

AGRICULTURAL DEVELOPMENT, RURAL POVERTY, AND INCOME DISTRIBUTION IN THAILAND

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I. INTRODUCTION

THE importance of agriculture in the economic development of most developing countries is well-known and can hardly be overemphasized. In a dualistic economy where agriculture forms a large but backward sector while commerce and industry form a smaller but more progressive sector, the economic development is usually perceived as a transformation of the country from a predominantly agricultural economy to a predominantly industrial economy.

Classically, for such a transformation to take place, agriculture must have fulfilled several objectives: it must increase the provision of food for a growing industrialized sector; it must release some of its labor force to work in that industrialized sector; it must provide capital mainly in terms of export earnings to the economic transformation. It was argued that the agricultural sector can cope with these objectives through programs that raise agricultural productivity, and through limiting the size of farm population.

Paauw and Fei [18] further expanded the dualistic economic development model to include openness of the economy. The basic dualistic structure of the economy consisting of agricultural and nonagricultural sectors remained the same, but the characteristics of each sector had changed. The industrial sector now takes care of the land-based primary exports and provides commercial services to facilitate these exports which are largely conditioned by foreign demand, whereas the agricultural sector remains stagnant due to low productivity and other unfavorable conditions. The process of growth under this setting is called "transition growth" whereby the agricultural sector is required to be integrated with the industrial sector by means of the growth and development of indigenous factors of production (entrepreneurship, skilled labor, and capital), industrialization, and the modernization of traditional agriculture. Such a process of transition will move the economy through three distinct phases, namely, import substitution, export promotion, and export substitution. Note that modernization of traditional agriculture is again regarded as a precondition for transition growth.

The foregoing should suffice to demonstrate the significance of agriculture in bringing about the growth and development of the whole economy. But what is often neglected or taken for granted is the welfare conditions of farmers, particularly in the early periods of the development process. Farmers have been known to suffer the inequality of income distribution for the sake of promoting

the nonagricultural sector. Eventually, however, the farm sector may catch up with the rest of the economy when a certain level of development is attained. But in actuality that could take a long time and erode the patience of the disadvantaged. This is one of the major reasons why it is crucial to pay more attention to the problems of income distribution as a result of agricultural policies.

The major aim of this paper is to investigate the nature, the courses, and contribution of agriculture in the economic development of Thailand in general, and the relationships between agricultural development and rural poverty and income inequalities in particular. First, the paper will discuss the patterns and trends of poverty and income distribution in Thailand from 1962/63 to 1981. These periods coincided with the implementation of the First Economic Development Plan through the fourth plan. The changes in poverty and income distribution during those periods could thus be construed as being substantially influenced by national economic development policies. Secondly, agricultural development will be singled out as one of the most important contributions to national development, and its development path analyzed and discussed as to its role in shaping the existing patterns and trends of poverty and income inequalities mentioned earlier. Finally, the relationship between agricultural development, rural poverty, and income inequalities will be further discussed to see whether the absolute and relative poverty in Thailand could be explained by certain features of the past and present agricultural development or agricultural policies.¹

II. POVERTY AND INCOME DISTRIBUTION IN THAILAND: PATTERNS AND TRENDS

In the past decade or so, there have been several studies on poverty and income distribution in Thailand.² Between the two, the interest in the problems of income distribution appeared to be greater than that of poverty in the past, although today the opposite may be true. However, both problems deserve equal attention as desirable economic development should be that which reduces both absolute and relative poverty.³ In what follows, the paper discusses the patterns and trends of poverty and income distribution in Thailand in order to see the nature of the changes which have been brought about in more than twenty years of systematic economic development.

A. *On Poverty*

Poverty could be defined as a standard of living under which basic minimum food requirements and other human needs are not met. Since those basic needs

¹ It should be mentioned at the outset that the last part of this paper can offer only a tentative account of the role of agricultural development in rural poverty and income inequalities. The causal relationships between agricultural development and rural poverty and income disparities are very complex and cannot be adequately treated in a short paper such as this one.

² For studies on poverty see, for example, Krongkaew [11], Meesook [15].

³ By relative poverty is meant the disparities or inequalities in individual or household income distribution.

TABLE I
INCIDENCE OF POVERTY BY REGION AND AREA, 1962/63, 1968/69, 1975/76, AND 1981
(%)

Region and Area	Poverty as % of Population			
	1962/63	1968/69	1975/76	1981
North	65	36	35	23
Urban	56	19	31	23
Rural	66	37	36	23
Northeast	74	65	46	36
Urban	44	24	38	36
Rural	77	67	48	36
Central	40	16	16	16
Urban	40	14	20	24
Rural	40	16	15	14
South	44	38	33	21
Urban	35	24	29	18
Rural	46	40	35	22
Bangkok	28	11	12	4
Whole kingdom	57	39	33	24
Urban	38	16	22	16
Rural	61	43	37	27

Source: Estimates for 1962/63, 1968/69, and 1975/76 were from Meesook [15] and World Bank [5]. Estimates for 1981 were obtained from the 1981 Socio-Economic Survey data tape.

can be translated into money terms (how much is required to provide for those basic needs?), we can use individual or household income as an instrument or bench mark to identify the poor. As the success of economic development is measured in part by the increase in personal as well as national income, successful economic development must, as a rule, be accompanied by a reduction in poverty between two points of time. Following this line of argument, what could be said about the success of economic development of Thailand in the area of poverty reduction?

Available records have shown quite conclusively that since the early 1960s when Thailand entered the era of modern, systematic economic development, a great deal of income has been generated throughout these twenty years, which has resulted in a continuing decline in the proportion of persons or households having personal or household incomes lower than specified poverty lines in almost all regions and areas of Thailand. The evidence is shown in Table I.

Table I presents the proportions of population living in poverty in 1962/63, 1968/69, 1975/76, and 1981. These were the years in which household income and expenditure surveys were conducted by the National Statistical Office which provide data bases for the computation of this poverty incidence. The incidence of poverty is classified into five regions within whole kingdom, and within each region (except Bangkok) it is further classified into urban and rural areas.

The poverty lines used here were those specified by Meesook [15] and the World Bank [5]. In 1975/76 price, the poverty cutoff income for the poor in

rural areas (for all regions) was set at 1,981 baht per person per year, and those in urban areas (again for all regions) at 2,961 baht per person per year. Based on these 1975/76 poverty incomes, the amounts were deflated to cover 1968/69 and 1962/63 as well.⁴ As for 1981, the 1975/76 poverty income was adjusted upward to reflect the inflation rate in the intervening five years.

For Thailand as a whole, the proportion of the population under poverty in 1962/63 was estimated at 57 per cent. Separated into urban and rural areas, it can be seen that the former had a lower incidence of poverty than the latter, that is to say only 38 per cent of urban population were classified as poor, compared to 61 per cent for the rural population. Overall this incidence of poverty was quite high, but it was much higher when each region was considered individually. For example, in the Northeast, long well-known as the poorest region in the country, almost three-fourths of total population in this region were judged poor under the World Bank criteria. The North fared a little better with 65 per cent while the South and the Central had less than half of their population under poverty in 1962/63. As expected, the population of Bangkok was the least poor, with only 28 per cent so classified in 1962/63. Again, as expected, the people in the rural areas were more likely to be poor than their counterparts in the urban areas, with an exception for the Central Region.

From 1962/63 onward the poverty incidence in Thailand began its secular decline as the national economy surged forward at a rate of about 8 per cent per annum between 1960 and 1970, and 7 per cent per annum between 1970 and 1980. For the whole kingdom, the proportion of the poor fell from 57 per cent in 1962/63 to 39 per cent in 1968/69, 33 per cent in 1975/76 and finally to 24 per cent in 1981. This secular trend was also true for the people in rural areas as a whole who formed the majority of the Thai population. But for poverty in urban areas, the result in Table I showed a big dip in 1968/69 and a swing back to higher level in 1975/76 before taking another dip in 1981. Most likely this was more a result of a change in the use of definition for urban and rural areas than the actual poverty changes.⁵

Across regions, the trend in poverty reduction was equally impressive. Bangkok region had the highest poverty reduction rate between 1962/63 and 1981, that is from 28 per cent to 4 per cent. This is one of the indications of how Bangkok as a region benefited from the outcome of almost twenty years of rapid development. The poverty situation in the Central Region remained stable at around

⁴ In 1962/63 was the first year that an extensive and comprehensive household income and expenditure survey was conducted by the National Statistical Office. This was quite appropriate as the modern era of Thai economic development was believed to have started in 1961 with the launching of Thailand's First National Economic Development Plan. Among other things, the 1962/63 income and expenditure data would give the first observation point of a long-term trend.

⁵ As urban areas in the 1968/69 survey were defined as municipal areas alone, while sanitary districts were classified as villages or rural areas, it appeared that the figures for both urban and rural areas understated the true poverty in each area. An upward adjustment of, say 10 percentage points for incidence of urban poverty for the whole kingdom would not be excessive.

16 per cent between 1968/69 and 1981, whereas the North, the South, and the Northeast all had experienced substantial reduction in poverty incidence. In 1981 which is the latest year in which comprehensive data are available for poverty computation, the Northeast was still shown to be the poorest region followed by the North, the South, the Central, and Bangkok in descending order. Three interesting points should be further noted: (1) the order of poverty by region was unchanged in 1981 as in 1962/63; (2) rural poverty both in the North and Northeast had improved relative to urban poverty as it can be seen that the proportions of the poor in the total population in rural areas were now the same as those in urban areas; (3) the proportion of urban poverty in the Central increased (rather than declined) from 14 per cent in 1968/69 to 20 per cent in 1975/76 and 24 per cent in 1981.

In all, the number of the poor in Thailand was reduced proportionately as well as absolutely between 1962/63 and 1981. To compare the absolute number of the poor in these two periods, Thailand started with about 16 million poor persons (that is 57 per cent of the total population of about 28 million) in 1962/63, and ended up with about 11 million poor persons (24 per cent of 46 million) in 1981. The development policies in Thailand have thus been successful in this regard.

B. *On Income Distribution*

The distribution of income can be used as a measure of relative poverty. A person can be judged "poor" in a relative sense if he is much worse off than all others in the society in which everyone has attained all basic needs and cannot be called poor in the absolute sense of the word. A society having a very unequal income distribution but where no one is absolutely poor is to be preferred to the one which has both absolute and relative poverty. However a good economic development policy would aim to attain both the elimination of absolute poverty and the reduction in income inequalities.

Despite the fact that in the process of economic development, the income inequalities may get worse before they get better as the economy is attaining a higher and higher level of national income, it does not mean that this phenomenon is absolutely inevitable or unavoidable. Even if it were, one can still find ways to hasten the process thus reducing the pain and suffering of inequalities, or provide appropriate cushions for such pain and sufferings. Therefore, frequent or constant monitoring of income inequalities is still necessary under the situation of declining absolute poverty as in the case of Thailand.

Up until the early 1970s, that is after about one decade of modern economic development, most studies had shown that household and personal income distribution had become more unequal.⁶ But when the results of the 1975/76 socioeconomic survey came out which showed the overall income positions of the Thai households in a very good light, a great sense of good tiding pervaded academic and administrative circles. It was generally accepted that the present

⁶ See particularly, Wattanavitukul [20], Krongkaew [12], and Chiswick [2].

development policies had brought about both growth and equity. In an influential study by Meesook comparing changes in income and poverty situations from 1962/63 to 1975/76 she concluded that

economic growth has been accompanied by a reduction in regional and urban-rural disparities in household incomes and in the proportion of the poor population in the total. Moreover, to the extent that the reduction in disparities originates from direct improvements in the agriculture sector, then we have not witnessed any trade-off between economic growth and equity. [15, p. 10]

This optimistic, positive conclusion was questioned by a few other researchers,⁷ but no firm proof was possible until the 1981 socioeconomic survey was completed and the data tape of the results became available to some researchers. Rueda-Sabater [19] with the cooperation of Krongkaew and Tinakorn had made use of the 1981 data tape and compared the corresponding results with those from 1975/76 data tape. These interesting results are now presented in Table II.

The extent of income inequalities is measured by the Gini coefficient, one of the most well-known measures of income distribution.⁸ The classification of population by region, area, and period of study was exactly the same as the studies on the incidence of poverty in Table I. In Table II, it can be seen that the Gini coefficient of the distribution of total individual income, that is money income plus income-in-kind, transferred income and imputed rent, for the whole kingdom was about 0.414 in 1962/63. This inequality was quite large but not excessively large when compared with the inequalities in some Latin American countries which may go as high as 0.6 or more. This national Gini coefficient can be broken down into urban coefficients and rural coefficients which, in 1962/63, were estimated to be 0.405 and 0.361 respectively. Within each region, the income inequalities were smaller than the national figure. This is mainly because there were general income disparities between urban and rural areas which increased the Gini coefficient when the urban and rural population were pooled together.

The inequalities of income for the whole kingdom continued to increase from 0.414 in 1962/63 to 0.429 in 1968/69 to 0.451 in 1975/76, and finally to 0.473 in 1981.⁹ The trend of these Gini coefficients hardly leaves any doubt that the distribution of income has become worse as time passes. The rate of

⁷ See Islam [10], and Krongkaew and Chamrathirong [13].

⁸ There are, of course, several more measures of income inequalities but only Gini coefficients are used here despite the crudeness of these indices in not showing the income movements among subgroups of population. As it will be shown later, the changes and trend of income distribution in Thailand were so clear as to leave little doubt about the validity of the use of these Gini coefficients.

⁹ It should be mentioned here that there was another nation-wide socioeconomic survey conducted by the National Statistical Office in 1971/73, but this survey had a lot of problems with its income data: household incomes were shown to be unjustifiably lower than the previous survey, especially among the lower income groups. This had resulted in a very high inequality estimate as well as other unusual results. We decided not to include this survey in our study.

TABLE II
 INDICES OF INCOME INEQUALITY BY REGION AND AREA, 1962/63,
 1968/69, 1975/76, AND 1981

Region and Area	Gini Coefficients			
	1962/63	1968/69	1975/76	1981
North	0.359	0.370	0.422	0.456
Urban	0.460	0.440	0.453	0.462
Rural	0.308	0.345	0.368	0.422
Northeast	0.344	0.379	0.405	0.438
Urban	0.422	0.450	0.457	0.456
Rural	0.264	0.347	0.343	0.395
Central	0.391	0.401	0.399	0.430
Urban	0.384	0.399	0.425	0.445
Rural	0.375	0.392	0.376	0.418
South	0.402	0.401	0.449	0.456
Urban	0.360	0.450	0.465	0.443
Rural	0.370	0.325	0.402	0.426
Bangkok	n.a.	0.412	0.398	0.405
Whole kingdom	0.414	0.429	0.451	0.473
Urban	0.405	0.429	0.435	0.447
Rural	0.361	0.381	0.395	0.437

Source: Estimates for 1962/63 and 1968/69 were from Meesook [14] and Watanavitukul [20]. Estimates for 1975/76 and 1981 were obtained from 1981 Socio-Economic Survey data tape.

this worsening of income distribution, measured from the change in the size of Gini coefficients, seems to be continuously increasing. Between 1962/63 and 1968/69, for example, the distribution of income worsened at a rate of about 0.6 per cent per annum, compared to the rates of 0.7 and 0.8 per cent, respectively, for the following two periods.

On a regional basis, the South was shown to have the highest index of income inequalities in 1962/63, followed by the Center, the North, and the Northeast. In 1981, however, the situation had changed somewhat. The South was still shown to be the most unequal region, but this position was now shared by the North. Bangkok region was shown to have the lowest income inequalities since 1975/76, but one should be cautioned that the existing estimate could understate income inequalities as the top income groups in Bangkok were likely to be under-represented.

In sum, the estimates of income inequalities for the Thai population as shown in the form of Gini coefficients had indicated quite conclusively that the income distribution in Thailand had become more unequal as the country continued on its economic development path. There is no logical contradiction at all in the findings that the poverty in Thailand is decreasing as its income inequalities are increasing, as we have tried to point out earlier.

III. THE DEVELOPMENT OF THAI AGRICULTURE: PAST AND PRESENT

A. *Agriculture at the Beginning of the First Plan*

Agriculture in Thailand at the end of 1950s was still characterized by its heavy concentration on rice production and export. The importance of rice to the Thai nation was so great that Thailand is often called "a rice-growing society" or "a land of rice."¹⁰ In 1958, rice farming occupied more than 70 per cent of the total cultivated area, and accounted for about 40 per cent of the total value of agricultural output. Moreover, at that time, probably up to two-thirds of the entire population earned a living from rice farming. The rice surplus provided nearly half of Thailand's export earnings, and various tax revenues from rice constituted a major source of income for the government.¹¹

Apart from rice, other agricultural commodities included rubber, teak, and some upland crops such as maize, cassava, kenaf, and sugarcane. These crops or products were oriented toward export more than domestic consumption, but their overall export values were still far from matching the significance of rice. The upland areas were still much undeveloped whereas the lowland rice areas began to receive water services from several large-scale irrigation projects, particularly in the Central Plain. Irrigation at that time was still the main feature of the Central Plain agricultural development, a feature which seemed to be relatively lacking in other regions. Apart from irrigation services for some farmers, other agricultural support services were sparse and primitive. Most farmers, rice as well as upland crop, operated very much on their own with little help on seed improvement, cheap fertilizers or pest and disease control.

When the government launched its First National Economic Development Plan, what it said about agricultural policies was that it would "concentrate on the increase of efficiency and volume of agricultural production." The main emphasis of this first plan appeared to be providing economic bases for future development through construction and procurement of infrastructures.

B. *Agricultural Performances, 1960-80*

It was quite obvious at the end of 1950s that agricultural development in its existing form then could not cope with problems and expectations of the next decade and beyond. These are just a few of the problems about Thai agriculture at the end of 1950 mentioned by the World Bank mission:¹²

1. The basic difficulties in the problem areas of the Northeast and the means for dealing with them had barely been analyzed;
2. The large economic opportunities in the South, especially through rehabilitation and expansion of the areas of rubber production, were largely neglected;
3. Efforts to increase rice yields were concentrated mainly on irrigation works,

¹⁰ See Ishii [9].

¹¹ See World Bank [4].

¹² See World Bank [4, pp. 11-12].

TABLE III
AGRICULTURAL GDP GROWTH, BY SUBSECTOR (IN CONSTANT PRICES)

	Subsector Share in Agricultural GDP				Annual Growth ^a		
	1960	1970	1975	1980	1960-70	1970-75	1975-80
Crops	74	70	70	73	4.7	5.2	3.3
Livestock	14	11	14	13	3.5	7.6	5.5
Fisheries	3	12	10	9	20.7	4.7 ^b	-3.1 ^c
Forestry	9	7	6	5	4.1	2.9	0.3
Total	100	100	100	100	5.5	5.1	3.5

Source: World Bank [6].

^a Semi-log time trend regressions: 1960-70 is at 1960 constant prices and 1970-80 is at 1972 constant prices.

^b 1970-77.

^c 1977-80.

without sufficient attention to improvement of the research and extension services necessary to help the farmer make the most of his land and water resources;

4. Regulations to protect forest resources and watershed areas have gone un-enforced.

Thus a major change in agricultural development was indicated. According to the analysis by the World Bank [6], the agricultural development of Thailand between 1960 and 1980 could be divided into three phases: (a) 1960-70, (b) 1970-75, and (c) 1975-80. Salient features of agricultural development during these three periods are shown in Tables III, and IV.

From Table III, it was shown that during the 1960s, the volume of agricultural production increased at a rate of 5.5 per cent per annum, which was quite high by international standards. This was partly a result of policies to accelerate highway construction which increased the accessibility of much of rural Thailand, and partly a result of the farm population responding to opportunities to expand their holdings in order to grow rice mainly for subsistence and maize and kenaf for cash income. In terms of the expansion of farm holdings, almost two-thirds took the form of expansion in paddy land (see Table IV).

The World Bank [6] called the decade of 1960 the "capacity acquisition" phase in crop production. Since the expansion of farm holdings at 4.1 per cent per annum was faster than the growth of planted area at 3.6 per cent, there existed a considerable excess capacity by 1970 with the cropping intensity¹³ estimated at about 69 per cent. Although the terms of trade worked against agriculture during this period, the rapid growth of production enabled the real value of agricultural production to increase at an annual rate of 4.8 per cent, and from Table I shown earlier, the incidence of poverty fell from 61 per cent of the rural population in 1962/63 to 43 per cent in 1968/69. On a subregion basis, farmers in rainfed areas in the Central and Lower North Regions reaped the greatest benefits during this time.

¹³ Defined as proportion of planted areas of major crops to total holding areas.

TABLE IV
PLANTED AREA AND HOLDING EXPANSION-AVERAGE INCREMENTS

	1960 Level (Rai Million)	1960-70		1970-75		1975-79	
		Area Increase (Rai Million)	Annual Growth (%)	Area Increase (Rai Million)	Annual Growth (%)	Area Increase (Rai Million)	Annual Growth (%)
A. Planted area							
1. Including rice	46.3	19.5	3.6	15.9	4.4	14.4	4.1
Of which:							
Rice	37.8	9.3	2.2	5.9	2.4	7.5	3.4
2. Excluding rice	8.5	10.2	8.2	10.0	9.0	6.6	5.3
Of which:							
Frontier crops	7.0	8.2	8.1	10.3	10.9	4.7	4.3
Intensive crops	1.5	2.0	8.8	-0.3	-1.8	1.9	12.4
B. Farm holding area	63.1	31.6	4.1	17.2	3.4	5.7	1.2
Of which:							
Paddy land	38.9	20.0	4.2	11.3	3.6	3.0	1.1
Other crop land ^a	13.0	10.3	6.0	6.9	5.3	5.5	4.3
Idle and other ^b	11.2	1.3	1.1	-1.4	-2.4	-2.8	-7.0

Source: World Bank [6, p. 17].

Note: The relevant year represents three-year average centered on the specified year (e.g., 1960=1959-61) except for average 1979 (which is average 1978/79).

^a Under field crops and tree crops.

^b Idle land, waste land, woodland, and houselot.

Maize and kenaf were the two major "frontier" crops that expanded very rapidly during this first phase. Large tracts of forest land especially in the Lower North and Northeastern part of the Central Plain bordering the west side of the Northeast were cleared and turned into huge maize producing areas. This period was also the beginning of agricultural diversification on a grand scale. The rate of expansion of these upland crops reached its peak around the middle of the 1970s, that is at the end of Phase II. This was the period which was sometimes known as the "golden age" of Thai agriculture. Although the growth of agricultural output at 5.1 per cent per annum was lower than the 5.5 per cent per annum achieved in the 1960s, its real value grew at a phenomenal rate of 10 per cent per annum. This was due mainly to a substantial improvement in the price of agricultural products relative to the price of nonagricultural products, in which significant price increases were brought about by the global commodity boom, particularly in the prices of rice, cassava, sorghum, and sugarcane.

In Phase III (1975-80), the expansion of the planted area became slower due to a slowdown in the expansion of frontier crops, which was attributable to the emergence of supply constraints arising from the exhaustion of the accessible land frontier. As the possibility of increasing production by expanding the total farming areas became limited, there was evidence that farmers began to adopt more intensive production techniques on their existing farm holdings. The cropping intensity which was 69 per cent in Phase I rose to 72 per cent in Phase II and 81 per cent in Phase III. There was also an increase in upland crops that

TABLE V
PERCENTAGE DISTRIBUTION OF GDP AT CURRENT MARKET PRICES
BY INDUSTRIAL ORIGIN

	1960	1970	1975	1980
Agriculture	38.9	28.3	31.5	25.4
Crops	26.9	19.7	23.3	19.0
Livestock	7.0	3.6	3.8	3.0
Fisheries	1.8	3.0	2.8	1.8
Forestry	3.2	2.0	1.5	1.4
Mining, quarrying	1.5	2.0	1.4	2.1
Manufacturing	11.1	16.0	18.0	19.6
Construction	3.6	6.1	4.3	5.8
Electricity, water supply	0.5	1.2	1.1	0.9
Transportation, communications	6.8	6.3	6.3	6.6
Trade	17.2	19.1	18.3	18.8
Banking, insurance, real estate	2.5	4.1	4.9	6.1
Ownership of dwellings	4.5	2.2	1.5	1.1
Public admin., defense	4.9	4.5	4.1	4.1
Other services	9.1	10.2	8.7	9.4
GDP	100.0	100.0	100.0	100.0

Source: Office of the Prime Minister, National Economic and Social Development Board, *National Income of Thailand*, various issues.

were more adaptive to marginal land, especially cassava. During this third period, falling yields became quite evident, probably due to the effects of soil erosion and the reduction of fallow periods. Furthermore, this generally poorer performance of agricultural production in 1975–80 was exacerbated by a marginal decline in the agricultural terms of trade. It should be noted, however, that favorable improvements in the value of rice and cassava production probably helped reduce rural poverty, particularly in the Northeast, during these years.

So far, we have discussed at some length the expansion of crops and cropping patterns. But agriculture also includes livestock, fisheries, and forestry. We have seen that the average annual growth rate of crop GDP had fallen in Phase III. The same declining trend could also be seen in GDP growth originating from livestock, fisheries, and forestry. Particularly for fisheries, the decline was most drastic (see Table III), probably due to reduced supplies caused by overfishing. As for forestry, the slower growth was mainly due to explicit government policies to discourage logging and log exports in the face of rapid deforestation and illegal logging.

Table V shows the structural change in the Thai economy from 1960 to 1980. The role of agriculture vis-à-vis other sectors can be seen from the changing shares of GDP attributable to agriculture during these two decades.

In 1960, the share of agriculture in the GDP was almost 40 per cent. This was reduced to 28.3 per cent in 1970 but recovered to 31.5 per cent mainly as a result of the commodity boom mentioned earlier. This share, however, fell to 25.4 per cent in 1980. With the declining rate of agricultural growth, it seems

that the agricultural share of GDP will be further eroded in the future.

Notable changes have been seen in the banking, insurance, and real estate sector, and in the manufacturing sector. These were the two sectors whose GDP shares increased at the highest rates. The share of the manufacturing sector increased from 11.1 per cent in 1960 to 19.6 per cent in 1980, whereas the share of the banking sector increased from 2.5 per cent to 6.1 per cent in the same periods. The process of transformation was definitely set in motion during these two decades from 1960 to 1980.

In summary, agricultural development in Thailand in the two decades from 1960 was characterized by the expansion of cultivated area, and diversification into several profitable cash crops. Agricultural policies that were relevant to this type of development were public provisions of infrastructures such as roads and irrigation facilities. The reduction in rural poverty incidence shown in Table I could be explained by the increase in total cultivated areas and the successful crop diversification mentioned above. Another reason could be offered, that is the increased reliance on off-farm income opportunities which accompanied the structural changes of the overall economy. Other than this, the government let the agricultural sector grow by itself with little market intervention except in the area of rice taxation. Allowing agriculture to respond freely to market forces and incentives was believed by some¹⁴ to be the key to the success of Thai agriculture to date.

IV. AGRICULTURAL DEVELOPMENT, RURAL POVERTY, AND INCOME INEQUALITIES: SOME OBSERVATIONS

The last two sections brought out the important finding that past agricultural development had helped lift an increasing number of people out of poverty but the benefits accrued to the people as a whole were not equally distributed, resulting in the worsening of the distribution of post-development income. Nevertheless, the nature of the link between agricultural development and household income, especially in the rural areas still had not been made clear. Moreover, one would be interested to know more about the relationships between certain aspects of agricultural development conditions and policies, and rural poverty and income inequalities. In what follows, the paper investigates further the structure of household income from 1962/63 to 1981 in an attempt to explain the nature of such changes. Next, the paper looks at two possible explanations of the worsening of income inequalities, particularly in the rural areas, namely, the unequal distribution of land ownership and utilization, and the negative effects of rice taxation.

A. *Structure of Household Income, 1962/63, 1975/76, and 1981*

There are several ways in which the welfare of an individual or household could be measured, and change in income is regarded as one of them. It was

¹⁴ See, for example, Bertrand [1].

TABLE VI
STRUCTURE OF HOUSEHOLD INCOME, 1962/63, 1975/76, AND 1981

	1962/63		1975/76		1981	
	Rural	Urban	Rural	Urban	Rural	Urban
A. Average total household income						
(baht) of which	7,255 ^a	15,519 ^a	18,060	36,000	32,309	63,640
1. Average farm household income			17,191	25,132	31,091	35,588
2. Average non-farm household income			21,313	39,176	36,212	69,385
B. Within farm households ^b						
As % of total income			100.0	100.0	100.0	100.0
1. Farm income ^c			65.7	55.5	64.4	50.8
2. Off-farm income			34.3	44.5	35.6	49.2
C. Within non-farm households						
As % of total income			100.0	100.0	100.0	100.0
1. Farm income			16.6	3.3	11.4	2.4
2. Off-farm income			83.4	96.7	88.6	97.6
D. Within rural households						
As % of total income			100.0	100.0	100.0	100.0
1. Money income			53.5	81.1	55.9	75.7
2. Income-in-kind			46.5	18.9	44.1	24.3
As % of money income			100.0	100.0	100.0	100.0
3. Wage and salary			34.0	49.1	29.0	51.5
4. Farm money income			44.3	10.6	50.0	8.2
5. Entrepreneurial income			13.3	32.0	10.9	28.1
6. Other money income			8.4	8.2	10.1	12.2
.....						
Average annual (real) growth rate of total per capita household income (%)			2.4 ^d	1.7 ^d	5.4 ^e	5.9 ^e

Sources: 1962/63 data from World Bank [5]; 1975/76 and 1981 data from Rueda-Sabater [19].

^a These amounts of household income already included imputed rent.

^b A farm household is defined as a household which operates at least one agricultural enterprise.

^c Farm income is defined as income generated from agricultural enterprise or activities pertaining or related to agricultural enterprise.

^d Rate of growth between 1962/63 and 1975/76.

^e Rate of growth between 1975/76 and 1981.

argued earlier that economic development had brought about a decline in poverty incidence. As poverty income must be kept constant in real terms from one period to another, a drop in poverty incidence would mean an increase in personal or household real income. How true is this statement? Table VI which summarizes the structure and change of income from 1962/63 to 1981 seems to affirm the above belief.

Table VI contains information on the average total income of household in rural and urban areas, and the annual rate of growth of per capita income between 1962/63, 1975/76, and 1981, but not the detailed breakdown of the

income components. The 1968/69 income data were not included here because of some difficulties in the adjustment of the definition of rural versus urban areas. Only the data for 1975/76 and 1981 were sufficiently detailed and compatible with each other to enable a meaningful analysis of the changes in income structure.

It can be seen that the average rural household income more than quadrupled between 1962/63 and 1981, that is from 7,255 baht per family to 32,309 baht per family. The same is also true for urban household income which increased from 15,519 baht in 1962/63 to 63,640 baht in 1981. In terms of growth rate, Table VI has shown that real household income per capita grew at a rate of 2.4 per cent per annum between 1962/63 and 1975/76, and at a rate of 5.4 per cent per annum between 1975/76 and 1981 for rural households. The corresponding growth rates for urban households were 1.7 and 5.9 per cent, respectively. Although the latter rates of 5.4 and 5.9 per cent were likely to overstate the real growth rates due to the change in the definition of households in 1981 which rendered the household size comparatively smaller and its income per capita comparatively larger, a downward adjustment of these growth rates still resulted in positive rates commensurable to the earlier income growth rates. It can be safely concluded, therefore, that the welfare of Thai households and population as measured by an increase in real income over time has risen during these two decades of rapid economic development.

Table VI also contains useful information about the compositions of household income both in rural and urban areas and its change over time. Within the rural households, for example, the relative importance of money income vis-à-vis income-in-kind slightly increased from 1975/76 to 1981, whereas the opposite is true for urban households. In a way, this is an indication of the reduced dependence on subsistence agriculture. When money income is further subdivided, it can be seen that wage and salary income as a percentage of money income had fallen on average in rural areas, that is from 34.0 per cent in 1975/76 to 29.0 per cent in 1981, while farm money income had increased from 44.3 per cent to 50.0 per cent in the same period, reflecting the rapid rise in farm prices between the survey years. The statistical results had shown clearly that the improved standard of living of rural households was due not to the increased involvement in the wage labor market, but as was mentioned earlier, to a reduced reliance on subsistence agriculture and an increase in income derived from the sale of farm produce. As for urban households, wage and salary income had increased as a proportion of money income at the expense of entrepreneurial and farm income. This seemed to indicate that employment opportunities in these areas improved somewhat between 1975/76 and 1981.

B. Structure of Land Ownership and Utilization

While the discussion up to now has shown that the benefits of area expansion and crop diversification had given rise to an increase in real household income, apparently such an increase was not uniform across all segments of the population, resulting in a worsening of income distribution. First of all, if the majority of income is derived from land or the use of land, then the structure of land

TABLE VII
RATIOS OF RENTED LAND TO TOTAL LAND HOLDING

Region	1963	1971	1973	1978	1981
North	0.8	14.9	15.5	16.0	13.8
Northeast	0.2	3.4	3.3	3.9	3.5
Central	7.5 ^a	27.2 ^a	29.3	28.3	27.9
South	0.3	4.2	4.4	4.4	4.3
Whole kingdom	3.6	11.9	12.3	12.6	11.6

Sources: Data for 1963 and 1971 adapted from Bertrand [1, p. 25]; data for 1973, 1978, and 1981 were from Ministry of Agriculture, *Agricultural Statistics of Thailand*, various issues.

^a Figures for Upper and Lower Central Plains only, and excluded rural Bangkok.

ownership would, to a certain extent, affect the distribution of farm benefits. Generally speaking, those who own land would be better off than those who are landless or have no access to land. Secondly, different size of land holdings would also affect benefit distribution. And thirdly, different land tenure systems could create different land productivity and thus different farm income and its distribution.

On the effect of land ownership, it is often argued that a reduction in land ownership or an increase in tenancy and landlessness implies the worsening of income distribution because tenant and landless farmers tend to cluster around the lower end of household income distribution. If this is the case, then the actual worsening of income distribution in Thailand could be attributable partly to the increase in land tenancy in most regions of Thailand particularly until the end of 1970s as is shown in Table VII.

If the data for 1963 were correct, then the increase in tenancy rate between 1963 and 1971 was very rapid indeed. But it is quite likely that the 1963 tenancy ratios were too low. At any rate, the trend toward increased tenancy ratio over time for the whole country was clearly evident at least until the end of 1970s, particularly in the Central and Northern Regions.¹⁵ However, there are certain researchers who do not believe in the so-called serious tenancy problem. Bertrand [1], for example, pointed out that the periods between 1963 and 1971 were characterized by a marked expansion of cultivated area; the increase in tenancy ratio would lose much of its meaning if the growth of land under cultivation was greater than the growth of the farm population. This seemed to be the case for Thailand, where the area of holdings increased 36 per cent between 1963 and 1971, while the farm population grew only 11 per cent during the corresponding periods. Indeed, as Bertrand was able to show, there was a substantial increase in land per head of farm population in every region save the Lower Central Plain and the South.

Nevertheless, the absolute increase in the average size of land holding still

¹⁵ The reduction in tenancy ratio in 1981 could be a good sign that the disparity condition will improve in later years. But one has to be careful in interpreting this change as this could imply change in structure of occupation.

TABLE VIII
PATTERNS OF LAND OWNERSHIP BY INCOME QUINTILE

	Average	Q ₁	Q ₂	Q ₃	Q ₄	Q ₅	(%)
1975/76							
Own land	72.6	81.9	77.1	72.2	71.1	55.3	
Rent land	6.8	6.9	7.6	7.5	6.4	5.6	
Others	20.6	11.2	15.3	20.3	22.5	39.1	
Total	100.0	100.0	100.0	100.0	100.0	100.0	
1979/80							
Own land	73.8	74.5	79.8	80.4	72.6	61.8	
Rent land	6.5	9.1	7.6	5.7	5.1	4.9	
Others	19.7	16.4	12.6	13.9	22.3	33.3	
Total	100.0	100.0	100.0	100.0	100.0	100.0	

Source: Krongkaew and Chamratrithirong [13].

could not be used to explain the trend of income disparities in rural areas. If anything, the increase in the average size of land holdings together with the increase in tenancy ratio lend support to the belief that the distribution of newly acquired lands was unequal: a large number of small farmers might acquire small pieces of land while a few large farmers or local influential persons could possess large tracts of land and even rent them out to latecomers. No definitive data are available at present which describe the distribution of land ownership by size or class of income or wealth, so, neither the extent of the disparity in land ownership, nor its change over time, was really known. However, fragmented information could be obtained from certain surveys. For instance, a pilot survey of socioeconomic conditions of households in the Northeast in 1979/80 contained data on the distribution of land ownership that could be compared with similar data for 1975/76. What resulted was an interesting picture showing the percentage change in land ownership pattern for rural households in the Northeast between 1975/76 and 1979/80. This is reported in Table VIII.

From Table VIII, it may be seen that, on the average, land ownership increased slightly in 1979/80, indicating perhaps that land expansion was still continuing. What is more important was not this average proportion of land ownership but the distribution of land ownership by different income groups. In 1979/80, households in the first quintile owned relatively less land than in 1975/76 (74.5 per cent compared to 81.9 per cent), but the top quintile owned more (61.8 per cent compared to 55.3 per cent). Correspondingly, the rented land for the first quintile increased, from 6.9 per cent to 9.1 per cent, while that of the fifth quintile fell, from 5.6 per cent to 4.9 per cent. This could mean that poor farmers were losing their land and being gradually changed into farm tenants. And the poverty problems may have been aggravated because poor farmers did not have enough land to work on, or the land was too poor, and the poor farmers lacked the means to improve it.

On the problem of landlessness, although recent studies had shown that landlessness in Thailand had not increased significantly in the last several years,

existing landlessness was at present, quite troublesome.¹⁶ In the Upper Northern Region for example, the landless accounted for 13.5 per cent of all agricultural households, whereas in the Central Plain the corresponding figure was 10.6 per cent. In the Upper North, it was found that more than two-thirds of the landless households were under the poverty line. This is, of course, much higher than the regional average of poverty incidence (which was around 23 per cent in 1981). In some regions like the North and the Northeast, landlessness is almost a sufficient condition for poverty. And the continuation of this economic phenomenon under the general conditions of high economic growth almost guarantees not only that poverty will remain a nagging problem, but income inequalities will continue to worsen as time passes. At present the government's efforts at land reforms are far from successful as it lacks the necessary determination, financial resources, and forthrightness. And the prospect of an effective and successful land reform policy in the near future is rather bleak.

Finally, it has been shown that farmers whose lands have proper titles such as land deeds or certificates of land use are likely to be more productive than farmers whose lands were not properly accorded with legal rights (such as lands from encroached forest reserves) or tenant farmers. Onchan et al. [17], for example, showed that the yield or agricultural productivity measured in terms of average farm output per unit of land was higher for lands with better quality land titles than for those without proper titles or for tenant lands. As poor farmers are likely to be found among the squatters of forest reserves, the situation described above would prolong poverty and inequality problems.

C. *The Allocative and Distributive Effects of Rice Taxation*

Of all agricultural crops that are grown in Thailand, rice is, and has been, the most highly taxed crop. This has been the case since the Ayudhya period when farmers had to give a part of their rice harvest to the king or their feudal lords as an in-kind tax. In the modern periods, taxes on rice have taken different forms and varieties. At present, there are two types of taxes on rice. One is the rice premium which is a fixed tax on rice exports, and the other is the rice export tax which is an ad valorem duty on rice exports. In the past, two other measures which had the same effects as taxes on rice were the quantitative restrictions of rice exports and the rice reserve requirement in which rice exporters had to sell a fixed percentage of rice at below market rates for every ton of rice exported. However, these latter measures could be reintroduced at any time.

The rice premium used to provide a very attractive source of revenue to the government. During the latter half of the 1950s, the percentage of total government revenue originating from the rice premium was as high as 14 per cent.¹⁷ This proportion was greatly reduced during the 1970s, and now in the early 1980s, came to be as low as point one of a per cent. However, the distributive

¹⁶ See, for example, ILO/ARTEP-ALRO [8].

¹⁷ See Holtsberg [3] who also provided a good summary on the rice-pricing policy in Thailand.

TABLE IX
ESTIMATES OF THE EFFICIENCY AND DISTRIBUTIONAL EFFECTS OF
RICE EXPORT TAXATION, THAILAND, 1981

	Low Demand Elasticity	Medium Demand Elasticity	High Demand Elasticity
Estimate of the elasticity of demand for Thai rice on world markets	-4	-10	-100
Changes in export price as a ratio of export tax	0.44	0.24	0.03
		(billion baht)	
Tax imposed on foreign consumers	2.64	1.44	0.20
Government	6.00	6.00	6.00
Transfer from farmers	8.40	11.40	14.55
Transfer to non-farm consumers	5.04	6.84	8.73
Net efficiency loss:			
Production	1.05	1.94	3.30
Consumption	0.04	0.06	0.08
Total benefit of export tax	1.55	-0.56	-3.28
		(million tons)	
Production of paddy:			
With export tax	17.0	17.0	17.0
Without export tax	19.5	20.4	21.4

Source: World Bank [7].

Note: Underlying assumption for calculations:

- Elasticity of domestic supply=0.6,
- Elasticity of domestic demand=0.02,
- Domestic production=17 million tons,
- Domestic on-farm consumption=6 million tons,
- Domestic off-farm consumption=7 million tons,
- Farm-gate paddy price=3,400 baht/ton,
- Consumer price=3,600 baht/ton,
- Export tax on paddy=1,500 baht/ton.

impact of the rice premium goes beyond the actual revenue collected from the premium; the effect of the premium has kept the domestic price of rice low, which also suppresses prices of other agricultural commodities as well as wage rates of those who purchase low-priced rice.

The point of debate on this rice premium is the question of who actually bears the burden of the tax. On this issue the elasticity of foreign demand for Thai rice becomes crucial in deciding the incidence of the rice premium. Theoretically, a very elastic foreign demand would shift the burden back to producers, that is, the farmers; but if foreign demand is inelastic, then foreign consumers will bear part or most of the burden. How elastic is foreign demand for Thai rice is an empirical question, of which a great deal of research has been carried out.¹⁸ A more prevalent view is that foreign demand for Thai rice is elastic to very elastic, so the burden would fall with Thai farmers more than foreign consumers. Moreover, although Thai is a major rice exporter, it is only a small

¹⁸ Again see Holtsberg [3] for a good review of the empirical estimates.

producer on a global basis, thus has little influence on price setting and has to bear most of the tax that is imposed. If this is the case, then the level of taxation on the rice sector implies a substantial burden on the rural economy.

The World Bank [7] attempted to measure the income transfers and efficiency costs implicit in the above burden, once the estimates of the relevant supply and demand functions for rice on domestic and world markets. The most controversial element in these calculations involves the elasticity of demand for Thai rice on world markets, as mentioned earlier. The results of these calculations are presented in Table IX.

The estimates shown in Table IX were based on elasticities of demand for Thai rice of -4 , -10 , and -100 . According to the World Bank's interpretation, the low price elasticity of -4 would imply an export tax aimed at maximizing the implied monopoly power on world markets of 25 per cent of world rice exports in recent years. The elasticity of -10 was a moderate elasticity which probably provided the upper limit of the long-run elasticity for Thai rice exports. The elasticity estimate of -100 would be the level at which the world market prices of rice would be reduced by about 3 per cent following the removal of the premium.

The results in Table IX also show that the rice premium imposed a burden on rice farmers in interfering with their access to world markets. It was said that even if Thailand were able to exploit considerable monopoly power on world rice markets, the net gains from doing so could be very modest relative to the income transfers imposed on farmers by the price-depressing effects of export taxation. This is seen in the results from the use of -4 elasticity of foreign demand: the gain from fully exploiting monopoly power on world markets was only 1.55 billion baht (see Table IX) relative to the transfer of income from rice farmers of 8.4 billion baht. With elasticities of foreign demand of -10 and -100 , a range which covered realistic longer-run elasticities of demand, the interference with rice markets led to substantial net efficiency losses (from 0.56 to 3.28 billion baht) in combination with income transfers from rice farmers of between 11.4 and 14.5 billion baht. The efficiency losses due to distorting production incentives were thus almost exclusively borne by the rural economy. The corresponding total burden on farm households is in the order of 10 to almost 18 billion baht from the effects of the product price distortions in rice markets.

The World Bank [7] also contended that the benefits of the income transfers implicit in the system of rice taxation accrued to low-income wage earners. However, as the real incomes of unskilled workers are mainly determined by the supply price of labor from alternative employment, the return to rice production would greatly affect this supply price. Therefore, the effect of the lower domestic prices for rice would work toward the reduction of wage rates throughout the economy. This factor price effect of rice taxation has important implications for the distributional results as shown in Table IX. On this point, the World Bank [7] analysis shows that if wage rates were reduced so as to keep the real wage rate constant with lower rice prices, this mechanism would transfer the benefits of reduced rice prices from low-income workers to their employers or to con-

sumers of the services or products they produced. However, it was argued that the real wage rate was likely to be decreased which implied even larger transfers from the rural economy and corresponding transfers from low-income unskilled laborers in general to the high-income group. The heavy taxation of the primary occupation of the vast majority of low-income Thais is a major regressive feature of the present tax system.

In sum, the rice taxation system was shown to have adverse effect on the distribution of income for the economy as a whole. The long history, and severity, of this taxation on rice has certainly contributed to the worsening of income distribution in Thailand.

V. SUMMARY AND CONCLUSIONS

The paper began with a brief discussion on the role of agriculture in economic development, and how agricultural growth could contribute to the transition or transformation of the economy. However there was often a trade-off between growth and equity in the sense that agricultural policies in the early periods of development had helped the growth of the economy in general and of the commerce-industrial sector in particular at the expense of the growth of the agricultural sector itself. Sectoral disparities occurred as a result. Although these inequalities would reduce as development reached a higher stage, greater concerns were now expressed for the distributive impact of certain public policies on agriculture, and the impact of agricultural policies on income distribution.

It was shown that twenty years of development in Thailand had brought about a continuous reduction in poverty incidence but the existence of income inequalities had become greater for the same time periods. The relevant question was: to what extent these phenomenon could be explained by agricultural development or agricultural policies?

The paper attempted to demonstrate that the agricultural growth, through extensive expansion of cultivated areas, profitable diversification of new upland co-ops, commodity price boom, greater off-farm employment opportunities, helped alleviate poverty incidence. But the implementation of certain agricultural policies or sometimes, the lack of them, caused the aggravation of inequalities, or at least helped perpetuate existing inequalities. Two specific cases of agricultural conditions and policies were mentioned and discussed: the structure of land ownership and rice taxation policy.

In conclusion, it seems that Thai agriculture contributed a great deal to the Thai economy as a whole while itself suffering from policy exploitation or neglect. The government attention to agricultural development, though steadily continuing, does not show any particular intensity. Various difficulties still exist in the agricultural sector. The future scenario for agricultural development within the present institutional, economic, and political constraints does not look very promising. Unless the agricultural sector is brought closer to nonagricultural sector in terms of growth, the development of the Thai economy cannot hope to be strong and sustained.

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