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THE AGRICULTURAL POLICIES AND THE CAPITALIST DEVELOPMENT OF AGRICULTURE IN THE UNITED STATES

By Isshin NAKANO*

I Introduction

In the United States family farms have been considered as the main-stay of the American democracy since the foundation of the country. Their advantages have been actively disputed since "the New Deal agricultural policies", which developed in the great depression of the 1930's, advocated the restoration of owner farmers and the protection of the family farms. Especially since J. F. Kennedy won the presidential election in November 1960 with his "new frontier agricultural policies", this dispute was taken up again and invited new discussions. That is because the old-time New Deal agricultural policies were expected to resurrect when agricultural policies changed from those of Ike-Benson of Republican party of the 1950's to those of Kennedy-Freeman (and of Johnson-Freeman after the assassination of Kennedy in 1963) of Democratic party of 1960's with a huge surplus of agricultural products at hand.

Also in Japan some brought forward their view supporting the advantages of family farms in relation to the characterization of the agricultural policies in the imperialistic stage, especially in the stage of the national monopolistic capitalism¹⁾. The evaluation of the agricultural policies in the United States is now one of the main points in dispute in discussing the disintegration of farmer classes and the advantages and disadvantages of family farms.

In the United States today both the Republican and Democratic parties certainly express their positions for protecting "family farms" though with some delicate differences. The primary objective of this article is to give an answer to the question whether in reality the agricultural policies which are

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1) See, for example, Tsutomu Ohuchi, *American Agriculture*, 1965, p. 80. Prof. Ohuchi is considered as one of the foremost supporters of the advantages of family farms. However, he has recently presented his view with minute differences from his formerly disclosed view, admitting the fact that the present agricultural policies of the United States have helped the disintegration of farmer classes. Tsutomu Ohuchi, "Crevice of America,—Change of Great Agricultural Country," *Economist* (Tokyo), Vol. 49, No. 38, Sep. 1971, pp. 38-43.

practiced, aim at fostering family farms in its real and in this respect what is meant by "the new agricultural policies" emphasized recently. The second objective is to analyze the present tendency of agricultural development in the United States based on the understanding of these agricultural policies and to re-examine the current theory which advocates family farms.

As a matter of fact, it is now far beyond the ability of the author to give complete answers to these vital problems, but I intend to analyze here only the most fundamental problems limiting the scope to a period beginning from 1960. In analyzing the present situation in the latter part of this article, I only try to find the general tendency of the agricultural development in the United States based on "*U. S. Census of Agriculture*" of 1959 and of 1964 (abbreviated respectively as *1959 Census* and *1964 Census* hereafter). Here I do not attempt to characterize by regions or by type of farms²⁾.

In the following statements, I first examine the character of the present agricultural policies in the United States with the emphasis on two points; (1) production adjustment and price-support programs, and (2) rural development policies. Then I intend to analyze the tendency of agricultural development of the United States in relation to the trends of family farms.

II The Character of the Present Agricultural Policies in the United States

Since the great depression (with the exception of war time and the period immediately after that), the disposal of surplus agricultural products and the price-support programs have been the basis subjects common to the agricultural policies of the western capitalist countries. In the United States the word "surplus" was replaced by the word "abundance" in the general report and in the agricultural reports of the president after the inauguration of President Kennedy; yet throughout the 1960's, the disposal of surpluses as well as the price-support programs have always been the basis of the agricultural policies.

However, the U. S. Department of Agriculture in the 1960's has been compelled to deal with a new problem which can be called a rural problem and which goes beyond the scope of the traditional agricultural policies. It is the problem of rural poverty which has arisen in the expulsion many farmers from their farms and in the decline of farm income due to the increase of farm production expenses. The conflict between "surplus", that is "abundance", and "poverty" in rural communities has invited the situation which can no longer be solved by only traditional agricultural policies based on production adjustment and price-support programs. Thus the financial circles have requested the

2) Isshin Nakano, "The Latest Trend in the American Agriculture—1959-1964," *Keizai Ronso*, Vol. 106, No. 6, Dec. 1970.

development of "the new agricultural policies" which transcend the framework of the traditional agricultural policies. They expect from American agriculture the efficient agricultural production which can provide cheap farm products and the supply of abundant farm workers to industries, and they have actively advocated the agricultural policies along this line³⁾.

To put it concretely, the U. S. government has performed today "the selective policies"; they separate the measure for "commercial family farmers" who operate efficient and productive farming from the measure for many "poor people". For the former, the traditional policies of the production adjustment and price-support are continued and for the latter, the problem of poverty is going to be coped with by "the new agricultural policies" that replace price-support programs and aim at the rural development and especially the development of employment opportunities.

Therefore, in this article I examine the problem of agricultural policies focussing on the following two points. Firstly I examine production adjustment and price-support programs which have traditionally been the main-stay of agricultural policies and secondly I state the rural development policies centering around the development of employment opportunities. As a matter of fact, there are many other important problems to be examined such as farm loans, the problem of land ownership and the foreign trade of agricultural products, and these are the problems of future investigation.

1. Production adjustment and price-support programs⁴⁾

Production adjustment and price-support programs of the United States began in the 1920's but it was after the plunge into the great depression that they were really developed. The Agricultural Adjustment Act of 1933 was the actual starting point. Also the present farm programs are for the most part based on Food and Agricultural Act of 1965 and on Agricultural Act of 1970⁵⁾.

Today in the United States 19 agricultural commodities are receiving the benefit of price-support programs. Both the production adjustment and price-support programs are applied to eight crops including six basic commodities (wheat, cotton, corn, rice, peanut and tobacco), and barley and sorghum. Price-support programs are applied in three forms; price-support loans (abbreviated as loans), price-support payments (abbreviated as payments) and direct

3) See, Committee for Economic Development, *An Adaptive Approach for Agriculture*, 1962. National Advisory Commission on Food and Fiber, *Food and Fiber for the Future*, 1967.

4) Concerning methods of the production adjustment and price-support in the United States, see, Murray B. Benedict, *Can We Solve the Farm Problem?—An Analysis of Federal Aids to Agriculture*, 1955.

5) Concerning the contents of the two acts, see, Minister's Secretariat, the Ministry of Agriculture and Forestry, *Trends of Oversea Agricultural Policies*, Vol. 1, No. 5, Dec., 1965, and also Division of International Affairs, the Ministry of Agriculture and Forestry, ed., *U. S. Agricultural Act of 1970*, Jan., 1971.

purchases. Most of the crops adopt loans but only four crops including wheat, cotton, feed grains (corn, barley and sorghum) and rice are the items of both loans and payments.

I shall outline here the methods by which production adjustment and price-support programs are combined on the basic crops. Details of the methods are different in each crop; in the case of three crops, i. e. rice, peanut and tobacco, marketing quota programs have been performed. Only when more than two-thirds of producers support the program in the annual farmers' poll, the production adjustment becomes compulsory to all the producers and in the compensation loans are provided within the range of about 65 % to 90 % of the parity price. Without the support of two-thirds, the production adjustment is not enforced but loan rate is lowered to 50 % of the parity price for rice and peanut, and as to tobacco the price-support is not performed at all.

In the cases of wheat, cotton and corn, it is left to each farmer to choose either the benefit of price-support by the production adjustment or the sales of his crops at market prices without the production adjustment. In order to have the benefit of price-support, producers are obliged to curtail a certain portion of their acreage allotment. Loans and payments are paid only for the products of the producers who satisfy this necessary condition. The total yield produced in the permitted acreage receive loans but the payments are additionally given only for a certain portion of this total yield.

In case of wheat, in 1970 it was required to curtail 30.3 % of acreage allotment to receive the price-support. The loan of \$1.25 per bushel was given for the total yield of wheat produced in the rest of the acreage (permitted acreage) only to those producers who satisfied this condition. Of all the yield a certain portion which were yielded from 48 % of the acreage allotment (domestic allotment which corresponded to domestic consumption), received an additional payment of \$1.57 per bushel. In case of a producer who possessed 100 acres of allotment of wheat, up to 69.7 acres were permitted in order that he received the benefit of price-support (30.3 acres were subject to curtailment). He received \$2.82 per bushel (the loan of \$1.25 plus the payment of \$1.57) for the yield from 48 acres. For the yield of remaining 21.7 acres (69.7 acres minus 48 acres), only the loan of \$1.25 per bushel was provided⁶⁾.

In Agricultural Act of 1970, the new method of "the set-aside of cropland" was adopted (this has been put into practice since 1971), instead of the complicated production adjustment programs which had been traditionally performed for respective crop. In this method if a producer curtails (sets-aside) certain portions of acreage allotment which are respectively prescribed for wheat, cotton

6) Concerning the details of the conditions of receiving loans and payments, see, Kenichi Hachisu, "The Production Adjustment and Price-Support of America, I-IV, "Shokuryo Kanri Geppo, Vol. 22, Nos. 3-8, Mar.-Aug., 1970.

and feed grains, he is allowed to grow in the remaining acreage allotment any crop except the above-mentioned peanut, tobacco and so on for which marketing quota programs are performed. He does not have to limit acreage there respectively for each crop. For example, he can grow wheat and feed grains, or only feed grains, in the acreage where he previously grew wheat; he can also grow only one crop in the acreage where he previously grew plural crops and can have the benefit of the price-support. Therefore, by adopting the new method of set-aside, the traditional production adjustment which had been set respectively for wheat, cotton and feed grains practically ceased to exist, although there still remain some restricting conditions. It may be assumed that the new method of production adjustment has come to be in effect in which the government only decides the total acreage of set-aside of cropland every year and in which the choice of crops is left to the farmers.

So far we have outlined the price-support and the production adjustment for the main crops. The characteristic of these methods in the United States is that production adjustment is made compulsory for receiving the benefit of price-support. The fundamental difference from the Japanese method of production adjustment of rice is that in the American method, the payment is not provided for the acreage which is not seeded but that it is provided for the products which are grown in permitted acreage. This method intends to prevent surplus by reducing permitted acreage and at the same time to cut down the financial outlay of the government.

As is shown in Table 1, the production adjustment was strongly enforced throughout the 1960's and the acreage of any crop except soybeans and rice, has been drastically curtailed compared with the peak of the 1950's. The reduction of acreage for wheat was more than 14,730,000 acres from the average of 73,990,000 acres in early 1950's to the average of 59,260,000 acres. The reduction of corn was 16,000,000 acres from 82,420,000 acres to 66,420,000 acres. For cotton,

TABLE 1. Acreage Seeded by Main Crops

(Unit : 10,000 acres)

Year	Crop		Feed grains			Soy-beans	Peanut	Rice ¹⁾	To-bacco ¹⁾
	Wheat	Cot-ton	Corn	Barley	Sor-ghum				
1950~1954 annual average	7,399	2,464	8,242	1,145	1,562	1,622	219	207	169
1955~1959 annual average	5,629	1,552	7,761	1,607	2,243	2,235	175	155	124
1960~1964 annual average	5,378	1,573	6,939	1,413	1,665	2,834	151	170	116
1965~1969 annual average	5,926	1,135	6,642	1,040	1,759	3,951	150	204	94

Source: Computed from each item of U. S. D. A., *Agricultural Statistics*, 1959 & 1971.

1) Acreage harvested.

24,640,000 acres in early 1950's decreased more than half to 11,350,000 acres. Cotton is the crop for which the production adjustment has been powerfully enforced together with peanut and tobacco.

Such a production adjustment, however, affects advantageously large-scale farms. This is because the ratio of acreage reduction necessary for the benefit of price-support is the same regardless of the scale of farms (with the exception of extremely small farms). Small farmers barely maintain their living by cultivating all his cropland. If they curtail acreage seeded so as to get loans and payments, they cannot maintain their living without turning their idle labor into hired labor. Thus in actuality the production adjustment in the United States has accelerated displacement of small farmers from their farms. On the other hand, large-scale farmers can stop seeding their poor cropland and recover its fertility; at the same time they can operate intensive agriculture on their rich cropland.

Also in the 1960's, especially in its latter half, in addition to the production adjustment, the domestic price of farm products was made to approach the international market price rapidly so as to curtail financial outlay and to promote commercial export of farm products which take place of "food aid" export, and the price of farm products has generally been kept down⁷⁾. Contrary to the expectation of the government, however, financial outlay did not decrease but increased sharply. The most important cause for this is the rapid increase of the yield per acre. For example, the yield of wheat per acre increased from 17.3 bushels of the 1950-54 average to 27.6 bushels of the 1964-69 average. The yield of corn likewise increased from 39.4 bushels to 77.4 bushels; the yield of cotton increased from 297 lbs to 481 lbs; the yield of rice increased from 2,411 lbs to 4,361 lbs. The yield of each crop almost doubled in only ten and several years⁸⁾. As loans and payments are paid for the yield produced in permitted acreage, that may have stimulated increase of yield per acre. However, the primary factor for the increase per acre is the recent rapid progress in farming technology. As is analyzed in the next section in details, thanks to the mechanization, increased use of fertilizer, improvement of plant breeding and spread of irrigation, agricultural productivity has risen remarkably. Besides, in the process of development in agricultural technologies, the difference in productivity between large-scale farmers and small farmers has been much enlarged. Payments which are given additionally with the increase of the yield per acre go mostly

7) The parity ratio (the ratio of index of prices received by farmers to index of prices paid by farmers in the year concerned, taking the average price of 1910-1914 to be 100) is declining every year from 101 in 1950 to 80 in 1960, 77 in 1965, and 72 in 1970. (See, U. S. D. A., *Agricultural Statistics*, 1972, p. 553).

8) Calculated from the items of wheat, corn, cotton and rice in U. S. D. A., *Agricultural Statistics*, 1959 & 1972.

TABLE 2. Farm Income and Government Payments
 (Unit: 1 million dollars)

Year	Total gross income ¹⁾ (A)	Production expenses (B)	Farm income (C) = A - B	Government payments (D)	D/C
1950~1954 annual average	35,489	21,429	14,060	263	1.8%
1955~1959 annual average	35,617	23,780	11,837	714	6.0
1960	38,431	26,352	12,079	702	5.8
1962	41,854	28,639	13,215	1,747	13.2
1964	41,747	29,481	12,266	2,181	17.8
1966	49,659	33,406	16,253	3,277	20.2
1968	51,034	36,209	14,825	3,462	23.3
1970	57,916	41,091	16,825	3,717	22.1

Source: U. S. D. A., *Farm Income Situation*, Jul. 1972, p. 45, p. 52.

1) Including government payments.

to large-scale farmers.

Now let us look at the trend of government payments in the relation to farm income (Table 2). Around the time of the Korean War, the average annual government payments to farmers were only a little less than \$300 million. They have gradually increased from the latter half of the 1950's and today they are estimated to be about \$3,717 million, which amount to more than five times as much as that of 1960 and account for about a quarter of farm income. The increase of the amount of such government payments seems to have contributed greatly to the improvement of farm income of all the farmers in the United States, but it was not what happened. The primary reason is the substantial decline of farm income as a whole. As is clear in the same table, the farm production expenses increased from \$21,429 million of 1950-54 average to \$41,091 million of today by about two times. However, during this period, gross income increased from \$35,489 million to \$57,916 million by only 60%. During these ten and several years the ratio of production expenses to gross income increased from 60% to 70%, and the rate of increase of farm income was only 20%. If we consider the escalation in price in this period, farm income declined substantially. The farm income barely kept its nominal increase owing to the large amount of government payments compared with the previous times. The actual farm income which is left by deducting government payments from farm income, has lingered around \$13,100 million level and even the nominal income is lower than the average at the time of the Korean War (\$13,797 million).

The second but more fundamental reason is that payments provided by the government are monopolized by a small number of large-scale farms and that the majority of small farms scarcely benefit by price-support programs. As is shown in Table 3, the ratio of payments received by large farms whose values of farm products sold are more than \$20,000, increased every year; on the other hand

TABLE 3. Percentage of Government Payments Received by Economic Class
(Unit: %)

Economic class Year	\$ 40,000 or more	\$ 20,000 ~40,000	\$ 10,000 ~20,000	\$ 5,000 ~10,000	\$ 2,500 ~5,000	Less than \$ 2,500	Total
	1960	15.2	16.0	22.8	20.7	11.5	13.8
1962	17.2	17.7	24.2	18.5	9.8	12.6	100.0
1964	17.5	19.0	26.0	17.0	8.7	11.8	100.0
1966	27.3	22.1	21.8	12.3	7.5	9.0	100.0
1968	29.2	22.9	20.8	11.6	7.2	8.3	100.0
1970	33.3	24.3	18.7	10.0	6.6	7.1	100.0
Averages per farm (1970)	\$ 5,137	2,561	1,740	927	596	235	1,271

Source: U. S. D. A., *Farm Income Situation*, Jul. 1972, p. 73.

the ratio received by small farms under \$10,000, especially under \$5,000 which really need governmental aid has kept declining. In 1970 farms with the highest income level with the value of farm products sold amounting to \$40,000 or more accounted only for 8% of the total number of farms, and this class received nearly one third of the total government payments. The farms with the value of farm products sold of \$20,000 or more received 58%; on the other hand the farms with the value of farm products sold of less than \$2,500 accounted for 36% of the total number of farms but received only 7%. All the farms of less than \$5,000 which comprised the majority of farms received 14%. In 1970, the average amount of payments per farm was \$2,561 for the class of \$20,000-\$40,000 and \$5,137 for large-scale farms of \$40,000 or more. However, it was only \$235 for those less than \$2,500 and only \$596 for those between \$2,500 and \$5,000.

TABLE 4. Number of Producers and Government Payments Received, Grouped by Size of Payments (1970)

Payments size groups	Number		Percentage of total	
	Producers	Payments	Producers	Payments
Total ¹⁾	Thousands 2,425	Mil. dol. 3,621	% 100.0	% 100.0
Less than \$ 200	619	54	25.4	1.5
\$ 200~ 500	525	177	21.7	4.9
\$ 500~ 1,000	488	352	20.1	9.7
\$ 1,000~ 2,000	375	525	15.5	14.5
\$ 2,000~ 5,000	281	867	11.6	23.9
\$ 5,000~10,000	88	603	3.6	16.7
\$ 10,000~50,000	46	815	1.9	22.5
\$ 50,000 or more	2	228	0.1	6.3

Source: U. S. D. A., *Agricultural Statistics*, 1971, p. 550

1) Excluding amount of payments undistributed by size group.

Table 4 shows the relation of the producers taking part in production adjustment programs to the amount of payments by size of payments. In 1970, 2,424,687 producers took part in some kinds of production adjustment programs. More than 47 % of the participants each received the payments of only less than \$500 and more than 67 % received only less than \$1,000. The total amount received was only 6 % and 16 % of the total government payments respectively. On the other hand, the producers whose amount of receipt was more than \$5,000 accounted for only 5 % of all the participants and received more than 45 % of the total amount of payments. Those who received more than \$10,000 each accounted for 2.0 % of all the producers and received nearly 30 % of the total amount, which was far more than the total amount received by 1,632,526 producers who each received less than \$1,000 and accounted for two-thirds of the total number of participants. According to the figures published by the government, 505 producers received the government payments of \$100,000 or more in 1970, among whom 14 producers received from \$500,000 to \$1,000,000 and nine received the payment of more than \$1,000,000. The average amount received by these nine largest-scale producers indeed amounted to \$1,974,000⁹⁾.

As is clearly seen from the above facts, the increase of the financial outlay of the government in the 1960's never helped improve the income of small farms and the family farms. It simply offered an active aid to the accumulation of wealth in the hand of a small number of big farms. The production adjustment and price-support programs which advocated the improvement of the income of farmers resulted in fact in the accumulation of government payments by a small number of large farms. The both programs were farm "selective policies" which helped distinguish between effective farms and others. In the development of these production adjustment and price-support programs in the 1960's, large farms have further driven away small farms (demonstrated later in details) and most of small farms and family farms which needed to improve their income have been forced to depend more and more on hired work for their income.

President Johnson admitted himself in "the agricultural report" of 1965 that it was no longer possible to "rescue" poor majority farmers by price-support programs, and he limited the main object of the programs to "commercial family farmers"¹⁰⁾. This means that the government admitted publicly that the object to be protected as family farms was not the whole family farms but "commercial family farms." As is clear in the foregoing analysis of the government payments, it is the large-scale farms with the value of products sold of \$20,000 or more that enjoyed the much benefit of price-support programs, and it was not the typical family farms with the value of products sold of \$5,000-\$20,000. As is de-

9) U. S. D. A., *Agricultural Statistics*, 1971, p. 550.

10) Sec, Minister's Secretariat, the Ministry of Agriculture and Forestry, *Trends of Oversea Agricultural Policies*, Vol. 1, No. 1, Apr. 1965, p. 10-20.

monstrated in details later, the farms with the value of products sold of \$20,000 or more are "rich farms" or "capitalist farms". "The commercial family farmers" who are regarded as the main object of price-support programs are in fact rich and capitalist farmers. The U. S. government and the financial circles in fact proposed the policy which helped rich and capitalist farmers accumulate wealth, under the new flag of price-support policy which aimed at the improvement of the income of "commercial family farms" instead of all the family farms. In order to receive support of all the American people for the policy, the government could not bring down the signboard of "family farms" although limiting it to "commercial" at the same time.

2. Rural development policies

In July 1967, influential figures representing the financial and academic worlds and agricultural bodies stated as follows in a report submitted to the president; "past farm policies have been directed mainly to the interests of consumers and the more productive, higher-income farmers. They have done little for the poor in agriculture. And they have not compensated people displaced from agriculture—the people who have borne the heaviest cost of agricultural progress"¹¹).

In December of the same year, the National Advisory Commission on Rural Poverty submitted to the president another report with a title, "The People Left Behind"¹²). It goes without saying that "the people left behind" mean "poor people" and "the people who have borne the heaviest cost of agricultural progress" in the foregoing report. Today the government defines families whose annual income are less than \$3,000 and unrelated individuals whose annual income are less than \$1,000 as the poor persons. According to this reserved estimates of the government, there are 30 million poor persons in the United States. Among them, 14 million persons who account for 40% reside in rural areas¹³). In the national average, 15% of the total population are poor persons but in rural areas one out of four is the poor. In order to "solve" poverty problems in rural communities, we cannot help but consider how to aid "poor people" who are left behind.

As is seen in details in the next section, "poor people" who could no longer support themselves by farming are rapidly increasing. At present, three families out of four living in rural areas are non-farm families. From this standpoint, broader "new policies" which consider all the rural communities have to be sought to replace the traditional policies based on price-support programs.

Since in 1963 the great Washington March demanding "job and freedom" had an unprecedented success, poverty problems and segregation problems of the

11) National Advisory Commission on Food and Fiber, *op. cit.*, p. 149.

12) National Advisory Commission on Rural Poverty, *The People Left Behind*, 1967.

13) *ibid.*, pp. 3-9, and H. Lumer, *Poverty: Its Roots and Its Future*, 1965, pp. 7-9.

negro have become major social problems in the United States. At the beginning of the following year, 1964, President Johnson declared "War against Poverty" in "the Special Report of the President on Poverty" and since then he proposed many programs of action aiming at "extirpation of poverty"¹⁴.

Two fundamental ideas exist in these programs. One is the idea of adaptive relocations of resources. It attributes the cause of poverty in rural areas today to the overdistribution of various resources into agriculture, and understood adaptive and efficient relocation as the important key to "solve" poverty problems. It considered the root of present poverty to lie in the failure of adaptive relocation of resources, regardless of the fact that the rapid increase of agricultural productivity has invited the surplus of manpower (labor) and natural resource (land). It considered that the way to solve poverty problems is in active and efficient use of these resources in other industries, as the future increase of investment of such material resources as machines and fertilizer will bring further surplus of labor force and land.

The other idea combines the poverty problems with "revitalization" or development of rural communities. The transfer of surplus labor in rural areas into urban might help lighten poverty in rural areas a little, but it would further accelerate poverty problems centered around slum districts in metropolitan cities. It is not "the solution" of poverty problems. According to this view, in order to solve poverty problems in urban and in rural areas at the same time, we need such policies as decrease the number of farm workers (family workers and hired workers) but increase the population in rural areas. For this purpose it is necessary to reconstruct declining rural communities and to develop job opportunities by establishing new industries in rural areas.

Undoubtedly these opinions of adaptive location of resources and rural development aim to divert farmers' land and labor (especially the latter) to industries under the pretext of relaxing the "surplus" of resources. They intend to help many farmers displace from their farms who are unable to operate efficient farming. Next, we will examine some of the individual programs of these measures, and only the programs related to relocations of resources and rural development.

In Japan land problems as well as labor problems have been the main-stay of rural development policies. In the United States where land is abundant, labor problems especially the development of job opportunities has been the central subject of the rural development. Among the policies designed to develop job opportunities for those who were displaced from agriculture, part-time farmers and the youths, there are policies which aim at creating labor demand through industrial development in rural areas and policies which aim at fostering

14) H. Lumer, *ibid.*, pp. 72-97.

labor abilities through vocational training and re-education.

First, we will discuss "Area Development Act of 1961" which represented the former¹⁵⁾. In the United States the measures against poverty have been positively practiced since 1964, with this act being the forerunner. The above act considers the specific regions of lower development, where most of the residents suffer from unemployment or potential unemployment; these areas include the frontier valley regions of Appalachia and Ozarks, the Black Belt of the Old South, Indian reservations, the upper Great Plains, and the desolate mining regions of the west, etc.. The act is designed to improve job opportunities by equipping with public facilities and by promoting industrial development.

In the following year of 1962, "Manpower-Development Training Act" came into being. This act put into practice the vocational training of those who were displaced from their farms and rural youths by paying them retraining allowances so as to lead surplus manpower (labor force) of farms into other industries. It also aimed at promoting information gathering to understand the trend of demand and supply of labor forces. In 1964 Manpower-Development Act further grew into "Economic Opportunity Act", which aimed to create employment opportunities for all the low-income families both in rural and urban areas in the United States. In accordance with this act, the Office of Economic Opportunity was established. Youths between the ages of 16 and 21 with high rate of unemployment were given training allowances to expand vocational training and education in work-training programs. They were also recruited in Job Corps and in the Neighborhood Youth Corps to master skills in training centers for certain periods of time¹⁶⁾.

In 1965, Rural Community Development Service was newly established. In the latter half of 1960's when rural development was positively conducted in addition to the above-discussed programs which intended to develop employment opportunities directly, improvement of environments in rural communities has been undertaken to expand their ability to absorb surplus labor forces in rural areas. Acts enacted during this period are those which aim at such environmental improvements as health, house, education, electrification and telephone etc.. These acts are "Water and Sanitation Systems in Rural Areas Act", "Housing and Urban Development Act" (this act applies to rural areas as well) and "Public Works and Economic Development Act".

Since the end of the 1960's, pollution and environmental contamination have become the new social issues in the United States, in addition to the poverty problem. Here, the utilization of land and water resources in rural areas has

15) Concerning the details of this act, see, Fumio Kumagaya, "On the Practice of 'Area Redevelopment Act' in the United States," *Nosei Chosa Jiho*, Vol. 88, May 1962, pp. 31-36.

16) H. Lumer, *op. cit.*, pp. 83-88.

become the major problem, and in accordance with "the Long-Term Land Retirement Program"¹⁷⁾ which has been practiced as a part of previously discussed production adjustment programs, it became necessary to establish the unified and efficient utilization programs of land and water¹⁸⁾. In the United States at this stage, not only initial rural development which emphasized manpower (labor), but also general development programs including natural resources such as land and water needed in each area. As one of the typical approaches, let us look at the Appalachian Regional Development Program. Based on "Appalachian Regional Development Act of 1965", this program aimed at the general development of the region. It covered development of employment opportunities, development of water resources, construction of modern highway networks, active use of coal resources, range improvement programs and construction of recreational facilities. It attempted to reconstruct Appalachia, the typical poverty district in the United States by the general and efficient utilization of natural resources not to mention of manpower¹⁹⁾.

In the general report of the president at the beginning of 1971, President Nixon further proposed "the programs to make better use of our land, to encourage a balanced national growth—growth that will revitalize our rural heartland and enhance the quality of life in America"²⁰⁾. At the same time he proposed a drastic measure to reform administrative organizations in order to carry out these general policies efficiently. He proposed to remain the only four departments including Department of State, Treasury, Defense and Justice among the current 12 Cabinet Departments and to be consolidated the other eight departments including the Department of Agriculture into four; the Department of Human Resources, Community Development, Natural Resources and Economic Development²¹⁾. The Nixon's proposal may not be realized in the near future but it suggests that it has come to the stage to reconsider the administrative organizations in order to cope with the problems of poverty and of environmental contamination which are under the plural jurisdictions of several existing depart-

17) This is the program which aims at permanent retirement of cropland into non-cropland based on the Agricultural Act of 1970. Payments are given to the land converted from cropland with a view to preserving natural beauties, preventing contamination of air and water, developing recreational facilities, and protecting wild life.

18) The Council of Environmental Quality, *Environmental Quality—The First Annual Report of the Council on Environmental Quality together with the President's Message to Congress transmitted to the Congress*, 1970. Also see, Division of International Affairs, the Ministry of Agriculture and Forestry, *International Trends of Agricultural Policies*, Vol. 5, No. 1, June 1972, pp. 36-41.

19) See, N. M. Hansen, "Some Neglected Factors in American Region Development Policy: The Case of Appalachia", *Land Economics*, Vol. XLII, No. 1, Feb. 1966, pp. 1-9.

20) The Office of the Federal Register, *Weekly Compilation of Presidential Documents*, Vol. 7, No. 4, Jan. 25, 1971, p. 91.

21) The Office of the Federal Register, *ibid.*, p. 94.

ments and to pursue the integration of agricultural policies.

I have so far outlined the rural development policies. A series of these policies undoubtedly promoted to displace many farmers from their farms. In the United States the rural development programs began with poverty problems. In these programs the cause of poverty is rendered to the overdistribution of various resources into agriculture, but in essence they aim to promote to deprive the labor and land from the majority of farmers, in particular from the "poor people". In the traditional agricultural policies based on the price-support programs, farmers who are left behind and forced to become poor, are swept away here from agricultural production under the excuse of increase of off-farm income (wages) and the majority of farmers are never protected as producers.

As I mentioned in the beginning of this article, a leading view is that the present agricultural policies in the United States aim at protecting and fostering family farms. However, production adjustment and price-support programs discussed earlier in fact helped, in the name of helping "commercial family farmers" a few rich and capitalist farmers which efficiently operate. Rural development programs have promoted the abandonment of farms of many farmers and their proletarianization, and they have intended to offer abundant labor (and land and water) to industries. The both policies have furthered the disintegration of farmer classes and helped large-scale farmers to drive away small farmers. It may be stated that they rather have promoted the disintegration of family farms than have fostered family farms as they should. As a matter of fact, the character of the present agricultural policies can be judged ultimately only by the actual trend of development in American agriculture which is the object of agricultural policies. In this respect we can ascertain our tentative conclusions drawn here with the following analyses of the actual conditions of American farming.

III The Capitalist Development of American Agriculture and Family Farm

At the beginning of the twentieth century, about 60 % of the population in the United States resided in rural areas, and today after half a century the ratio declined to 30 %. Also the ratio of labor force in agriculture to the total labor force declined to 6 % from a little over 30 % of half a century before. Farmers who were deprived of their means of production flowed from rural areas into cities and from agriculture into other industries. The number of farms decreased rapidly after the peak of 6,812,350 in 1935. In 1964 the number was half as many as that of thirty years before. In the recent five years the number declined from 3,703,894 farms to 3,152,611 farms. (If we deduct 166,000 farms which were added due to the change in definition in 1964 from 3,152,611 farms, 717,000 farms

declined in five years.²²⁾)

In such intensive declines of the rural population, of labor force in agriculture and of the number of farms, how the present agriculture of the United States has developed?

In the following we first classify the classes of farms in the United States and then observe the trend of development in the U. S. agriculture using hired workers, farm machines, fertilizer and value of farm products sold as indices.

1. Class classification

In the U. S. Census of Agriculture, farms are classified with respect to the sizes of farms based on land in farms and with respect to the economic classes based on the value of farm products sold. In America where intensity largely differs in crops and in regions, the latter classification can describe scales of farms more correctly than the former.

In classifying the classes of farms, we usually adopt as its basis the number of hired workers which is "the chief sign and indicator of capitalism in agriculture"²³⁾, but in the United States we cannot find statistics in which all the farms are classified by the number of employed hired workers. Therefore, we will try a tentative classification of farms according to the value of farm products sold, by analyzing the employment situation of hired workers at farms with different values of farm products sold. We will then examine various indices according to this classification²⁴⁾.

Recently R. Nikolitch of the U. S. Department of Agriculture attempted an interesting analysis, making use of unpublished inside data in classifying the farms in the United States. In the following we will try the classification with reference to his analysis data²⁵⁾.

The characteristic of Nikolitch's analyses is, first of all, classification of farms into four groups under the values of farm products sold, i. e., the largest farms (the value of products sold exceeds \$100,000), large farms (\$20,000-\$100,000), medium-sized farms (\$5,000-\$20,000) and small farms (below \$5,000). He further subdivides the largest farms which were grouped into one category in the 1964 Census into the following sub-categories; the farms with the value of products

22) Concerning the change in definition of "farms", see, *1964 Census*, Vol. 11, pp. XVIII-XX.

23) V. I. Lenin, "New Data on the Laws Governing the Development of Capitalism in Agriculture, Part One. Capitalism and Agriculture in the United States of America". *Collected Works*, 1964, Vol. 22, p. 101.

24) As a matter of fact, such a classification of classes is incomplete since the amount of value of products sold does not necessarily correspond to the number of hired workers. However, in order to analyze the trends of American farming as a whole using various indices, we cannot help but adopt such a method.

25) R. Nikolitch, "Our 31,000 Largest Farms", *Agricultural Economic Report*, No. 175, Mar. 1970.

TABLE 5. Class Classification of Farms

Economic class	Wage expenditure		Average number of hired workers per farm			Average farmer income per farm ¹⁾				Class classification
	Total amount	Expenditure per farm	12 months period		5 months period	Total income (A)	Farm income ²⁾	Off-farm income (B)	B/A	
			By Nikolitch	By the author						
Total	Mil. dol. 2,799	Dol. 886	0.3	0.3	0.8	Dol. 6,797	Dol. 4,210	Dol. 2,587	38.1%	
\$ 100,000 or more	1,123	35,771	14.1	14.1	33.7	23,813	21,188	2,625	11.0	Capitalist farms
\$ 40,000~100,000	574	5,193	1.1	2.0	4.9					
\$ 20,000~ 40,000	447	1,720		0.7	1.6	11,424	9,384	2,040	17.9	
\$ 10,000~20,000	317	678	0.2	0.3	0.6	7,542	5,952	1,590	21.1	Medium farms
\$ 5,000~10,000	165	327		0.1	0.3	5,645	3,741	1,904	33.7	
\$ 2,500~ 5,000	75	170	0.0	0.1	0.2	4,433	2,213	2,220	50.1	Poor farms & rural laborers
Less than \$2,500 ³⁾	68	51		0.0	0.0	4,497	1,095	3,402	75.7	

Source: 1964 Census, Vol. II, pp. 648-649, p. 664. R. Nikolitch, *op. cit.*, p. 21, National Advisory Commission on Food and Fiber, *op. cit.*, pp. 186-187.

1) Average income per farm in 1965.

2) Including government payments.

3) Excluding abnormal farms.

sold of \$100,000-\$200,000, the farms of \$200,000-\$500,000, the farms of \$500,000-1,000,000 and the farms of \$1,000,000 or more. This makes it possible to analyze the actual conditions of the largest farms more correctly.

Secondly, he assumes the supply of family workers of an average farm in the United States to be one-half man-years and defines the farms which employ more than one-half man-years of hired workers as "larger-than-family farms" and the farms which employ less than one-half man-years of them as "family farms". He then divides the total expenditures of respective classes paid as wages to the hired workers by the number of farms, and calculates the average amount expended for hired labor per farm under this classification of the value of products sold. Further he divides this by the cost of one year of full time work by a male worker, and estimates the average man-years of hired workers in farms classified by the value of products sold²⁶⁾.

As is shown in Table 5, the number of hired workers for the largest farm with the value of products sold of \$100,000 or more is thus calculated to be 14.1 man-years, for a large farm 1.1, for a medium farm and a small farm 0.1 and 0.0 (less than 0.05 person) respectively. He concludes that all except the largest farms are family farms.

However, this method of his analyses has some defects. First, he treats the farms with the value of products sold of \$20,000-\$100,000 as large farms in one group. If we take the farms with the value of products sold of \$40,000-\$100,000 and estimate the number of hired workers in the same way as he does, we will find that the number is 2.0 man-years and that these are what is called "larger-than-family farms" which depend on hired workers for most of their farm workers.

Secondly, in estimating the number of hired workers he assumes that they are hired throughout the year (for 12 months). They are, however, seldom hired throughout a year in agricultural production which is affected largely by seasons. Therefore, according to the definition of regular hired workers in the census, we assumed the annual working days of hired workers to be five months (150 days) and estimated the annual total numbers of hired workers. By this estimation, the number is 33.7 persons for the largest farm with the value of products sold \$100,000 or more and 4.9 persons for \$40,000-\$100,000 class. Even for the \$20,000-\$40,000 class, the number is 1.6 persons exceeding the basis of 1.5 persons, and the employment situation of hired workers greatly differs between these farms and the farms of below \$20,000 which hires 0.6 person or less.

Therefore, we consider here the farms with the value of products sold of \$20,000 or more to be the farms with capitalist characters; the \$20,000-\$40,000 class which hires average 1.6 workers as rich farms and \$40,000-\$100,000 class

26) R. Nikolitch, *ibid.*, p. 21.

which hires 4.9 workers and the class of \$100,000 or more which hires 33.7 workers as capitalist farms.

In classifying farms with the value of products sold of below \$20,000 which do not depend much on hired workers, it is better to use the farm and off-farm incomes of the same table as the index. The average total income per farm is \$23,813 for the class of \$40,000 or more and reduces in proportion to the value of farm products sold to \$4,400 for the class below \$5,000. On the other hand the ratio of off-farm income to the total income shows a reversed trend. This ratio is only 10% level for rich and capitalist farms with the value of products sold of \$20,000 or more. However, off-farm income accounts for 50% of the total income for the class with the value of products sold of \$2,500-\$5,000 and accounts for more than 75% for the class of below \$2,500; both of them depend only a very little on farm production. For capitalist farms of \$40,000 or more nonfarm business, rent and interests constitute most of the off-farm income and income from wages and salaries is only about 30%. However, for both classes below \$5,000, wage income accounts for more than 70% of the off-farm income. It may be considered that the farms in these two classes depend on income from wages for the substantial part of their living²⁷⁾. Accordingly the category with the value of products sold of \$2,500-\$5,000 whose farm income and off-farm

TABLE 6. Trends of Farms by Economic Classes

Economic class		Year			Rate of increases or decreases ²⁾
		1959	1964	1964 (Modified) ¹⁾	
Total		3,707,973	3,157,857	2,991,857	△19.3%
Capitalist farms	\$ 1,000,000 or more	408	919	919	125.2
	\$ 500,000~1,000,000	800	1,574	1,574	96.8
	\$ 200,000~ 500,000	4,570	7,760	7,760	69.8
	\$ 100,000~ 200,000	14,201	21,148	21,148	48.9
	\$ 40,000~ 100,000	82,120	110,513	110,513	34.6
Rich farms	\$ 20,000~ 40,000	210,402	259,898	259,898	23.5
Medium farms	\$ 10,000~ 20,000	483,004	467,096	467,096	△ 3.3
	\$ 5,000~ 10,000	653,881	504,614	504,614	△22.8
Poor farms & rural laborers	\$ 2,500~ 5,000	617,677	443,918	443,918	△28.1
	Less than \$ 2,500 ³⁾	1,637,849	1,338,239	1,172,239	△28.3

Source: 1959 Census, Vol. II, pp. 1212-1213.

1964 Census, Vol. II, pp. 638-639. R. Nikolitch, *op. cit.*, p. 2.

- 1) Recalculated by modifying the definition of 1959.
- 2) Comparison of modified numbers of farms in five years.
- 3) Including part-time farms and part-retirement farms but excluding abnormal farms.

27) 1964 Census, Vol. II, pp. 642-643.

income are nearly equal is defined as poor farms. The category below \$2,500 which depends on off-farm income for more than three quarters of their total income is defined as rural laborers. In the following, we will treat the farms of below \$5,000 class by grouping them into one class of poor farmers and rural laborers.

Lastly, both of the classes with the value of products sold of \$5,000-\$10,000 and \$10,000-\$20,000 which hardly depend on hired workers but depend on farm income for 70-80 % of their total income, are the typical family farms in the United States and are defined as medium farms.

The foregoing is the class definition of the farms in the United States. In summary the farms with the value of farm products sold of \$40,000 or more are capitalist farms. The class of \$20,000-\$40,000 belongs to rich farms. The class of \$5,000-\$20,000 is medium farms, and the class of below \$5,000 is poor farmers and rural laborers.

The recent trend of these respective classes of farms is next shown in Table 6. In 1964 capitalist farms accounted for 4.5 % of the total number of farms, rich farms 8 %, medium farms 31 %, and poor farmers and rural laborers 56 %. After 1959, the change in the number of farms was in the different direction for farms below and above the value of products sold of \$20,000. The number of rich and capitalist farms with the value of products sold of \$20,000 or more has increased. It should be noted that the farms with the larger value of products sold have the higher rate of increase. The number of farms with the value of products sold of \$100,000 or more has increased by 57 % as a whole from 19,979 to 31,401. Of these the number of farms in the \$500,000-\$1,000,000 class has increased from 800 to 1574. For the largest farms with the value of products sold of \$1,000,000 or more (called "one-million-dollar farms" hereafter), the number of farms has increased from 408 to 919 by more than two times.

On the other hand, for any of the classes with the value of products sold of below \$20,000, the number of farms has decreased. Especially the decrease of the number of poor farmers and rural laborers is striking (28 %). These are the classes to which "people left behind" mentioned earlier mainly belong. Affected by the farm-abandonment policies promoted by the government, 639,000 farms have been abandoned in these five years. Compared with this, the decrease of the number of medium farms is small, but 23 % of medium farms with the value of products sold of \$5,000-\$10,000 have been abandoned in these five years. They are not at all a stabilized class.

I have so far outlined the recent trend of the number of farms by each class. Even from this analysis the advantages of rich and capitalist farms over the family farms (medium farms) may be easily conceived. In the following we will further pursue the relations between the two by using various indices.

2. Use of hired workers

In classifying the classes of farms, we have dealt with the problem of hired workers to some extent. Here, we will analyze the problem by focussing on the concentration of hired workers. With the decrease of the number of farms and the rapid development of the mechanization of farming that will be described later, the number of family workers and hired workers who are engaged in farming has sharply decreased in the United States. In 1930 there were 9,307,000 family workers and 3,190,000 hired workers. In 1950 the number was respectively 7,597,000 and 2,329,000. In 1960 it was 5,172,000 and 1,885,000. In 1970 it declined sharply to 3,348,000 and 1,174,000 respectively. Today the number for both workers have declined to about one-third of those at the time of the plunge into the great depression. (Recently the number of migratory farm workers among hired workers has decreased remarkably. During these ten years the number has declined from 409,000 to 196,000 persons by nearly half²⁸⁾.)

However, in the process of such a sharp decline of the number of family workers and hired workers, concentration of hired workers has rapidly advanced in large-scale farms which characterizes current American agriculture. If we observe the employment situation of hired workers by taking the amount expended for hired labor in farms as an index (Table 7), capitalist farms concentrated 50% of the amount expended by all the farms in 1959. In 1964 it exceeded 60% of \$2,798 million, the total expenditure for hired labor. The farms with the value of products sold of \$100,000 or more alone accounted for 40%. According to the estimation by Nikolitch, a little less than 2,500 farms of \$500,000 or more

TABLE 7. Concentration of Expenditure for Hired Labor

Economic class		Year		Average expenditure per farm (1964) Hundred dol.
		1959	1964	
Total		100.0 %	100.0 %	9
Capitalist farms	\$ 500,000 or more	30.1	16.6	1,862
	\$ 100,000~500,000		23.5	228
	\$ 40,000~100,000		20.5	52
Rich farms	\$ 20,000~ 40,000	18.4	16.0	17
Medium farms	\$ 5,000~ 20,000	23.3	17.2	5
Poor farms & rural laborers	Less than \$ 5,000 ¹⁾	7.2	5.1	1

Source: 1959 Census, Vol. II, pp. 1218-1219.

1964 Census, Vol. II, pp. 648-649, p. 664. R. Nikolitch, *op. cit.*, p. 21.

1) Excluding abnormal farms.

28) The number of family workers and hired workers is the average number of persons at work for each month during the year. The number of migratory farm workers is the number of persons at work at the end of each year. (U. S. D. A., *Agricultural Statistics*, 1967, p. 528. *Agricultural Statistics*, 1971, pp. 454-455.

accounted for 17% which corresponded to the amount expended by 972,000 medium farms. As few as 919 "one-million-dollar farms" expended more than 10% of the total amount to hired labor in the United States.

Seen from the average amount expended per farm, a farm of \$500,000 or more paid average \$186,000 and a "one-million-dollar farm" paid the huge amount of \$332,000 for hired labor. If we estimate the number of hired workers by using Nikolitch's method before mentioned, the number amounts to 130 persons (312 persons if we assume the working days to be five months). The next class of \$100,000-\$500,000 expended \$23,000 on the average and hired about nine persons (more than 20 persons).

As is seen, today in the United States, a few capitalist farms led by the "one-million-dollar farms" which each employ more than 100 persons, hold most of the hired workers, while the total number of them is declining. The farms with the value of products sold of below \$20,000 which account for the majority of farms, depend least on hired workers.

3. Use of farm machines and fertilizer

The result of analysis of hired workers made clear the development of capitalistic relations and the concentration of hired workers by large-scale farms within the American agriculture. Recent supporters of the advantages of family farms, however, proceed their arguments on the bases of the progress of mechanization and the subsequent disappearance of hired workers. But how does our above analysis of hired workers relate to the use of farm machines? We will analyze here by taking farm machines and fertilizer as indices that indicate the intensity of farming.

(1) Farm machines

As is well known, after the motorization of farming during the 1920's, the mechanization in farms in the United States has rapidly proceeded. The number of tractors (except garden tractors), for example, increased from 1,000 in 1910 to 920,000 in 1930, 3,394,000 in 1950, 4,787,000 in 1964. The number of grain combines increased from 61,000 in 1930 to 910,000; corn pickers from 50,000 to 690,000; motor trucks from 900,000 to 3,030,000, each showing remarkable increase²⁹⁾. Despite of the fact that the number of farms decreased by half in these thirty years, the spread of farm machines has been really rapid.

Today the spread proceeded as far as the average number of machinery owned by a farm is 1.5 for tractors and 1.0 for motor trucks. In the case of tractors, the average number per farm is 0.9 for poor farmers and rural laborers, and 2.0 for medium farms. On the other hand the number is 3.4 for capitalist farms of \$40,000-\$100,000, 5.9 for the largest farms of \$100,000 or more. Moreover, in capitalist farms the acreage harvested per tractor is 113 acres for the

29) 1964 Census, Vol. II, p. 681.

class of \$100,000 or more, 99 acres for the class of \$40,000-\$100,000. It is 84 acres for rich farms, 64 acres for medium farms and 27 acres for poor farmers and rural laborers. The acreage becomes greater in large farms which possess a number of machines and we can find the capitalist farms utilize machines most efficiently.

Tractors and motor trucks so far mentioned are farm machines used commonly in all the type of farming. Besides, many special farm machines are used in particular regions and for specific crops. Especially in intensive farming such as vegetables and fruits, special machines are developed for each crop such as various kinds of harvesters, speed sprayers, sprincklers and pruning machines. These are not included in the items covered by the census, and it is difficult to give correctly the whole picture of mechanization in the United States. Here we will analyze the situation of machine use in general by using an index of the amount expended for petroleum fuel and oil for the farm business, which shows the degree of utilization of various farm machines fairly comprehensively (Table 8).

TABLE 8. Concentration of Expenditure for Petroleum Fuel and Machine Hire

Economic class	Expenditure for petroleum fuel			Expenditure for machine hire		
	1959	1964	Average expenditure per farm (1964)	1959	1964 ¹⁾	Average expenditure per farm (1964)
Total	% 100.0	% 100.0	Hundred dol. 6	% 100.0	% 100.0	Hundred dol. 3
Capitalist farms	\$ 500,000 or more	2.7	194	8.7	304	
	\$ 100,000~500,000	7.5	51	14.7	46	
	\$ 40,000~100,000	10.6	23	13.6	11	
Rich farms	\$ 20,000~ 40,000	15.9	14	14.9	5	
Medium farms	\$ 5,000~ 20,000	45.0	7	35.8	3	
Poor farms & rural laborers	Less than \$ 5,000 ²⁾	20.8	2	20.8	1	

Source: 1959 Census, Vol. II, pp. 1218-1219.

1964 Census, Vol. II, pp. 648-649, pp. 662-664. R. Nikolitch, *op. cit.*, p. 18.

1) Figures for 1964 do not include cotton ginning expenditure.

2) Excluding abnormal farms.

In 1964 the farms in the United States paid \$1,787 million for petroleum fuel for the farm business. This is an increase of about \$232 million compared with the amount of five years before. During this period the expenditure for petroleum fuel by rich and capitalist farms has increased from 34% to a more concentrated proportion of 45%. On the other hand, the expenditure for medium farms has declined from 45% to 39%. For poor farmers and rural laborers the ratio has dropped to 16%. The average amount expended per farm is \$158 for poor farmers

and rural laborers, \$718 for medium farms. In capitalist farms, it is \$2,300 for the class of \$40,000-\$100,000 and \$5,100 for the \$100,000-\$500,000 class. Farms in the largest class with \$500,000 or more each pay more than \$19,400. A marked difference is observed between capitalist farms and medium farms or poor farms.

We will next refer to the amount expended for machine-hire³⁰⁾ which can not be neglected in the mechanization of farming in the United States. This is to entrust to custom farmwork the farmwork which should be properly performed with self-owned machines by farm operators themselves or by hired workers. The expenditure for machine-hire includes the cost of machines and the cost of hired labor. Therefore, the introduction of machine-hire into farming means the more increased use of machines and of hired labor.

The machine-hire has recently spread very rapidly. In 1964 the total amount expended for machine-hire amounted to \$870 million, 38 % of which is concentrated by the capitalist farms. The concentration is much more advanced than in the expenditure for petroleum fuel and oil used for the farm business. Farms with the value of products sold of \$20,000 or more including rich farms paid as a whole 54 % of the total amount of expenditure in the United States, and increased more than 10 % compared with the expenditure of five years before. Especially, large-scale farms of \$100,000 or more which was only 1 % of the total number of farms, paid almost one-quarter of the total amount expended. On the other hand, the shares by medium farms and by poor farmers and rural laborers have much declined from 36 % to 31 % and from 21 % to 13 %, respectively.

The average amount expended per farm is \$64 for poor farmers and rural laborers, and \$280 for medium farms. On the other hand, in capitalist farms it is \$1,100 for the class of \$40,000-\$100,000, nearly \$4,600 for the class of \$100,000-\$500,000 and is over \$30,000 for the class of \$500,000 or more.

It may appear that the machine-hire is mainly by medium farms and poor farms which cannot possess various kinds of machines. In fact, however, capitalist farms which possess farm machines abundantly make much better use of machine hire than small farms. Large-scale farms possess a number of latest machines and, moreover, they spend money abundantly for the farmwork which is more advantageously performed when entrusted to machine-hire than purchase machines, thus enlarging the difference between them and small farms which depend on manual labour for most of their farmwork.

As is clear from the above analysis of machinery, capitalist farms which hire a number of workers are most advanced in the use of machines. As mechani-

30) The machine-hire means to entrust to others such farm works as tractor hire, plowing, silo filling, various spraying and fruit picking. Trustees own machines and on the request of farm operators (trustees), operate machine work himself or by hiring others in the farm of the truster.

zation proceeded, the organic structure of capital developed highly and there were not a few cases in which the absolute number of hired workers in an individual capitalist farm decreased. However, in capitalist farms as a whole, concentrations of machines as well as hired workers increased intensively. Recently a few agribusinesses (described later in details) which have remarkably entered into agricultural production, are expected to have increased the number of hired workers in the process of developing mechanization.

(2) Fertilizer

We will proceed to analyze fertilizer which, as well as machines, indicates intensity of farming. The volume of fertilizer used in the United States in these five years increased from 19,802,000 tons to 23,286,000 tons, most of which was due to the increased volume used in capitalist farms. As is shown in Table 9,

TABLE 9. Concentration of the Use of Fertilizer

Economic class		1959	1964	Average use per farm ¹⁾ (1964)	Average use per acre ²⁾ (1964)
Total		100.0 %	100.0 %	7.4 ton	21.0 kg
Capitalist farms	\$ 100,000 or more	10.2	15.7	116.5	30.2
	\$ 40,000~100,000	11.2	16.5	34.9	25.8
Rich farms	\$ 20,000~ 40,000	15.8	20.7	18.6	26.0
Medium farms	\$ 5,000~ 20,000	39.1	32.2	7.7	20.0
Poor farms & rural laborers	Less than \$ 5,000 ²⁾	23.2	14.4	0.5	14.7

Source: 1959 Census, Vol. II, pp. 1212-1213, pp. 1216-1217.

1964 Census, Vol. II, pp. 638-639, pp. 646-647, p. 654, p. 662.

- 1) Average use of quantities per farm and per acre of land in farm.
- 2) Excluding abnormal farms.

the concentrated share of capitalist farms in the quantity of fertilizer used, increased from 21 % in 1959 to 32 % in 1964. The volume of fertilizer used in the farms with the value of products sold of \$20,000 or more which includes rich farms, amounts to 53 % of the total volume. On the other hand, the ratio of the volume used by medium farms, poor farmers and rural laborers to the total volume used decreased from 39 % to 32 % and from 23 % to 14 % respectively.

The volume used per farm is 0.5 ton for poor farmers and rural laborers, and less than 8 tons for medium farms, while in capitalist farms it is 35 tons for the class of \$40,000-\$100,000, and 116 tons for the largest farms of \$100,000 more or. Finally, in the volume of fertilizer used per acre, rich and capitalist farms are more advanced than medium farms the latter using 20 kg and the former 26-30 kg. In current American agriculture, capitalist farms are more advanced than medium farms in intensity.

(3) Yield per acre

We have so far analyzed the indices such as farm machines and fertilizer which indicate intensity of farming. As a final attempt, we will compare the productivity of respective classes. The yield of any main crop per acre shown in Table 10, is higher for farms with greater value of products sold. First, we will begin with grains. For wheat the yield is 30 bushels in capitalist farms and 23 bushels in medium farms. For barley it is 41-58 bushels in the former and 31 bushels in the latter. For corn it is 78 and 58 bushels. The yield per acre in capitalist farms is much higher than in medium farms and the yield in poor farmers and rural laborers is the lowest for each crop.

 TABLE 10. Yield or Value of Products Sold per Acre for Main Crops (1964)¹⁾

Economic class		Crops	Grains			Commercial crops		
			Wheat (Bushel)	Barley (Bushel)	Corn (Bushel)	Potato ²⁾ (Cwt.)	Cotton ³⁾ (Bale)	Vegetable ⁴⁾ (Dollars)
Total			25.4	36.9	62.5	189.0	1.06	296
Capitalist farms	\$ 100,000 or more		30.9	57.7	77.6	217.1	1.72	447
	\$ 40,000~100,000		30.2	41.2	78.1	186.2	1.19	256
Rich farms	\$ 20,000~ 40,000		27.7	36.2	72.4	155.0	0.94	204
Medium farms	\$ 5,000~ 20,000		23.5	31.1	57.9	125.1	0.76	157
Poor farms & rural laborers	Less than \$ 5,000 ⁵⁾		20.7	26.8	40.6	113.9	0.78	137

Source: 1964 Census, Vol. II, pp. 650-653.

1) Yield or value products sold per acre harvested.

2) 1 cwt.=100 lbs.

3) One bale is approximatedly 500 lbs.

4) Since the kinds of vegetables are many, they can not be compared in quantities and are compared in the value of product sold.

5) Calculated excluding abnormal farms.

The difference in productivity of the following commercial crops greatly differs with the scale of farms. The yield of potatoes per acre is 186-217 hundredweights for capitalist farms and 125 hundredweights for medium farms. The yield of cotton is 0.8 bale for those under medium farms, and in capitalist farms it is 1.2 bales for the class of \$40,000-\$100,000 and more than 1.7 bales for the class of \$100,000 more or, producing more than two times as much as that for medium farms. In the case of vegetable which has many varieties, we can compare only under their values of products sold per acre. Here again it is \$157 for medium farms and in capitalist farms it is \$256 for the class of \$40,000-\$100,000. It almost amounts to \$450 for the class of \$100,000 more or. According to R. Nikolitch, it is \$561 for the class with the value of products sold of \$500,000-\$1,000,000 and \$689 for "one-million-dollar farms", which exceeds four times as

much as that of medium farms.

The yield (or value of products sold) per acre of any above mentioned crop seen in the table is greater in rich and capitalist farms than in medium farms; the yield by poor farmers and rural laborers is the lowest. The supporters of family farms usually maintain that family farms are more advantageous than large-scale farms since medium farms and family farms operate farming more intensively in labor and more carefully and diligently. But this is not relevant at all to current American agriculture. Capitalist farms operate the most rational farming by using farm machines, fertilizer and agricultural materials abundantly and by introducing crops of superior breeds and more scientific methods of cultivation. Medium farms and family farms to be short of money cannot beat capitalist farms in the total volume of production and in yield per acre.

4. Concentration of production

As the Table 11 shows, the total value of farm products sold in the United

TABLE 11. Value of Farm Products Sold by Economic Classes

Economic class	Value		Percentage		Rate of increases or decreases	Value of products sold per farm (1964)	
	1959	1964	1959	1964			
Total	Mil. dol. 30,625	Mil. dol. 35,294	% 100.0	% 100.0	% 15.2	Hund. dol. 112	
Capitalist farms	\$ 500,000 or more	1,800	3,434	5.9	9.9	90.8	14,020
	\$ 100,000~500,000	3,200	5,105	10.4	14.4	59.5	1,760
	\$ 40,000~100,000	4,670	6,474	15.2	18.4	38.6	586
Rich farms	\$ 20,000~ 40,000	5,648	7,114	18.4	20.2	26.0	274
Medium farms	\$ 5,000~ 20,000	11,428	10,267	37.3	29.0	△10.2	106
Poor farms & rural laborers	Less than \$ 5,000 ¹⁾	3,789	2,754	12.3	7.8	△27.3	15

Source: 1959 Census, Vol. II, pp. 1220-1221,

1964 Census, Vol. II, pp. 648-649, p. 664. R. Nikolitch, *op. cit.*, p. 2, p. 42.

1) Excluding abnormal farms.

States increased from \$30,625 million in 1959 to \$35,294 million by \$4,668 million corresponding to approximately 15%. However, below and above the value of products sold of \$20,000, we find a reversed trend in the rate of increase and decrease of the value if we examine the situation for each class. The value of products sold of medium farms which used to carry the main part of farm production, declined from \$11,428 million to \$10,267 million by 10% and that of poor farmers and rural laborers declined from \$3,789 million to \$2,754 million by nearly 30%. On the other hand, increase in rich and capitalist farms is striking.

Next, we will examine the trend of the accumulation of the value of products sold by large-scale farms. The share of capitalist farms increased from 31% to

43 % in these five years. In 1964 the concentrated share of all the farms with the value of products sold of \$20,000 or more including rich farms far exceeded 60 %. Farmers with the value of products sold of \$100,000 or more alone sold a little less than a quarter of the total value. As few as a little less than 2,500 farms of \$500,000 or more produce about 10 % of the total farm production in the United States. On the other hand, the part played in farm production by the farms that sold less than \$20,000 has rapidly decreased. The percentage for medium farms in the total value of products sold is already reduced to less than 30 %. The value of products sold of 31,000 farms of \$100,000 or more is becoming equal to that of nearly one million medium farms. 1,782,000 poor farmers and rural laborers who occupy more than half of the total farms sold only less than 8 %, which is even less than the value of products sold (10 %) by less than 2,500 farms that each sold more than \$500,000.

The average value of products sold per farm is \$1,540 on the average for a poor farmers and rural laborers and \$10,600 for a medium farms. On the other hand in capitalist farms it is \$58,600 for the class of \$40,000-\$100,000 and \$176,000 for the class of \$100,000-\$500,000 ; it amounts to a huge sum of \$1,402,000 for the class of \$500,000 or more. The value of products sold by only 919 "one-million-dollar farms" is indeed \$2,576,000.

Finally we will examine item by item the main farm products which are strongly accumulated in the hands of large-scale farms (Table 12). First, let's us examine grains. Sorghum, barley and soybeans which are cultivated mainly in the Midwest area, which used to be called a typical region for family farms, are now cultivated for the most part by rich and capitalist farms. The farms with the value of products sold of \$20,000 or more produced 62 % of sorghum, 60 % of barley, and 52 % of soybeans. The percentages of the products produced by medium farms dropped to 32 %, 35 % and 40 % respectively. In case of rice which is considered to be an intensive crop among the grains produced in the United States, the farms with the value of products sold of \$100,000 or more alone accounted for 41 % of the value of rice sold.

In the following commercial crops, the concentration is much more striking than in grains. Capitalist farms alone produced 53 % of cotton, 66 % of fruits, 76 % of vegetables, and 81 % of potatoes. The part played by medium farms in these varieties is small. The farms with the value of products sold of \$100,000 or more alone produced 61 % of vegetables, 53 % of potatoes, 46 % of fruits, and 30 % of cotton. In case of vegetables, the farm with the value of products sold of \$500,000 or more alone produced more than 30 %, and only 200 "one-million-dollar farms" alone carried more than 20 % of the total production of vegetables in the United States³¹⁾.

Finally as to livestock, rich and capitalist farms produced exactly 50 % of

31) R. Nikolitch, *op. cit.*, p. 16.

TABLE 12. Concentration of Production of Main Farm Products

(Unit: %)

Economic class		Farm products	Grains			Commercial crops				Livestock			
			Sorghum	Barley	Soybeans	Cotton	Potato	Vegetable	Fruit	Dairy products	Cattle	Broilers	Chicken eggs
Total			100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Capitalist farms	\$ 100,000 or more		14.4	20.0	7.0	29.9	53.0	60.9	45.7	10.5	32.8	22.4	36.8
	\$ 40,000~100,000		24.4	16.8	17.2	22.7	28.5	15.0	20.6	13.6	18.1	33.6	23.9
Rich farms	\$ 20,000~ 40,000		23.3	22.8	28.0	16.1	10.9	9.3	14.2	25.8	16.9	26.1	16.5
Medium farms	\$ 5,000~ 20,000		32.5	34.9	40.3	20.7	5.7	10.0	14.7	43.9	22.9	17.1	17.7
Poor farms & rural laborers	Less than \$5,000 ¹⁾		5.2	5.1	7.4	10.3	1.4	4.2	4.6	5.2	9.0	0.8	4.5

Source: 1964 Census, Vol. II, pp. 650-653, pp. 666-668.

1) Excluding abnormal farms.

Note: The products to the left and including potatoes indicate percentages in the quantities, and the products to the right and including vegetables indicate percentages in the value of products sold.

dairy products, though there are relatively many family farms among dairy farms. The percentage accounted for by capitalist farms in poultry and cattle is much higher. In 1964 capitalist farms sold 61 % of eggs, 56 % of broilers and 51 % of cattle. The percentage for medium farms is only around 20 % for each item.

As is observed, main agricultural products of the United States are produced by capitalist and rich farms. Especially the production of such commercial products as vegetables, fruits, eggs and broilers are actually monopolized by a very small number of capitalist farms led by "one-million-dollar farms".

5. The advance of agribusiness

In relation to the concentration of production by a small number of capitalist farms demonstrated so far, a noticeable new problem has been raised to be attended to. It is the problem of advance of agribusiness into the process of production. Besides the control by banks and life insurance companies through farm-mortgage debt and the control by railroads which monopolize transportation, agribusinesses—food processing companies, farm products distributors, and manufacturers of such farm materials as farm machines, fertilizer, agricultural chemicals, etc.—so far controlled farmers chiefly through sales and purchasing markets but recently these businesses have advanced even into the agricultural production processes.

Although it is impossible to classify with the data found in the census, we can assume that among the farms with the value of products sold of \$100,000, or more especially among the farms of \$500,000 or more, there exist a considerable number of farms which are indirectly or directly controlled by these related enterprises. According to the United States Senate Select Committee on Small Business, 17,578 farm corporations filed federal income tax in 1965 (the number does not include corporations of wives and family members organized with a view to promoting transfer of farms from generation to generation), which indicates that the agribusinesses have entered in agricultural production from off-farms rapidly after 1960³²⁾.

Today agribusinesses chiefly advance in the forms of "vertical integration" or "contract farming". The manners in which they advance are extremely different depending on the kinds of product³³⁾. In the case of milk only the price and the volume sold are decided by contracts between milk dealers and producers for a certain period of time. In the case of vegetables control is exerted by contracts between growers and processors on minute details such as the dates of seeding, plants breeding, methods of cultivation and grades of products. In the production of broilers "vertical integration" is most advanced. Here, con-

32) Select Committee on Small Business, Senate, *Impact of Corporation Farming on Small Business*, 1969.

33) Concerning the vertical integration in the United States farming, refer to, Akira Futami, *Structure of Current American Agriculture*, 1965, pp. 183-201.

tracts are signed between manufacturers or merchants of feed grains and farmers. The manufacturers or merchants provide most of the means of production (feed grains, chick, chemicals and other materials), and the farmers only provide labor, facilities and buildings. The ownership of broilers which are produced, often belongs to the manufacturers or merchants of feed grains. The right of management of farmers is widely restricted and many farmers are de facto degraded to the position of hired workers. The development of new breeds of broilers and layers is a highly professional business and is monopolized by the hands of a few big enterprises. Besides, some products, for example peaches and pears in California, apples in Appalachia and pineapples in Hawaii, are directly cultivated by processors in their farms. There are also some other products like citrus fruits in California, Florida and Arizona which are cultivated through contracts signed between producers and grower cooperatives (Sunkist Growers is the typical example).

Moreover, besides vertical integration, today there are cases in which a part of production process is handled by farm related businesses. Cattle were used to be transacted chiefly in terminal markets. As modern butcheries were constructed, circulation channels changed. It is now a common practice to fatten cattle for a certain period in large-scale feedlots owned by professional feeders, until cattle which are purchased from farmers gain the market weight. In 1964 there existed 1,635 feedlots which were able to accommodate more than 1,000 cattle. Nearly 30% of the total national volume of cattle circulation were handled by the feedlots which could accommodate more than 4,000 cattle. Custom feeding by stockbreeders, feeders and stock dealers is more commonly practiced in larger-scale feedlots. In 1964 more than one-third of the number of cattle sold from the leading feedlots were dealt by contractors³⁴⁾.

The contract companies (trustees) of machine-hire mentioned above, which are not defined as farms in the census, also handle a part of production processes. Machine-hire is most spread in aero control. In the main farming areas, most of the aero spraying of agricultural chemicals is dependent on contract companies (agricultural and forestry aircraft service companies)³⁵⁾. Various tractor hire, soil disinfection, weeding and fertilization are also dependent on contractors. Partly machine pruning of fruit trees is also contracted.

Lastly as mechanization of various harvesters, selecting machines and packing facilities advance, we find cases in which shipping companies who own these expensive specialized machines, purchase vegetables on the fields before harvest-

34) National Commission of Food Marketing, *Food from Farmer to Consumer*, 1966, pp. 21-29.

35) See, Council for Improvement of Productivity in Agriculture, Forestry, and Fishery, *Air Service Businesses in American Agriculture and Forestry—Oversea Agricultural Productivity Inspection Report*, No. 53, 1966, pp. 74-90. Some of the spraying contract companies have relation with the makers of agricultural chemicals.

ing and the shipping companies themselves and not the farmers take charge of the harvesting.

As we have seen above, agribusinesses advance into processes of farm production in various forms such as contract farming, handling a portion of production process separating it from the hands of farmers. The advancement of these businesses from off-farm businesses is surely promoting capitalization of agricultural production and enforcing the concentration of production as well as accelerating the downfall of small farms.

6. Summary

The trends of evolution and development of the current agriculture in the United States are elucidated through the analyses of previous chapters that are based on the census data. Capitalist farms are most advantageous in all the phases such as labor force, mechanization and the use of fertilizers, and are rapidly accelerating the concentration of production through competition by driving away medium and poor farms. Medium farms and family farms which were once the main contributors of farm production in the United States, are disintegrated in the process of competition with capitalist and rich farms; except for a few medium farmers developing into capitalist farmers, most of farmers are failing down into the positions of poor farmers and rural laborers. The part which are played in farm production by poor farmers and rural laborers is now exceedingly small. The most of the farm production in the United States are carried by a few number of capitalist and rich farms that represented by "one-million-dollar farms", each using more than a hundred of hired workers and selling more than 2.5 million dollars of farm products annually. The concentration of production by a few number of capitalist farms is especially evident in commercial products such as vegetables fruits broilers and eggs in which agribusinesses have intruded.

As R. Nikolitch and supporters of family farms maintain, it is natural that labor saving by mechanization has enlarged the size of farms which are to be operated by family work. In that sense the farms with the value of farm products sold of \$20,000 or more, at times the farms of \$40,000 or more, partially include family farms. However, the important problem is what kind of farms are carrying larger part of farm production. In this point, R. Nikolitch gives us very precious figures by analyzing the unpublished census data. That is, the rate in the total value of farm products sold accounted for by the so-called "larger-than-family farms", increased from 30 % in 1959 to 35 % in 1964. Contrary to his statement, the figures indicate that the dependence on hired workers increases in farm production of the United States³⁶⁾.

36) R. Nikolitch, *op. cit.*, p. 39. Nikolitch himself, disregarding these figures, emphasized only the increase of the ratio of family farms in the class with the value of products sold of \$40,000-\$100,000 and the class of \$100,000 or more.

As K. Marx pointed out in "The Capital"³⁷⁾, the absolute number of hired workers who are engaged in farming decreases with the advancement of mechanization or the heightening of the organic structure of capital. In its very process concentration on large-scale farms proceeds, expelling small farms which depend much more on manual labor, thus the capitalization of large farms which depend on farm machines and hired workers is further promoted.

37) K. Marx, *The Capital*, 1959, Vol. III, p. 622.