

Chapter 1

Introduction: New Trends and Challenges for Agriculture in the Mekong Region

*Shozo Sakata*¹

1. Introduction

The countries in the Mekong region (Cambodia, Lao PDR, Myanmar, Thailand, and Vietnam, or the “CLMTV countries”) have experienced rapid economic growth, except for some years, since the turn of the century. The labor-intensive manufacturing sector has led the economies of the four late-comer countries (CLMV), and the primary engine of the economic development in Thailand has shifted to the service sector. However, one striking fact which should not to be overlooked is that the agricultural sector has also developed in tandem with industry as well as the service sectors in this region. In fact, the importance of agriculture in the economies of these countries is becoming more and more visible. This research project aims to examine the present status of the agricultural sector in the region.

Little attention has been paid to the fact that agriculture in this region is not only growing but also experiencing drastic structural changes nowadays. Large areas of agricultural land have shifted from grain production land to land for horticulture and industrial crops (rubber, for example). New types of agricultural production methodologies have been introduced such as “high-tech,” “e-,” or “smart” agriculture, introduced by new participants including corporate farming entities. Export-oriented production is growing due to the trade liberalization policies introduced by these countries and expansion of the Chinese market. However, these phenomena have yet to be sufficiently comprehended. More detailed studies about what is going on and what should be desirable for the future of agriculture in the region are needed.

2. Macro trends

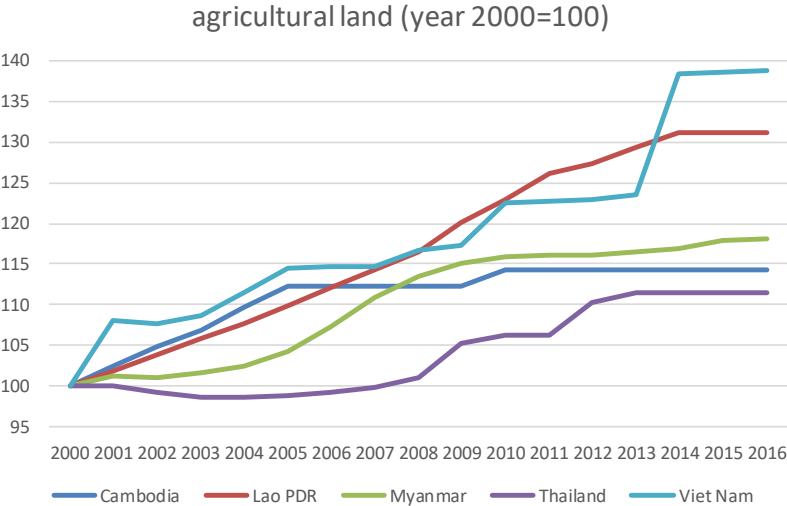
2.1 Macro status of land, capital, and labor

Figures 1, 2, and 3 show the shift of the basic variables that determine agricultural development, i.e. land, capital investment, and labor by the CLMTV countries. Figures 1 and

¹ Senior Research Fellow, Bangkok Research Center, Institute of Developing Economies-JETRO

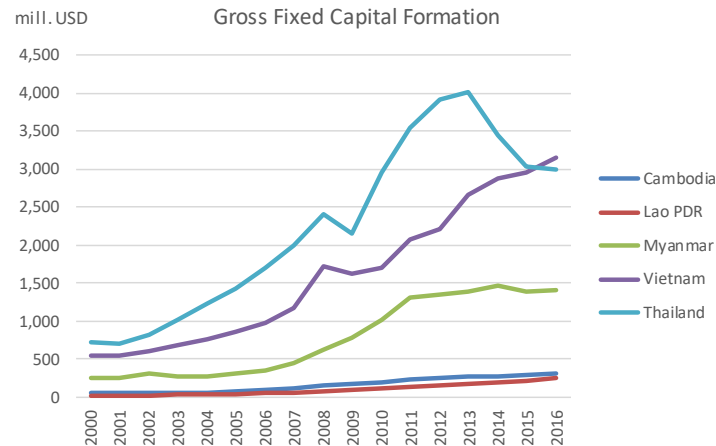
2, obtained from the FAOSTAT database, clearly indicate that agriculture in this region is not a slack economic sector. The agricultural land area is increasing, except for some years in Thailand, compared to the level in the year 2000, by more than 30% in Vietnam and Lao PDR. Capital investment (gross fixed capital formation) has increased significantly in Thailand, Vietnam, and Myanmar for the 15 years since 2000. Meanwhile, although comparable data on the agricultural labor is not available, the declining trend of the rural population rate (Figure 3) signals that a relatively smaller labor force is being mobilized in the agricultural sector.

Figure 1 Agricultural land area (level at year 2000=100)



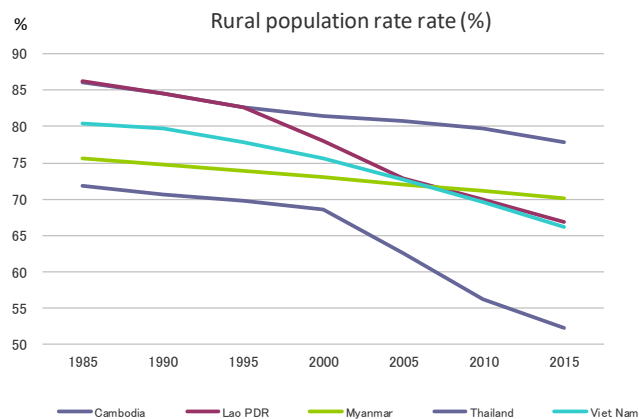
(Source) FAOSTAT

Figure 2 Change in Gross Fixed Capital Formation (million USD)



(Source) FAOSTAT

Figure 3 Rural population rate



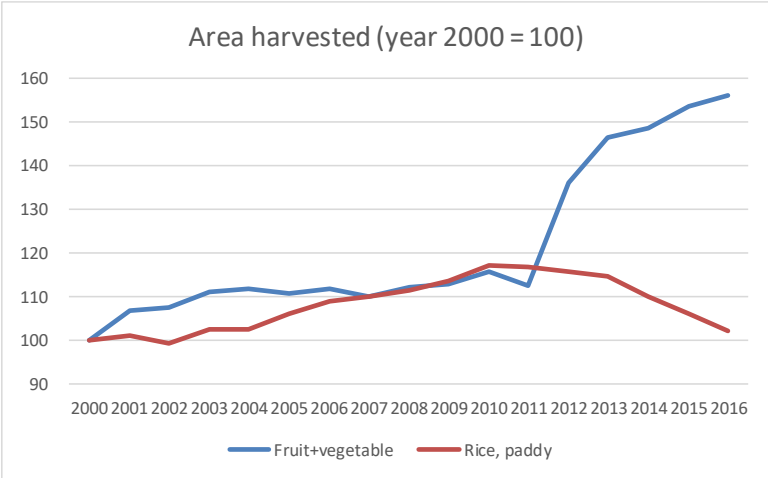
(Source) World Urbanization Prospects 2017

2.2 Shift from grain to non-grain production

There are two noticeable structural changes relating to the supply and demand for agricultural products in the Mekong region. The first observed change is the swift shift of production from grain (mainly rice) to non-grain products. The Mekong region, one of the biggest rice bowls in the world, is in the process of becoming a center of non-grain products, including traditional tropical fruits, non-traditional types of horticulture, livestock, and fisheries.

Figures 4 and 5 indicate how rapidly the production of non-grain agro-products has been growing in the five Mekong region countries since 2000. Figure 4 shows the increasing rate (level at year 2000 = 100) for the harvested areas of rice, and fruit and vegetables, while Figure 5, shows a similar picture in the production volume of rice (paddy), fruit and vegetables, and “processed livestock” (mainly dairy products). Although the absolute figures for the harvested area and production volume of rice are still much larger than non-grain products², the growth rate of these commodities show contrasting trends. The growth trend for rice production has declined since the beginning of the 2010s. On the contrary, the growth has accelerated from that same time for non-grain production.

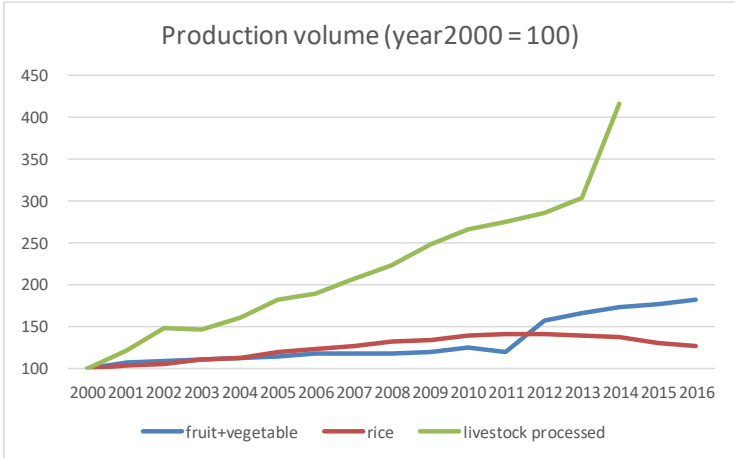
Figure 4 Change in the harvested area (level at year 2000 = 100)



(source) FAOSTAT

² In 2016, the harvested area for rice production was 27 million hectares, while that for fruit and vegetables 2 million hectares. The production volume of rice, fruit and vegetables, and “processed animals” was 117 million tons, 24 million tons, and 1.5 million tons respectively.

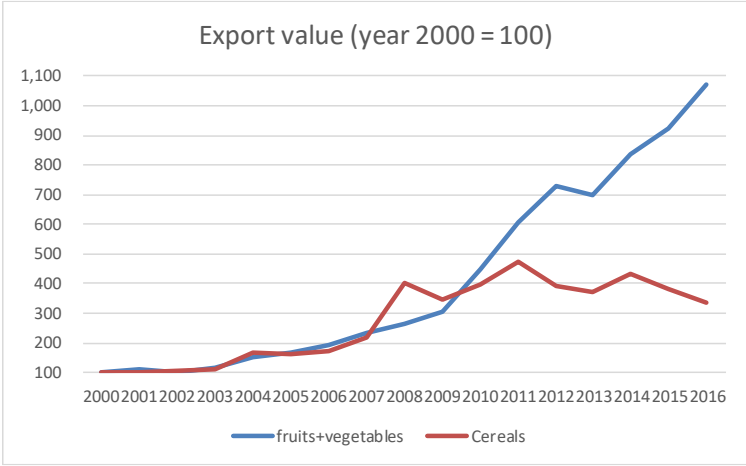
Figure 5 Change in the production volume (level at year 2000 = 100)



(Source) FAOSTAT

A similar assumption can be seen for the export of fruit and vegetables compared to rice (Figure 6, data obtained from the UN Comtrade Database). The export of fruit and vegetables in value terms has increased much more sharply compared to the increase in the production volume (more than ten-fold between 2000 and 2016). The absolute value of fruit and vegetable exports exceeded that of rice in 2016 (10 billion USD vs. 7 billion USD). This rapid increase in fruit and vegetable exports is attributed largely to the increase in demand by China, one of the largest fruit and vegetable markets in the world.

Figure 6 Change in the export value (level at year 2000 = 100)

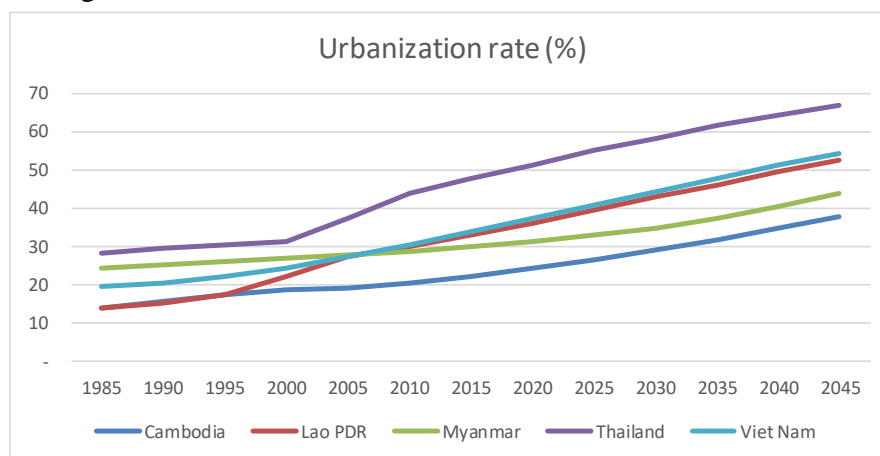


(source) UN Comtrade

2.3 Shift of the participants in agriculture

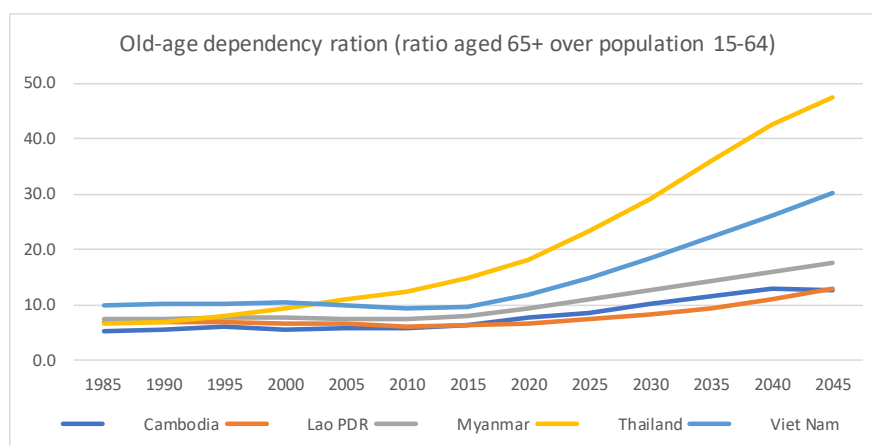
The second observed change in this region is the demographic shift of the producers and consumers of agricultural products. As has been seen, the level of the rural population rate is declining. Moreover, the population is aging in this region. The level of old-dependency rate (the old age [65 years old and over] population against people of working age [15-64 years old]) is noticeably higher in Thailand, 14.8% in 2015, which exceeds the Asian average of 11.2% and the global average of 12.6%, followed by Vietnam (9.6%), Myanmar (8.0%), Cambodia (6.4%) and Lao PDR (6.2%). Urbanization and the aging population are projected to worsen in the future. Figures 7 and 8 illustrate the long-term trend of urbanization and aging from year 1980, and the projection until 2050. The increasing rate for the next 30 years from 2015 is higher in all countries compared to that in the 30 years before 2015.

Figure 7 Urbanization rate in the CLMVT countries



(Source) World Urbanization Prospects 2017

Figure 8 Old-age dependency rate in the CLMVT countries



(Source) World Population Prospects 2017

To be noted here is that the first observation, i.e. the shift from grain to non-grain products, has been taking place during such demographic changes. Urbanization certainly affects domestic demand for agricultural products (in terms of volume, variety, and quality), and requires more reliable food supply chains. The current shift to non-grain production must be attributed, at least partly, to such urbanization. Urbanization can also encompass (or can be attributed to) the reduction of the agricultural labor force (although the author cannot obtain data on the actual numbers). In addition, aging of the population may also affect agricultural production, as it reduces the number of production-age people. It is likely that the age distribution of the rural population is older than that of the urban population. It can be assumed that the shift to non-grain production has taken place as it is more efficient in terms of labor productivity.

2.4 Emergence of new supply chains and production methodologies

There is a new trend in academic literature, in which the agricultural sector is studied as an integral part of the “food sector.” Agricultural production is now increasingly dependent on the interests of buyers who tend to act as the agencies for the consumers. The big European and American retailers (or groups of retailers) have started a private certification system to ensure the quality and safety of the products as well as their environmental soundness and even social justice in the production process. Such phenomena are analyzed by the similar analytical framework as the buyer-supplier relationship in the manufacturing sector, as the “food value chain” (Dolan and Humphrey 2004, Gereffi, and Christian 2010, Reardon et. al. 2009, etc.) concerning production efficiency, impact on producers, technology transfer, etc.

The presence of such food value chains governed by the dominant buyers is not confined to the western world. The Mekong region is becoming part of the global food value chains due to intrusion by the international supermarket chains (Tesco, Big C, Aeon, etc.) in this region. Moreover, more nationally- or locally-based value chains, initiated by the local as well as neighboring Southeast and East Asian enterprises, can be observed. Global and regional free trade agreements (FTAs) facilitate the development of cross-border food value chains. Increasing imports by China have extensively changed the value chains of some agricultural products, in particular fruit, in this region. In addition, modern national level food value chains are being developed due to the growing demand for safe, quality food by the urban consumers. Sufficient attention has yet to be paid to these new trends of food value chains in the Mekong region.

Such shifts in the value chains have induced the introduction of new technology into agricultural production. The increasing awareness by urban consumers and the export markets concerning food quality and safety, along with the demand for stable production supply by the retailers, requires the producers to invest in equipment and facilities (such as greenhouses) to control the production conditions. This observation is backed by data on the increasing investment volume into agriculture (Figure 4). Also, some producers have invested in ICT-embedded equipment (various types of sensors, drones, etc.), which enable greater efficiency in farm management and the so-called “precision agriculture.” Demand for more advanced technology in agriculture will increase in the Mekong region because of the labor shortage in rural areas, which is envisaged soon to be the most serious bottleneck for agricultural development in this region.

3. Objectives of this research project

The primary objective of this research project is to identify the situation at the macro and micro levels of the changes in agriculture and the related agri-business in the countries within the Mekong region. Of particular interest in the project are the following issues:

- 1) How changes in production (grain to non-grain products in particular) and the shift of value chains affect the producers of agricultural products? Who has benefited and who has suffered from these changes?
- 2) Supposing the new types of technology introduced are of foreign origin, how can the producers in the CLMTV countries adapt to such technology?

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3) Can the experience of the development of advanced agricultural production and supply chains in the developed countries be replicated in the CLMTV countries? What environments or policies can be applied from the developed countries' experience?

This project explores the means to develop more profitable, effective, and sustainable models of agricultural production and supply chain management, which will benefit the producers (individual farmers and farming entities) and the participants in the supply chains. Further, the project scrutinizes governmental policies and institutional frameworks of the countries, analyzes some “successful” practices and the factors contributing such “success”, and discusses the challenges to further promote the means to nurture profitable and effective models.

References

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