tujuan agar mekanisme pemeliharaan tanah sawah padi boleh menjadi garis panduan di masa akan datang.

Kata kunci: Penukaran tanah, perubahan guna tanah, pertanian, padi, Kedah

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1.0 INTRODUCTION

Land is not simply regarded in terms of soil and surface topography, but encompasses features such as underlying superficial deposits, climate and water resources. It also consists of plant and animal communities which have developed as a result of the interaction between these physical conditions. Globally, people have become more aggressive in exploiting land resources for their own profitability. As a result, land resources are clearly under severe threats; 16 percent of arable land has been degraded and this

percentage is gradually increasing especially in the loss of agricultural land area for decades [4]. At a local level, Malaysia has been an agricultural country for the last 50 years and nearly 60% of its lands support agricultural sector [1]. Among the agricultural land used, paddy farming occupies an extent approximately 5000 hectares which constitutes almost 50% of the total land available for agriculture, indicating the high priority given for rice farming [13]. In approximate, almost all the paddy lands in this country are cultivated with paddy. However, over the years, the extent under agricultural land use has been

expanded. In fact, some of the areas have been converted for other crop cultivation as well as for non-agricultural purposes.

The diversion of the land use appeared due to the limitations on natural resources availability and has put greater pressure on economic and social development [11]. It causes changes in the use of paddy lands due to the state rapid economic development especially in housing, business and industrial purposes [9]. Therefore, this article tries to analyse the revolution of paddy land in Kedah, what drives the conversion that resulted it, so that preservation mechanism on paddy land can be outlined in the future.

2.0 MALAYSIA STARTED OFF AS AN AGRICULTURE STATE

Historically, Malaysian agricultural sector has contributed significantly to the economic development of the country. For instance before the country's independence in 1957, it is the major source of foreign exchange earner specifically in the production of rubber, timber, rice, cocoa and later palm oil. But from 1970, the contribution of agriculture to the economic development of the country has deteriorated significantly. Murad *et al.* found that the contribution of agriculture to the national GDP dropped in the 1980 - 1990 from 22.9% to 18.7% and later to 13.6% in 1995 [10]. The contributions of agriculture to the employment sector fell from 39.7% in 1980 to 27.8% in 1990. Comparatively, agricultural contribution to the GDP decreased from 8.8% in 2000 to 8.2% in 2005. Currently, agriculture is the third engine of growth next to manufacturing and service sectors.

In the 9th Malaysia Plan (2006 - 2010), Malaysian agricultural sector have exceeded the target rate at higher rate and contributed to the economic growth as well as export returns. In fact Malaysian agricultural sector had played an important role in boosting the nation development by creating more jobs, alleviating rural poverty and reducing export deficit [7]. However, since 1991, there has been inter-crops and inter-sectoral competition for land use. The changing in land use between different crops and sectors of the economy will threaten the future food security.

3.0 DEMAND ON LAND FOR DEVELOPMENT

Land development requires land to be physically developed, referred to as anthropogenic activities. Several literatures pointed out on the proximate and underlying drivers of land use and land use change processes whether in the form of thesis or academic articles. Five major types of driving forces that influence landscape development have been determined. They are (i) natural forces: soil characteristics and drainage conditions; (ii) socio-cultural forces: demography, lifestyle and historical events; (iii) economic forces: market structure,

accessibilities and consumer demands; (iv) political forces: policies e.g. nature conservation and infrastructure development; (v) technological forces: mechanization [5, 14, 6]. In other words, it put a pressure on land resources especially arable or agricultural land stock. The symptoms of land pressure problem illustrated by the Food and Agriculture Organization (FAO) under United Nations Environment Programme (UNEP) is as shown in Figure 1 below [3].

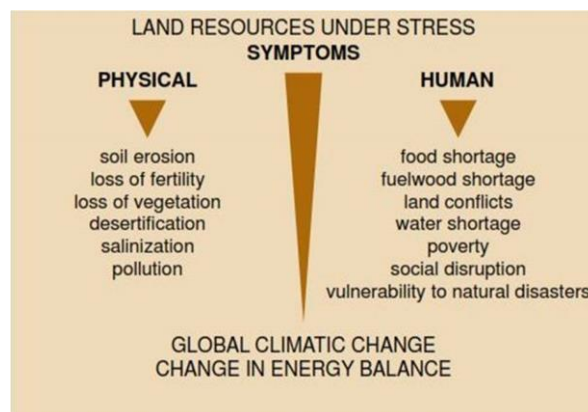


Figure 1 Symptoms of the Problem on Land Resources. Source: Adapted from FAO/ UNEP (1996)

These pressures exist when there is a demand from the industry. According to Dowall [2], when discussing about land market, it entails four important functions; namely, the existence of buyers and sellers, the price of land, quantity of land offered for sale equals to the quantity of land demanded and the efficiency of land use. In other words, when people want to develop certain areas, it will involve the demand and acquisition process whereby all interested parties need to be consulted including the government agency itself. In the 10th Malaysian Plan (2011-2015), infrastructure and housing sector has been the focused of developments to cater for the needs of the public as well as for Malaysia to achieve its Vision 2020 in less than 5 years [8]. In line with that vision, the demand on strategic and potential land to be developed rocketed.

4.0 METHODOLOGY

The purpose of this article is to analyse the revolution of paddy land in Kedah and what is the driving force behind the conversion of land use from agricultural use to non-agricultural. Hence, a qualitative research design was used to elaborate the changing pattern of the land use, specifically in paddy land area. A total of ten respondents from several organizations were involved in an in-depth interview to get the clear picture of what are the connection between this paddy land use change and its affect to national food security. Most of the respondents are directly involved in the implementation of the current agricultural policy

and also conducted some research on the efficiency of governance in solving local agricultural matters particularly paddy issues. Most of the selected respondents are from state-level government agencies. The paper then undertakes a descriptive analysis using Grounded Theory technique based on interview results.

5.0 CASE STUDY

Study areas were selected based on specific criteria as a parameter. They are 1) significant agricultural area; 2) focused on paddy farming as agriculture product. Kedah was selected as the case study because it is known as the Malaysia's rice bowl state. The state has also experienced the changes in land pattern due to the current trend of development. Paddy land situated in the suburbs such as in the district of Alor Setar, Langgar, Mergong, Jitra, Yan, Pendang, Kota Sarang Semut and Guar Chempedak are all affected by these changes. These areas were listed as rice fields under the supervision of Muda

Agricultural Development Authority (MADA) or the State Department of Agriculture. Alor Setar itself has received a spillover effect from development as the state capital, to fulfil the demand for housing and commercial building. This is one of the reasons why the paddy land has been targeted by developers in changing the land use for non-agricultural purposes. Indirectly, by allowing the conversion happen continuously, it will threaten Malaysia's future food security. If the paddy land area is not well protected, sooner or later it will be replaced by physical infrastructures that benefits only the selected few; namely the developer.

6.0 RESULT AND DISCUSSION

Based on the result from the analysis, there is a change of land use pattern of paddy land in the study area. Multiple driving forces that contribute to the conversion were identified. These forces are shown in Table 1 below.

Table 1 Driving forces of land use change by symptoms

SYMPTOMS	DRIVING FORCES
1. Housing demand and need space for economic activities	Economic pressure
2. Less young/future generation to cultivate paddy	Workforce Shortage
3. Availability of land broker who hired a developer to instigate farmers to sell the land	Mediator-Stakeholder Intervention
4. Fields cultivated by landowners just self sufficient. Besides, farming is no longer a profit.	Land Owner Attitude
5. Multiple Ownership	Ownership Problem
6. To meet the demand in the residential suburb	Real Estate Market Demand
7. State-federal political conflict and idealism contradiction between administrators and politicians	Conflicts of Interest

An area will be developed in line with the country's economic transition. Urbanisation will continue. Adam Smith [12] indicates that the land is one of the factors that generate economic productivity as well as labour and capital. Many of the above factors are interrelated as what has been discussed by FAO experts on relationship between cause, problem and symptoms (Figure 2).

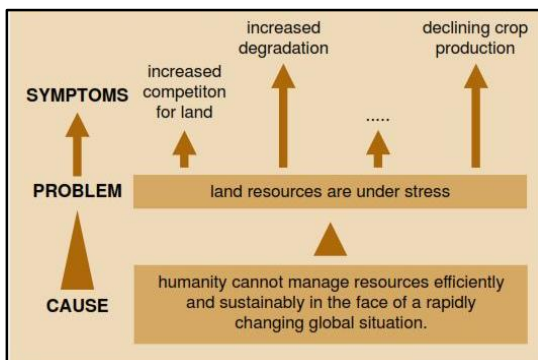


Figure 2 Cause-Problem-Symptom Relationship. Source: Adapted from FAO/ UNEP (1996)

The provision of space and infrastructure of an area is under the responsibility of the state government especially the ones looking at areas that have potential to be developed for the purpose of highest and best use. As a result, rice fields located near the city has always been sacrificed to meet the needs of investors. Moreover, most of the young generations are not interested in carry on the work that has been passed down from generation to generation even with the various improvements and incentives give in the rice industry to date. Instead, they are more willing to lease the land to tenant-operator rather than self-operate.

In some cases, long cultivated paddy land will not be transferred from the registered landowner to the heir. Therefore, if the owner died, disputes can occur in the family because there will be possibilities that any family members will claim rights over the alienated land. Thus, in order to avoid family conflicts especially multiple ownership cases, the paddy land will be sold and the money will be distributed among family members either in accordance with mutual agreement or fara'id condition.

On the other hand, high demand for residential area is also one of the reasons why the paddy land experienced the conversion. There is no doubt that the increase in population in the economically growing area such as Alor Setar, Jitra and Mergong will indirectly gives an opportunity for developers in providing facilities to meet demand in the property market. Hence, if there is a new residential area, new commercial areas will also be built to provide opportunities for business owners and to cater the demands of the local residents.

Conflict of interests will also occur between the state government and land-related administrative body or the industry. The role of state government is to continue develop the area to attract foreign investors. However, in doing so, it will put the state land administrator in a very difficult situation where it will jeopardize the future of the local community who are involved in the agricultural rice-based economy.

Hence, even though the continued lost of paddy land is a mutual concern; it is still a crucial factor that allows the Malaysia's rice production to be discontinued. In other words, the study also found that paddy land should be protected and should be retained for many periods ahead. As far as this research is concerns, if there is no comprehensive effort taken on this matter, Malaysia will fall into the mire of the world's staple food supply crisis. A stand-alone policy on the protection of the agricultural land is seen among the things that should be taken into serious consideration to ensure the status quo of paddy land stand the test of time.

7.0 RESULT AND DISCUSSION

The purpose of this paper is to analyze the revolution of paddy land in Kedah and what drives the conversion that resulted it. Malaysia for instance needs to have a mechanism to protect its agricultural land; especially paddy land from being converted and eventually vanish from the national topographic map due to the current rapid physical development. Without continuous effort and determination to preserve agricultural land, Malaysia will face difficulties to sustain agricultural sector in the upcoming generation. This is not only pertaining to the short-term benefits but also include the need of the future generation. Therefore, new reasonable mechanisms should be proposed to protect agriculture land such as by gazetting the cropland area as agricultural district, introducing agricultural land policy, imposing agricultural land protection Act, applying transfer of development right on agricultural land, declare several states as agricultural states at the federal level or, nationalising the agricultural land for the sake of the nation. The contribution of agricultural sector, paddy land in particular, is substantial to the nation's economic growth hence should not be underestimated even though the country is pursuing its development in other highly-industrialised sectors. That is the reason

why, this research is carried out, in order to seek a better understanding of this issue regarding to the importance of agricultural land to the nation.

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