International Economic and Financial Review
国際経済金融論考
Institute for International Monetary Affairs (IIMA)
公益財団法人 国際通貨研究所

（NO.3, 2013）
June 25, 2013

Agriculture and Agro-manufacturing Industry in Developing Countries

：How to Assess the Agricultural Sector in India?

Akira Nakamura
Deputy General Manager and Senior Economist
akira_nakamura@iima.or.jp
Economic Research Department
The Institute for International Monetary Affairs

＜Summary＞

1. In India, economic development has long been oriented by the government since its independence, given the support of what is believed to be a "thoroughly parliamentary democracy." This policy line has resulted, however, in the adoption of more populist policies geared to social security that gives special attention to the demand of lower income class, while the private economic sectors had been broadly controlled.
2. While the change of the value added GDP components toward a post-agro-based structure has been seen just as it was seen in many other emerging and developing countries, the economy still remains in the early phase of development with agriculture taking a bigger proportion.
3. On the other hand, the share in the economy of such labor-intensive manufacturing industries as foods and textiles, which use agricultural products for intermediate inputs, is

still extremely small, even as compared to the other countries with comparable income levels. The proportion of the manufacturing industry itself is small in the national economy, and also small is the proportion of agro-products (foods, textiles, etc) in manufacturing industry as a whole.

4. Factors for the underdevelopment of the labor-intensive agro-based manufacturing in India include not only its difficulty of converting workers in agricultural sector to manual-oriented factory workers because of diversity of the people in India (with different languages), but also the difficulty of expanding business because of legal restrictions peculiar to India. In addition, the government's industrial policies that gave special care to small businesses had a significant impact on the textile and clothing industries.
5. The underdevelopment of the agro-manufacturing despite the relatively big share of the agricultural sector has raised two problems for the development of the Indian economy. One is the slower decline of the share of population in the agricultural sector despite the value added share of the agriculture sector is declining at about the same pace as the other Asian emerging and developing countries. The other is the relative stagnation of export of such agriculture-related products as food and beverage, textile and clothing, etc.
6. These agro-manufacturing sectors have not fully played the expected role of absorbing a large number of labor forces, causing for the economy to lose the chance to create employment, thus failing to raise their income levels. It may not be easy to dismantle those protective policies for the manufacturing and agricultural workers, but in order to increase the total employment and change the employment structure toward a more sophisticated one, and capitalize the strength as an emerging developing country, it would be necessary to take policies if painful such as reviewing of legal system for labor management and income policies for agricultural sector. In order to reduce the trade and current account deficits, it is also necessary to expand the export capacity of the food and beverage, textile and clothing industries, at least to the extent similar to the level in the other emerging developing countries with comparable income levels.

1. Introduction

One of the economic characteristics of emerging market and developing economies (EMDEs) is a big presence of agriculture and a significant role it plays in the economy. In general, the weight of agriculture declines as the economy develops, as is seen in many countries including Japan. What is implied here is that other sectors such as manufacturing and services come to grow and that a rise of productivity of agriculture will enable the labor force to shift, without reducing their incomes significantly, from agricultural sector to other sectors with higher productivity.

When we compare the counties in different stage of development at a certain point, it is generally the case that agriculture has a larger presence in the less developed countries with lower income levels. Also the share in the economy of the manufacturing sector that uses agricultural products as an intermediate input, i.e., what is often referred to as “agro-industry[1]”, will decline along with the development of the economy although its share tends to remain larger in the countries with lower income levels.

In India, the economic development has been led for a long time since its independence by the government that was supported by what was believed to be “thorough parliamentary democracy.” For this reason, a number of policies, much oriented toward social security to address the demands of the people, especially of the lower income class, have been adopted, while the private sector of the economy has been widely controlled. The foreign exchange crisis of 1991 invited a shift of the policies toward economic liberalization and strings of economic reforms were implemented, including the removal of authorization system of trade and industry, deregulation of restrictions on foreign direct investment, etc. These policies expanded the trade and investment, thus accelerating the speed of India’s economic growth.

While India has widely progressed toward a post agrarian industry structure in terms of the value added economy (i.e., GDP), however, nominal per capita GDP is still low at $1500, which corresponds to an early stage of development with a high proportion of agriculture. When compared to other countries with similar income levels, it maintains a peculiar industrial structure with a very small share of agro-industry.

In this article, I will analyze the characteristics of Indian agriculture and agro-industry together with their impact on the economy and discuss the future perspectives of them.

2. Shares of Agriculture and Agro-industry in the Asian EMDEs

A comparison of agriculture and agro-industry in the Asian EMDEs reveals several interesting aspects of them. Chart 1 shows the shares of agriculture in value added basis for the Asian EMDEs with a comparable economic size and population[2].

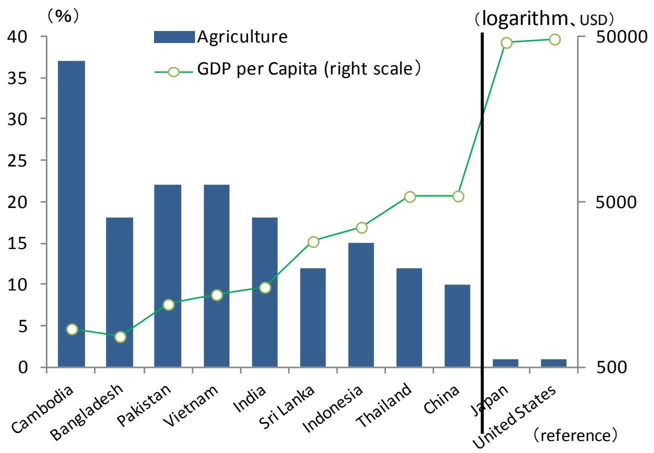
As is seen from the chart, the share of agriculture in its economy generally tends to be larger for the lower income countries, and it declines as the economy develops. Countries with per capita income level of around $1000, such as Pakistan and Vietnam, have a share of more or less 20% of GDP for agriculture, while in Thailand and China, which enjoy more than $5000 of

[1] In general, an agro-industry refers to the one based on the agricultural resources, and includes flour milling, meat processing, oil seed processing, etc. In this article, it also includes fibers and clothing industries.

[2] Countries are limited here to those with nominal GDP of more than US10 billion and population of more than 10 million.

nominal per capita income, the ratio is at around 10%.

Chart 1: Nominal GDP per capita and the shares of agriculture in nominal GDP (as of 2011)



Source: World Bank

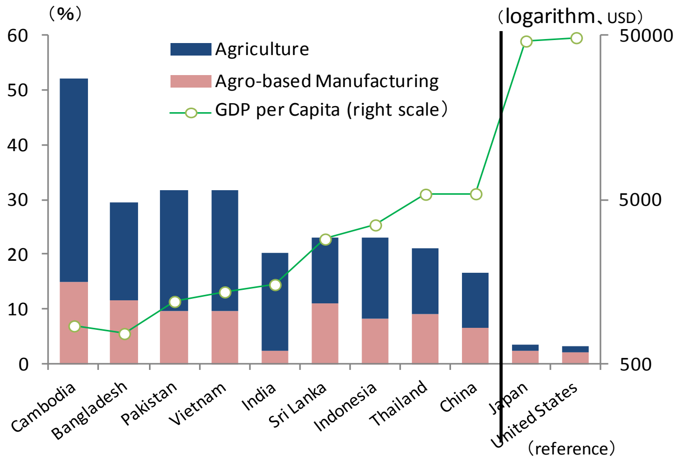
By adding to the agriculture such agro-industries as food and beverage, textiles and clothing, it again shows, as in the case above, that the combined shares of those industries are larger for the countries on lower income level and smaller for those on higher income level (Chart 2). The share of agriculture and agro-industry exceeds 30% in Pakistan and Vietnam, while in Thailand and China it is around 20%.

In this regard, it is noteworthy that when we pay attention only to the share of agro-industry, it is extremely small at 2% for India, compared to the other countries whose shares range from the smallest 7% for China to the largest 15% for Cambodia, broadly in line with their income levels. India's level is rather similar to the one in the developed countries like Japan and the US. India's share is not only smaller than those of Cambodia and Pakistan which are in less developed phase than India but also of Thailand and China whose nominal per capita GDP is more than three times of India.

Thus, while in India agriculture has a big presence in the economy which is commensurate to its economic development phase, as is the case in other Asian EMDEs, it does not have a developed labor intensive agro-industry such as food and beverage, textiles, and clothing. Therefore, it can be said that while the scale of agriculture corresponds to its income level, the manufacturing base that is closely connected to agriculture remains quite fragile.

The reasons why the share of Indian agro-industry in the economy is small compared to the other countries with comparable income level include that the manufacturing industry itself has a smaller share in the Indian economy, and that the share of the agro-industry in that manufacturing sector is also small in India.

Chart 2: Nominal GDP per capita and the shares of agriculture and agro-industry in nominal GDP (as of 2011)



Note: Agro-industry is composed of food/beverage and textile/clothing. The Data of agro-industry in Bangladesh, Cambodia and Vietnam are as of 2009.

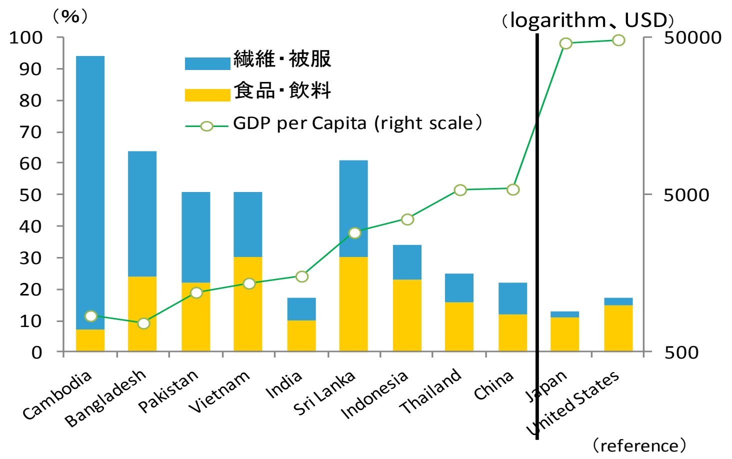
Source: World Bank

It is a usual development in the EMDEs that as the economy develops the share in the GDP and employment structure shifts from the primary industry (centered in agriculture) to the secondary (centered in manufacturing) and then to the tertiary industry (centered in services). But it has not been the case in India, where the share of manufacturing industry in the economy is relatively small as compared to the other countries with similar income levels. It has continued to have a higher weight in the primary and tertiary industries from the early phase of economic development.

The structure of Indian industry by type of business shows that food/beverage and textile/clothing account for 10% and 7% respectively of the total manufacturing, which are relatively small compared to the other EMDEs (Chart3). The combined share of 17% for these two industries is smaller by 5% than that of China (22%) which is the lowest of the countries compared above. Also the share in India is more or less equal to the ones in the advanced countries like the US.

What has impeded the development of labor-intensive agro-industry in India? One reason relates to the factor that as the nation is consisted of diversified people with different races, religions, and languages, it was not easy for the country to convert the farmers to manual-oriented factory workers. Another is that the legal systems specific to India have made it difficult for companies to expand their businesses. For instance, the labor laws so strictly prescribed the reasons applied for dismissal that the companies could not make a flexible adjustment of their employees. This apparently seems to have made it hard to foster the labor intensive manufacturing industry which requires large workforce to expand the businesses.

Chart 3: Nominal GDP per capita and the shares of agro-industry in manufacturing (as of 2011)



Note: The Data of agro-industry in Bangladesh, Cambodia and Vietnam are as of 2009.

Source: World Bank

In addition, the government's industrial policies which gave favorable treatment to the small enterprises had a significant impact particularly on the textile and clothing industry. For instance, the government of India introduced a system called "Production Reservation System" under which the production of goods designated for reservation was allowed only to a small scale production, thus discriminating large scaled enterprises from entering into production. Clothing was one of these reserved items. As a result, s majority of the textile and clothing industries came to be dominated by small businesses with more or less 10 employees. Even at present, most of the clothing factories in India are still of small scale[3].

3. Problems for the economy caused by underdeveloped agro-industry (1)

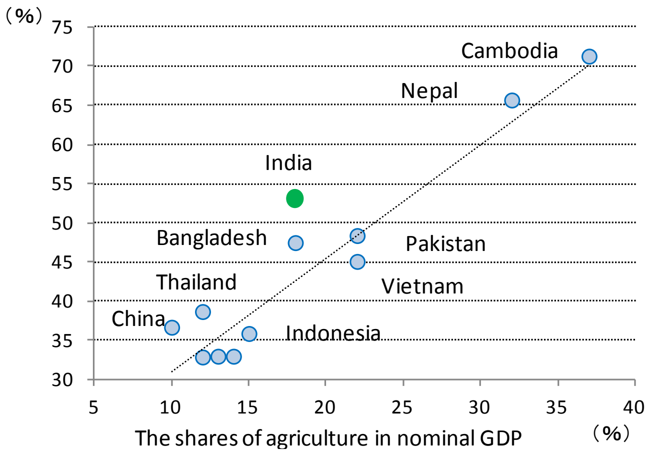
Thus, the underdeveloped agro-industry in India against the background of comparatively large share of agriculture has raised two big problems to the development of India economy.

One is the dual speed of evolution that differs in the GDP and in the labor force which emerged in the process of economic shift from agriculture oriented one to non-agriculture oriented one. The weight of agriculture has been shrinking both in terms of GDP and labor force but the speed has differed a lot between the two. While the proportion of agriculture in the GDP has declined at a speed similar to that of the other EMDEs in Asia, the decline of proportion in labor force remains to be very slow. As a result, compared to the cases in the neighboring EMDEs, the proportion in total population of workers engaged in agriculture is relatively higher

[3] According to the survey of Export Promotion Commission, clothing factories in the whole area of India are classified by scale to 7% of large scale (with more than 101 machines) , 15% of medium-scale (with 41-100 machines), and 78% of small scale (with machines of less than 40).

in terms of the balance with the proportion of agriculture in the economy (Chart 4).

Chart 4: The shares of agriculture in nominal GDP and the share of agriculture in employees (as of 2011)



Note: The left scale shows the share of agriculture in employees.

Source: World Bank

One responsible factor for this is; as we have seen in the previous chapter, the development of labor-intensive manufacturing industries that are closely related to agriculture, such as food/beverage and textile/clothing, have been hampered in India by the legal system and government policies and remains in small scale. This contrasts to the normal process where the labor force is encouraged to shift from the agricultural sector to more labor absorbing agro-manufacturing. Thus in India, the underdeveloped agro-industries have not played their expected role as a labor absorber in the economy, thus the opportunity for job creation has been missed and the improvement of national income level retarded.

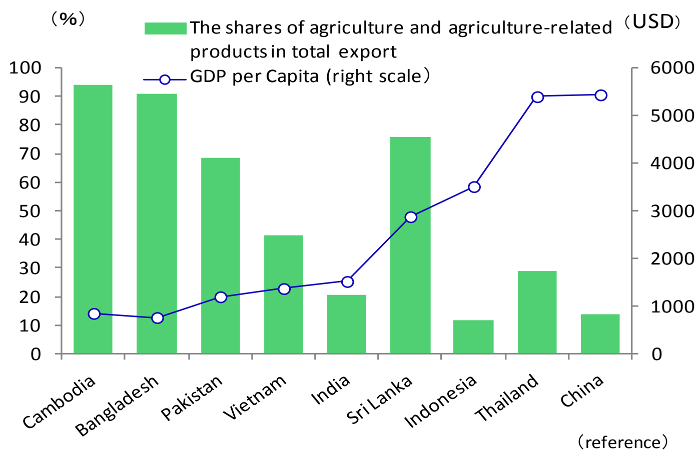
Furthermore, a rise of productivity in agriculture has been delayed by the slow introduction of technology to agricultural sector as well as insufficient infrastructure. Excessive protective policies such as tax exemption or subsidization for farm income may also have affected the incentives of farmers, which are the main source of labor supply to manufacturing.

It will be not easy in India that is believed to be a thorough parliamentary democratic nation, to review and overhaul the protective measures targeted for manufacturing laborers and farmers. But in order to promote the adjustment of employment structure to its expected shape and take advantage of the strength as an EMDE, it will be unavoidable for the government of India to adopt reform programs, if at all painful, that would include the review of labor management system and income policies directed to the agricultural sector.

4. Problems for the economy caused by underdeveloped agro-industry (2)

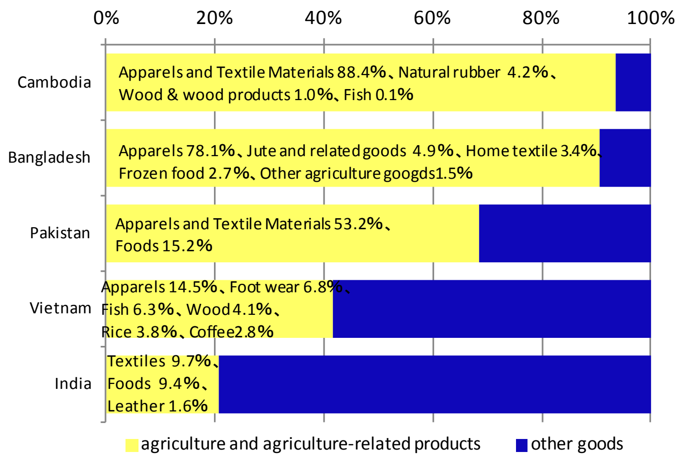
Secondly, the underdevelopment of agro industry has also resulted in a relatively stagnated export of such agriculture-related products as food/beverage, textile and clothing. The share of those agrarian products in total export is low at 21%, which is extremely small for a low income economy like India (Chart 5). Comparable numbers show 68% and 42% respectively for Pakistan and Vietnam that have the same level of per capita nominal GDP as India, and 76% for Sri Lanka which has almost twice as high income level as India. Ordinarily, agricultural products represent leaders in trade in most EMDEs with per capita nominal GDP of around US$ 1000. But it is not so in India (Chart 6).

Chart 5: The shares of agriculture and agriculture-related products in total export (as of 2011)



Source: International trade statistics of each country

Chart 6: The components of agriculture and agriculture-related products in total export (as of 2011)



Source: International trade statistics of each country

Among the exports from India, oil products and jewelries tended to take a big weight as India promoted the processing trade where it imported raw materials and re-exported them after processing. They had for a long time been a main cause for deficit in the trade and current balances since those products depended on the import of raw materials for their input. For the moment, there seems to be coming a stable inflow of financial capital to finance the current account deficit of India. However, it should be a bit concerned that the main parts of the financial flows are consisted of portfolios and short term borrowings which can be volatile and easily turn to outflow. Further increase of the deficits in the trade and current account balances may trigger a turmoil in the financial market and the exchange rates. To narrow the trade deficit, which is the main cause of the current account deficit, it seems to be necessary that India should enhance the export capacity of its agro-manufacturing products, such as food, beverage, textile and clothing.

5. Economic Development of India and its Agro-related sectors

Amidst the progress of economic globalization in the world, India has promoted its economic development and expanded its access to the world market by taking advantage of its edge in information and telecommunication technology and actively utilizing its economic and industrial policies. Particularly, it has made efforts to promote education reforms and technology enhancement to enhance workers' skills and technologies through establishing technological universities and others. These efforts have succeeded in producing workers of good quality who have contributed to higher economic growth through the emergence of strong industry represented by information and telecommunication industry. It is a result of the government efforts for promoting education and also an India's big advantage that India has a certain level of labor force who can command good English and exercise strong talent in mathematics and computer technologies which constitute the base of worldwide competitive technology services. Furthermore, by using the foreign capital from the US and Europe as well as Japan, India has succeeded in developing higher value added manufacturing industry such as automobiles and has been broadening its industrial base, even establishing its own brand named enterprises.

The government has also played an effective role in implementing its social programs. It managed to avoid social turmoil and nationwide riots by adopting income distribution policies like tax exemption on farmers' income and subsidization that gave extra consideration to the poor and farm workers. This seems to be another factor that helped India to achieve sustainable growth. In addition, India's economic development was also supported by the careful implementation of financial liberalization. Like China, India restricted the international capital flows, particularly those of short-term capital, and took time to liberalize its financial market. This enabled India to control to the minimum the disturbances on the domestic economy caused by the speculative capital flows.

It is true that these government efforts have contributed to the economic development of India by fostering the specific industries that are advantageous to India and other high valued manufacturing industries, but it cannot be said that all the policies taken at the early stage of development were appropriate. Especially notable was its industrial policy. When India got independent in 1946, Mahatma Gandhi aimed to promote more labor intensive textile industry mainly in the rural area. Actually, however, heavy industrialization policies centered in steel industry had been promoted under the government headed by Prime Mister Nehru. For this reason, the improvement of productivity in agriculture and fostering of labor intensive light industries were almost neglected, thus creating big, long-lasting to the present problems of retarded job creation, sluggish exports of agro-products etc.

On the other hand, Thailand offers a sharp contrast to India. In Thailand, agriculture and its related manufacturing played a bigger role in the early phase of development. Even now, ranked among the upper middle income countries with per capita nominal GDP of more than $5000, agriculture and agro-products in Thailand still have a significant role in the economy, although the machine industries like automobile and electrics play a centering role. In its early stage of industrialization, Thailand was able to avoid the shortage of foreign exchange, which is often seen in the developing countries, by the export income of agriculture and its processed products. It was also owing to its high exportability of agriculture products that Thailand could avoid to face the growth constraint caused by the supply shortage of capital goods needed for industrialization. Presently, its exports are dominated by the industrial products, with the share of agriculture and its related products declining to 29% in 2011, but the agriculture products still represent a big share compared to the other Asian EMDEs. Since the agriculture has played such a big role in the development of the Thai economy, Thailand is sometimes referred to as a newly agro-industrializing country (NAIC).

When the economy depends significantly on the agricultural products and related industries like food processing and textile that use agricultural products as raw materials, its economic base naturally tends to be fragile because a large part of the economic activities, including not only domestic production, distribution and retails but also export transactions, are affected by the performance in the agriculture sector. For this reason, the fragility of the single tracked economy centered on the food and textile industries often tends to cause problems in the EMDEs. Of course this is a matter of degree. But even when we take this possibility into account, it can be said that the proportion of the agro-manufacturing industry in India seems to be too small for the potentiality that India's agriculture sector has.

The government has already made it a policy target to promote textile and clothing industries and disclosed an industrial policy for them that clearly demonstrated a strategy for the internationalization and a conversion toward a more export-oriented industrial structure.

Specifically, it aims at achieving a sustainable growth of the industry, showing its target of attaining a world market share of more than 5% for the export of the industry. Based on the announcement, there has already been emerging a move that seeks to establish economic special zones and textile parks where a number of large factories equipped with modern facilities can accumulate, thus enhancing the presence of textile and clothing industries within the country. The pace of the progress is, however, alarmingly slow and sluggish, and it will take some time before the present level of policy programs will bear any noticeable effects. India is a big country with population of 1.2 billion, and with a constant deficit in its current account balance. In this regard, the role that the labor intensive industries based on the agriculture play on job creation and export expansion is extremely important, and more effective efforts and creative ideas for bolstering the industries are urgently needed.

Address: 3-2, Nihombashi Hongokucho 1-Chome, Chuo-ku, Tokyo 103-0021, Japan
Telephone: 81-3-3245-6934, Facsimile: 81-3-3231-5422
〒103-0021　東京都中央区日本橋本石町 1-3-2
電話：03-3245-6934（代）ファックス：03-3231-5422
e-mail: admin@iima.or.jp　URL: http://www.iima.or.jp