

KNOWLEDGE & RESEARCH



WORLD BANK GROUP
Global Knowledge & Research Hub
in Malaysia

AGRICULTURE AND FOOD GLOBAL PRACTICE
& POVERTY AND EQUITY GLOBAL PRACTICE

NOVEMBER 2019

THE MALAYSIA DEVELOPMENT EXPERIENCE SERIES

Agricultural Transformation and Inclusive Growth

The Malaysian Experience

A BRIEF

November 20, 2019, Kuala Lumpur, Malaysia



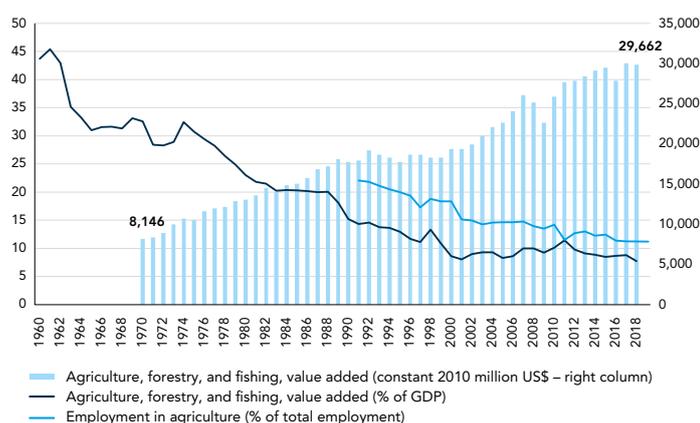
Background

In a span of a half century, the economy of Malaysia has been transformed from a low-income, vulnerable, primary commodity exporter to an upper-middle-income and diversified economy where extreme poverty has almost disappeared. The focus of this report is on the central role that agriculture played in this transformation and how it was shaped and promoted. A sustainable reduction of poverty and transition to a higher economic status cannot be achieved without transforming the agriculture sector. Experience of Malaysia provides instructive lessons for countries striving to transform their agriculture sector. Malaysia clearly offers a repository of experience on agricultural transformation from which other countries at a lower level of economic development can learn and profit. This study – **Agricultural Transformation and Inclusive Growth: the Malaysian Experience** – is a joint effort between the Ministry of Economic Affairs (MEA) and the World Bank to distill lessons from Malaysian experience and identify remaining key challenges.

Malaysia's agricultural transformation could be examined from the following perspectives: (figure 1).

- The share of agricultural GDP in total GDP declined from around 46 percent in 1961 to 7.7 percent in 2018.
- The ratio of agricultural employment to total employment also declined from 37 percent in 1980 to 27 percent in 1991 and 11.1 percent in 2018.¹ In the 1960s, it was nearly two-thirds of total employment.
- In 1987, manufacturing overtook agriculture as the major sector for the first time: 22.6 percent versus 21.7 percent, respectively.² Manufacturing was around 9 percent of GDP in 1961 (Yusof and Bhattasali 2008). By 2007, it was 30.1 percent of GDP.³

Figure 1. Agricultural transformation, main trends, Malaysia



Source: Computed based on WDI data.

The audience and the scope of the report: The primary audience of the report consists of policy makers and development practitioners interested in what Malaysian policy makers did on the long march of transformation that made it successful and how they did it. Specifically, the report discusses the major policy decisions and institutional structures which enabled Malaysian leadership and its government machinery to translate vision into instruments that can be implemented and have an impact.

This brief summarizes key findings of the main report, lessons learned and remaining challenges facing the Malaysian agriculture. Specifically, the brief summarizes what is achieved and how it was made possible.

Malaysian agricultural transformation: harvesting the promise

By any standard of measurement, Malaysia's agricultural transformation is a success story. It is consistent with the stages (or narratives) of agricultural transformation and has delivered on all trademark contributions to economic development, as postulated in agricultural development theory.

First, agriculture has contributed to increased food supplies. This remarkable achievement was accomplished in the face of mounting demand for food driven by three forces: high population growth (reaching 3.2 percent in 1963), rising income (from US\$1,354 per capita in 1960 to US\$11,528 in 2017, an increase of 752 percent), and urbanization (from 27 percent of the population living in urban areas in 1960 to almost 76 percent by 2017).⁴ Before 1960, 55 percent of the rice consumed domestically was produced locally and fed a population of less than eight million. By 1970, the country was producing 90 percent of the rice consumed domestically and feeding almost 11 million people. By 2017, production had reached 70 percent self-sufficiency for a population of almost 32 million. This means, by 2017, the agriculture sector, through domestic production, was able to satisfy the rice consumption needs of almost three times the population in 1960.

Second, agriculture has been one of the major sources of the country's foreign exchange earnings. Between 1972 and 2016, export earnings grew by almost 200 percent. In fact, during periods of economic difficulty, agriculture

was the sector that the country resorted to in support of its export earnings, demonstrating the resilience of the sector. Thus, the export-oriented part of the agriculture sector is one of the pillars of the economy and a significant contributor to foreign exchange earnings and, through investment, to higher income and employment.

Third, agriculture was the source of labor supply for the expanding sectors of the economy. At independence, agriculture was the major employment sector (58 percent) as is the case in most other countries during the initial phase of agricultural transformation. As agriculture developed, it released labor to manufacturing, services, and other sectors of the economy. The infusion of labor from the growing working-age population into nonagricultural sectors was instrumental in Malaysia's growth.

Fourth, capital transfers from agriculture to the nonagricultural sector: At the initial stage, Malaysia depended on tin, timber, and fertile land and, later on, on oil, gas, and petroleum to finance and successfully harness these resources to drive agricultural transformation. Beyond financing infrastructure, institutions, projects, and the development of new agricultural lands, investment included the infusion of capital to buy equity in foreign agricultural firms, thereby taking a major stake in at least 18 firms, including Sime Darby, one of the industry leaders. This buyout was undertaken in 1978–82 by a government-linked investment company. However, once the agricultural sector transformation was mature, Malaysia's agricultural firms not only became major investors in an array of businesses, but these agricultural firms transformed to become transnational companies investing across a number of continents.⁵

Fifth, the multiplier effect of a transforming agriculture was substantial: As the incomes of farmers increased, their consumption level of goods and services expanded, creating a market for the growing manufacturing sector and revitalizing rural areas and small towns. A study of the Muda River area found that, for every dollar created in the agricultural sector, 80 cents in value addition was generated in the nonfarm economy. Another study reports that, for palm oil, the composite output multiplier was 3.1, the highest multiplier among the eight sectors with high multipliers (tourism, financial services, health care, education, communication content, and infrastructure, Greater KL-Klang, and agriculture), and agriculture, without palm oil, is estimated to have a 2.1 composite output multiplier.⁶ Since Malaysian downstream processing is

substantial, the contribution of agriculture throughout the value chain, plus primary agriculture, could reach 16–20 percent of gross domestic product (GDP).

Sixth, agriculture transformation played a determining role in poverty alleviation: The government invested heavily in agriculture and developed supportive institutions to directly address poverty and inequality. The policy is justified by dominance of rural poverty – 58.7 percent in 1970. The actions taken to improve access to land and legalizing land ownership through titling was at the core of poverty alleviation through targeted growth supporting initiatives. The process of diversification generated the sustained agro-based growth that was essential to expanding the economic pie, thus facilitating redistribution aimed at alleviating poverty. Where it did not give title to the rural poor, as in paddy areas, impact on alleviating poverty was not quick. Impact of agriculture on poverty was realized through many channels: the growth multiplier from the integration of agriculture in the wider economy through agroindustry has worked. Provision of food at a reasonable price protected the poor both in rural and urban areas. Expanding agriculture enhanced government revenue, allowing it to invest in targeted poverty alleviation projects. The government also supported a number of initiatives that are anchored on agriculture but aimed at addressing poverty; e.g, agropolitan, outgrowers schemes. Without the transformation of the agriculture sector, Malaysia couldn't have been able to drastically reduce poverty.

Policy insights from the Malaysian experience

The pivotal role of national leadership, the government, and the public sector: The role of leadership asserted itself in the formulation of long-term policies to remake the Malaysian economy and society. Malaysia's vision for nation building required growth with equity and stability. Malaysia started on its long march of transformation and inclusive growth when the government launched the New Economic Policy (NEP 1971–90). After independence (August 31, 1957) and during the earlier years (1956–70), Malaysia followed a market-centered approach to growth. The economy grew at 6 percent a year, but poverty remained widespread, and interethnic tensions ran high. The violent racial riots of May 13, 1969, were a wake-up call. The policy insight is clear: markets alone can deliver

growth, but not inclusive growth, especially in a country, such as Malaysia, characterized by dualism and by high income and wealth inequality.

Getting agriculture moving is basic to successful transformation: The government made substantial and sustained investments for decades in basic infrastructure for agriculture and the rural sector that were critical to getting agriculture moving. A substantial part of the government's revenue was invested back into the agricultural sector. In fact, in the 1970s, on average, 23 percent of the development budget was allocated to agriculture, and, in some years, for example in 1973, the share reached almost 30 percent of the total development budget. The budget allocation was also in favor of the development and capital budget relative to recurrent expenditure: the ratio between development and recurrent expenditure was close to 4:1.

Avoiding falling prey to the resource curse: Malaysia is a resource-rich country (land, petroleum, natural gas, tin, forests). The government did not squander resources, but created the Khazanah Nasional Berhad, a sovereign wealth fund with the objective of diversifying revenue sources and holding strategic assets for long-term economic benefits. History is littered with countries abandoning the agricultural sector with the discovery of petroleum or other minerals.



Value chain development as a major factor in Malaysia's agricultural transformation

Malaysia successfully pursued diversification on at least two fronts in agriculture: The country diversified away from the then dominant rubber to other high-value crops, mainly palm oil, and developed downstream activities. In palm oil, the tax on crude palm oil not only promoted domestic processing, but also attracted foreign direct investment in the refining of palm oil. In rubber, Malaysia became the largest exporter of medical latex gloves. In cocoa, Malaysia is the largest cocoa grinder in Asia, and the fifth largest in the world. The country also imports cereals and dairy products for value addition and processes foods for export. Such diversification has allowed value added per agricultural worker to be enormously enhanced -- rising from US\$6,294 in 1980 to US\$19,231 in 2016 (in constant 2010 U.S. dollars), a 206 percent increase.

The government's principal mode of diversification was value chain development (VCD). In Malaysia, VCD was pursued relentlessly in both tree crops (palm oil, rubber, and cocoa) and food crops (paddy rice and non-rice agri-food). VCD was most successful in tree crops but less successful with paddy rice and other agri-foods, except poultry. Despite the differential performance across subsectors, the contribution of tree crop value chains, including the palm oil complex (43 percent of agricultural GDP in 2016) transformed Malaysia's agriculture and agro-based industry.

Systematic, sustained diversification advanced the integration of primary agriculture into manufacturing and the broader nonagricultural economy. Agriculture indirectly contributed to employment and income generation because it supplied intermediate inputs to manufacturing and the industrial sector, including agribusinesses, food processors, and outlets, such as supermarkets. According to FAO (2019) agroprocessing contributed around 10 percent of total value added in manufacturing. Other estimates show that food processing industry alone account for "12 percent of the country's manufacturing output and is growing at a pace of roughly three percent per year."⁷

Seen from the perspective of the total agricultural contribution (including value addition along the supply

chain and processing) to the country's GDP, the share is much higher than the 8 percent reported.

The nature of the crop and the enabling policy and market environment created conditions favorable to diversification through VCD for tree crops: This was true particularly for oil palm, rubber, and cocoa, or, in general, tree crops, and policy conditions that had not existed for many operations in the agri-food subsector.⁸ Five sets of policy decisions combined to propel VCD in oil palm:

- The government's strategic diversification into palm oil and also into end products of crude palm oil
- The government policy of promoting resource-based manufacturing vigorously and attracting foreign direct investment by the late 1960s and early 1970s through the Investment Incentives Act (1968), the Free Trade Zone Act (1971), the Promotion of Incentives Act (1986), and the First Industrial Master Plan (1985–95)
- The tax on crude palm oil, which attracted foreign direct investment into palm oil refining
- The decision to maintain Malaysia as an open trade economy as in colonial times; external tariffs were modest; the mean ad valorem rate was 25 percent with narrow dispersion (Yusof and Bhattasali 2008)
- Major public investments to promote marketing abroad.

Malaysia did pick a winner in palm oil as palm oil proved to be ideally suited for diversification since palm oil can be processed into multiple end products, food and nonfood. Indeed, palm oil has been called "a miracle ingredient in everything from biscuits to shampoo" (Tullis 2019).⁹

Mission-oriented institutions critical for successful agricultural transformation

Malaysia was able to build competent, mission-oriented public institutions to support its agricultural transformation: Malaysia's experience clearly shows the critical importance of a competent public sector at federal and project levels to achieve development results. Among land development and resettlement agencies, the Federal Land Development Authority (FELDA) stands out for successfully integrating smallholders in the palm oil value chain. Commodity Boards, which in many developing countries are infamous for being extractive tools of

government, are supportive institutions in Malaysia. Another institution with substantial positive impact on smallholder incentives and income is land administration.

Monitoring and evaluation, an important tool in gauging the performance of institutions. To maintain the focus on results, Malaysian leadership periodically reviews how the institutions are performing to determine whether midterm corrections or other realignments are required and to help in planning. In 2009, for example, the government launched the Performance Management and Delivery Unit, with convening power, to work with the building blocks of the public sector to improve performance and design and implement the New Economic Model (2010–20). It identifies mid-course measures to be taken to improve performance.

Land titling, a critical national institution supporting smallholder integration and addressing extreme poverty:

The government reformed the land administration system in Peninsular Malaysia. Despite the complex institutional and legal context in land administration, it succeeded in issuing provisional and full titles to guarantee property rights and tenure security to all titleholders in Peninsular Malaysia.¹⁰ The government eventually undertook measures to enable qualified titles to be upgraded to full titles; thus, from December 2014 to June 2015, 85 percent of qualified titles in Peninsular Malaysia were converted to full titles.¹¹

Inclusiveness of agricultural transformation centered on strong smallholder support

In Malaysia, smallholders and small farmers dominate the agricultural landscape. The government's support for smallholders and small farmers is not limited to a single or a couple of approaches. The government has experimented with intervention mechanisms, including resettlement, in situ development, area development, agropolitans and agricultural parks, rural urbanization, and economic corridors. The support covers both food and commodity crops. Palm oil, especially for those under FELDA scheme, has exerted a greater impact in improving living standards among the poor. In rice-growing areas, nonfarm income is also an important contributor to the earnings of small farmers, representing 30 percent to 50 percent of income.

Food security of primary importance to agricultural transformation

Rice self-sufficiency is key to political stability and food security: As in much of the rest of Asia, Malaysia views adequate availability of rice as central to political stability, and the achievement of a high RSS level as virtually synonymous with food security. The government views the achievement of high RSS levels as a simultaneous advance on three goals: (i) **Food security:** High levels of RSS is viewed as synonymous to food security as rice occupies a central place in the diets of low-income households, a vast majority in the early decades; (ii) **Poverty reduction:** Improved equity through the poverty reduction of paddy growers, some of the poorest Bumiputera households, a priority stakeholder group; and (iii) **Stability:** Ensuring price stability and thereby solidifying social peace.

Bumiputera poverty reduction and price stability were achieved, but at a cost: Poverty among Bumiputera paddy growers in granary areas has been virtually eradicated, and extreme poverty has been reduced throughout Malaysia.¹² Paddy growers are among the bottom 40 percent of the income distribution, but that is relative, not absolute poverty (Omar, Shaharudin, and Tumin 2019). This was achieved through high transfer of resource and in fact in 2011-2013, the transfer exceeded the value of paddy production.

Malaysia's inward-looking and costly approach to food security is in stark contrast to its export oriented and profitable approach to tree crop development. Malaysia's approach is however popular in some corners of the world. But the relevance of Malaysia's experience is a cautionary tale against the approach taken for the results are not encouraging. The priority accorded to rice, especially domestic production, is currently misplaced given that Malaysia is undergoing dietary diversification: less rice consumption in favor of a more varied, protein-rich diet. It is not the narrow focus on domestic rice production that has been most instrumental in promoting food security: it is the entire strategy and implementation of inclusive growth through diversification which has transformed Malaysia from a poor country to an upper-middle-income country in a span of five decades or so.

The non-rice agri-food subsector: remaining challenges despite some achievements due to key structural weaknesses, including: (i) uneconomic sizes of farms,

which constrain mechanization; (ii) tenancy problems on most fruit and vegetable farms; (iii) limited access to R&D and infrastructure; and (iv) inadequate institutional support from cooperatives because of a lack of entrepreneurship; this exacerbates the weak bargaining power in the non-rice agri-food subsector relative to other large-scale market participants, such as millers and traders.

Lessons learned

The time period required for agricultural transformation is shorter if the correct policies are adopted and fully implemented. Historical experience shows that earlier transformers required more than 100 years (for instance, the Netherlands and the United Kingdom) or close to 100 (Japan and the United States). Post-World War II transformations are taking around 50 years or less (for example, the Republic of Korea and Malaysia). So, countries involved in agricultural transformation should take heart from the understanding that transformation can be achieved in a relatively short time relative to the earlier generation of transforming economies.

Table 1.1. Malaysia's agricultural structural transformation was relatively rapid

Country	Agricultural share of GDP			Agricultural share of employment		
	Year of 40%	Year of 7%	Years required	Year of 40%	Year of 16%	Years required
Netherlands	1800	1965	165	1855	1967	102
United Kingdom	1788	1901	113	1800	1868	68
United States	1854	1950	96	1897	1950	53
Japan	1896	1969	73	1940	1971	31
China	1967	2016 (8.6%)	>45	2007	2016 (27.8%)	>9
Korea, Rep.	1965	1991	26	1977	1991	14
Malaysia	1960 (43.7%)	2017 (8.8%)	>57	1980 (37.2%)	2000/01 (18.4/15.1%)	20/1

Source: Computed from WDI

Markets alone cannot deliver on agricultural transformation and inclusive growth: To get agriculture moving, a sustained level of investment is needed. Unlike the rule-of-thumb approach that prescribes for a 10 percent government budget allocation to agriculture, at the early stage of transformation and until the private sector starts to engage substantially, the government has to do the heavy lifting by committing substantial resources. Malaysia's experience indicates that during the earlier stage of transformation at least 20 percent of the budget was allocated to agriculture.

Structural problems in agriculture cannot be effectively addressed solely through a subsidy and import substitution approach: The contrast in policy approach to agri-food as import substitutes versus tree crops as exports have resulted in different outcomes. The current import-substituting approach to food security does not address the structural forces facing the agri-food sector, for example, limited land size; growth and evolution in demand patterns driven by population; urbanization and income growth; dominance of a few agri-food supply chains; and expansion of supermarkets. Instead of addressing these profound structural changes, the emphasis has been on increasing self-sufficiency in mass consumption food items to reduce Malaysia's vulnerability to volatile imports.

High population growth does not necessarily undermine agricultural transformation: In an environment of increasing population, engaging agriculture to reach higher phases of transformation, particularly the surplus creation stage, is even more demanding because there are more people to feed and more labor to employ. The significant budgetary support to agriculture has helped develop both intensive and extensive agriculture, thus employing the growing population until the additional labor has been able to migrate to the expanding manufacturing and service sectors.

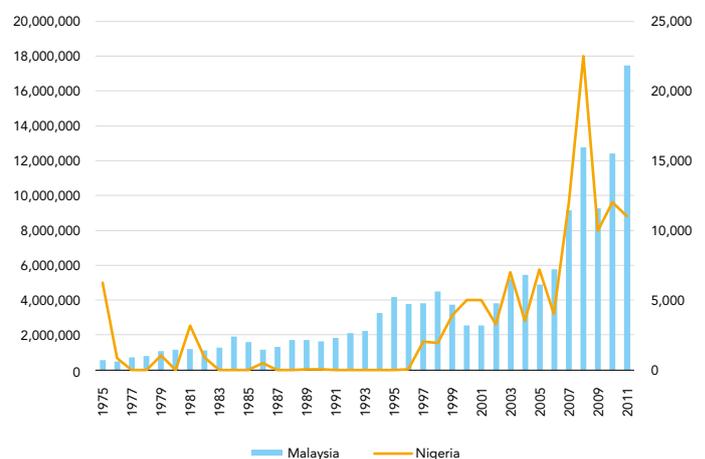
Countries with more open trading regimes have transformed more quickly: Experience shows that countries with a relatively open trading system have fared better during transformation: France through the enlarged common market of the European Union, Chile through free trade agreements that reach 80 percent of the world population, and Malaysia through trading arrangements.¹³ As a result, agricultural transformation occurred relatively more quickly in these countries than in Indonesia, for example. For Malaysia, adopting an open economy policy was critical given the limitations imposed by the size of the domestic market. Trading allowed the agricultural sector to expand by keeping pace with growing global demand, which provided the opportunity for agricultural firms to reach economies of scale, improve competitive efficiency and quality, win market share, and meet international standards. International trade has promoted the transfer of knowledge and the flow of foreign direct investment, which have both contributed to accelerating transformation.

The nature of the crop and the overall policy environment do indeed matter: It is striking that in Malaysia tree crop value chains, namely palm oil, rubber and cocoa have fared

well and much better than the paddy rice value chain. On one hand this difference can be explained by the difference in the policy and marketing strategy within which value chains operate. It is also true that some tree crop products possess specific characteristics that make them suitable for value addition and processing into different consumer and industrial products. Tree crops, in most cases, are high-value products with returns greater than annual crops. The other major difference relates to the fact that tree crop subsector operates in an export-oriented framework, within which being internationally competitive is essential to thrive. The agri-food subsector operates in an inward-oriented, highly protected environment. The experience in Malaysia demonstrates that trade protection is not necessarily an effective support for efficient development. This comparison again shows that the enabling policy and institutional environment in terms of public investment, the incentive structure, and competitiveness, and the legal and regulatory framework do matter.

Value chain success is not entirely due to their direct link to global or domestic market structure. A determining factor is the policy environment within which value chains operate, and in particular, how smallholders are integrated into the system. Consider the case of Nigeria on policy commitment: Nigeria had a palm oil sector well linked to the global market and has earned the country up to 20 percent of all its foreign exchange earnings. Until 1965 Nigeria was earning more from foreign trade than Malaysia. By 2016, the difference cannot be starker. Malaysia received 1,259 times more foreign exchange earnings than Nigeria during the same year (see Figure 2 below).

Figure 2. Palm oil exporting earnings – Malaysia and Nigeria (US\$000)



Note: Left side column figure refers to Malaysia. Source: Computed from FAO STATA

Malaysia's agricultural transformation benefited both from the green revolution and the recent tropical oil crop revolution:¹⁴ The green revolution resulted in production and yield increases, mainly in rice, because of the use of high-yielding varieties and double cropping, following the development of irrigation. Palm oil cultivation expanded much more, on average, almost double and, in some cases, almost triple the green revolution levels. The combined effect of these two revolutions generated sustained growth and poverty reduction in Malaysian smallholder agriculture.

Institutions are critical to realizing agricultural transformation: While most institutions in Malaysia are of the traditional type, such as ministries and research agencies, Malaysia also built institutions that are fit for purpose. Probably the premier institution in this category was FELDA. Other institutions specialized in tree crops are FELCRA, RISDA, and the Sarawak Land Consolidation and Rehabilitation Authority. For in situ development, a number of authorities were created with defined geographic area coverage such as the Muda Agricultural Development Authority (MADA) and the Kemubu Agricultural Development Authority (KADA). Further, Malaysian institutions, specifically agricultural commodity and crop boards are supportive not extractive institutions. The list is expansive, but the lesson is clear: agricultural transformation will require implementation by fit-for-purpose institutions in smallholder support, area development, rehabilitation and replantation, marketing, or crop-based specialization (for instance, commodity boards).

Key considerations in advancing Malaysia's agricultural transformation

Going forward, the main policy issue facing the government is the sort of agricultural transformation that should be sought as part of the stated goal of reaching high-income status: To reach the fourth stage of agricultural transformation, the authorities need to consider a number of scenarios, as follows: (i) agriculture with a stable farming population; (ii) agriculture with the farming population at a level comparable with high-income countries, that is, less than 10 percent of the total population or even less than 5 percent; (iii) transformation whereby small and medium towns become dynamic centers of economic activity aided by technology infusion both to farming (to reduce labor demand) and local processing (to provide job opportunities to small farmers moving to urban areas). The choice of policy will inevitably have major ramifications for the income differential between rural and urban sectors. Some insightful lessons are included in the main report from France and Korea. At the highest stage of agricultural transformation, income differentials between agriculture and other sectors disappear. In some countries, the median household income is higher among agricultural households than among households in other sectors as a reflection of higher productivity in agriculture relative to nonagriculture.

A reorientation of food security and agri-food subsector policy is needed: The lack luster performance of the rice



and non-rice agri-food subsector in comparison with the tree crop subsector shows that a fundamental rethinking and reorientation of Malaysia's policy approach is required. The government's approach to food security has to be reoriented from protecting rice as the main consumption staple of a poor, low-income country to adopting an export-oriented approach (which has worked so well in tree crops) to make the agri-food subsector internationally competitive in an increasingly globalized world economy. Rather, at issue for the government is the need to reconsider how to achieve food price stability cost-effectively: how best to balance the desire to obtain 100 percent domestic production through trade protection and the need to complement the advantages of trade with efficient domestic production.

As consumer preferences change, more demand-side interventions are needed: At earlier stages of agricultural transformation, the focus was on the supply side to produce adequate food to feed the growing population. Transformation has, however, generated fundamental changes in consumption patterns in Malaysia and elsewhere; particularly in consumer preferences for more ultra-processed foods and the trend in eating habits to take meals away from home and perhaps also with high sugar content. This has inflicted massive public health costs associated with noncommunicable disease, productive hours lost, and other negative effects on productivity. A pure market solution is not forthcoming, at least in the short run. Educated and informed consumers play a critical part through their demand for healthy foods. There is thus an important role for the public sector in enhancing awareness and educating the public to demand healthy foods. The government has to utilize its regulatory power and partner with private producers and processors.

Transfer of lessons and models available within Malaysia to lagging subsectors and regions: One important aspect of Malaysian experience in agricultural transformation is government's readiness to try different models of interventions. The FELDA model demonstrates clearly the government's willingness to try a new model and build on it. Integrated rural development programs, development corridors, agricultural parks, Halal, small town development, millennium villages, outgrower schemes, and agro-youth entrepreneurs are some of the intervention mechanisms that have been implemented. They clearly show the depth of experience Malaysia has accumulated in the last 60-plus years. Some have had outstanding impact; some have struggled; and the results of some have been

below expectations. It is well known that all regions in a country and all subsectors in agriculture do not transform at equal speed. The various models that have been tested shed light on the design of future interventions in lagging regions and subsectors.

Agriculture in Malaysia needs to reach a level of productivity commensurate with high-income status:

The essence of agricultural transformation is the sustainable growth and enhancement of productivity. Key among the steps to be taken are narrowing the productivity difference between smallholders and estate farms and across regions; realizing the full potential of agriculture; and recording productivity that is comparable with productivity in high-income countries. As of 2017, agricultural value added per worker in Malaysia was 45 percent of the average among high-income countries. Investment in research should be accelerated. The advent of the fourth industrial revolution makes the need to enhance intensity in agricultural research more pressing. Improvement of skills at all levels commensurate with new technology needs will be required to support productivity enhancement and diversification.

Diversification is unfinished agenda: Expansion of agricultural land was one of the factors that has contributed to the growth of agriculture. Commodity crops dominate (palm oil accounts for more than 70 percent of the cultivated area), and therefore diversification seems to have reversed and it remains as an unfinished agenda. Malaysia's achievement in diversification is more at downstream level than at upstream; the country has developed world-class research and processing capacity but in a limited number of crops.

From agricultural transformation toward rural transformation:

Governments at all levels are striving to create income-generating livelihood activities to spur economic development in diverse localities. Settlement patterns have evolved around clusters in small towns and in peri-urban and urban areas. The growth prospects of agriculture and the rural space are highly intertwined and interlinked and therefore should be treated as a system. Such a holistic approach recognizes that agricultural transformation at this stage of development requires a package of economy-wide interventions. Policy directions should therefore strive toward rural transformation through a holistic approach to revitalize a given geographic area with the aim of treating rural space as an economic entity composed of different sectors wherein agriculture plays a major role.



A shift from extensive farming to an environmentally and socially sustainable intensive farming system:

There are four areas that raised environmental and social concerns, mainly related to palm oil: (i) loss of biodiversity through the expansion of plantations in areas considered biodiversity hotspots, such as the Sundaland;¹⁵ (ii) customary land rights and the land grabs that are affecting indigenous communities and ethnic minorities; (iii) greenhouse gas emissions, especially methane from palm oil mill effluent: the most common method of dealing with the effluent is to discharge it into open ponds or lagoons, which is usually favored because it is the least costly solution (the private cost only); and (iv) labor rights and disputes involving laborers, who are often poorly housed and experience poor living conditions and who point to violations of basic international labor norms. The government is aware of the challenges that this nexus of sustainability issues poses. Progress has been made on some plantations. However, there is a need to brand Malaysian palm oil as a custodian of sustainable management. As the reliance grows on intensive agriculture, especially through the support of smart agriculture, some of these concerns can be addressed as long as the government continues to use its convening power, discharge its regulatory duties, and utilize incentives for sustainable management. All producers must realize that sustainable management promotes a substantial gain in productivity.

Climate change poses a critical challenge for future agricultural sector performance:

Weather phenomena and climate change have a history of negatively affecting the agricultural sector of Malaysia. For instance, the recent El Niño phenomenon has been considered the main factor in a fall in oil palm production. Climate change will have

a major impact by reducing productivity. With this risk looking in the background, the multifunctionality of the various agricultural systems needs to be defined more clearly to allow the country to craft a transformational adaptation strategy in response to climate change. The government is fully cognizant of the problem and has adopted important measures, but needs to build on its actions as new evidence and technologies appear in support of adaptation toward climate smart agriculture.

No country has made a transition to high-income status without successful agricultural transformation:

“Not taking advantage of the transformative role of agriculture slows and delays economic transformation to the detriment of the growth rate, poverty reduction, food security, and the broad welfare of urban and rural people.”¹⁶ Thus, at the heart of a country’s economic structural transformation is agriculture. Failure to ensure successful agricultural transformation is tantamount to postponing (or delaying, at best) the overall economic transformation, exposing the whole economy to the risk of the middle-income trap. It would also limit the capacity to reduce dualism; address inequality between rural and urban, on one hand; and agriculture and other sectors, on the other; thereby increasing the risk of sociopolitical instability. The need to continue on the journey that Malaysia started some 60-years back: for building on the remarkable achievements made thus far is not an option, but a necessity.

Please contact Samuel Taffesse, the lead author of this report, at staffesse@worldbank.org if you have questions or comments with respect to content.

Notes

1. ILO data retrieved Sept 2018 by WDI, <https://data.worldbank.org/indicator/sl.agr.empl.zs>.
2. Ahmad, Tengku Moyd Ariff Tengku and Chubashini Suntharalingam. "Transformation and Economic Growth of the Malaysian Agriculture", in *Economic and Technology Management Review*, Vol. 4 (2009): 1-10
3. Rasiah, Rajah. 2011. "Industrialization: I. Industrialization and Export-Led Growth; II. MIDA: Sustaining the Momentum of Success, Malaysian Investment Development Authority." Ch. 6 (147–80; 181–202) in *Malaysia: Policies and Issues in Economic Development*, Institute of Strategic and International Studies, Kuala Lumpur.
4. Data of WDI (World Development Indicators) (database), World Bank, Washington, DC, <http://data.worldbank.org/products/wdi>. Here, gross domestic product (GDP) per capita is calculated in constant 2010 U.S. dollars.
5. For example, Sime Darby, which made its fortune in agriculture, invested first in agribusiness and then in car manufacturing, heavy equipment dealerships, supermarket franchising, health care, logistics, media, retail, and renewable energy in Malaysia and across the Asia and Pacific region, while continuing to invest in its primary palm oil and rubber industry businesses. Sime Darby is now a transnational corporation and is not alone in reaching such a level with roots in the agricultural sector. The website is at <http://www.simedarby.com/>.
6. Ahmad Fuad, Siti Nadiah, and Ahmad Fauzi Puasa (2011), "National Key Economic Area Multiplier Impact on Malaysian Economy: An Input-Output Analysis," *International Journal of Management Studies* 18 (Special Issue): 34–58. Composite means the sum of direct, indirect, and induced output changes resulting from a one-unit output change.
7. <https://www.export.gov/article?id=Malaysia-Agricultural-Sector>.
8. Sultan Nazrin Shah (2019), *Striving for Inclusive Development: From Pangkor to a Modern Malaysian State*, Kuala Lumpur: Oxford University Press. The choice of what commodities to pick also matter a lot for poverty reduction, but not in a uniform fashion. Local circumstances matter at least as much as the nature of commodity production.
9. Tullis, Paul, (2019), "How the World Got Hooked on Palm Oil," *Guardian*, February 19, <https://www.theguardian.com/news/2019/feb/19/palm-oil-ingredient-biscuits-shampoo-environmental>.
10. The Torrens title system of land registration was introduced in Malaysia by the British and is the tenure system implemented by the National Land Code (1965). The code provided a uniform system of tenure for the nine Malay States on Peninsular Malaysia and the Federal Territories. There is a separate legal basis for land tenure in Sabah and Sarawak, which have different land administration structures.
11. World Bank (2017), "Enhancing Public Sector Performance: Malaysia's Experience with Transforming Land Administration," Global Knowledge and Research (November), Malaysia Development Experience Series, World Bank, Washington, DC, <http://documents.worldbank.org/curated/en/928151510547698367/pdf/121243-REVISED-World-Bank-Report-06-Land-Administration-FA-FULL-Web-V2.pdf>.
12. Granaries are areas dedicated to paddy rice production. There are 10 granaries. They represent the hub of paddy production in Malaysia.
13. The comparator countries are Chile, France, and Indonesia.
14. The term tropical oil crop revolution was coined by Byerlee, Derek, Walter P Falcon, and Rosalind L Naylor (2016, Oxford University Press). The revolution has brought major improvements in living standards and in poverty reduction. In contrasting between the two agricultural revolutions, they noted rice production increased by 84 percent; wheat 162 percent during 1965-1985 green revolution, while the comparable figure for oil palm was an increase of 300 percent in 1990–2010.
15. The Sundaland comprises over 17,000 islands belonging to both Malaysia and Indonesia; the two largest islands are Borneo and Sumatra; see <https://enviroliteracy.org/ecosystems/hotspots-of-biodiversity/sundaland/>.
16. The quotation is on page 12 of Mellor, John W. (2017), *Agricultural Development and Economic Transformation: Promoting Growth with Poverty Reduction*, Palgrave Studies in Agricultural Economics and Food Policy Series, New York: Palgrave Macmillan.

