

Hog Breeding Industrialization and Agricultural Cooperative Association: The Case in Kagoshima.

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Abstract The majority of hog breeders started the breeding originally just for their own consumption. However, if the pork market develops, breeders who want to sell hog into the market must have larger scale and stable reproduction project of hog breeding to meet the increasing demand of consumers. So, breeders could choose the road to depend on a Commercial Capital to strengthen constitution of management, or choose the road to hold independence of outside control but solve the problems of management by one's own exertions.

In Japan, because Commercial Capital has expanded the integration in hog breeding, small scale breeders are facing heavy problems in breeding management, and perhaps hard to overcome. In order to protect partner breeders from such problems, Agri-Coop began advancing some connected projects on hog breeding toward its partner breeders.

We could find out the projects of Agri-Coop by viewing the case of Kagoshima, further, clarify the meaning of the "Agri-Coop's integration".

Key words: Agri-Coop, agricultural market, Commercial Capital, hog breeding industrialization, integration

1. Introduction

Market is the place which connect demand with supply of commercial goods. And the place would run smoothly only if commercial goods keep a well economical development. The such view point could be also applied in agricultural market (USUI, 1990). In addition to the special characteristics of agricultural products like being the necessary foods to people, long production cycle and short available expiration, the marketing system of agricultural products what are produced as commercial goods is worth taking serious consideration.

In Japan, pork market is a kind of the agricultural products market of agricultural market, and practice an important role for supporting hog breeders to sell hogs to buyers. In the same time, the valuation of production technology, farm equipment and labor toward hog breeding, i. e. the price what could reflect the real value of pork would be decided by the certain standard of pork market. So, hog breeders could maintain their reproduction or attempt to enlarge the scale of hog breeding by the financial support from the price. It would be a good developing model of pork market while the hog breeders gaining reasonable income, breeders would try to industrialize the hog breeding, and consequently

promote a positive development toward pork market. But in the meanwhile, Commercial Capital (MIKUNI, 1971) which is acting the main intermediate wholesaler of pork market also reorganized for fitting itself to the changing market. However, Commercial Capital started to control pork market by strengthening its integrative management in the market. Hence, agricultural cooperative association (Agri-Coop) is strongly required now by partner breeders to adjust itself to new condition and protect independent breeders from the monopoly control of Commercial Capital.

From this cause, three aims of this study would be set up as follows. First, identify the industrialization patterns of hog breeding. Second, find out the role what Agri-Coop is acting in the hog breeding. Third, explore the future subjects of the hog breeding business of Agri-Coop by viewing the case in Kagoshima.

2. Problems in industrialization of hog breeding

Enlargement of market size and constructive investment of Capital are extremely needed toward the industrialization process of hog breeding. The majority of hog breeders started the breeding originally just for their own consumption. In the same time, the breeders also kept a low level of production in order to adapt their ability without considering the merchandise character of pork. However, if the pork market develops, breeders who want to sell hog into the market must have larger scale and stable reproduction project of hog breeding to meet the increasing demand of consumers. That is to say the focus is how does a breeder manage the hog breeding for establishing a hog industry. As some of the factors in focus, the following points might be observed: (a) land security, (b) feed supply, (c) financial operation, (d) market maintaining, (e) marketing information, (f) improvement of breed and breeding technology, (g) farm excretions disposition.

Certainly, it is necessary to make a good command of these factors if breeders go ahead to run the hog breeding continually. In the same time, breeders are exposed to a loss of crossroads which to choose. Each road lead the pattern of hog breeding to go to different direction. That is breeders choose the road to depend on a Commercial Capital to strengthen constitution of management, or choose the road to hold independence of outside control but solve the problems of management by one's own exertions.

In Japan, if Commercial Capital extend its business to hog breeding, the problems of breeding management turn easier to be handled while meat packers and retailer Capital cooperating with general enterprises who have controlled grain import for feed manufacturing and marketing. Because within this union among feed industry, meat industry and retailer section, the whole work of hog breeding would be shared by each partner. Consequently, breeders can concentrate themselves upon hog breeding and feeding technology just follow the production plan and indication what are built by the Commercial Capital, and perhaps make small scale hog yard to be enlarged and industrialized without so much of hardship. Large scale hog yard developed under this pattern should be a member of the Capital group naturally in certain style. But the style most probably is just a breeding plant of the Capital group, and possibly face a challenge of losing the response toward risk about breeding management. If so, the breeder perchance come to do nothing without the support from Commercial Capital. And in fact, breeder's response for management would still

be asked if the breeder only make hog selling contract with Capital group instead of merger. Otherwise, according to high domestic cost in hog breeding, some of Japanese Capital started purchasing meat products from abroad. Further, the Capital built breeding yards abroad as a subsidiary company to breed livestock and slaughter it up to carcass or portioned meat in order to sell the meat into Japan. As a result, the amount of meat imports which is remarkably expanding has made some of Capital reduce the purchasing of meat in Japan, and quit the contract which is graded to an unprofitable one. Thus, such Capital eliminate unnecessary breeders from the business of Capital group and also bring a trouble what we call "boomerang phenomenon" (MIYAZAKI, 1990) to livestock breeding including hog of Japan.

Conversely, small scale breeders who have the majority in hog breeding structure of Japan haven't combination with Commercial Capital. Therefore, the breeders should deal all the problems of breeding management by themselves. However, the breeders could rule their own breeding plans under such independent pattern. But we should notice that if Commercial Capital expand the integrative management constantly in hog breeding, small scale breeders may perhaps hard to overcome the above-mentioned management factors. So, as to protect partner breeders from Commercial Capital who has practiced monopoly ruling in pork market, Agri-Coop began advancing some connected projects on hog breeding toward the breeders.

3. The role of Agri-Coop in hog breeding

Agri-Coop what is mainly organized from small scale farmers in Japan has done several of business and strategy against the progress of Japanese Commercial Capitalism especially in agricultural marketing. Furthermore, in order to raise the defense power of partners while "requests of the times" (NAKAJIMA, 1996) are coming, i.e. the problems of cooperative partners changed into another types, Agri-Coop also adjusted and reorganized its structure or business all the time. In hog breeding sector, Agri-Coop have begun shipping hog to meat wholesale market from partner breeders against the operation of the market as the business of hog selling consignment. For that reason, many breeders are released from the feudal blockade of hog trade by wholesale merchants, and come to be able to keep up a better earnings for their living. Agri-Coop also pushed on manufacturing and selling of feed, supply of fine breed, guidance of feeding technology to cover the consumer demand which is increasing at high rate with the high development of Japan economic growth. Moreover, some Agri-Coop are sharing the administration of "local meat processing center" in breeding regions, and handling meat business besides. And throughout the selling of partner farmers' products in A-Coop, Agri-Coop have built a full marketing system from producing to retail. The such of business what could be also called "Agri-Coop's integration" had made a great contribution for upgrading personal finances of partner farmers and making organization of Agri-Coop stronger.

On the other hand, the livestock production of Japan is badly shocked by liberalization of import under the progress in trade negotiations these years (NAKASE, 1989). Particularly in pork market, the import of pork what has been made to be a constant business is more enlarged by import companies in Japan, and is going to exceed domestic pork in volume.

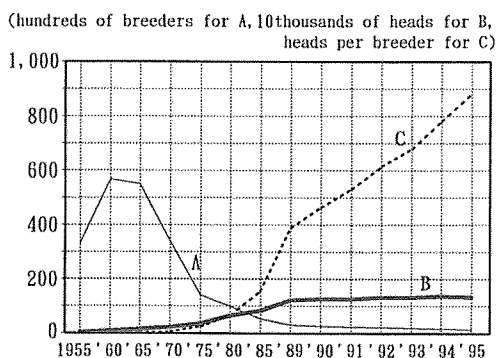
In addition to this external pressure, the stabilization base price of pork which is usually decided by Ministry of Agriculture, Forestry and Fisheries (MAFF) is falling currently. So, the such internal pressure is turning the structure of hog breeding fragile. In the dilemma formed by the pressure above, hence, Agri-Coop is hard on some problems like (a) partners of Agri-Coop are seceding from the organization, (b) management situation of Agri-Coop is growing worse than before, (c) the functional limit of Agri-Coop is considered visible.

It is true that Agri-Coop is suffering lot from the problems, but toward the crisis of hog breeding management, partner breeders still expect the organization so much. Therefore, it is very important to figure out the meaning of today's Agri-Coop for rearranging the business and system of integrative management which is extended by the organization. The following is an analysis of the history and present condition of Agri-Coop's integration toward hog breeding in Kagoshima prefecture. And the analysis would be considered as a case study for probing the position of Agri-Coop in today's hog breeding industry.

4. Agri-Coop's integration of hog breeding in Kagoshima prefecture

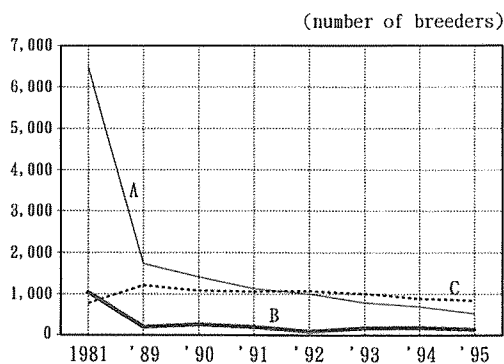
4.1. The structural changes in hog breeding industry of Kagoshima

The agricultural production value of Kagoshima in 1994 grew 4.5%, i. e. 439.2 billions yen (Japanese currency) than 1993. If we examine the percent shares of agricultural production structure in 1994, we would find that 52.8% for crops, 46% for livestock, 1.1% for processed agricultural production and only 0.1% for sericulture. The change of shares could be also found clearly that crops are increasing and livestock is going down generally. Moreover, it shows that top five list of the percent shares of major products is ranked as 15.9% for poultry farming, 15.4% for hog breeding, 13.6% for vegetables, 12.6% for beef production and 12.4% for rice, and the total percentage of these major products is calculated about 70% of gross agricultural production value of the prefecture. Thus, we could say poultry, hog and beef cattle are the chief products of Kagoshima.



Note: A is number of hog breeders, B is number of head
C is average number of head per breeder.
Source: "Livestock of Kagoshima", Agri. Admin. Dept. of Kagoshima prefecture.

Fig. 1 Change in Hog Breeding of Kagoshima



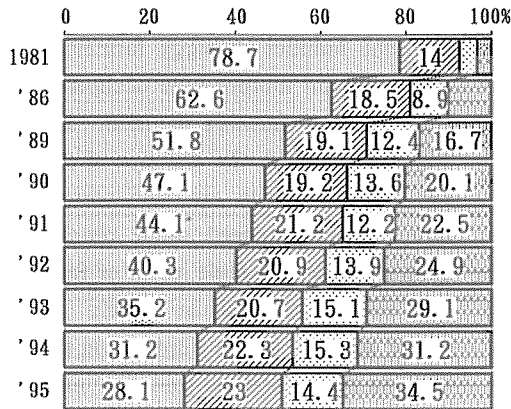
Note: A is piggy farms, B is fattening farms,
C is through breeding farms.
Source: "Livestock of Kagoshima", Agri. Admin. Dept. of Kagoshima prefecture.

Fig. 2 Change in the Number of Breeding Styles in Kagoshima

Especially in hog breeding sector, Kagoshima hold 1.35 millions pigs what occupied 13.3% of Japan in 1995, and made herself keep the biggest number of hogs continually in the country. The Figure 1 shows that in the same time, Kagoshima had 1,540 farms of hog breeding and 882.5 pigs per farm as the 2nd and the 5th rank respectively of the country. For that reason, it could be said that the number of pigs in Kagoshima which showed no

marked fluctuations is highly contributing to hog breeding structure of Japan while comparing Kagoshima with the national condition.

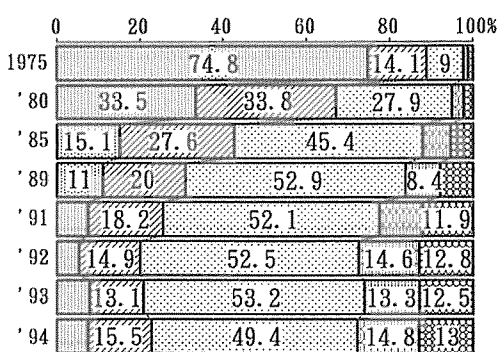
Under the nationwide decreasing tendency of hog breeding farms, Kagoshima is also facing the problem same as the other prefectures. But in Kagoshima, the number of through breeding farms is now surpassing the number of fattening farms and piggy farms, and going to be the basic structure of hog breeding (Figure 2). The excuse of this change is hog breeders enlarge the size of farms with adapting the through breeding to suit new circumstances and pursue to



Note: for scale in 1~9 heads
 for scale in 10~29 heads
 for scale in 30~49 heads
 for scale over 50 heads

Source: "Livestock of Kagoshima", Agri. Admin. Dept. of Kagoshima prefecture.

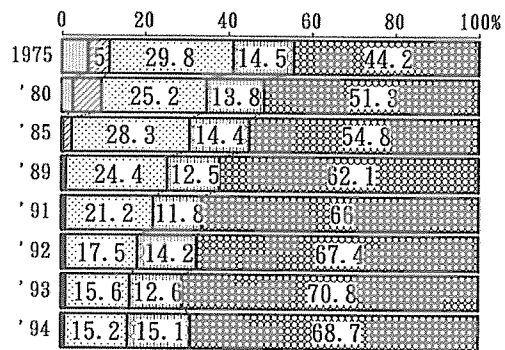
Fig. 3 Change in Percent Shares of Mother Hog Breeders Sorted by Scale in Kagoshima



Note: for scale in 1~9 heads
 for scale in 10~49 heads
 for scale in 50~499 heads
 for scale in 500~999 heads
 for scale over 1000 heads

Source: "Livestock of Kagoshima", Agri. Admin. Dept. of Kagoshima prefecture.

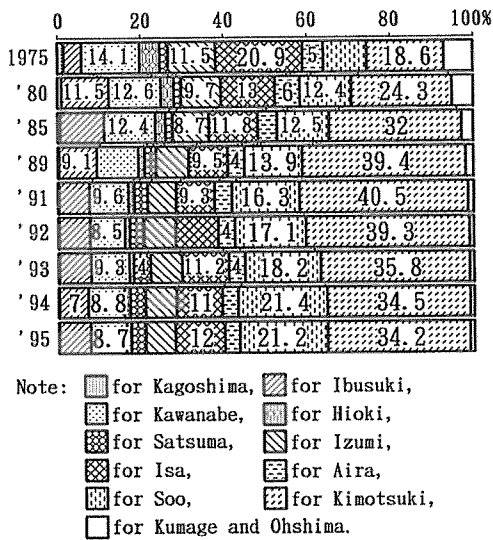
Fig. 4 Change in Percent Shares of Fattening Breeders Sorted by Scale in Kagoshima



Note: for scale in 1~9 heads
 for scale in 10~49 heads
 for scale in 50~499 heads
 for scale in 500~999 heads
 for scale over 1000 heads

Source: "Livestock of Kagoshima", Agri. Admin. Dept. of Kagoshima prefecture.

Fig. 5 Change in Concentrated Percent Shares of Fattening Hogs Sorted by Scale in Kagoshima



Note: "Livestock of Kagoshima", Agri. Admin. Dept. of Kagoshima prefecture.

Fig. 6 Change in Percent Shares of the Number of Hogs Sorted by Breeding Regions in Kagoshima

of the fact, there is a special feature in Kagoshima's hog breeding that difference in number of hogs between the major middle scale breeders and the minor large scale breeders is very obvious.

In the meanwhile, formation and mutual competition among the breeding regions of Kagoshima are arising rapidly as the side effect brought by the change of hog breeding structure (Figure 6). Especially in Kimotsuki and Soo which are located in the Pacific side of Kagoshima i. e. Osumi peninsula, the number of hogs is increasing very fast. Consequently, these two places have been the major breeding regions of Kagoshima, and shared beyond half in the number of hogs of the prefecture from 1989. It is also strongly believed that by the reason of all the feed plants in Shibushi town where is next door to the peninsula are started in the end of 80's, the peninsula is brought to be a major breeding region. In spite of the development in hog breeding, the region loosed increase in number of hogs after 1993. This is regarded as the peninsula is meeting with a critical state in numerical enlargement of hogs. By the way, number of hogs in Isa area is constantly increasing even though the district dropped once in percent shares of number of hogs in Kagoshima. In view of the fact, Isa has not a good condition in feed supply system like Osumi peninsula but has increased the number of hogs, so a hint could be find that the movement of major breeding region or the debut of new breeding region is possible.

In conclusion, the causes what have led the hog breeding structure of Kagoshima up to today's situation could be indicated as follows:

- (a) decreasing in hog breeders,
- (b) the domestic market price of pork is staying in a lower level,
- (c) the liking of consumers for meat is drifting from pork to imported beef,
- (d) the expansion of amount of imported pork are the macro-causes, and
- (e) the Agri-Coop's in-

realize a reasonable breeding cost. Besides, the Figure 3 indicates that a similar change also appeared conspicuously in the number of piggy farmers which are sorted by scale of farm. That is to say against to the scale of hog yards is going to a larger one, the number of piggy farmers who keep over 50 mother pigs occupied one third of total farmers in 1995. In the Figure 4, though the number of fattening farmers which are also sorted by size of farm showed same change in growing to larger scale, most of farmers are still recognized in middle scale. While we look at the Figure 5 in detail, it could be understood that over 60% of Kagoshima's hogs are fed by the breeders whose size of farm is larger than thousand pigs from 90's. In view

tegration in Kagoshima's hog breeding sector is well developed, (f) the problem for treating excrement of livestock is deepening, (g) the popularization of original brands used in pork products, (h) a powerful function is executed by the organization of Agri-Coop are the micro-causes.

4.2. The development of Agri-Coop's integration for hog breeding in Kagoshima

It is suspected according to the policy of intensifying selected agricultural products which is practiced since 60's by MAFF, the hog breeding in Kagoshima had began being shifted to be an industry. Seizing the policy as an opportunity to develop the hog breeding, prefectural federation of Agri-Coop and prefectural livestock association merged in livestock department and promoted full-scale projects for developing livestock business by the organization. Of course, the real driving force of the merger is that against the impact from trade liberalization of agricultural products and integrative management of livestock business of Commercial Capital, the organization of Agri-Coop is pressed to rearrange itself to a new system otherwise hard to shelter partner breeders from the pressure as we have seen above.

Since acting the role of cooperative organization in Kagoshima, Agri-Coop should practice the principles of the organization by paying the highest service and response to every partner farmer. But in the fact, suffering the decrease of livestock breeders and facing the business strategy of Commercial Capital toward breeding region of the prefecture, now the work of Agri-Coop go more difficult than what it was. Further, the prefecture does not keep any wholesale market. It also means that concerning the pork products, Agri-Coop of the prefecture could not avoid fighting with Commercial Capital very well. Therefore, in order to meet the actuality of marketing system which is changing rapidly, the federation of Agri-Coop of Kagoshima has converted management of livestock market what was the main business into the Agri-Coop's integration as follows.

4.2.1 Strengthening the breeding system

A. Registration system of hog breeders

Partner breeders who ship over one hundred hogs every year to collecting organization of the Agri-Coop would be registered in the list of shipment project. Partner breeders of the list would be sorted in "full-use breeder" and "planned shipment breeder". The former sort means breeders promise the Agri-Coop to follow the breeding indication and use feed which is manufactured by the Agri-Coop. The rest of breeders would be considered as the latter one. The such registration would be refreshed twice by the Agri-Coop every year. The main merit of the contract are (a) though in the over production season, the registered breeders could have a priority to ship hogs to the slaughter-house of the organization, (b) some seminars for raising the results of breeding management would be held for the registered breeders, (c) the full-use breeder could obtain a special bounty.

B. Organization of hog breeding

Deposition business of hog breeding was practiced already while the prefectural livestock association was independent. Since prefectural livestock association is merged in prefectural federation of Agri-Coop, the federation has started a larger depositing pilot project for hog breeding. By the way, the federation learned the cases of Sueyoshi Agri-Coop

which is in the same prefecture and Ohkubo Agri-Coop which is in Miyazaki prefecture as references, and established hog fattening centers. Piggys what were deposited in breeders would be collected to the centers, and be fattened for selling. Certainly, breeders who share the project could also share the profit of hog selling. Consequently, the such deposition business is highly extended in many regions of Kagoshima, and developed to a steady hog business of prefectural federation of Agri-Coop.

C. Enlargement of supply system in excellent hog breeds

With the ambition to have a higher share of pork selling in pork market, merchant dealers of pork has advanced some business in the field of production and supply of hog breeds. According to this action, Commercial Capital intensified the influence toward hog breeders. Hence, the Agri-Coop also speeded up the same work for protecting the hog breeders from the influence and control of the Capital. There were one original hog breed center, three original hog breed production centers and three hog breed production centers built by the Agri-Coop before the early 80's. Recently, ten breed centers are built by unit Agri-Coop of the prefecture and combined with the system of prefectural federation. So, the whole system is made to be able to cover half of the demand of hog breeds in the prefecture. In spite of the achievement in hog breeds supply system, now the Agri-Coop is facing a new challenge for building a better system to response the multiplication of hog breed and pork brand.

4.2.2. Project for stable management

A. Long-term average payment system

The system turns every triple-year and estimates the temporary value of depositing pig-gys first. In the last year of a turn, a cooperative accounting would be done in detail by the accounting formula as such as [(sales value of hog+other incomes-all expenditures)÷number of depositing pig-gys].

B. Mutual insurance of cooperative hog fattening

A mutual insurance is made for protecting breeders from fluctuation of market price. Under the system of the mutual insurance, breeders, Agri-Coop and prefectural federation of Agri-Coop paying a certain proportion severally to reserve fund of the insurance while one hog is going to be fattened by the cooperative fattening project. The reserve fund which is calculated by the shipping number of hogs would be transferred automatically to the insurance from each others' bank account within a term of three years. The fund would be used to cover the deficit of hog selling business if any loss is discovered in the term, otherwise returned to the payers of the reserve fund in original proportion in the end of the term.

C. Project of individual through breeding farmer

Through breeding farmers could borrow depositing mother hogs from prefectural federation of Agri-Coop and use the mother hogs to product pig-gys. After the pig-gys are fattened, farmers should return all the hogs to the federation and gain a certain depositing pay from the federation.

D. Specific farm of hog breeds production

Farmer who follow the guidance of Agri-Coop to produce breed of mother hog could be recognized as a specific breed farm of mother hog. But the farmer should supply the

mother hogs to the individual through breeding farmer who also share project above. By the way, the specific farmer might ship hogs which are low graded to hog collection organization of the federation.

4.2.3. Improvement of cooperative organization and marketing system

A. Strengthen the function of pork process in breeding region

It is very important for Kagoshima to reduce the cost for transporting pork products from breeding region to consuming cities. Because the prefecture is so far to the metropolitan areas of Japan. For the reason, Agri-Coop of the prefecture invested partially in 1964 to establish South Kyushu Livestock Industry (Nanchiku) as a meat processing plant in breeding region. From the establishment of Nanchiku, the shipping shape of pork is changed to carcass and portioned pork instead of living body in the previous age.

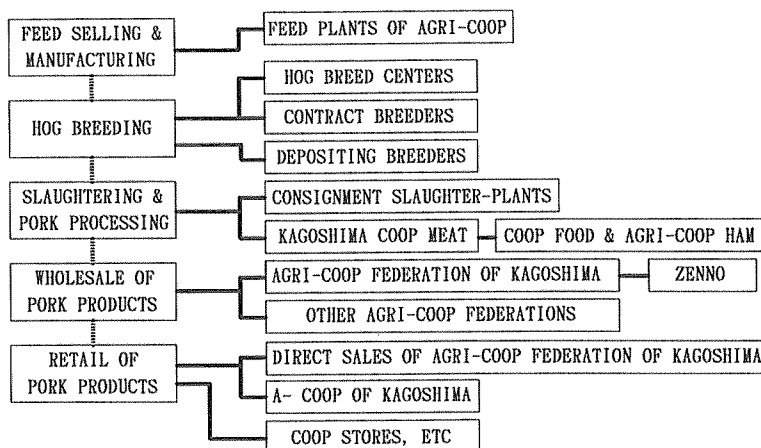
Excepting Nanchiku, the Agri-Coop also set up a meat plant named "Kagoshima Coop Meat" (KCM) by its own investment in 1973 for aiming an independent marketing system. Moreover, in favor of joining in the sector of meat processing industry, the association founded two companies named "Coop Food" and "Agri-Coop Ham" in 1986.

B. Regulation of shipping and collecting project of hog

In general, against the shipping order of the next month which is made from prefectural federation of Agri-Coop, Agri-Coop should submit shipping project in the middle of that month to prefectural federation of Agri-Coop. So, the federation could regular a final collecting project with considering the shipping project and the capacity of market consumption and slaughter-house. Each Agri-Coop ship hogs directly to eight slaughter-houses of the prefecture including the Agri-Coop-invested ones, and consign the hog slaughtering business to these slaughter plants. Some of the slaughter-houses which are invested by Commercial Capital purchase a part of the pork, and the rest would be removed to KCM by the federation. In KCM, pork would be processed to portioned products to meet the request of buyers. Most of the pork products in KCM are bought by national federation of Agri-Coop associations (ZENNO), and the rest are sold to processing plants of Agri-Coop, A-Coop stores, Coop stores and the federation of Agri-Coop of neighboring prefectures in Kyushu district.

C. Enrichment of marketing system

Since the meat processing capacity of the organization has progressed, prefectural federation of Agri-Coop started spreading the marketing route of its pork products and establishing a more stable pork supply system within the organization of Agri-Coop in Kagoshima. The federation was dealing a simple type of pork business just collect and slaughter hogs, and sell the pork products to meat processing industry or ZENNO before. But now, the federation has some sales departments which are opened in many areas of the prefecture for promoting its business with major customers and new buyers. For the reason, the federation succeeded in multiplying the marketing routes after starting the pork selling business to Coop as the cooperative business between different cooperative associations, direct sales of the Agri-Coop, and A-Coop stores. We could also find the percent shares of ZENNO and direct sales of Agri-Coop are so high in such multiplied marketing system. Following the result of pork business promotion above, the federation elevated its pork products from primary level to highly processed and multiple items for earning more



Source: Rural survey in August, 1996.

Fig. 7 The Integrative Structure of Hog Breeding Business of Agri-Coop in Kagoshima

adding sales value. That is to say some meat products began being developed and sold like ham, sausage, non-additive meat products, meat dishes, and gift set of meat products, etc.

As the result of such Agri-Coop's integration toward hog breeding in Kagoshima, the Agri-Coop has organized an integrative structure which is showed in Figure 7, and made itself to keep an independent marketing system in hog breeding business.

5. Conclusion

It could be considered that structural reorganization of pork market had evolved under the influence of the developing course and character of Commercial Capital. So, it is also needless to be said that the evolution of the market was strongly controlled by the leadership of the Capital. Then, in order to stop such monopoly command of the Capital, and guard the independent management and profits of farmers, Agri-Coop started a lot of cooperative business and activities. Therefore, the management of hog breeding separated into two patterns and developed from small scale to an industry. One pattern is to participate the Capital group, the other one is to cooperate with the business of Agri-Coop. But some important causes like easing of trade regulations, liberalization of livestock import, powerful control from supermarket capital toward food market, depression in domestic hog breeding, and functional unbalance in wholesale market etc. have made the marketing system of pork to meet a great reorganization in recent years. On the occasion of the reorganization, the Commercial Capital turned to convert its business from a domestic retailer into a big multinational corporation, and enriched quantity and quality of its own capital. Accordingly, against the expansion of Commercial Capital, the expectation of rural region and farmers toward Agri-Coop are highly expected. Especially, to build a stable and permanent base of hog breeding for hog farmers is believed to be the biggest work for Agri-Coop.

In Kagoshima, although the organization of Agri-Coop had contributed so much positive

breeding business to the promotion of hog breeding industrialization, it is also facing the following challenges to reorganize and innovate itself for protecting hog breeding industry of independent breeders of the prefecture.

(a) Promote the ham production system and expand the manufacturing equipment.

(b) Enlarge the marketing routes and develop new items of pork products.

(c) Improve the supply system of excellent hog breeds for hog farmers in order to make the pork to be accepted by consumers.

(d) Give the guidance of feeding technology and management to partner breeders in order to realize the compression of feeding cost and the production of high quality pork.

(e) Help hog breeders preserve the running capital and labor for maintaining the cycle of production.

(f) Research the possibility of turning the price deciding mechanism of hog from following wholesale market average price to fixing a reasonable price.

Furthermore, some coming subjects toward the hog breeding business of Agri-Coop should be raised now for preparing the answer in advance. The 1st one is to make a real distinction between structural theory and functional theory of Agri-Coop. The 2nd one is to discuss the potentiality of the cooperation among several associations of Agri-Coop. The 3rd one is to examine the limitation of the cooperative business among different organizations of cooperative association.

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References

- MUTO, K., 1987. Marketing Systems of Agricultural Products in Japan: pp. 28-76. Japan FAO Association, Tokyo.
- NAKASE, S., 1989. Japan's Livestock Trade: pp. 24-31. Japan International Agricultural Council (JIAC), Tokyo.
- OZAWA, K. *et al*, 1984. Management of Livestock: pp. 37-40. Bun-eido, Tokyo. (In Japanese)
- SUZUKI, A. *et al*, 1995. The Convert of Cooperative Association: p. p22-23 and 138-144. Aoki Shoten, Tokyo. (In Japanese)
- TANAKA, H., 1994. Present Stage of Agricultural Co-operative Mergers and Structural Reorganization in Japan. *Agricultural and Fisheries Economics of Hiroshima University*, No. 6: 55-71.
- USUI, S. *et al*, 1990. Today's Agricultural Market: pp. 4-8. Minerva Shobo, Kyoto. (In Japanese)
- YUZAWA, M. *et al*, 1982. The Marketing Theory of Agricultural Products: pp. 133-153. Nobunkyo, Tokyo. (In Japanese)

養豚産業化と農業協同組合 ——鹿児島県を事例として——

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養豚生産が産業化する過程には、市場規模の成長と資本の積極的参加は不可欠の要素である。本来、多くの養豚生産者は自家消費のために養豚を開始した。ところが、豚肉市場の展開にともなう消費需要の増加に応じるために、生産者は生産規模の拡大と恒常的かつ安定的な再生産を図らなければならない。したがって、外部の資本系統に依存することによって、経営体質の改善を資本側に協力してもらい、生産を続けるか、自主性を保ちながら、自力で経営問題を解決し、生産を続けるという2つのパターンがある。日本では、商業資本のインテグレーションによる養豚生産の系列化が進む中、零細規模の生産者は数多くの経営課題を抱えるようになっただけでなく、それらを解決する能力さえもほとんど有していない。そこで、農業協同組合は組合員生産者を守り、豚肉市場における独占資本の支配力に対抗するという立場に、数多くの個別農家から構成した組織に対して、養豚の関連事業を推進しはじめた。

本研究では、養豚産業化の条件を整理したうえで、鹿児島県における農業協同組合の養豚事業の展開過程を事例に、さらに農協インテグレーションの意義を明らかにした。

キーワード：農業協同組合，農業市場，商業資本，養豚産業化，インテグレーション（統合）