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PERSONNEL MANAGEMENT ON FARMING: A CASE OF FLORICULTURE IN JAPAN

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Personnel management becomes important in Japan's farming as the number of hired labor is increasing. The two features of current farm employment are the labor shortage caused by aging of operators and reduced family labor, and emerging corporate farming under deregulations of farm policies. Survey on floriculture shows that the operators endeavor to maintain friendly relationships with the employees and harmonious atmosphere among them to keep workers longer at the expense of work efficiency. Management methods achieving the efficiency and good personnel relationships simultaneously are required. Establishment of sound business organization guaranteeing high quality of working life including competitive income and career advancement is needed to recruit skillful regular workers. Educational programs on personnel management and work regulations for farmers are recommended.

Introduction

In Japan, as other industrialized countries, farm labor force have long been dominated by family labor. Hired hands have been employed at the labor peak only to supplement family labor. Marginal labor having less access to favorable labor markets engaged in waged farm work on seasonal basis. Therefore, with the advance of labor saving farm technologies and the rapid economic growth which caused rural exodus, the number of hired farm employees have decreased much faster than that of family labor.

Recently the trend has changed. Hired labor both in number and hours of labor input is increasing modestly in the last two decades. Facing with serious labor shortage, recruitment of hired help is a great concern for vegetable and other labor intensive horticultural farmers in some areas. Effective personnel management might become critical for emerging corporate farms.

This paper aims to explore the current and future concerns on personnel management on farming in Japan through:

- a) Tracing the recent trends of farm employment;
- b) Investigating the relationship between the development of farm business and the significance of personnel management; and
- c) Examining the case of personnel management of floriculture.

Trends of farm employment

Although, the total number of farm labor force is decreasing constantly since the mid 1960s, that of the hired began to increase modestly since the early 1970s (Table 1). And since the early 1980s the hours of labor input of the hired also began to increase (Table 2). As a result, the ratio of hired labor both in number and hours of labor input is increasing. The increase of hours of hired labor input is mostly female labor.

This tendency is conspicuous in Hokkaido where large scale vegetable production developed recently and Tokai district, a typical horticultural area. The employment of hired labor is also prominent in tree crop, hog and

poultry farming (Akiyama, 1992). According to the mail survey conducted by *Chiiki Shakai Keikaku Sentaa* (Center for Regional Planning), wives of farm households are the most common farm employees followed by wives of non-farm households and male adults of farm households (*Chiiki Shakai Keikaku Sentaa*, 1984). Foreign workers and/or trainees are also used in some areas, though the data is hardly available.

Table 1. Number of farm labor force (Annual average, 10 thousands)

| | Operator and family | | | Hired | | | Total | Ratio of hired (%) |
|-------------------|---------------------|--------|------------------|-------|--------|-----------------|-------------------|--------------------|
| | Male | Female | Total | Male | Female | Total | | |
| 1965 | 494 | 605 | 1099 | 9 | 9 | 18 | 1118 ^a | 1.6 |
| 1970 | 377 | 430 | 807 | 8 | 7 | 15 | 823 ^a | 1.8 |
| 1971 ^b | 345 | 393 | 738 | 7 | 6 | 13 | 751 | 1.7 |
| 1975 | 267 | 311 | 578 | 9 | 6 | 15 | 593 | 2.5 |
| 1980 | 235 | 256 | 491 | 9 | 7 | 15 ^a | 506 | 3.0 |
| 1985 | 211 | 221 | 432 | 9 | 8 | 17 | 449 | 3.8 |
| 1990 | 186 | 192 | 379 ^a | 11 | 11 | 22 | 400 ^a | 5.5 |

Source: Bureau of Statistics, Japan, Monthly Report on Labor Force Survey.

^a Round errors.

^b Turning point of the hired from decrease to increase.

Table 2. Farm labor input (Hours per farm per year, national average)

| | Family and exchange | | | Hired | | | Total | Ratio of hired (%) |
|-------------------|---------------------|--------|-------|-------|--------|-------|-------|--------------------|
| | Male | Female | Total | Male | Female | Total | | |
| 1965 | 1402 | 1478 | 2880 | 28 | 79 | 107 | 2987 | 3.6 |
| 1970 | 1233 | 1342 | 2575 | 18 | 68 | 86 | 2661 | 3.2 |
| 1975 | 1079 | 1110 | 2189 | 13 | 43 | 56 | 2245 | 2.5 |
| 1980 | 956 | 950 | 1906 | 9 | 34 | 43 | 1949 | 2.2 |
| 1981 ^a | 969 | 952 | 1921 | 9 | 33 | 42 | 1963 | 2.1 |
| 1985 | 965 | 909 | 1874 | 12 | 40 | 52 | 1926 | 2.7 |
| 1990 | 899 | 829 | 1728 | 11 | 40 | 51 | 1779 | 2.9 |

Source: Ministry of Agriculture, Forestry and Fisheries, Japan, Noka Keizai Chosa. (Survey on Farm Economy)

^a Turning point of the hired from decrease to increase.

Development of farming business and issues on personnel management

There are two different features on the current farm employment issues. One is the labor shortage caused by aging of farm operators and reduced family labor. The number of expected successors to their parents' farms declined drastically. The aged farmers manage to keep operations using hired help. Their logic of hiring is same as before, supplementing family labor. However they meet the difficulty to get temporal workers unless they offer attractive wages and working conditions comparable to the industrial sector as integrated labor markets developed in rural areas. Introduction of foreign workers seems to be an easy solution but may raise serious soci-economic problems.

On the other hand, some initiative farmers are undertaking to enlarge their operations using hired labor effectively. Being full of entrepreneurial spirits, they are flexible to adjust to the changing circumstances and to catch the emerging business chances. Japanese farm policy is shifting toward market oriented ones under internal and external pressures. Removing protective programs brings hardship to most farmers, while deregulations may enlarge the scope of economic activities for farmers' managerial abilities.

Areas of farm management

Figure 1. shows the management areas in which farmers have to deal with as their business activities enlarge. Under the government's interventions in markets and restriction on corporate farming, farmers' management concern is limited to production. Marketing and finances emerge major management concerns when farmers must cope with increasing uncertainties of marketplace and business environment strengthened by deregulations. Personnel management is becoming a fourth management area in which farm operators must become proficient with the increase in the size and complexity of farm business.

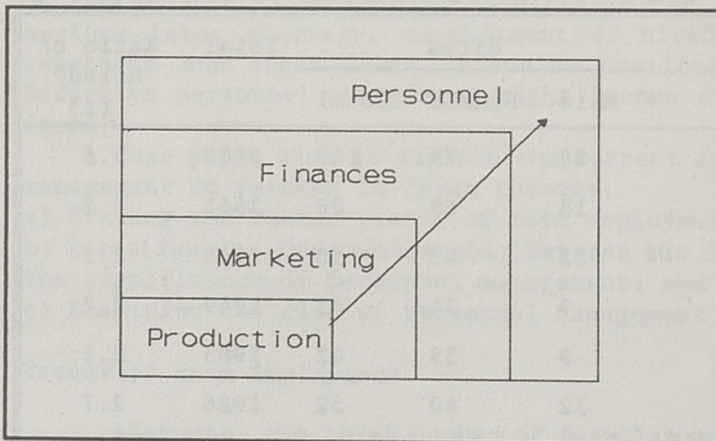


Figure 1. Areas of farm management

Issues of personnel management by type of farm

Meanings of hiring labor differ among farms according to their firm

organizations and economic goals. Farms could be classified by two dimensions, namely the level or goal of earnings and the extent of hired labor use. The level or goal of earnings is a criterion for the economic characteristics of farms. Labor use is a criterion for the extent of dependence on hired labor. Combining the two criteria, four types of farms are classified shown in Table 3.

The goal of earnings of a traditional family farm, Type I, is an income for family labor. They conceive farm earnings after deducting cash expenses as a mixed income. Returns to owned land, capital and management work are beyond their concerns. Part-time farmers gaining enough income from non-farm jobs may not care even about returns to their own labor devoted to farming. In this case farming is a hobby or a means of maintaining the inherited land assets with tax advantage.

There are cases that substantial amount of labor are employed in farms realizing only labor income (Type III). For these farms hired labor is only supplemental to family even if its amount is much larger than family labor. In other wards, hired labor is not a resource producing additional profits but a necessary evil to continue farm operation for them. Farmers have been forced to expand the size of their operations to survive as markets become increasingly competitive. Labor intensive enterprises such as horticulture, hog and poultry farming requiring manual labor usually employ wage labor on seasonal or year round basis. Rice farming had also highly depended on hired help or exchange labor on labor peaks such as transplanting and harvesting before the combine harvester and transplanting machine were diffused. When labor saving technology is developed, hired labor would be replaced by machines. This was the case of rice farming. Facing serious labor shortages and soaring wage rate, development of mechanized transplanting and/or harvesting system is now highly demanded for some vegetable farming. However, if the operator has motivation and managerial ability, he may enlarge his business and shift to corporate farming. Initiative farmers may progress their operations to sound business enterprises exploiting hired personnel not only as labor force but also as resource of managerial skills.

Farms of Type II and IV are categorized as business enterprises in which the operators concern the returns to owned land, capital and management work. Fully utilizing machinery systems, large scale rice farming without hired labor could realize high earnings covering operators' profits. Opportunity costs of their family labor are as high as those of other industrial sectors.

Type IV is corporate farm providing its regular workers such as middle managers, supervisors or skillful mechanics with income and quality of working life comparable to other industrial sectors. For corporate farms the logic of hiring labor is completely different from that of Type III or hired labor dependent family farms using hired hands merely as supplement to family labor. For corporate farms, just same as other industrial corporations, hired labor or human resource is a quite important factor generating profits.

Farm land use and ownership by widely-held corporation has been strictly restricted in Japan. However, family owned corporate farms are emerging these days. Farm policy also seems to loosen the restriction on corporate farming to make farming as an attractive occupation and then to revitalize rural economy. This is one of the main thrusts of Japanese farm policy reform today. Drastic policy change creates hot controversy however. The pros for this deregulation argue that many of family farms highly dependent on non-farm income became mere shells of farm firm and corporate farms can produce crops at much lower costs and may utilize abandoned farm lands. On the other hand,

the cons warn that once the big corporations are allowed to own or hold farm land and operate farming, the middle size full-time family farms which present social institutions essential for well-balanced societies are expelled. Then farm lands are easily converted to non-farm use when farming become unprofitable for the corporations.

Personnel management is a great concern for farms of Type III and IV, while its significance are quite different between the two.

Table 3. Classification of farms by earnings and employment

| | | Level or goal of earnings | |
|-----------|--------------------|----------------------------------|---|
| | | Operator's profit ^b | Mixed income ^a |
| Labor use | Family | II. Family farm (Family firm) | I. Family farm (Traditional) |
| | Hired ^c | IV. Corporate farm | III. Family farm (Hired labor dependent) |

^a Mixed income = Gross income - Cash expenditure

^b Operator's profit = Mixed income - (Wage for unpaid family labor + Rent for owned land + Interest for owned capital)

^c More than half of total labor input is hired labor.

Different roles of hired personnel by organizational structure of farm

As noted above, the meaning of hiring workers varies among farms depending on their economic goals. Besides this, roles of hired personnel differs by organizational structure of farm. The expected functions of hired personnel extend with the increase in the organizational complexity. Campbell and Dinar (1992) classified the five types of farm organization by labor and management differentiation. Table 4 shows what functions are required for hired personnel according to the type of farm organization.

The "unified organization" is a family farm operated by family members who perform all the tasks or share responsibility and decision-making equally. This type of farm may hire some help to supplement family labor on seasonal basis.

The "primary hierarchy" separates laborers from management. But workers and managers are not specialized by task. Unskilled manual workers are hired year-round.

The "simple functional hierarchy" distinguishes workers from each other by task as well as from operators. Workers are divided into the groups by tasks. For example skilled workers are specialized in machine operations or supervising the work crews.

In the "complex functional hierarchy", management is also divided by tasks. Managers specialized in production, marketing, finances etc. are hired. They are responsible for decision-making on a certain management area. Examining his own competence and/or knowledge in each management area, the farm owner or general manager can strengthen the competitiveness of the farm through hiring middle managers specified in certain area.

The "market hierarchy" is composed of more than two units of management and labor. A farm may be divided into some units producing unique crops for

particular markets. One unit is independent by each other to some extent. A general manager is required for each unit.

Table 4. Type of farm organization and requirement for hired personnel

| Organizational structure | Required roles of hired personnel | | | |
|--------------------------|-----------------------------------|---------|------------|---------|
| | Labor | | Management | |
| | Unskilled | Skilled | Specified | General |
| Unified organization | +/- | - | - | - |
| Primary hierarchy | + | - | - | - |
| Simple functional | + | + | - | - |
| Complex functional | + | + | + | - |
| Market hierarchy | + | + | + | + |

Personnel management on floriculture in Aichi Prefecture, Japan

Family labor has long been said to be the most suitable for farm work. One of the main reasons of this argument is that farming treats a living thing. The process of agricultural production is a sequence of operations matching to the growing stages of plants or animals. Facing with a variety of uncertainties from weather, disease and insects, farmers have to monitor the growing process continuously with great care and response quickly and appropriately to the changes. Therefore management and production works could not be separated. Specialization by task of production work is also difficult. The failure of large scale collective farming of the centrally planned countries might partly be attributed to this feature of farming.

However, the technological development might weaken this feature. The most extreme case is the vegetable production under fully controlled condition, so-called a "vegetable factory". In this case producers are almost free from uncertainties caused by biological process. Moreover each of the growing stage could be artificially divided. A high degree of division of work with specialized workers can be organized. Consequently the operator can devote himself to management.

Floriculture is also quite suitable to industrialized production. The large potential of post harvest activities provide the operators with much wider scope for managerial ability than food crops, since flower and ornamental plants can be added extra values to a great extent and have the much wider market unexploited. Therefore the possibility of corporate firm is high in floriculture. Thus floriculture is a relevant object of the study on personnel management. The followings are the preliminary results of the survey on floriculturists in Aichi prefecture, Tokai district, Japan.

Business and employment size of surveyed farms

Interview on seven farms, four of them grow cut flowers and the three potted plants, were conducted to investigate the practices of personnel management and identify the problems the farmers are facing with. Though the

sample size is small, the data is summarized by cut flower and potted plant farms separately since the size of business and use of hired labor of the two are substantially different.

Table 5 shows the profile of interviewed farms. Average of annual sale of cut flower growers is around 30 million yen or 230 thousand dollars (\$1=Yen130) and that of the potted plant is 90 million yen or 690 thousand dollars, three times higher than the former. The number of employees is quite different, four in the cut flower growers and eleven in the potted plants, while the number of family labor force and its gender components, namely three full-time workers of men and women half-and-half, is about the same between the two. Almost all of the employees are women in the both cases. The potted plant growers have much feature as business enterprise in terms of size of sale and employment.

In terms of legal status, only one of potted plant farms is a company limited, while many of others consider the legalization as company limited in the near future mainly pursuing a tax advantage. Annual sale per employee, 10 million yen, is almost same for the two. It might be said that business size is determined by employment size. The potted plant farms, having longer experiences of hiring labor, complaining less labor shortage and having fixed successors, are more sound and stable as business enterprises than the cut flower farms.

All of the cut flower growers are ambiguous about hiring foreign workers. They may hire foreigners on the condition that legalized workers are available stably. On the other hand, the potted plant growers with one exception consider that foreigners having a difficulty in communication are not suitable for them since some tasks demand manual dexterity with precise instructions.

Considering these features, the cut flower farms might be categorized as Type III and the potted plant farms as Type IV in Table 3.

No farm employ any qualified worker for certain task or a supervisor. Thus the employees are categorized as seasonal or year-round unskilled workers. Thus all of the farms are classified as the "primary hierarchy" in Table 4.

Table 5. Characteristics of interviewed farms

| | Cut flower farms (n=4) | Potted plant farms (n=3) |
|-------------------------------------|------------------------------|--------------------------------|
| Age of operator | 52.5 | 62.0 |
| Legal status | | |
| Family proprietorship | 4 | 2 |
| Family held corporation | 0 | 1 ^a |
| Number of family labor | 3.0 | 3.4 |
| Male | 1.5 | 1.7 |
| Female | 1.5 | 1.7 |
| Annual sale (million yen) | 29.0 | 87.7 |
| Per hired labor | 9.8 | 9.9 |
| Number of employees | 3.8 | 10.7 |
| Male | 0.5 | 0.7 |
| Female | 3.3 | 10.0 |
| First year of using hired labor | 1980 | 1971 |
| Reason of hiring | | |
| Enlarge business | 1 | 2 |
| Supplement family labor | 3 | 1 |
| Complaint on labor shortage | | |
| Yes | 3 | 1 |
| No | 1 | 2 |
| Successor to the farm | | |
| Exist | 1 ^b | 3 ^b |
| Uncertain | 3 | 0 |
| Intention of hiring foreign workers | | |
| Yes | 0 | 1 |
| Uncertain | 4 | 0 |
| No | 0 | 2 |

^a Company limited.

^b All of expected successors are sons of the operators.

Characteristics of employees

Table 6 shows the characteristics of the hired labor. Most of the employees are house wives of non-farm households age of 30s and 40s. Having school or kindergarten children, they seem to be reluctant to work as regular workers in large companies under strict work rules. They make use of their spare time in the intervals of household chores. An easiness of absent and early leave, comfortableness of work place and lightness of duties are important factors, as well as earnings, in choosing the jobs for them.

Some cut flower farms use high school and university students during summer vacation on labor peaks. Providing year-round job opportunities is

crucial for acquiring able workers. The potted plant farms can secure more stable yearly employment because the production process could be artificially controlled.

Farmers' wives age of 50 or more are also employed. They do not seem to care about the heavy jobs so much since they have experiences of soiled works at their own farms.

Considering the first introduction of hired labor is ten to twenty years ago and most of the employees worked less than four years, it seems difficult to keep workers long period.

Table 6. Characteristics of hired labor

| | Cut flower farms | Potted plant farms |
|-----------------------------------|---------------------------|--------------------|
| | ----- (person/farm) ----- | |
| Male adults of non farm household | 0.25 | 0.7 |
| Wives of | | |
| Farm household | 0.75 | 3.33 |
| Non farm household | 2.3 | 6.67 |
| Students | | |
| Male | 0.25 | 0 |
| Female | 0.25 | 0 |
| Total | 3.8 | 10.7 |
| Ages | | |
| - 29 | 0.5 | 0.3 |
| 30 - 49 | 2.0 | 5.7 |
| 50 - | 1.3 | 4.7 |
| Annual working days | | |
| - 149 | 1.3 | 1.0 |
| 150 - 249 | 1.8 | 2.7 |
| 250 - | 0.8 | 7.0 |
| Years of employment | | |
| - 3 | 2.3 | 5.9 |
| 4 - 6 | 0.5 | 2.0 |
| 7 - | 1.0 | 2.7 |

Practices of personnel management

The tasks of personnel management are fourfold: personnel acquisition, skill development, motivation and evaluation and compensation (Boehlje and Eidman, 1984, p.499). Table 7 and 8 summarizes the practices of personnel management.

1. Recruitment and selection

Most of the tasks the employees are assigned are manual works which require little experience. None of the farms prepare job description and application forms. Interviewing with applicants, farmers tend to lay stress on willingness to work long period and ability to work with others rather than

knowledge or background on farming. Most farmers seek suitable persons among their neighborhood or try to get information on applicants through the employees. Inquiring employment agencies or placing want advertisement are quite rare.

Some farmers hope that agricultural cooperatives or other farmers' organizations act as the mediators between farmers and job seekers to make recruitment easier and well ordered.

2. Job assignment and supervising

Duties are assigned according to age and gender. Working units of three to five workers are naturally formed with modest instruction of the employers. The employers are required to take a great care on job assignment since the employees are sensitive to unequal work loads. Job rotation is commonly practiced to make employees feel being well treated. No farm makes a fixed working schedule since workers hardly report absent or early leave earlier enough to make work plan.

Supervising and directing the works are usually tasks of the operators exclusively. There is a case of cut flower farm in which both the operator and his wife play the role of supervisors. In this case the employees are somewhat confused and frustrated having conflicting orders, resulting many workers quitted within a short period. A one-to-one relationship between supervisor and subordinate is essential to avoid such mismanagement (Maloney *et al.*, 1988). Employing middle managers, including an operator's spouse, segregation of function and responsibilities between the managers is crucial.

3. Wage system

Monthly payment by hourly wage is most common. Record keeping of working days and hours is left to workers in the most cases. Farmers calculate payment for each worker by month according to those records. Most of the farmers are reluctant to adopt the timecard or other check system being afraid of betraying the workers' trust. The wage rate is based on the level of other industries in the region to attract workers. Piece rate system and incentive plans based on achievement, efficiency or ability which may promote competition among employees are not adopted. Instead, wage rate is raised as employment period become longer. Some farms adopt premium system in which workers receive additional payment for extra hours they work in each month. The reason why seniority and monthly attendance are preferred to achievement or ability in wage system is that the employers want to keep workers longer and wage difference based on experience is acceptable to workers.

4. Institutional arrangement and fringe benefits

None of the farms have a documented office regulation. Application of social securities and insurance are rare except workers' accident compensation. However, trip, dinner, year-end parties and other gatherings for promoting friendships and appreciation of workers' services, are common (Table 8). Most of the operators recognize well that documentation of work rules and application of a set of social securities and insurance for employees are required as forming corporation.

It appears that both employers and employees have less concerns on legalized workers' rights but prefer informal types of fringe benefits. This tendency might be explained partly by the status of employees as house wives having less importance as income earners and partly by the fact that farmers have little experience as employees in large companies.

Table 7. Practices of personnel management

| | Cut flower farms (n=4) | Potted plant farms (n=3) |
|-----------------------------------|---------------------------|--------------------------------|
| Recruitment method | | |
| Personal connection | 4 | 3 |
| School | 1 | 0 |
| Labor bank for the aged | 1 | 0 |
| Task of employees | | |
| Manual work only | 4 | 2 |
| Manual work and machine operation | 0 | 1 ^a |
| Working unit | | |
| Number of units per farm | 1.5 | 2.3 |
| Number of employees per unit | 2.5 | 4.7 |
| Supervising | | |
| Operator only | 2 | 3 |
| Operator and his wife | 1 | 0 |
| Operator's wife only | 1 | 0 |
| Work schedule | | |
| Making a table for workers | 0 | 1 |
| None | 4 | 2 |
| Record keeping of working hours | | |
| Check by the employer | 1 | 1 ^b |
| Report by employee | 3 | 2 |
| Payment system | | |
| Monthly by hourly wage | 3 | 3 |
| Monthly by daily wage | 1 | 0 |
| Wage rate (Yen/hour) | | |
| Minimum | 600 | 530 |
| Maximum | 750 | 940 |
| Wage raise, premium | | |
| Seniority | 2 | 3 |
| Monthly attendance | 3 | 1 |
| Achievement | 0 | 1 |
| Efficiency | 0 | 0 |
| Ability | 0 | 0 |
| Bonus (twice a year) | 4 | 3 |

^a Operation of a forklift.

^b Timecard system.

Table 8. Institutional arrangement and fringe benefit

| | Cut flower farms (n=4) | Potted plant farms (n=3) |
|--|---------------------------|--------------------------------|
| Documentation of office regulation | 0 | 0 |
| Unionization | 0 | 0 |
| Application of securities/insurance | | |
| Health insurance | 0 | 0 |
| Unemployment insurance | 1 | 2 |
| Accident compensation insurance | 0 | 0 |
| Pension | | |
| Facilities for employees | | |
| Resting room | 2 | 3 |
| Toilet | 1 | 2 |
| Recreational activities organized by employer | | |
| Trip | 0 | 2 |
| Year-end party | 0 | 3 |
| Dinner party | 2 | 2 |

Challenges on personnel management

Most of the operators interviewed emphasize the difficulty of keeping employees long period. Consequently they make great efforts to maintain friendly relationships with the employees and to make harmonious atmosphere among them even at the expense of work efficiency. This is not because they neglect the efficiency but they experienced employees' strong rejection against business like manners. Management methods achieving the efficiency and good personnel relationships simultaneously are required.

As the number of employees increases, middle management becomes critical. In order to recruit skillful middle managers the establishment of sound business organization which guarantees not only competitive incomes but also career advancement and other high quality of working life is needed.

It is suggested that extension stations, agricultural cooperatives or other relevant institutions should organize educational programs on personnel management and work regulations to assist farmers.

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