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農業計算学研究

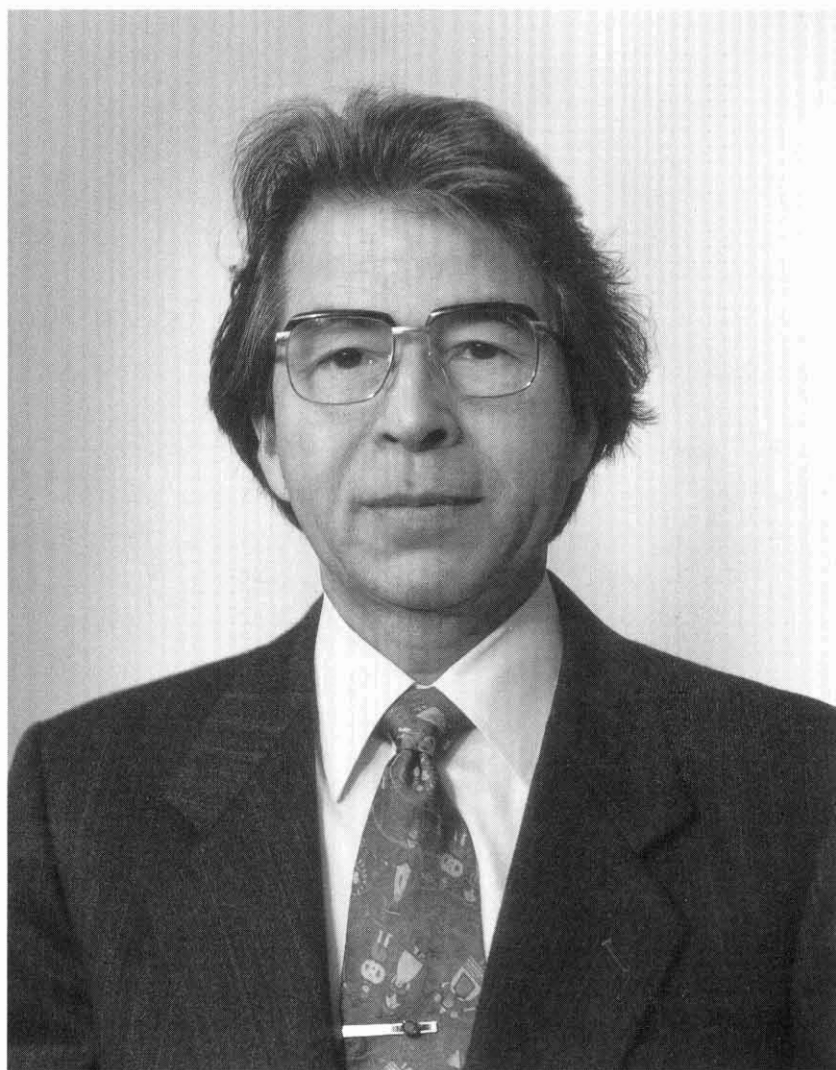
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京都大学農学部

農業簿記研究施設



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SUMMARIES OF ARTICLES

Capital Formation and Procurement in the Agricultural Sector

Kiyoshi KAMEGAI

The source of growth of agricultural production is agricultural investment. How agricultural credit has been contributed to this agricultural fixed capital formation is the main problem in the field of agricultural credit, and it has been sought as the main problem. In this paper, a statistical analysis of the relationship between investment and capital procurement, especially finance in the Japanese agriculture during the thirty years from 1960 after the World War II and the identification of the economic meanings of the relationships are conducted.

Growth and Development of Farm Management and Guarantee and Development of Entrepreneurship

Shiro INAMOTO

In this paper the detailed contents and procurement and development of the required entrepreneurship and their basic problems are investigated from the view point of the source of the development of farm management.

The entrepreneurship as the source of the development of farm management, becomes important currently in the field of (1) management planing ability, (2) problem solving ability, (3) control ability and (4) the ability to provide good manager or heir.

The growth of entrepreneurship can be attained by procurement of good manager or heir and education of these people for further development of entrepreneurship. It is very important to procure and develop entrepreneurship, but the current education method and institution are not well established. Thus this establishment will be one of the major problems in the future. It is also important in current Japanese agriculture to bolster the conditions that accelerate the free operation of entrepreneurship.

Characteristics of Self-Accounting Bookkeeping System

Hideo FURUTSUKA

The main purposes of this study are : 1) to describe the characteristics of the self-accounting bookkeeping system seeking not only reliable but also simple to keep booking ; 2) to identify the procedures of keeping transaction day book and property record book.

The results of this study indicated that 1) the self-accounting bookkeeping system was more reliable than the single entry bookkeeping and simpler than the double entry bookkeeping, 2) an important characteristics of the transaction day book was that the column of "Balance" had a self-proving function, and 3) an important characteristics of the property book was that the book accounted for the static situation.

Problems on the Accounting of Family Farm Economy

—During Changeable Life Stage—

Misaku TSUNEAKI

The subject of this paper is to clarify the problems on accounting for family farm in consideration of following conditions.

Family farm economy in Japan is single economic unit composed of farming and household, and the style of family is not conjugal family, but also more often stem family. Additionally, the book-keeping for family farm bases on a premise to record unitary income, expense, assets, and liabilities as a house. That means one earning member to one household. However, recently, there are a lot of family farm that has some family members earning their wages independently. Shortly, more than double income flow into one family farm during changing life stage.

The result is as follow : it is difficult to account unitary flow and stock economic aspects in the progressive individualism. And Earning family members are making much pocket money as a full discretionay expense respectively. On recording, inspecting their pocket becomes an infringement of private affairs. Therefore, there

is a limitation in the family farm book-keeping to sum whole up. In addition, it will be necessary that economist and statist re-examine about the definition of "household and its member".

The Risk-Bearing and Incentives in the Firm

Hironori ONO

There are many kinds of approaches to the problem of motivation and incentives. In the first place, especially among such approaches, Vroom's model in expectancy theories is investigated by comparing his second proposition with expected utility theory in this paper.

In the Second place, the strength of the incentive is analyzed through constructing basic agency model which introduced measurable utility functions and expected utility maximization hypothesis. Furthermore the influence of the hypothesis on equilibrium is analyzed in order to find the basic view on the relation between the hypothesis and the incentive in the agency model.

Finally, Arrow-Pratt risk aversion is explained from the viewpoint of the incentive. And a general theory of the act of selection between two objects, including Arrow-Pratt risk aversion, is showed. Through this thinking, the general relation between the risk-bearing and forming incentives in the firm is investigated, so that it's proved that one is motivated in the direction of decreasing expected opportunity loss of his utility and the strength of the incentive is a monotonically increasing function in regard with the difference between the two expected opportunity losses.

Types of Village Farming and Conditions of It's Development

Yoko NIYAMA

Group farming based on village is called village farming and has been given a main part in development of rice farming by government and researchers in Japan. However, the general idea of village farming has not set up yet. There are many kinds farming in case studies organization characters of that are not clear.

The objective of this paper is to discuss types of group farming based on village and to present conditions of it's development.

The outline of this paper is as follows.

(1) we presented that we can classify farming in regional agriculture into the follow types : (A)farm (family type ①, collaboration type ②, under the direct management of agricultural cooperative or public corporation ③), (B)business of agricultural service and (C)member's group (to work together a part of agricultural tasks, to use a machine or a facility, to coordinate a way of production). (2) We can set all cases of village farming in each one of the types without ① and ③. The other characteristics of village farming is that the members extent wide area in a whole village. (3) A main condition of development of village farming is to establish organization structure, as farm or business of agriculture service, through to set corporation.

The Transitions and Present Issues of the Institutional Policies for Farm Management

Takashi TAKEBE

The purpose of this paper is to study the transitions of the institutional policies for farm management after World War II, and point out the present issues of those policies concerning agriculture based on land use. We look back the institutional policies for farm management dividing into four periods ; i.e., 1) during the 1950's through 1960's ; 2) during the 1970's ; 3) during the 1980's ; and 4) the recent period under the "new agricultural policy" from 1993.

As concerns the first period, owner-farmer, viable farm, agricultural producers' co-operative corporation, and agricultural production legal person are examined. The second period, tenant-farmer, core farm household (farm household which has core male regular farm worker engaged in it's farming), revised agricultural producers' co-operative corporation, revised agricultural production legal person, and collective production organization are examined. The third period, collective production organization especially based on agricultural land combination is examined. And the fourth period, the new institutional policies for farm management based on land use under the "new agricultural policy" from 1993 are examined.

We show three issues of the recent institutional policies for farm management in agriculture based on land use ; i.e., 1) developing new ideas of individual farm management ; 2) the recognition system for farm management ; and 3) understanding the

agricultural production legal person.

An Econometric Analysis of Institutional, Economic and Technological Effects to the Paddy Field Tenancy Market in Hokkaido

Hiroshi TSUJII

In this paper, a basic Nerlovian adaptive adjustment model in order to explain disequilibrium adjustment processes in the rented paddy field area and rent is built, which is capable of handling illegal renting indirectly, and the model is applied to the case of Hokkaido for the periods of 1960—75 and 1976—90 in order to identify quantitatively the adjustment processes and the effects of the institutional, economic and technological factors to the processes.

The estimation results were statistically and economically successful. The major points found in this paper are as follows :

1. The adjustment processes in the Hokkaido paddy field tenancy market were found to be much faster than the processes in the Mainland Japan.
2. It was found that the Hokkaido paddy field tenancy market had changed from demand surplus situation during 1960—75 to supply surplus situation during 1976—90.
3. The very fast increase in the paddy field conversion area to other crops from 1974 caused paddy field renting area and rent to increase. An increase of 1000ha/yaer in the conversion area incersed renting area by 85ha and rent by 74yen, thus decreased illegal renting area.
4. The increase of the real governmnet purchase price of rice by 1000yen increased the real rent by 1960yen during 1976—90 and by 3364yen during 1960—75.

An Investigation of the Appropriate Size and the Number of Jobbers

—A Case of K City Central Wholesale Market—

Chikuji FUJITANI

The quality and efficiency in the marketing function of the central wholesale market

are determined by the management size of the jobbers. Currently, the size is evaluated to be too small, and it is considered to be caused by the fact that the number of the jobbers in a central market is determined to be too many by the establisher of the market.

In this paper, nine important financial analysis indicators representing profitability, healthiness and productivity of the jobbers by size in K central market are selected. These indicators are then integrated by size of the jobbers and the optimum size of the jobbers is estimated. Based on this estimation the optimum number of the jobbers is sought as an experimental investigation.

A Simulation Analysis of Management of Wholesale Market

—With a Special Reference to the Economy of
the Third Sector Type Market Establisher—

Shigeaki ODA

The first objective of this paper is to formulate a management simulation model of annual cost and revenue of the third sector type wholesale market under a given condition. The second objective is to identify the conditions that assure a balance between the cost and revenue in the long run by applying this simulation model to a wholesale market of the third sector type.

The conditions found were as follows :

1. In the 20 years period case analyzed in this paper, users' fee must be increased by 15% and minimize the long term loan of the wholesale market.
2. The province and local governments which are parts of the third sector type wholesale market must invest capital as much as possible.
3. The market establisher must provide functions and benefits in the wholesale market to the extent that the users will accept the increase of the users' fee.

The Demand and Supply Analysis for Production and Sales Planning of Production Centers of Vegetables and Fruits

Akira YOSHINO

The author develops a new index to determine trends of demand and supply of vegetables and fruits. This index is calculated only from information about increases and decreases of demand and supply and volatilities of price. This enables us to distill confidential information of the trend from the time series data which have very limited number of observations. So the index has extremely broad applications. Usual spread sheet softwares, such as LOTUS, EXCELL, can implement the index.

The index is put into practice in the Tokyo Central Wholesale Market. Planners of production centers can use the index to modify the production and sales strategy and to enlarge their production mixes by adding a new profitable commodity.

Interorganizational Relations of Management Structure for Regional Agricultures

Yasunobu KOMATSU

The purpose of this article is to investigate what kind of management structure is for improving regional agriculture.

For that, we apply "the theory of interorganizational relations".

We investigate what coordination-mechanism of diversified machineries or organizations for regional agriculture, especially coordinating organizations, should be.

We classify management structures for regional agriculture into four models, i.e. <no-coordinating organization model> <salontic-coordinating organization model> <selfish-coordinating organization model> <functional-coordinating organization model>.

We indicate that, in case of the functional-coordinating organization model, management structure is likely established, and the potential of regional agriculture will be improved.

We state necessary conditions for the establishment of management structure as

follows.

Firstly, this structure should have coordinating organizations to joint machineries or organizations of regional agriculture and farmers. Through coordinating organizations' functions, it is able to conduct regional agriculture based upon unified strategy of it, and to stabilize coordination-mechanism in management structure.

Secondly, it is to be desired that coordinating organizations are leadingly operated by machineries or organizations, which are able to negotiate the rest on an equal footing, and have a certain power. Especially, we hope the leadership of administration, i.e. cities, towns, and villages.

Thirdly, according to furnish practical function with coordinating organizations, interorganization relations will become tight, and there is a great possibility of evading to change coordinating organizations into salon.

Fourthly, it is to be desired that coordinating organizations are plural in management structure.

Settlement Conditon of Younger Generation in Semimountainous Rural Area

Kenichi OMORI

The purpose of this study is to clarify the factors of settlement decision of younger generation in semimountainous rural area (*chusankan chiiki*). The study particularly concentrates on the case of Shimane Prefecture (Yokotacho and Iwamicho), located in a typical depopulated area in Japan, and we apply the logit model.

As a result of regression analysis, we clarified the following six factors of settlement decision, (1) annual household income (+), (2) ageing (+), (3) family number (+), (4) distinction between eldest son (or daughter) and others (the former +), (5) distinction between farm household and others (the former +), (6) participation of farming (+).

And we described the locus of probability of settlement hope under the variation of annual household income through a simulation. We pointed out that the formation of place of the income acquisition is still important problem for promotion of settlement of younger generation in semimountainous rural area through examination of probability curve.

The Problems and Development Policy of Moutenous Area Agriculture

—A Case in Ishikawa Prefecture—

Hiroshi TANEMOTO

According to statistics, the character of Hill Farming Areas is a rapid trend towards depopulation and aging. Agricultural population and agricultural land have decreased in size and abandoned cultivated land have increased. Decreasing of agricultural population and wasting of farm land are big problems in this areas.

As a result of analyzing rice production costs, there are many factors of high cost at Hill Farming Areas. Specially yield and labor cost per unit are main cause of disadvantage. On the other hand, as land rent is plus factor, the farmer will be able to reduce the disadvantage by management efforts with progress of land readjustment.

In future, it is important for the promotion of Hill Farm Areas to breed progressive farmers with close connection between rural community and JA groups which have adjustment of using agricultural land and advancing diversified farming.

But it is necessary to support the part which farmer can't resolve by management efforts because of condition of locating by synthetic measure including the way outside agriculture.

Public Investments and Finances under the Change of Financial Market Situation

—With Respect to Agricultural Subsidy and Institutional Finance—

Masaru KAGATSUME

The purpose of this paper is to clarify how the public investment and institutional finance had affected on the development of farm management (in other word, the characteristics of technical progress) under the changes of the financial market situation after mid-1970s.

As for the agricultural subsidy, the size of agricultural budget in Japan is the lowest among the major advanced countries in terms of its ratios in the national budget and in the total agricultural output and in terms of per farm government ex-

penditure although per ha government expenditure is the highest among them. Only Japan has shrunked the farm budget while USA and EC have expanded their farm budget.

As for the institutional finance, which has been very specific to Japan, the slogan of "shifting from subsidy to finance" was announced because of the budget deficit. The agricultural finances through the farm cooperatives system have changed so that they began to finance their surplus money, which was collected from farmers, to the non-agricultural financial market or securities markets such as national bond. By estimating the translog type cost function, it was shown that effects of subsidies & institutional finances on farm managements have become less significant in these circumstances after mid-1970s.

Rice Policies and Market Prices in the EC

Shoichi ITO

Rice policies in the EC have been quite different from the rest of the world. With the heavy subsidies, domestic production has been increased while exports of certain surplus kinds of rice also encouraged by subsidies. During the recent years, however, the rice policies have been modified : production subsidies and government support prices becoming more selective with a preference for more demanded kind of rice such as Long Grain B and government prices based on the EC currency, ECU, being cut down. Ironically, domestic government support prices in Italy and Spain, for example, have been increased during the recent years due to the fact that their exchange rates of their currencies have been depreciated. Meanwhile, domestic consumer prices of rice are quite expensive relative to the world prices. Considering from this situation, rice production in the EC will be more selective in quality but still increased in the volume in the future, while a decrease in production costs should be required to the producers.

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