

4.2.4 Anticipated Effects

Since the effects of the facilities plan are discussed in the project evaluation, discussed here are the effects of plans other than the facilities plan. As this KUD is a potential Mandiri Inti, it is judged as upper-middle class at the stage of KUD development. By achieving results from the detailed plans for activation, the following items can be expected as anticipated effects. The KUD's objective is to develop into a mid-upper-class position in five years.

(1) Plan to Improve Organization and Business

1) Effects of the Five-year Plan for Realizing the Complete Payments of Membership Fees and Compulsory Savings

The aim of the Five-year Plan for Realizing the Complete Payments of Membership Fees and Compulsory Savings is to make it so that there are no people who have not completely made these payments in five years. In that process, by increasing the opportunities for officials and members, as well as for the KUD, to discuss matters with one another, in addition to abridge the KUD and the members, those members who have made complete payments of membership fees and compulsory savings will look upon the KUD as their own, and it can therefore be expected that they will eventually constructively utilize the business of the KUD. In addition to the merits of utilizing the business of the KUD, if business profits can be obtained, dividends can be paid to the members, with the members getting returns on profits as investors, which will mean that they will be able to enjoy concrete merits of membership.

2) Effects of the Plan for Achieving a Membership Rate of 60%

According to the five-year plan for achieving a 60% membership rate among adults, female membership will be promoted by promoting multiple membership among households engaged in dairy farming. Also, in addition to promoting membership among households engaged in horticulture, in combination with the promotion of horticulture KUT loans, the KUD will create a system for joint collection and shipping of vegetables through organization, and so develop advantageous sales. Furthermore, incentive can be created by providing local residents with small business loans, and by promoting savings which have market interest rates. Through such promotion, combining this plan with the above-mentioned Plan for Realizing the Complete Payments of Membership Fees and Compulsory Savings, the KUD will be able to increase its own capital, improve its capacity for making investments on its own for facilities, and reduce the cost of procuring working capital.

3) Effects of Establishing a Planning Administration

Establishing a Planning Administration Division would enable the KUD to draw up the Action Plan for the Detailed Plan for Activation and the KUD's annual business plan (by obtaining consent in the general meeting), clarify the various divisions in charge and the means of promotion, and manage the situation of promotion by establishing annual objectives, and so it would be possible for the KUD to supervise the entire process of carrying out these plans, in addition to making the necessary corrections, thus enabling it to be certain to execute these plans.

Also, by making this special division which has the function of internal auditing of the KUD, the KUD would be able to supplement and perform its auditing function, and prevent misappropriations before they can occur. By so doing, the KUD will be able to protect the assets of the KUD as well as those of the members, and increase the level of trust that the KUD enjoys, both inside and outside of the KUD.

4) Effects of Utilizing Computers

By utilizing computers for such purposes as the credit business, calculating milk sales and calculating salaries, the KUD will be able to rationalize its clerical affairs, as well as promote accuracy and speed in these affairs, thus improving the service it provides to the cooperative members.

(2) Plan for Improving Economic Business

1) Effects of Introducing the Horticulture

Introducing the horticulture business would promote membership among households engaged in horticulture, which had thus far had a low rate of membership. As a merit of membership for households engaged in horticulture, by implementing KUT loans for vegetable, they would be able to borrow at a low interest rate capital for farm management, and they would be able to enjoy stabilized and increased incomes as a result of advantageous sales through KUD.

2) Effects of Introducing Saving Accounts for Account Settlement of Purchasing and Marketing

Settlement accounts for members would allow the settlement of account from sales, including the sales of milk, through the savings accounts of the members, as well as allow the withdrawal of money for making purchases, and so help to speed up clerical affairs, while at the same time to promote savings among the members.

(3) Plan to Improve Credit Business

1) Effects of Expanding the Range of Banking Transactions and Changes in the Method of

Getting Institutional Loans

Expanding the range of banking transactions with banks other than BRI would contribute to increasing interest on bank deposits, as well as increase the opportunity to expand the range of business by means of getting bigger loans for working capital and facility investment. By directly managing and collecting loans, changing the arrangement of institutional loan, the KUD will be able to have a direct relationship with the members, and provide them with loans in conjunction with guidance for farm management, thus preventing unreasonable loans by members, and assuring that the members will not have any trouble repaying their loans. In addition, since the KUD will also have an income from its profit margin (the difference between the interest on money borrowed from the bank and the interest on the loan to the members), it will be able to contribute to increase profits.

2) Effects of the Plan for Promoting Savings

Promoting savings will result in procurement of working capital at a low cost, enabling the KUD to make loans and provide funding on its own, while at the same time help increase the assets of the members. Also, by providing interest which as of market rate, there will be an increased desire for savings among the members. Increases in earnings are forecast for households engaged in dairy farming by means of the plan to increase their numbers of cattle. However, the KUD needs to provide guidance to the members for them to come up with life plans and accumulate savings.

(4) Plan for Improving the Human Resources Development and Guidance Activities

1) Effects of Promoting In-service Training

Through promotional activities based on an educational plan with a clear objective of educating employees, the ability of individual employees can be improved step-by-step. If a plan exists, and if the KUD conducts mutually educational activities, such as clarifying the necessity of outside training and so contributing to the systematic dispatch of employees, as well as having report sessions on training activities at the place of work for employees who have received outside training, this will contribute to the improvement of the ability of other employees, thus enabling the improvement of the capacity of the entire workplace. Also, as in-service training will contribute to the promotion of actual work, it will enable all of the employees to perform a unified level of work in pursuit of a definite objective, thus contributing to an increase in the level of trust among the members.

2) Effects of Publishing Bulletins

By publishing bulletins targeted at the members and the residents of the local area, the KUD can deepen the understanding for KUD activities among members and people who are not members, and use these bulletins as a text for educating the members for the purpose of expanding the patronage ratio of business and promoting membership.

3) Effects of Improving Farm Guidance

By taking care of the costs of farm guidance through the KUD budget, the KUD will be able to have the members free instruction on farm management. By improving the level of farm guidance, the KUD can improve the overall technical level of the members as pertains to the farm management, raise product prices through the production of high-quality milk and vegetables, and so increase the incomes of the members. An increase in the incomes of the members will make it possible to promote savings in the KUD, and with an increase in savings, the KUD will be able to use these savings as working capital for the expansion of business to serve to the members.

4) Effects of Introducing Joint Purchasing Activities

Together with activities to promote membership focusing on housewives in households engaged in dairy farming, the KUD will also foster a women's organization as joint purchasing group which purchase everyday necessities. Along with the plan to increase the numbers of dairy cattle, it is expected that there will be an increase in salary among the households engaged in dairy farming. However, since it is conjectured that there will be an increased burden on housewives due to the fact that these households operate their dairy farms through the labor of their own families, in addition to decreasing the burdens of shopping and other activities in the busy everyday lives of these housewives who are pressed with performing farm labor and housework, the KUD will try to decrease prices by means of joint purchasing, and to reduce household expenditures. At the present time, most of the cooperative members come from households engaged in dairy farming. In the future, however, the KUD will promote membership among housewives from the local area, allowing them to participate in joint purchasing, and providing local residents who are not engaged in farming with the merits of membership.

5) Effects of the Installation of Radio Broadcasting Facilities

Since the telephone is still not widely used, by installing radio broadcasting facilities, the KUD will enable communications through these facilities between the KUD and the members, and among the cooperative members themselves. Also, these facilities will allow the KUD to conduct simultaneous broadcasting of necessary matters for all members, and by bearing the burden of communication for the entire local area, the KUD will be able to deepen the understanding of KUD activities among the local residents, and thus promote membership and expand the range of the utilization of business.

KUD Pasir Jambu

4.3 KUD Pasir Jambu

4.3.1 Present Situation and Evaluation

(1) Present Situation

1) Natural Conditions and Agricultural Production

This region is considered a cold area located at a high land in the agro-eco system. It has flourishing vegetable and dairy farming businesses. In Pasir Jambu Sub-district, 54% of the farming households are engaged in dairy farming. At the end of 1996, 2,778 head of dairy cattle were being raised in the region, producing 5,852 kiloliters of milk. Vegetable production in 1994 totaled 23,698 tons of Chinese cabbage, 16,665 tons of Welsh onions, 12,073 tons of potatoes, and 8,112 tons of tomatoes.

2) Historical Background of the KUD, and the Dairy Farming Business

KUD Pasir Jambu was established in July 1973, and registered as a KUD in January 1989. In 1990, it was recognized as an KUD Mandiri.

In 1979 this KUD introduced funding for the introduction of dairy cattle, thus encouraging the farmers in the KUD operation area to raise dairy cattle. A large number of households engaged in farming responded to this encouragement, and began dairy farming with the support of the KUD, thus developing dairy farming into a major industry in this region. The people who started this dairy farming had until that time eked out a living by growing vegetables on leased land, and gathering firewood in the mountains. Due to the introduction of dairy cattle, they were first of all able to have work on a daily basis, eventually earning money on the milk they produced; and while it was not enough to cover their household expenses, they were able to make a profit. For this reason, today households engaged in dairy farming still have a great amount of trust in the KUD, and a solid relationship with the KUD.

Since the main businesses of the KUD are those which have to do with dairy farming, in addition to increasing its number of dairy cattle by constructively introducing funding for the introduction of dairy cattle, the KUD is also involved in providing farm guidance to the members through farm advisors who are licensed veterinarians, thus improving the quality of milk and increasing the milk production. The KUD is presently engaged in increasing the number of its dairy cattle, putting a particular amount of energy into the nurturing and rearing of female calves which have been born in the KUD. The KUD plans to improve the capacity of its facilities for feed mill, which is in accordance to its plan to increase its number of cattle. The KUD is a member of the Indonesian

Union of Dairy Cooperatives (GKSI). Although it had temporarily discontinued its dealings with the GKSI, it resumed them in September 1997, until which time milk was sold directly by the KUD to the Private Milk Processing Industry (IPS).

3) Economic Business

Raw milk is brought to the Central Refrigeration Facility from 30 milk collection centers in the KUD, and then sold to the IPS. In 1996, 5,850 tons of milk were purchased by the KUD, with 5,730 tons being sold to the IPS. The remaining milk was sold to confectionery manufacturers and milk processors, who are members of the KUD.

As the facility for cattle feed is out of date, the KUD is only able to manufacture a low quality of feed. They are only able to meet 70% of the monthly demand of 350 to 400 tons of feed.

In addition to providing fertilizers and agricultural chemicals, the KUD also collects and sells about 30 different kinds of high-quality vegetables through the cooperation of supermarkets. The KUD sells an average of 25 tons, or Rp 40.5 million worth, of these vegetables a month to supermarkets. This is partly made possible by the cooperation of the Department of Cooperative and Small Enterprises Development (DEPKOP), through Kemitraan policy. However, since these sales only account for a small portion of the total amount of vegetables produced in the KUD, there are not many households engaged in vegetable production who are involved in these marketing activities.

The KUD has well-stocked shops operated by the KUD which sell everyday goods. However, since the cooperative members do not use these shops very often, the shops do not make profit.

4) Credit Business

The KUD has a voluntary savings balance of about Rp 20 million, which is quite low. However, with the KUD involved in time savings, ordinary savings and preparatory savings for Islamic festivals, it is making efforts to promote savings. One-year time savings pay an annual interest rate of 20%, with the other voluntary savings paying monthly interest rates of 1%.

Other efforts that the KUD is making for the purpose of promoting savings include various arrangements made in the certificates of time savings, and on Cooperative Day, which is every July 12, holding drawings among members who have time savings. Women's groups are particularly involved in autonomous savings related activities, having held such activities all together between May and July of 1997, and thus collecting Rp 5 million in savings.

In addition to paying standard market interest rates for voluntary savings, the KUD holds a Savings Day once a year, and issues time savings certificates, thus increasing the desire among people to have savings. The KUD also urges people to deposit small amounts of surplus into savings accounts for the purpose of preparing for Islamic festivals, and with the cooperation of women's groups consisting of 1,500 women from households engaged in dairy farming, the KUD has been promoting savings.

5) Organization and Management

The KUD's business operation area covers of all of Pasir Jambu Sub-district, which consists of 10 villages, with members in all of these villages.

The population of the sub-district is 63,248, approximately 25,000 of whom are adults. There are 15,265 households in the sub-district. At the end of fiscal 1995 there were 5,838 members, for a membership rate of 23.4% of the adult population. There were 1,465 female members, accounting for 25% of all members, which is a high percentage. With the need having arisen for housewives among households which have started dairy farming to help their husbands with such work as raising the cattle and confirmation-related communication activities during the breeding season, there are a large number of female members because of their desire to receive technical guidance.

According to the KUD, there are 4,179 households engaged in farming in the KUD. With some farming households overlapping in their farming operations, there are 2,513 households engaged in dairy farming, 525 households engaged in vegetable farming, 1,424 households engaged in rice farming, and 30 households engaged in poultry farming, with 2,679 of these households belonging to the KUD. The percentage of households engaged in farming which belong to the KUD is 64%.

Of members among households engaged in farming, 94% are engaged in dairy farming, making dairy farming the main occupation of this KUD.

The merits of becoming a member include (1) being able to borrow KUT loan from the KUD (people who are not cooperative members cannot); (2) being able to easily buy fertilizer and agricultural chemicals; (3) being able to receive dividends from current surplus according to the amount of fertilizer and agricultural chemicals which a member has purchased; (4) being able to receive guidance and training on how to use fertilizer or agricultural chemicals and farming technology; (5) being able to make credit purchases at the shop operated by the KUD (people who are not cooperative members pay cash).

A general meeting was held in February 1996, with 505 representatives of the members in attendance. There are 580 representatives (general representatives), accounting for 10% of all of the members. Eighty-seven percent of the these representatives were in attendance. Before the general meeting was held, there were sessions among the individual cooperative member groups,

with agendas being explained, and democratic operations were conducted.

The KUD has eight business divisions: the Dairy Farming Division, Farming Division, Savings and Loan Division, the Shop Operation Division, Electricity Charge Collection Businesses Division, a rice mill, the Autonomous Business Unit (UUC), and a tea processing plant. In addition to these, there is a General Affairs Division.

In 1996 there were a total of 109 employees, including 1 secretary, 18 persons in charge of general affairs and accounting, 53 dairy business, 3 other agricultural production, 13 shopkeepers, 4 persons in charge of the Savings and Loan Division, 5 persons in charge of the Electricity Charge Collection Businesses, 5 persons in charge of the Autonomous Business Unit (UUC), and 5 veterinarians and 2 advisors. The Dairy Farming Division accounts for half of the employees. With a large number of employees, the KUD has a system in place for carrying out its business.

Gross sales in 1995 amounted to Rp 5.954 billion, for an increase of 9.1% over the previous year, indicating that business is expanding. When looking at the breakdown of the KUD's business, it can be seen that sales of milk accounted for Rp 4.065 billion. When commissions and other charges are included, this comes out to Rp 4.211 billion, meaning that milk-related sales accounted for 71% of the total sales. Also, the provision of feed accounted for Rp 861 million, or 14% of the total sales, meaning that dairy farming-related business makes up the major source of business for the KUD.

In 1990 the current surplus amounted to Rp 40 million, Rp 67 million in 1994, Rp 82 million in 1995, and Rp 93 million in 1996, meaning that the current surplus has been steadily increasing, and profits have been growing.

Dividends have been distributed to the members from the current surplus at a rate of 20% of the amount of saving and the utilization amount of the KUD businesses of that member. Forty percent of the current surplus has been distributed to the reserves of the KUD, 5% to the funds of employees and directors respectively, 5% to the educational funds, 2.5% to the social funds and 2.5% to the buildings and regional promotional activities.

The standard for distributing dividends among the members is 8.2% of the amount of their savings deposits which consists of membership fees and compulsory savings, or Rp 1.32 for each liter of milk sold.

Of assets totaling Rp 3.629 billion, liabilities totaling Rp 1.055 billion to the members and Rp 291 million being liability to people who are not members.

Total profits on sales amounted to Rp 674 million, which was about 1.5 times greater than the

figure for the previous year, indicating a big increase. Own capital amounted to Rp 1.079 billion, with the combined total of Rp 12 million for membership fees and Rp 197 million in compulsory savings only accounting for 19.4% of the own capital, or 5.8% of the total assets.

6) Human Resources Development and Guidance Activities

Breaking down the number of employees by their educational background, it can be seen that 10 employees have graduated from elementary school, 36 from junior high school, 55 from high school, 1 from a junior college and 7 have graduated from a university, and that this includes highly educated employees. Employees who have graduated from elementary school or junior high school are mainly in charge of loading-related activities at feed plants, the collection of milk, and security, with other employees being assigned stationed to posts that suit their educational backgrounds. The duties of university graduates include serving as manager of the Livestock Production Division, analyzing the credit business, conducting registration management activities, conducting feed quality management activities, serving as secretary, and serving as assistant auditor and secretary of a director.

In addition to drawing up and executing annual plans for the education of the employees, focusing on the director in charge of education, the KUD conducts other forms of educational activities, including weekly training sessions at the workplaces, with a manager from one of the various divisions serving as an instructor.

Among the employees are 7 farm advisors, including 5 licensed veterinarians, who provide technical guidance in dairy farming (artificial insemination, livestock care management, sanitation management, etc.), with the KUD having a system in place for providing farm guidance. One of the farm advisors is dispatched from the district level animal husbandry service (Dinas Peternakan), with the KUD paying the instruction fee. The KUD also has cable broadcasting facilities which connect the KUD (headquarters) to the leaders of dairy farming group, and it plans to expand this to cover all farming households in the future. The KUD also distributes its bulletin to all of the members every month.

The KUD is expanding its better living activities to include physical training focusing on 1,500 women from households engaged in dairy farming who belong to women's groups, and cooking classes. The advisors for these classes consist of 2 women employees, who have multiple duties.

The group also has a system of mutual help for medical costs, and plans to expand into activities to include medical examinations in the future.

7) Other Business

The KUD presently earns revenue through commissions it gets from the electricity charge collection businesses. These commissions amounted to Rp 500,000 in 1995, accounting for only a small percentage of and contribution to the KUD's overall business.

(2) Evaluation

1) Dairy Farming

With a trend since 1994 for a decrease in the number of dairy cattle, and in the amount of sales of raw milk, the dairy farming-related business in the KUD has been stagnant. The decrease in the number of dairy cattle has been caused by the sales of calves to other regions by households engaged in dairy farming due to their need for cash. The decrease in the sales amount of milk has been caused by a drop in the quality of milk.

If a system could be realized by which the KUD could buy female calves from the members, nurture and raise these calves, and then provide them to the cooperative members, it would be possible to secure an income for the households engaged in dairy farming, and to provide people with dairy calves at a low price. Since increasing the number of imported cattle through funding for the introduction of cattle represents a big financial burden on the members, there are big expectations for the KUD to handle the nurturing and raising of these cattle; and since the members appear to be very cooperative regarding these activities, the possibility for success is great.

Improving its system for checking milk to deal with the decrease in milk quality, the KUD has been putting a lot of effort into providing instruction for improving milk quality. In 1997 a recovery is expected from the drop in handling milk of 1996.

The KUD is planning to increase the number of dairy cattle as well as milk production, in order to cope with the increased domestic consumption of milk products and milk. However, KUD facilities do not have the capacity to produce enough feed to keep up with the increase in the number of cattle. Since there is a strong desire among dairy farmers to increase their numbers of cattle, it is thought that the improved feed mill will be fully utilized by the members.

2) Involvement with Vegetables

The sales of vegetables by the KUD are essentially conducted in the form of intermediate services between the members and supermarkets. Also, since there exist harsh purchasing conditions at supermarkets for not only standards but also for volume, along with the fact that there is a low technological level of grading and packaging, many of the households engaged in farming cannot participate in the marketing activities for supermarkets.

With a sufficient number of employees in the KUD, it is possible for the KUD to set up a system for providing guidance in order to instruct people on how to improve quality, as it is also possible for the KUD to have people in charge of marketing activities and conduct such activities; and since the KUD is located near such big consumption areas as Jakarta and Bandung, it is believed that it would be possible for the KUD to develop a new marketing route. However, the KUD needs to get involved in such activities after it has come up with a long-term plan and made sufficient preparation for them.

3) Economic Business

The feed mill, the tea processing business and the farming utensil manufacturing business are all in the red. This is due to the fact that, because of a shortage of capital, the KUD is unable to expand its business. The quality of manufacturing at the feed plant is low. It needs to be modernized.

As far as the business of the shops operated by the KUD is concerned, while the sales floors are spacious and the shops are well-stocked, as these sales are stagnant, certain means (discounts, selling on credit, etc.) are needed to be given to the members who use these shops as an incentive to shop there.

4) Credit Business

Although the loan interest determined by the Autonomous Business Unit is reasonable, as the interest on the other loans for members in the KUD is low, the amount is small, and they cannot achieve a profit margin, the KUD needs to reconsider this system.

With savings promotion activities being conducted by women's groups, it is expected that such group activities will be further promoted.

5) Organization and Management

Despite the fact that the KUD conducts various types of businesses, the membership rate is still low, and, with the exception of the dairy farming business, it still has only a small influence on the region overall. In order to contribute to the development of the region and to the enhancement of the lives of the residents of the region, the KUD needs to increase the number of cooperative members, and provide service to a greater number of people.

As can be seen from the dairy farming business, the KUD has a good track record, and by developing the various business activities that it presently conducts, including the savings and loan

business, it is possible for the KUD to increase the number of its members.

The computers that the KUD is presently using are not put to sufficient use. While the fact that a system development costs are so high represents a big problem, in order to develop its savings and loan business, it is essential for the KUD to conduct its clerical activities accurately and quickly by means of computers. Also, if the KUD can get a suitable grasp of the circumstances whereby business can be improved, and deal appropriately with this matter, then it will be possible for the KUD to effectively conduct its savings and loan business so that the proceeds will exceed the development costs. If the employees are given enough training, the KUD will be able to produce quite an effect even with the software which is sold on the market.

6) Human Resources development and Guidance Activities

With the people in charge of in-service training already decided, the KUD promotes educational activities, including conducting in-service training once every week and publishing a bulletin for the cooperative members. As there are active farm guidance for dairy farming-related matters, the KUD needs to have farm advisors for vegetable production in the future. As there is a lot of brisk activity going on among women's groups which represent the basis for promoting better living activities, the KUD has a means in place for such activities in the future.

4.3.2 Detailed Plan for Activation of the KUD

(1) Basic Ideas

Although its mainstay business is dairy farming, with 109 employees the KUD conducts a variety of businesses, including the sales of vegetables through the contract with supermarkets, the shop operation business, the savings and loan business, the electricity charge collection businesses, the RMU business, as well as providing support to groups engaged in tea processing and metal processing (blacksmiths). The KUD also operates a "Members Welfare Fund," provides assistance to the cooperative members for medical costs, and gives out condolence money to bereaved families. Since this "Members Welfare Fund" provides an incentive for residents of the local regions to join, the KUD will make efforts to expand it in the future.

The basic strategy for the activation of the KUD is for the KUD's mainstay business, and this strategy lies in the KUD developing its dairy farming-related businesses, which make up the occupation of a majority of the members, and based on this, reinforcing the KUD's businesses and its financial foundation, and promoting the activation of business overall, including that of other businesses. For this reason, the KUD will promote the following plans, with the furtherance of dairy farming as a main objective.

Since the KUD has a great deal of ability to conduct the savings and loan business and to operate its shops, it will also constructively promote these businesses as well.

(2) Plan for Promoting Dairy Farming

1) Plan for Increasing the Number of High-quality Dairy Cattle, Increasing the Amount of Milk Production, and Improving the Quality of Milk

- *Increasing its loan for the introduction of dairy cattle, the KUD will support the plan to fund dairy farming members.
- *Improving facilities for feed milling to correspond to the increased number of cattle, the KUD will produce feed and provide it to the cooperative members.
- *The KUD will improve its system for providing instruction in the raising of cattle and quality management.

2) Plan to Produce High-quality Cattle in the KUD

- * The KUD will set up facilities for nurturing and raising female calves. It will purchase female calves which have been born to cows owned by members, then after

these calves have been nurtured and raised by the KUD, the KUD will provide them as adults at a low cost to the cooperative members.

(3) Measures for the Marketing of Vegetables

- * Increasing the amount of transactions it has with "Hero," which is the largest super-chain store in Indonesia, the KUD will improve its ability to negotiate price.
- * Improving its ability to provide instruction on the grading and packaging of vegetables which will be suitable for "Hero," the KUD will improve quality.
- * Expanding its sales to cover stores other than "Hero," the KUD will set up a group to examine the matter of the sales of vegetables, which will be for the purpose of promoting participation in the KUD among households engaged in vegetable farming.

(4) Plan to Improve the Economic Business

1) Expanding the Sales Activities for Horticultural Crops from Gardening

Setting up joint collection and shipping center, the KUD will provide farmers with the use of this center for the purpose of temporarily storing commodities which have been collected, as a warehouse, as an office, and as a packaging facility. Providing them with a means of shipping, the KUD will establish standards regarding grading and shipping. The KUD will also promote cooperative business with places which have a large demand, for example hotels, hospitals, and the PUSKUD "Citra" supermarket in Bandung.

2) Opening Settlement Accounts for Purchasing and Marketing Accounts of Members

In order to be certain that business transactions are clearly and appropriately managed, the KUD will urge people to use computers. Transactions of large sums of cash should be avoided. The KUD will settle the payment with the members through accounts set up in the KUD for each individual member. This will also promote increases in savings among the cooperative members, while contributing to the operation capital of the KUD.

3) Creating "Added Value" in the Dairy Business

The KUD will introduce a program for the development of dairy cattle, focusing on domestically-produced cattle, which are easy for the dairy farmers to purchase and raise. It will accept all of the raw milk brought in by the households engaged in farming. As a general rule, the KUD will sell all of the milk to the IPS. However, some of it will be shipped to the local milk product processing plant which is run by the KUD members. The KUD will negotiate with local schools, offices and factories to plan the local consumption of milk, and increase the

opportunity for education among the households engaged in dairy farming. Hiring licensed feed technicians, the KUD will introduce mixing technology and equipment, thus improving the quality of feed. Considering the possibility of cattle dying in accidents, the KUD will replenish the losses of the households engaged in dairy farming, and expand the system for mutual insurance concerning dairy cattle for the purpose of repurchasing dairy cattle.

4) Setting Up Facilities for Raising Dairy Cattle

The KUD will purchase newborn calves from the households engaged in dairy farming, raise these animals until the year that they are able to become pregnant, and at that point sell them to households engaged in dairy farming. Encouraging the use of domestically-produced cattle, the KUD will nurture dairy cattle.

5) Setting Up a Plant for Feed Milling

Learning a lesson from the plan for raising more dairy cattle as well as the plan to set up facilities for raising dairy cattle, the KUD will set up a new plant for assorted feed for livestock which is more efficient. This facility will be able to provide a sufficient amount of feed, which is low in cost and of a better quality.

(5) Plan to Improve the Credit Business

1) Establishing Transactions with Private Banks

In order to increase its ability to borrow for the anticipated plan to expand business, the KUD should establish relations with private commercial banks. If possible, it would be best if the KUD could receive the funds for channeling loans to the members directly from the bank, and then re-lend this loan to the members. By so doing, the KUD will directly assume the financial risk, and be able to be sure that the members are exact about repaying the loans.

2) Education of Employees in Charge of Credit Business, and Drawing Up Manuals

Selecting members to receive funding and developing its know-how about such matters as loan management and collection, the KUD will probably need to draw up a manual on its own about lending to members and savings management. In order to do so, it will be important for the KUD to educate and train KUD employees in finance, particularly those managers and employees who are in charge of KUD loan activities. This would also be in line with the recent advice from the World Bank demanding the development of talented people and the improvement of organization (see Indonesia: Maintaining High Growth of Net Assets; World Bank Report No. 16433 - IND; May 30, 1997). It would be desirable for the KUD to have as many of its people as possible

who are in charge of financing participate in credit-related educational activities and training projects at such legitimate banks as BRI and Bank Danamon, in order to give them basic job training. The KUD, which will profit from this training, should probably pay for part of the training costs.

3) Simplifying the Loan Approval Process

The KUD should simplify the loan approval process for members to receive funding, so that loan applications can be processed right away. The required time period for loans should be shortened, not to exceed 12 weeks. Using its own capital, this KUD should gradually apply its own system of lending to the members.

4) Promoting Savings

It appears that the management and employees of this KUD recognize the importance and necessity for the savings which are generated within the KUD from the business activities as well as the voluntary savings and compulsory savings (for groups and individuals). This is in line with the recent advice from the World Bank that the internal savings ought to be increased (see World Bank Report No. 16433 - IND). In order to quickly further increase savings, the management should constructively urge people to make savings in all fields of business, and as soon as possible make it so that all forms of savings deposits among the cooperative members will receive the same rates of interest as those that are available on the market. The KUD should probably have such compulsory savings accounts as those by which money is saved when milk is collected each day, as well as voluntary savings. With women's savings groups making favorable initial showings, the scope of such savings-related activities by women should be expanded. In the future, the KUD should give to its members' savings accounts the function of automatic withdrawal of the KUD's business transaction, thus strengthening the relationship between financing and other KUD business. Regarding the institutional loan supported by the government, this KUD should make it so that a profit margin is added to the interest paid to people on their savings, so that the KUD will be able to utilize a part of the interest on loans for increasing its capital.

(6) Plan for Improving Organization and Management

Although the KUD conducts a variety of businesses, as there is an insufficient level of cooperation among the various business divisions, the KUD is not sufficiently involved in new businesses, nor does it sufficiently cultivate new customers for marketing products. Improving its planning faculty, the KUD will become involved in expanding its business and increasing the number of members. Also, introducing a computer system, it will improve the accuracy and speed by which it conducts its clerical affairs.

1) Setting Up a Farm Guidance Division

The KUD will set up a Farm Guidance Division, for the purposes of providing guidance on the improvement of milk quality, increasing the number of dairy cattle, as well as improving vegetable production, grading, and packaging technology, and providing counseling for the members.

2) Setting Up a Planning Administration Division

Improving its plan management faculty, the KUD will promote the development of milk products, the development of processed vegetable products, and the cultivation of new customers for its sales, for the purposes of improving the level of cooperation among its business divisions and realizing profitable sales. For this purpose, the KUD will set up a Plan Management Division under the supervision of the secretary.

3) Measures for Increasing the Number of Members

In order to enhance the desire of the members to participate in KUD activities, and to promote membership, the KUD will sound out traditional processed farm products available in the local area, hold training sessions with technically skilled members serving as instructors, and spread and develop knowledge pertaining to processing technology.

With a temporary objective for the people involved in these activities to consume the products, if in the future it becomes possible to merchandise these products, the KUD will support their sales and bring them into the fold of the business handled by the KUD.

The KUD will explain the KUD's role and the duties of the cooperative members to the people from whom electricity charges are collected, and thus promote KUD membership.

4) Utilization of Computers

Introducing a computerized savings and loan business system, and a computerized system for the collection and sales of milk and calculating related money, in addition to improving the accuracy and speed of its clerical affairs, the KUD will develop a general accounting system, and so get an appropriate grasp of the circumstances by which the various business divisions are making progress.

(7) Plan for Strengthening of Human Resource Development and Guidance activities

1) Education activities

- Implementation of 5 year plan for promotion of education activities and establishment of personnel affairs/education and training division

The systematic long-term training program for each employees are necessary to be implemented.

It is desirable that the section also engaged in a systematic training of each employees to gain advanced technology not only from cooperatives but from private sectors such as bank, insurance company and milk processing company and super stores through positive use of exchange of training by using such as Inkubator Program. It would be possible to establish personnel affairs and education/ training division in the organizational structure to pursue the education and training with long term view.

- Promotion of periodical members discussion meeting

Various study meetings , observation of advanced production area and members discussion meetings are necessary to be planned by setting a target. Members discussion meeting shall be periodically held (every month) at village level using facilities of KUD or vilage office.

- More use of cooperative bulletin
- Modernization and establishment of cable broadcasting programme

2) Strengthening of farm guidance and establishment of farm guidance division

The expenses for farm guidance shall be prepared by KUD as service to members. In the marketing business, the important area is to develop marketing of vegetables and milk through establishment of joint marketing method , fostering of producers groups and expanding marketing channel. The employees in charge of farm guidance are needed to be trained at external training institutions such as livestock experimental station ,and agricultural experimental station . For that purpose, the training courses for newly appointed farm advisor and refresh course are to be prepared. The needs of KUD shall be grasped by PPL and to be adopted as a subject in the research institutions. Also, the system to support a part of the training expenses to be established at DEPKOP.

3) Strengthening of better living activities

The KUD is provinding better living guidance for dairy women by 2 staff . As the grouping is already done with the members of 1,500, it is the time to establish a better living division in the KUD for the greater promotion of better living activities. Both members and KUD has very high awareness on helth care, it is desirable to grapple with collective health screening. in private clinics, generally the cost for health screening is about Rp150,000, however, it will be possible to

reduce the cost by decreasing the number of checking items according to needs of members. The objective saving activities for that purpose and assistance from KUD will also be considered. Also, it will be necessary for KUD to provide guidance on legal affairs, tax filing, family planning and consumer life.

(8) Other business

Although the income from collection of electricity charge is small, this business is to be continued as a place of contact with members. The collection of TV fee is also possible to be developed in the future and need to examine the operation of the business.

4.3.3 Facilities Plan and Project Evaluation

(1) Facilities Plan

Background of the Plan

Bandung district, located in a highland of in west Java, is an important area for the supply of dairy and livestock products to the major consumption areas of Bandung and Jakarta. There are 1,242 dairy farmers all of whom are members of KUD in the area managed by KUD Pasir-Jambu in Bandung district. From this back ground, KUD has been promoting to extend animal farming as the main industry in the area.

The following objectives of KUD are expected to contribute to increase the income of the cooperative members in the area and to vitalize the activities of KUD.

The detailed objectives of KUD are as follows:

@ to increase the number of Dairy Cows

A to increase the quantity of high quality milk

B to sell high quality feed to dairy farmers by the stable supply of high quality feed.

A. Plan for the Establishment of Dairy Cow Rearing Facilities

1) Objectives

KUD has a three-year plan to increase the average numbers of farmers dairy cows to 5 head from 2.5 head in 1996. It is possible to increase this average numbers, if all the dairy farmers breed up female calves as dairy cows. However, at present, most of the dairy farmers have sold their calves to buyers, particularly petty dairy farmers sell there precious newborn dairy calves for a cash sale. Therefore, KUD has planned to establish and to develop dairy cow rearing facilities for purchasing calves from dairy farmers and selling cows to dairy farmers.

2) Project Outline

i. Planned handling Volume

The planned number of calves for annual purchasing is 200 head, and selling is also 200 head.

ii. Operation Plan

The operation in the first two years will be only purchasing calves. After rearing for 24 months, selling will begin.

3) Operation and Maintenance of Facilities

i. Functions and Role of KUD

KUD shall establish and develop dairy cow rearing facilities.

KUD shall purchase dairy calves (cows) reared and aged three months from dairy farmers who are members of KUD.

KUD shall rear up cows for 17 to 23 months and sell them which have been pregnant to dairy farmers with a low interest loan.

ii. Role of Daily Farmers as Cooperative Members

Dairy farmers who have newborn daily cow calves rear them to aged three months.

Dairy farmers who wish to sell dairy cows aged three months are able to sell them to KUD.

Dairy farmers are able to purchase the reared and pregnant daily cow(s) aged 20 to 26 months with a low interest loan from KUD.

iii. Personnel

The personnel who will be assigned to the facilities are shown as follows:

	Numbers
Manager	1
General affairs and accounts administrators	1
Veterinary surgeon	1
Assistant of Veterinary surgeon	2
Recorder	3
Rearing administrators (assistant of Recorder)	24

4) Conditions of Facility Design

i. Rearing Number of calves

Approximately 200 daily calves aged 3 months are introduced for rearing and 200 cows aged 2 to 26 months are sold a year.

Number of reared cattle: approximately 330 daily cows all the time.

ii. Rearing System

System of rearing: stall rearing, herd rearing (10 to 20 head for each herd)

iii. Project Scale

Stall: two stalls, total floor area of approximately 700m²

Other facilities (storage, administration office etc.): a total of approximately 125m²

A part of the excretion from stalls will be used for making compost, and other excretion will be diluted with the waste water of the facilities in a reservoir, it will be used for fertilizing the meadows.

iv. Project Site

KUD will rent 10 ha² of State land for the project site includes meadow fields, it will undertake a two year agreement with the government. The agreement of land renting will be

renewed every two years.

Adders: Desa Sugihmukti Kampung Lengkong Kecamatan Pasir Jambu

5) Preliminary Design of Facilities and Equipment

Required items for the facilities and equipment are shown in Table -4.3.3.1.1 with facilities scale (no. of stories, total floor area), type of foundation, and type of structure. Furthermore, the layout plan of these facilities is shown in Fig. -4.3.3.1.1.

Table-4.3.3.1.1 Facilities Outline - KUD Pasir Jambu / Daily Cow Rearing Facilities

Facilities Items	No. of Facilities	No. of Story	Total Floor Area (sq.m)	Type of Foundation	Structure	Special Equipment
1 Administration Office	1	1	40	Spread	R.C. / Steel	Truck (4 ton-type)
2 Stall (Cattle Rearing Shed)	2	1	350 x 2	Spread	Wood	Steam cleaner / Pesticide sprayer / Weight bridge
3 Formula Feed Storage	1	1	15	Spread	R.C. / Steel	Hand cart for meadow (2)
4 Farm Equipment Storage	1	1	15	Spread	R.C. / Steel	Cutting tools for meadow / Chopper
5 Elevated Deck (Elevated Pedestrian Deck)	1	1	25	Spread	R.C.	
6 Compost Depot	1	1	25	Spread	R.C. / Steel	Hand cart for compost (2)
7 Public W.C.	1	1	5	Spread	R.C. / Wood	
8 Waste Water Treatment	2 + 1	-	-	Spread	R.C.	

6) Implementation Plan

i. Project Cost

A summary of the cost estimation concerning this project is shown in Table -4.3.3.1.3.

Construction cost is estimated using the BAPPENAS standard unit rate of construction cost 1997/98, and the results of actual construction cost research, the function / finishing grade of facilities.

ii. Construction Schedule

Table-4.3.3.1.3. indicates the implementation schedule for this project.

B. Plan for the Establishment of Feed Mixing Facility

1) Objectives of Facility Construction

In view of the steady increase of daily cows and also the increase of selling feed to out of members of KUD which is now continued in small scale in KUD, the Project aims to construct a feed plant to respond to the increased needs for better quality feed from daily farmers. This project will secure the stable supply of low cost and high quality feed to daily farmers, and this project will also contribute to the vitalization of KUD operations.

2) Project Outline

i. Planned handling Volume

The planned handling capacity of the Feed Mixing Facility is 1,200 tons per month.

This facility also stores some raw materials for 20 days processing and products.

3) Operation and Maintenance of the Facility

i. Functions and Role of KUD

KUD shall establish and develop feed mixing facilities.

KUD shall inspect raw materials for feed and mixed feed product to improve their quality.

KUD shall supply high quality mixed feed in response to the needs from the daily farmers of KUD members.

KUD shall improve the supply network to ensure the low cost and stable supply of mixed fodder to the local daily farmers.

ii. Role of Dairy Farmers as Cooperative Members

Daily farmers purchase mixed feed from KUD according to plan.

Daily farmers keep in contact with extension specialist of daily cows from KUD to purchase appropriate mixed feed for daily cows condition.

iii. Personnel

The personnel who will be assigned to this facility are shown as follows:

	Numbers
Manager	1
General affairs and accounts administrators	1
Specialist of mixed feed	1
Operators	2
Workers	12
Driver and assistant	2

4) Conditions of Facility Design

i. Raw materials

The raw materials used for this facility are as follows;

Wheat bran, rice bran, corn, soy sauce cake, cacao refuse, coconut oil refuse, vitamins and minerals.

ii. Storage of Raw materials and Products

Raw materials and produced feed shall be packed in bags (75 kg).

Enough space to store raw materials and feed for approximately 20 days supply shall be secured in this facility.

iii. Scale of Facility

Total floor area of the facility shall be approximately 1,000 m².

Processing capacity: 1,200 tons per month

Belt conveyors shall be used to transfer raw materials and feed in the facility.

The processing plant shall be composed of the following lines;

Raw materials cutting line: pre-mixer, screw feeder, bucket elevator, magnet separator,

Crushed raw materials line: crusher, vibration proofing common base, hopper, exhaust and dust collector,

Mixing and packaging line: vertical mixer, automatic cut gate, additive mixer, product tank, simple packer scale, machine for linen bags.

iv. Project Site

KUD intend to construct the facility on there own land (approximately 3,500m²), with small dairy product processing facilities.

Address: Jalan Stasion Sisondari Kecamatan Pasir Jambu

5) Preliminary Design of Facilities and Equipment

Required items of the facilities and equipment are shown in Table -4.3.3.1.2 with facilities scale (no. of stories, total floor area), type of foundation, and type of structure.

Furthermore, the layout plan of these facilities is shown in Fig. -4.3.3.1.2.

Table-4.3.3.1.2 Facilities Outline - KUD Pasir Jambu / Feed Mixing Facilities

Facilities Items	No. of Facilities	No. of Story	Total Floor Area (sq.m)	Type of Foundation	Structure	Special Equipment
1 Feeding Plant	1	1	1,000	Spread	R.C. / Steel	
(1) Raw materials cutting line	1					pre-mixer, screw feeder, bucket elevator, magnet separator.
(2) Crushed raw materials line	1					Crusher, vibration proofing common base, hopper, exhaust/dust collector
(3) Mixing and packing line	1					Vertical mixer, automatic cut gate, additive mixer, product tank, simple packer scale (2), bag sewing machine (2).

6) Implementation Plan

i. Project Cost

A summary of the cost estimation concerning this project is shown in Table-4.3.3.1.4.

Construction cost is estimated using the BAPPENAS standard unit rate of construction cost 1997/

98, and the results of actual construction cost research, the function / finishing grade of facilities.

ii. Construction Schedule

Table-4.4.3.1.3 shows the implementation schedule for this project.

C. Training of Essential Personnel

Presently, in the KUD dairy farming operations are being conducted by means of instruction in raising and feeding dairy cattle, through PPL and KUD farm advisors (there are 5 veterinarians in Pasir Jambu). Due to this, industrious households engaged in dairy farming are producing 15 liters or more of milk a day per head of cattle. As this is high compared to Indonesias national level of about 10 liters a day per head of cattle, it is observed that the dairy farm advisors have a good technical foothold. However, on the technical level, as there is room for improvement in the technological capabilities of breeding technology for the purpose of increasing the rate of success of artificial insemination, livestock sanitation technology for the purpose of reducing trouble in the process of raising animals, and feeding management technology for the purpose of improving the efficiency of raising the cattle, if these technological capabilities can be improved upon, it can be assumed that the further development of the livestock business in this region can be promoted.

If the KUD makes improvement in its facilities for raising female dairy cattle and its facilities for feed milling, these technological improvements will help the KUD to obtain technical know-how in feed management which is based on the management of individual, which is particularly important in conducting group education activities, thus proving efficient use of the facilities.

Accordingly, it is thought that it will be effective to foster talent in breeding technology, livestock sanitation technology, and feeding management technology. The people who should learn this technology are KUD employees who already have a basic knowledge in these areas, or else it would be good to have promoters undergo technical training in technologically advanced countries. The KUD employees mentioned here should be veterinarians and assistant veterinarians who are scheduled to be employed for the Plan to Improve Facilities for Rairing Female Dairy Cattle, as well as technicians involved in inspections and feed blending design and operators who are scheduled to be employed for the Plan to Improve Facilities for Assorted Feed Milling.

Meanwhile, the Plant to Increase the Number of Dairy Cattle and the Plan to Increase the

Production of Compound Feed, which are dependent upon improvements in the facilities for raising female dairy calves and the facilities for milling feed, will have a positive effect on the involvement of the KUD in agribusiness outside of the KUD in the future. For this reason, the KUD needs to train management and marketing experts, or hire new talent to perform such functions.

In order to foster such talent, it would be appropriate to use general managers, as well as managers in charge of general affairs and accounting who are scheduled to be employed for the Plant to Set up Facilities for Raising Female Dairy Calves, plant foremen, persons in charge of general affairs, accounting who are scheduled to be employed for the Plan to Improve Facilities for Assorted Milling Feed. It thought that this training will be effective for fostering talent through a domestic training system which is in line with the development of the agribusiness which the Indonesian national government is involved in.

The subject, objectives, training period, places and cost are given in the Attachment 6.

D. Result on the Survey for Intentions of KUD Members on Improvement of Facilities/Equipment

KUD Pasir Jambu

Date: 1997. 07. 19 Interviews and discussion with 10 horticulture member farmers and 30 dairy farming members

Survey Result:

- 1) 30 dairy farmers expressed strong will to increase the number of milk cattle from 2 to 5 per household by the year 2,000 based on the plant of the KUD. However, it is difficult for them to buy cattle with their own fund and they need loan.
- 2) They strongly feel the need of renewal of feed-mill for increasing the number of cattle.
- 3) Dairy farmers are demanding technical guidance from KUD and other institutions to improve quality of milk.
- 4) They are aware of needs for nursery of calves by themselves to expand their management, however, as they want cash, they are selling calves. With the present level of holding of cattle they can not create surplus for family expenses. If KUD could establish the system of nursery of calves and advance payment is given to dairy farmers, they have a wish to use

the system.

- 5) All attendants of dairy farmers expressed positive will to bear financial burden to borrow loan for increasing number of cattle holding and strong will to repay the loan as they have a confidence for successful management after increasing number of milk cattle.
- 6) Most of attendants have an intention to recruit dairy helper in case the number of cattle become five. Also, they are thinking to rent upland field to increase production of feed glasses.
- 7) All attendants wish the realization of the KUDs facility plan and express strong will to support KUD.
- 8) Horticulture farmers have a demand to KUD to provide a strong guidance on what to produce and to establish a system of joint marketing to KUD and accounts are to be settled by using saving accounts in KUD.
- 9) Although it is not planned by KUD, horticulture farmers want to establish pre-cooler facility and nursery of seedlings.

Table-4. 3. 3. 1. 3 Construction Cost - KUD Pasir Jambu / Daily Cow Rearing Facility

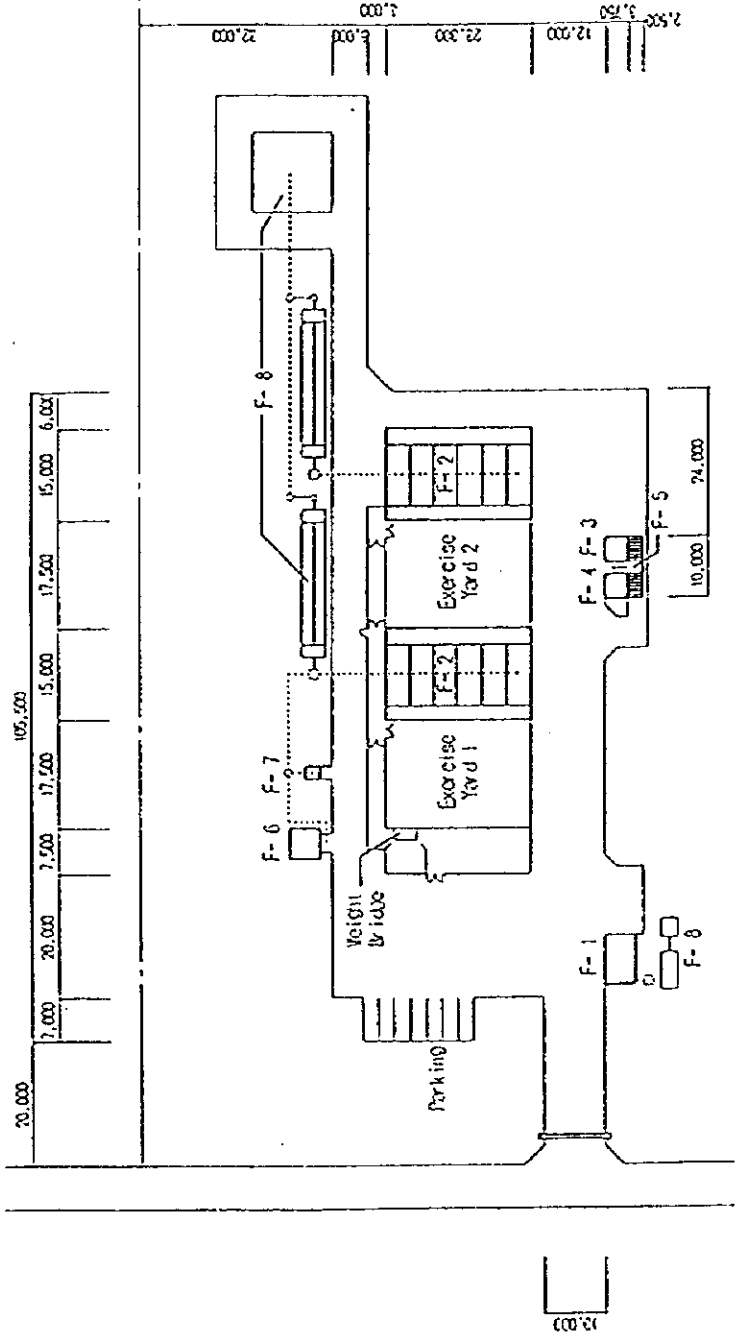
(unit : 1,000 Rupiah)

Item	Total floor area (sqm)	Total Cost	Foreign Currency	Local Currency
1. Facilities				
1 Administration Office	40	127,500	107,500	20,000
2 Stall (Cattle Rearing Shed)	700	256,731	16,731	240,000
3 Formula Feed Storage	15	10,584	2,012	8,571
4 Farm Equipment Storage	15	19,826	13,826	6,000
5 Elevated Deck (Elevated Pedestrian Deck)	25	3,125	-	3,125
6 Compost Depot	25	11,571	2,012	9,559
7 Public W.C.	5	3,453	-	3,453
8 Waste Water Treatment	-	38,083	-	38,083
Sub-total		470,873	142,082	328,792
9 Detailed Design and Engineering Service		24,659		24,659
10 Overhead and Profit		61,736	4,262	57,474
Total - 1		557,269	146,344	410,925
2. External Works and Infrastructure				
1 External Works and Infrastructure		139,785	-	139,785
Sub-Total		139,785	-	139,785
2 Detailed Design and Engineering Service		10,484		
3 Overhead and Profit		24,462		
Total - 2		174,731		
3. Land Acquisition				
Total - 3		-	-	-
Total (excluding VAT 10%)		732,000		

Table-4. 3. 3. 1. 4 Construction Cost - KUD Pasir Jambu / Feed Mixing Facility

(unit : 1,000 Rupiah)

Item	Total floor area (sqm)	Total Cost	Foreign Currency	Local Currency
1. Facilities				
1 Feed Mixing Plant	1,000	325,714	-	325,714
2 Raw Material Cutting Line	-	79,765	79,765	-
3 Crushed Material Line	-	121,905	121,905	-
4 Mixing and Packing Line	-	268,900	268,900	-
5 Truck (5 ton)	-	45,000	-	45,000
6 Sub-total		841,284	470,570	370,714
7 Detailed Design and Engineering Service		24,429		
8 Overhead and Profit		72,467	14,117	58,350
Total - 1		938,180	484,687	429,064
2. External Works and Infrastructure				
1 External Works and Infrastructure		48,000	-	48,000
Sub-Total		48,000	-	48,000
2 Detailed Design and Engineering Service		3,600		
3 Overhead and Profit		8,400		
Total - 2		60,000		
3. Land Acquisition				
Total - 3		-	-	-
Total (excluding VAT 10%)		998,180		



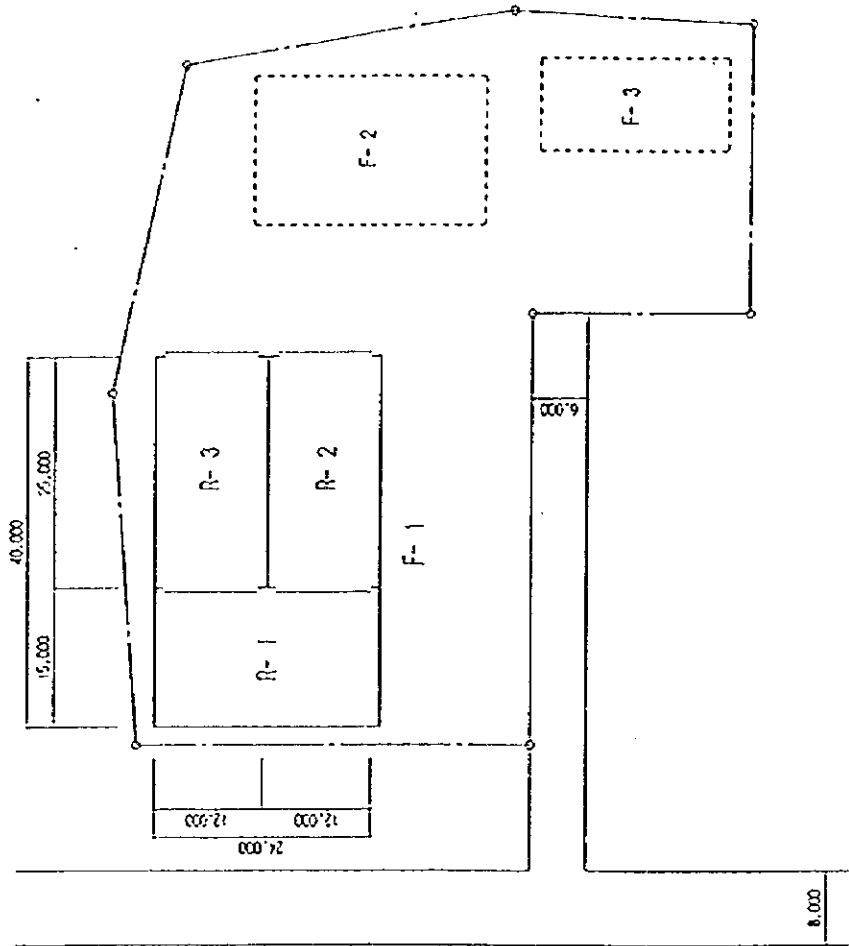
Legend

- F - 1 Administration Office
- F - 2 Stall
- F - 3 Formula Food Storage
- F - 4 Farm Equipment Storage
- F - 5 Elevated Dock
- F - 6 Compost Deposit
- F - 7 Public Toilet
- F - 8 Waste Water Treatment

Fig. - 4.3.3.1.1 KUD - Pasir Jambu / Daily Cow Rearing Facilities

Layout Plan

Scale = 1 : 1,200



Legend

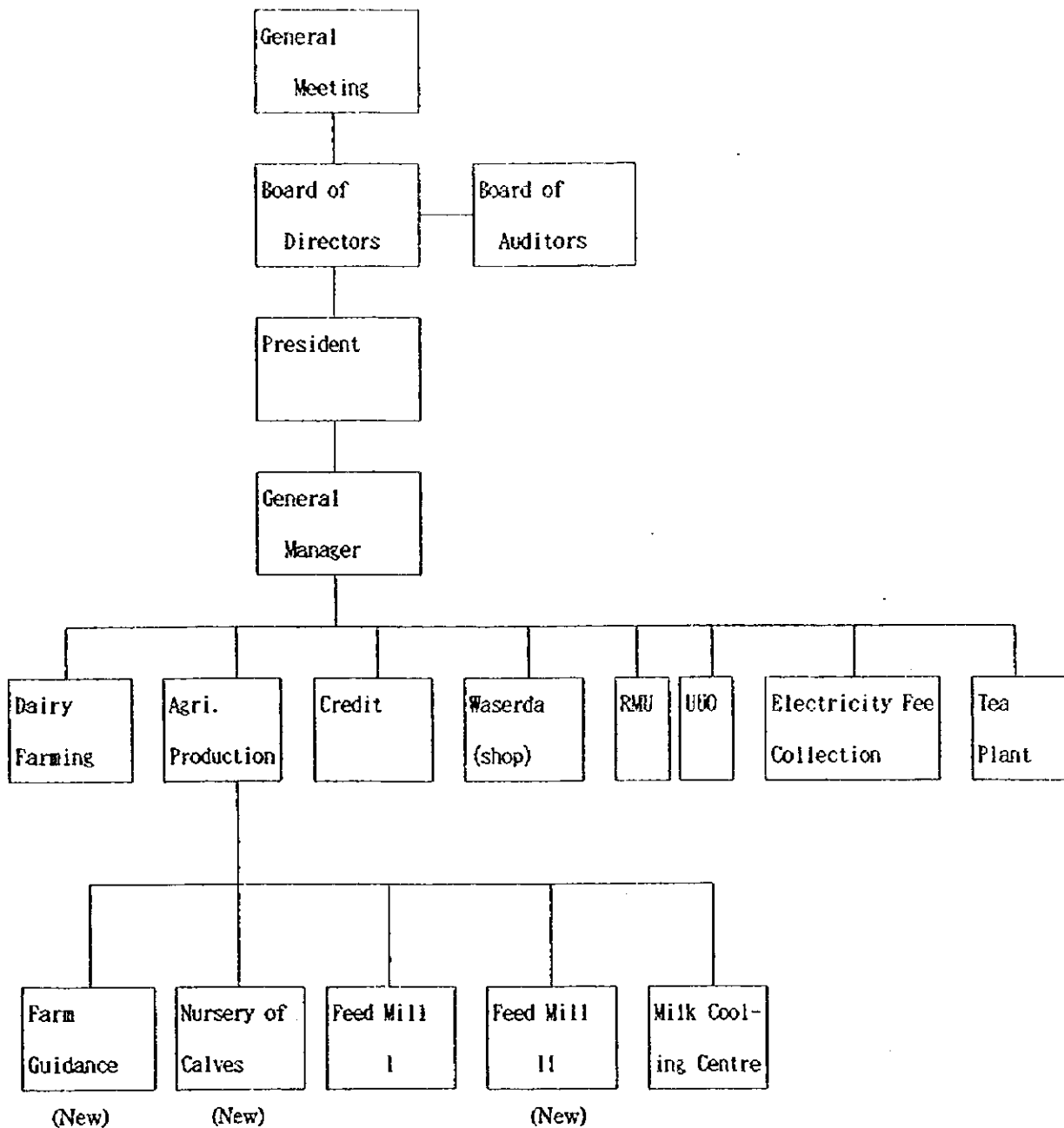
- F - 1 Feed Mixing Facility
- R - 1 Feed Mixing Plant
- R - 2 Raw Materials Storage
- R - 3 Products Storage
- F - 2 Tea processing facility
- F - 3 Milk cleaning unit

Fig.- 4.3.3.1.2 KUD - Pasir Lambu / Feed Mixing Facility

Layout Plan

Scale = 1 : 800

Chart—4.3.3.1.3 KUD Pasir Jambu Internal Structure for Management of Facilities



(2) Project Evaluation

1) Basic Evaluation Policy

The facility plan for the KUD PASIR JAMBU consists of two facilities improvements plan, such as dairy cow rearing facility and feed mixing facility. The contents of the basic evaluation policy for those facilities are same as the KUD TANI MUKUTI mentioned earlier.

2) Preliminary items in the evaluation

The preliminary items in the evaluation are shown as follows:

① Fund procurement

- a) Initial investment: The construction would be financed by following low-interest loans:
- Annual interest: 5 %
 - Grace period for repayment of the capital: 5 years
 - Repayment period: 20 years
- b) Replacement investment: Own financing resources and government subsidies.
-

② Revenue and expenditure

	Revenue	Expenditure
a) Dairy cow rearing facility	-sales of steer calf	-cow purchase -operation cost(personnel expenses,utilities,feed etc.) - depreciation - interest
b) Feed mixing facility	-sales of feed mixing	-feed purchase -operation cost(personnel expenses,utilities,bags etc.) - depreciation - interest

③ Unit price

	Sales price	Expenditure price
a) Dairy steer fattening	-dairy steer calf: RP1,580,000/head	-purchase: RP600,000/head
b) Feed mixing facility	-feed mixing: RP 308/kg	-purchase: RP 248.6/kg

*details of the operation costs as shown in Appendix -IVTable 2.

3) Analysis and review of evaluation results

(a) Revenue and operation costs

The revenue and operation costs of the each facilities improvement plan, as follows:

① Dairy cow rearing facility unit:RPI, 000

Revenue	1 st. year	2 nd. year	On and after 3rd. year	Expenses	1 st. year	On and after 2nd. year
a) sales of dairy steer calf	0	0	410,000	a) purchase b) operation	125,000 170,000	125,000 170,000
sub-total	0	0	410,000	sub-total	295,000	295,000

② Feed mixing facility unit:RPI, 000

Revenue	1 st. year	On and after 2nd. year	Expenses	1 st. year	On and after 2nd. year
a) sales of feed mixing	4,435,200	4,435,200	a) purchase b) operation costs	3,579,840 763,200	3,579,840 763,200
sub-total	4,435,200	4,435,200	sub-total	4,343,040	4,343,040

③ Overall (①+②) unit:RPI, 000

Revenue	1 st. year	2nd. year	On and after 3rd. year	Expenses	1 st. year	On and after 2nd. year
Total	4,435,200	4,435,200	4,845,200	Total	4,638,040	4,638,040

(b) Calculation of profit and loss and balance of cash flow

A statement of profit and loss, and table of cash position of the overall facility plan and each facilities plan are shown in Table 4.3.3.2.1, Table 4.3.3.2.2, and Table 4.3.3.2.1 respectively. The

following results the obtained.

a) Depreciation, interest payment before profits, and net profits are anticipated to be in the red for the first year and second year of the dairy steer calf fattening facility since revenue from the sales of fattened cattle will not be available until the third year. As a results, a fund of about 330 million RP for operation costs should be obtained as operating funds through own capital or government subsidy.

b) In case of feed mixing facility improvement plan, the depreciation and interest payment before profits were in the black from the first year and regular operations continued without any problems. However, due to the delay of the net income, it is difficult to make ends meet from solely on project revenue reserves. Therefore, it is necessary to apply for either a government subsidy or to cover 70 percent of the equipment replacement cost.

c) In reviewing the overall plan for all two facility provision plans, depreciation, interest payment before profit and net profits are anticipated to be in the red until second years of the dairy steer calf fattening facility since revenue from the sales of fattened cattle will not be available during two years. However, they are anticipated to be in the black from 3rd. year. Therefore, 30 percent of the total investment amount of the equivalent of 590 million RP should be obtained as operating funds through own capital or government subsidy at the initial start of the project. This will allow the cost of reprovisioning equipment in both facility plan to be met from the project revenue and difficulties concerning cash position will be avoided during the entire period. In addition, this will allow the investment capital to be recovered in the 19 th. fiscal year.

(c) Financial Inter Rate of Return(FIRR)

Results of the FIRR of the overall facility plan for all two facilities provision plan is shown in Table 4.3.3.2.4. The FIRR of overall project has been calculated at 3.8 percent and the profit ratio is lower than the low interest loans indicated (5 percent interest rate) in the preconditions of the evaluation. The results of the FIRR for two facilities are as shown in Table 4.3.3.2.5 and .3.3.2.6, dairy steer calf facility plan has been calculated at 4.4 percent, and feed mixing facility has been calculated at 2.6 percent, respectively.

(d) Sensitivity analysis

The sensitivity analysis carried out based on the following various cases:

- Case 1 : 5 percent increased of the investment cost
- Case 2 : 5 percent decreased of the revenue
- Case 3 : Combined case of case 1 and case 2

The results of the sensitivity analysis in case of the overall plan is shown below. Despite a slight decrease in revenue and an increase in investment, changes in the profit ratio remain minimal. However, the FIRR will drop to 2.7 percent if both of these conditions are prevalent. Results of the sensitivity analysis of each facilities improvements plan are shown in Appendix-IV Table 3.

	Investment cost (%)	Revenue (%)	FIRR (%)
Basic case	-	-	3.8
Case 1	+ 5	-	3.3
Case 2	-	- 5	3.2
Case 3	+ 5	- 5	2.7

(e) Comprehensive evaluation

It will be difficult to operate the facility and manage the capital if low interest loans and government subsidies cannot be procured.

On the other hand, KUD TANI MUKUTI which is the major target of this project has more than 23 years experience in dairy farming as a cooperative. As a result, its existing organization and structural system as a cooperative will be strengthened with organizational management measures and plans to foster human resources, etc. which will be formulated separately to mobilize the KUD.

In view of these circumstances, no difficulties are foreseen in the maintenance and control of the equipment and facilities that are planned. In addition, with the implementation of the facility improvement plan, following the indirect benefits which the regional society, economy and KUD's members farmers can be generated adding to the measurable direct benefits mentioned above.

-
- a)National level : Contribution for the national demand of the cattle beef
 Contribution for the national livestock promotion policy
-

- b)Regional level: Contribution for the regional economic development through the increase of cattle beef production
 An improved nutrition balance of the inhabitants due to expanded distribution of dairy products
 Improvement of the productivity of the livestock products through the expanded distribution of formula feed

-
- c)KUD/Members: Effective use of regional agricultural and livestock resources
- Accumulation of dairy processing technology and accelerated dissemination of technical skills to cooperative members
 - Improvement of the cooperatives members income and KUD's management condition through the increase of the products and quality of the dairy products
 - Expanded employment opportunities for rural women involved in milk collection
- d)No. of beneficiary farmers: cooperative members 5,882
-

4) Financial analysis of farming household

The financial analysis of farm households a comparison of existing conditions in dairy farm income(farms directly related to this project) and changes in this income when the project is implemented. The model farm households that were used in this analysis were selected from the data collected from 69 households which participated in the survey of farm households in KUD Tani Mukuti and KUD Pasir Jambu. Summary of the present farm households income condition are as shown in Table 4.3.3.2.7. There are distributed 700 and 1,242 dairy farm household in KUD Tani Mukuti and KUD Pasir Jambu, respectively. The dairy farm households are divide to full-time dairy households type and complex farming type by rice and vegetable. More than 70 percent of the overall income of complex farming is generated from the sale of raw milk and male and female cattle.

The average heads of cattle per farm households is 10 to 17 for full-time dairy households and 4 to 5 heads of cattle for part-time farm households. Milk cows comprise about 80 percent of this number for both types of farm households and the remaining 20 percent is sold as beef or draft cattle.

The following benefits have been pointed out for dairy farm households if the project is implemented in both of the KUD.

- Increase in the annual milk volume per head and improved milk quality
- Increase in the number of milk cows
- Increase in the number of cattle sold as beef cattle and improved meat quality

The following are improvements in the average dairy farm households income based on the benefits listed above. The current net profit of farm households is anticipated to increase 1.8 times.

unit: RP1,000

	Present	Project
1. Agricultural gross income		
-sales of fresh milk	12,960	25,300
-sales of dairy calf	1,500	2,200
sub-total	14,460	27,500
2. Production cost		
-feeds	4,104	10,800
-fertilizers & chemicals	-	-
-labor cost	2,880	2,880
sub-total	6,984	6,984
3. Agricultural net income (1-2)	7,476	13,820

5) Environmental assessment

Main impacts on the environment by the project implementation are considered to be as follows:

- Pollution of rivers due to the flow out of processed waste water produced by the expanded production of processed dairy products
- Stench, river water pollution, and pollution of underground water from the flow out of urine from dairy cows and beef cattle

The installation and use of simple waste disposal equipment and other related equipment in the facility plan are anticipated to be sufficiently capable of coping with the mentioned above problems. The deterioration of the environment caused during the construction works of the project, the executing body of the project will control the contractor during the course of construction.

Table 4.3.3.2.7 Dairy Household Type (Dairy household, Dairy household + Paddy production) : KUD TANI MUKUTI, KUD PASIR JAMBU

Index	Farm Household Type			
	TANI MUKUTI		PASIR JUMBU	
	Dairy	Dairy+Paddy	Dairy	Dairy+Paddy
1. Land holding area (ha)	2.5 ha	-	-	1 ha
2. No. of family (family labor)	4 (2)	3 (4)	8 (3)	9 (2)
3. No. of milk cattle/ No. of livestock	12 head	6 head (5 chicken)	17 head (23 chicken)	3 head
Income:				
1. Sales of milk	12,960	6,480	21,600	6,000
2. Sales of other livestock	1,500	1,400	2,500	1,000
3. Sales of rice and vegetables	-	2,150	-	3,000
4. Gross income (RP1,000)	14,460	10,030	24,100	9,000
Expenditure:				
1. Production cost (RP1,000)	4,104	2,316	11,135	3,050
seeds	-	175	-	1,200
fertilizer	-	150	350	200
chemical	-	350	-	100
feed	4,104	1,641	10,560	1,200
others (water charge, etc.)	-	-	225	350
2. Part time worker	2,880	2,160	600	700
Total (1+2) (RP1,000)	6,984	4,476	11,735	3,750
3. Living expenses (RP1,000)	3,328	3,340	8,490	5,800
Balance of household				
1. Net agri. income (RP1,000)	7,476	5,554	12,365	5,250
2. Non-agri. income (RP1,000)	1,800	120	-	1,000
3. Balance (RP1,000)	5,948	2,334	3,875	450
4. % of agricultural income	48 %	55 %	51 %	58 %
Banking Loan				
1. Balance of loan (RP1,000)	-	-	-	-
2. Total debt (RP1,000)	-	-	-	-
3. Banking institute, interest	-	-	-	-
4. Objectives	-	-	-	-

Source: Household Field Survey, JICA 1997

4.3.4 Anticipated Effects

This KUD is a potential Mandiri Inti. The areas of its business are diversified, and at the stage of KUD development it is judged as being in the lower upper class. The KUD's objective is to develop into a mid-upper-class position in five years. The following items will be anticipated effects of putting into practice the detailed plans for activation.

(1) Plan to Improve Organization and Business

1) Effects of Plan for Realizing the Complete Payments of Membership Fees and Compulsory Savings

As regards the Five-year Plan for Realizing the Complete Payments of Membership Fees and Compulsory Savings, as well as the effects of the Plan to Promote Membership, like KUD Tani Mukti, this KUD will also strengthen its relationship with the members, distribute dividends to the members, and increase its own capital.

2) Effects of Establishing a Planning Administration Division

By establishing a Planning Administration Division, for example, the following matters for this KUD would be possible, in regards to its plan to increase its number of dairy cattle: linking its Dairy Farming Division with its Credit Business Division to improve the level of cooperation between the activities for the preparation of the necessary funding for the introduction of calves and those activities for production-related guidance; providing timely loan to the members to create a system for providing loan to go along with individual production plans, including the instruction in farming operations and counseling activities for purchasing and taking care of female calves, which are conducted by the Dairy Farming Division, and the plan for the purchase of feeds. This will enable the KUD to provide all-around support for the farm management plan of farm households. Also, the Horticulture Division will plan business development projects, including those for securing customers which will purchase their products and those for facilities, getting the approval at a general meeting for such projects, with the KUD clarifying the division which will be in charge of these activities, managing them on a daily basis, and being sure to execute these plans.

The effects of its internal auditing function and its application of computers will be the same as those for KUD Tani Mukti.

(2) Plan to Improve the Economic Business

In this KUD, with some of the households engaged in horticulture already producing and selling crops under contract to "Hero," which is the largest super-chain store in Indonesia, along with the farm advisors, by increasing the number of households engaged in farming who belong to this system, the KUD will be able to stabilize and increase the incomes of households engaged in horticulture. In addition, by expanding the scope of its new business transactions, the KUD will also be able to select quality products and realize high earnings through the sales of carefully selected products, by increasing the amount of commodities that it handles and setting up the necessary joint shipping facilities. The effects of this KUD opening payment settlement accounts are the same as those for Tani Mukti.

(3) Plan to Improve the Credit Business

With women's groups conducting brisk activity, it is expected that this KUD will show quite good results in the future from its activities through these groups for promoting savings. It will be easy for the KUD to obtain the consent of the members in urging them to make the objective savings, in order to save the capital which is needed by the members for such things as education, marriage, purchasing such commodities as televisions, and medical examinations. Such activities as those for the automatic withdrawal of electricity charges from bank accounts and payment settlement accounts for farm management will enable the KUD to reduce the required cost of savings and to provide the residents of the local region with other benefits.

Regarding this KUD expanding the scope of its banking transactions and changing its methods by which it handles institutional loan, these things are the same as those for Tani Mukti, which have already been discussed.

(4) Plan for the Human Resources Development and Guidance Activities

1) Effects of Setting Up Personnel and Education/Training Division

By setting up special divisions for employee education, the KUD will be able to increase training efficiency and improve the abilities of the employees, by means of planning training projects based on the results achieved from training and work levels, setting objectives for improving the abilities of the individual employees. Also, by planning yearly projects, including periodically holding discussion meetings among the members, and being certain to carry out these plans, the KUD will be able to sufficiently hear the opinions of the members and reflect these opinions on the work that is conducted. By posting a full-time employee in this division to also be in charge of the publication of a public relations bulletin, and so substantiating the work that is conducted there, the KUD will be able to deepen the understanding for the activities conducted by the members and the KUD.

2) Effects of Increasing the Members Welfare Fund

By increasing membership among people other than those of households engaged in dairy farming, in addition to providing local residents with the merits of becoming a member of the KUD, and thus promoting membership, the KUD will also be able to provide assistance for a part of the medical and hospital costs of users, thus improving the quality of their daily lives. Also, due to the introduction of health screening activities, although these benefits are too costly for the average person to receive them, the KUD will be able to have the cooperative members receive these benefits by using the objective savings which have the objective of carrying out these activities, which will help in the maintenance of the health of the members. As the good health of the members is a precondition for the stability in farming production and for an income of the households engaged in farming, the KUD will be able to give the members a feeling of satisfaction in regard to KUD activities.

3) Effects of the Use of Cable-broadcasting Facilities

By expanding the scope of the cable-broadcasting facilities that it presently has, and promoting subscription among all households, the KUD will be able to provide the local residents with the merits of utilizing its business.

KUD Walatra

4.4 KUD Walatra

4.4.1 Present Situation and Evaluation

(1) Present Situation

1) Natural Conditions and Agricultural Production

In the agro-eco system, KUD Walatra is considered to be in a cold agricultural region which is located at a highland. This KUD area flourishes in vegetable production and dairy farming. As it is a hilly and mountainous region, there is only a small amount of square footage per household allotted to business, with 80% of the households engaged in farming owning 0.5 hectares of land.

The region produces a large amount of cabbage, tomatoes and potatoes. As far as production amount is concerned, the region produces 118,125 tons of cabbage, or a 69% share of that which is produced in the 41 sub-districts of Bandung District; 44,585 tons of tomatoes, for a 68% share; and 123,460 tons of potatoes, for an 81% share (from Bandung District statistics, 1994).

Since the Southern Bandung Dairy Farming Cooperative (KPBS) is located in this region, dairy farming is not conducted by this KUD. The KUD, however, cultivates tea (estate). It has no other industry than agriculture, although there are some people in the KUD who are involved in the business of simple handicrafts. Most of the cooperative members of this KUD are from households engaged in vegetable farming. The number of dairy cattle in the KUD appears to be on the decrease since 1994.

2) Historical Background of the KUD, and the Promotion of the Horticulture Business

KUD Walatra was established in July 1973, and registered as a KUD in January 1989. In July 1991, it was recognized as a KUD Mandiri. As far as the KUD's membership rate is concerned, 11.6% of its adult population are members, with 36% of households engaged in farming belonging to the KUD. The KUD includes the entire Pangalengan Sub-district. This sub-district is one of the leading vegetable producing regions in the entire nation, cultivating potatoes, tomatoes, cabbage, and other kinds of vegetables. Each day 300 tons of vegetables from this region are shipped to the marketplaces of Jakarta and Bandung. The region produces a particularly large amount of potatoes. With the "Seed Potato Multiplication and Training Center," which was built with the cooperation of JICA, located in this region, the KUD has 3 employees who have received training at this center, making the region a good one for receiving technical instruction for the production of potatoes.

3) Economic Business

The KUD's main business is focused on the provision of fertilizer, agricultural chemicals and farming machinery and utensils, while the KUD is also engaged in the provision of household fuel (kerosene). There are no shops operated by the KUD. In its sales, while the KUD does handle vegetables for export, these activities are sporadic rather than continuous. The KUD conducts no other form of sales business. Nor does the KUD operate a processing business. The sales of tea are conducted by the Tea Producers Cooperative, which is an independent business organization.

The KUD provides fertilizer through the Cooperative Service Place (TPK), which is in the KUD.

The operation of the TPK is left to a retailer who is also a member, with the KUD, in actuality, playing the role of wholesaler to the TPK. The quantity of fertilizer and the monetary amount of that business that the KUD handles had been decreasing each year. However, this business showed a recovery in fiscal 1996. The government allows the KUD to exclusively handle a list of 7 granule and urea products. However, with a lot of illegal distribution of these products going on, the KUD is exposed to competition in this area.

The gross sales of horticulture crops in 1996 amounted to Rp 184.7 million, with the KUD providing Rp 1,773.5 million worth of fertilizer.

4) Credit Business

Ninety-one percent of the loans to members (Rp 2.7 billion in 1996) were in the form of institutional loan as Agricultural Production loans (KUT) for horticulture. Although in the past these loans were applied only to rice production, in fiscal 1995 they were expanded to include vegetables. This benefits both the households engaged in vegetable farming and the KUD. The KUD receives 5% of the repaid interest, as a commission. The KUD also issues a lot of loans to the members, limited to amounts between Rp 300,000 and Rp 500,000 for periods ranging from 3 to 6 months.

Eleven of the 64 Kelompok Tani have offices, from which they conduct the savings and loan business on their own. The KUD has 2 of its employees make the rounds to these office on certain days of the week. In addition to conducting the KUD's savings and loan business, these employees are also involved in information- and communication-related activities, collecting KUT loan applications, and using these offices as places to carry on discussions on a variety of matters.

The savings and loan business of the KUD and that of the Kelompok Tani are separate from one another, with the savings and loan business of the Kelompok Tani being in the form of mutual finance for a group.

Voluntary savings total Rp 29.7 million, accounting for no more than 1.9% of total assets. However, this represents a big increase of 3.3 times the total for 1994.

5) Organization and Management

The KUD's business region consists of the entire Pangalengan Sub-district, encompassing 12 villages, and a sub-district population of 102,085. Of an adult population of 37,708, a total of 4,360 are members, representing the low membership rate of 11.6%. The reasons for this are that, with the estate laborers having formed their own cooperative, they are not counted as cooperative members of the KUD, and that, with a strong dairy cooperative in existence, the households engaged in dairy farming are members of the dairy cooperative. There are only 161 female members. The KUD constructively does not promote membership among women. There are 7,980 households engaged in farming in the KUD which own land. Among these, there are 1,541 households engaged in vegetable farming, and 1,342 households engaged in the production of tea, which are members of the KUD, with 36% of the households engaged in farming belonging to the KUD.

With the members divided into the horticulture group of 1,541 members, the electricity-users group of 1,142 members, the poultry group of 195 members, the retailers group of 50 members, and the tea-producing household group of 1,342 members, most of the members are from households engaged in vegetable. The merits of belonging to the KUD include such things as (1) being able to easily purchase fertilizer at a discount Rp of 10 per kilogram; (2) being able to borrow KUT loan; (3) being able to get information which has to do with farming.

There are 5 directors, all of whom are engaged in farming. There are 3 auditors who conduct auditing every 3 months. The auditors consist of 1 former soldier, and 2 teachers. Before the general meeting was held, there were sessions among the individual member groups, with democratic operations being conducted. The KUD is made up of the office of the secretaries, the General Affairs Division, Credit Division, Shipping Division, the shops operated by the KUD, the Processing Division and the Marketing Division.

There are a total of 21 regular employees in the KUD. These are made up of 2 General Manager (1 for credit, 1 for business and finance); clerical workers consists of 1 special staff member, 1 person for farming loans activities, 1 person for general loan activities, 1 person for accounting activities, 1 person involved in general affairs, and 2 people involved in the electricity charge collection businesses; and in the Field Work Division there are 9 people involved in the electricity charge collection businesses, 1 person involved in shipping, and another 2 people engaged in other activities. In addition to these 21 regular employees, there are 5 part-time employees. The KUD has 4 female employees.

Gross sales for 1995 totaled Rp 1.609 billion, representing an increase of 41% over the previous year, but an approximate decrease of 17% from 5 years before that, which was 1990.

As far as total gross sales are concerned, the provision of farming production materials, mainly fertilizer, accounted for Rp 1.48 billion, or 85.9% of the gross sales. In addition to this, the provision of kerosene accounted for Rp 131 million.

Also, the revenues from the electricity charge collection businesses amounted to Rp 23 million, with revenues from the savings and loan business targeted at the users of the electricity charge collection businesses totaling Rp 13 million, loans to employees totaling Rp 64 million, and revenues from the UO amounting to Rp 11 million. Total profits on sales amounted to Rp 194 million, about the same as the those for the previous year.

Total business profits amounted to Rp 42 million, with the provision of farm production materials accounting for the highest profit amount of Rp 19.2 million. Current surplus has been unstable, fluctuating greatly from the 1990 amount of Rp 16.5 million, to Rp 6.5 million in 1994, and Rp 18.3 million in 1995.

As far as the financial situation is concerned, total assets amount to Rp 1.559 billion, which is a big increase over the Rp 981 million of last year. A total of Rp 1.023 billion were loaned to members, accounting for 65.6% of the total assets. Most of these loans were from BRI institutional loan, with KUT loans for vegetables accounting for Rp 881 million.

At the end of 1996, KUT loans increased greatly to a total of Rp 2.299 billion. Outside investment totaled Rp 49.6 million, with these investments going toward membership fees and compulsory savings for the National Federation of KUD (INKUD), as well as to the telephone company, and others. Debts totaled Rp 1.038 million, representing an increase of Rp 921 million over the previous year's total. However, as already mentioned, these were in the form of system funding procured from BRI.

Owned capital (including other debts) amounted to Rp 521.6 million, of which membership fees accounted for Rp 57.5 million, and compulsory savings for Rp 53.7 million. Even when combined these represent 21.3% of the own capital, and 7.1% of the total assets.

6) Human Resources Development and Guidance Activities

The educational level of employees are not very high, with the majority of them being assigned to electricity business- and public telephone service business-related jobs. As there are not many employees engaged in the credit and marketing businesses, it is difficult to develop these businesses. Although 4 of the 25 employees in 1995 received outside training, the KUD is not engaged in the systematic dispatch of its employees. There is no particular person who is in charge of in-service training at the workplace, nor is such training conducted. The KUD does not

conduct the members' education. It does not publish a public relations bulletin.

What is needed for the training in this KUD are quality management methods in the Marketing Division, grade-related training, and training in methods for securing customers for sales and dealing with these customers. The Farm Guidance Division has 5 people in charge of farm guidance, and 3 people instructing vegetable farmers groups, with these people receiving training at the "Seed Potato Multiplication and Training Center" of JICA, which is in the KUD. There are 2 people who belong to the Credit Business Division, providing instruction for repaying KUT loans. The training tasks of the farm advisors are to expand sales routes and establish control technology for insects. The employees who are engaged in the electricity business need to learn technology for repairing wiring and power transmission machinery, in order to expand the business of the KUD in the future. The KUD is not involved in better living activities. There are two women's organizations involved in savings and loan activities. These are commercial groups which manufacture confectionery products and folk crafts.

7) Other Business

This KUD earns revenues on commissions from collections it makes on electricity charges. In 1994 these revenues amounted to Rp 11.3 million, increasing to Rp 13 million in 1995. During this period the number of people who used electricity increased from 964 to 1,642. The people who use electricity have electricity charge accounts with the KUD, through which they make compulsory savings each month. The KUD pays an annual interest of 15% on these savings. Since 1996 the KUD has been operating a public telephone post kiosk (WARTEL), which earns about Rp 1.2 million a month.

(2) Evaluation

1) Involvement with Vegetables

Although most of the KUD's members are from households engaged in vegetable, since the middlemen and wholesalers have a lot of clout, with the exception of exports, the KUD is not involved in the sales of vegetables, and so it is not able to meet the expectations of the members. However, since the KUD has a record for conducting the export of such vegetables as potatoes, tomatoes and cabbage, it is thought that it would be possible for the KUD to secure a sales route for itself if it set up measures for improving the quality of its vegetables, as well as those for storing and shipping them. With particular consideration having been given to processing the KUD's mainstay crop of potatoes, if this can be realized it would help to increase the incomes of the households engaged in vegetable farming.

2) Involvement in Traditional Processed Farm Products

While there are a lot of traditional processed farm products in the KUD, since, with the exception of some, they are not merchandised, the KUD does not handle them. If the KUD would provide assistance for these products, improve their quality and produce a sufficient quantity of them, it would be possible for the KUD to merchandise these products, and sell them, and so help to increase the incomes of the members.

Since the KUD actually provides assistance to women's handicraft groups in the savings and loan business, in addition to further activating these activities it would be possible for the KUD to expand into other processed farm products. Also, by promoting the participation of women, the KUD would be able to activate its activities.

3) Credit Business

As most of the loans provided to members are in the form of institutional loans, the KUD's primary savings and loan business (the KUD collects savings, and makes loans based on this capital) is insufficient.

However, with the balance of free savings greatly increasing from 1994 to 1995, if the KUD continues to conduct promotion activities in the future, it would be possible to increase them even more. Also, since there is a big demand for loan among the members, it is easy for the KUD to expand its loan activities; and since, with the percentage of people who have televisions having risen to 90%, the members have a lot of financial clout, so if the KUD were to improve its management system, it is thought that collection of these loans would not present a big problem.

4) Economic Business

With its only sales business in the form of agent for export of crops, which are produced by contract, the KUD is not constructively cultivating the domestic market. The reasons for this are a shortage of procurement fund, as well as a lack of facilities for grading and selecting products, warehouses and a means for shipping these products. With a desire among households engaged in farming for the KUD to handle vegetables, rather than buying these by paying the whole amount in cash, if the KUD could make a 10% advance payment, since the representative of the households engaged in farming are inclined to get involved in joint marketing (from the Survey of the Inclinations of Households Engaged in Farming, which is part of this survey), it would be possible to discuss the possible ways of doing this with the households engaged in farming. Also, as it would be optimum if the funding needed for conducting the sales for vegetables were covered by the KUD's own low-cost capital, measures are needed for increasing its capital and promoting savings for this purpose.

5) Organization and Management

With the low rate of membership, the KUD only gets a small amount in payments of membership fees and compulsory savings from the members. The KUD needs to discuss this with the Kelompok Tani, collect these fees and savings, and so increase its own capital. Also, the KUD has not distributed dividends as a result of appropriation of surplus to the members since 1994. But since there is a possibility that the KUD might destroy its relationship of trust with the members, it needs to distribute these dividends in accordance to the By-law of the KUD.

6) Human Resources Development and Guidance Activities

Due to the fact that the employees are not systematically trained, and because there are only a small number of employees which are stationed at positions having to do with the credit business and the marketing business, which are essentially supposed to be important businesses, the KUD's business has not developed. Since neither the KUD nor the members are concerned with activities for better living, it is difficult to develop these activities. In order to activate them, the KUD needs to introduce activities for increasing added income by organizing women's processed farm products groups, and after that to discuss involvement in activities for better living together with the members, and conduct field study in advanced KUD.

As far as farm guidance is concerned, since the vegetable production technology among producing households engaged in farming is of a uniformly high level, rather than instruction in production technology, it is a task of the KUD to conduct profitable sales by creating a joint marketing system in the KUD.

4.4.2 Detailed Plan for Activation of KUD

(1) Basic Ideas

As this region is classified as a cold agricultural region which is located at a highland in the agro-eco system, its main agricultural products are milk, as well as potatoes, tomatoes, cabbage and other vegetables. As the KUD's main business is the provision of fertilizer and the credit business, the members are constructively engaged in the production of vegetables, mainly potatoes.

Although the KUD comprises a leading vegetable-producing region, since the KUD is limited to exports on the spot basis, the members ship products within the sub-district and to traders in Bandung, so that their sales are inevitably unprofitable.

The basic strategy for activation of the KUD is increasing the marketing capacity of potatoes, which is a key commodity, and, based on this, expanding the scope by which it handles other vegetables.

In addition to improving its savings and loan business to meet the demands for funding among households engaged in vegetable production, the KUD also needs to improve its credit management to increase its capital, thus strengthening its ability to cope with the above-mentioned traders. In order to accomplish this, the KUD will do the following:

(2) Measures for Marketing Vegetables

* Setting up a Committee for Examining the Promotion of Vegetable Marketing, made up of the Cooperative Extension Officer (PKL), the Agriculture Extension Officer (PPL), executives and employees, as well as representatives of the members, the KUD will examine measures for securing marketing routes, improving quality, storage, shipping, packaging and processing.

* Nurturing responsible employees who are enthusiastic about marketing measures, the KUD will expand its marketing routes.

* Promoting the use of KUT loans, the KUD will make it so that the households engaged in horticulture will not have to borrow working capital for such things as purchasing potato seedlings from the above-mentioned traders.

(3) Production and Processing of Potatoes

There are already a lot of companies which are purchasing potatoes used for processing purposes

from the Pangalengan region. Setting up facilities for processing potatoes and actually processing the potatoes has helped to stabilize the price of potatoes in the region, and has resulted in profits for the members from farm households. Recruiting from among the members farm households which produce potatoes used for processing purposes, the KUD will set up a Processing Potato Section, which will contract with the members to cultivate potatoes. According to this contract, the KUD will purchase the potatoes (raw material) at stable prices. The National Horticultural Experiment Station will develop potatoes for fresh consumption, utilizing seeds produced by the Seed Potato Multiplication and Training Center. If the KUD is technically able in the future to produce seeds, it will produce the seeds, and provide them to the members.

(4) Plan for Strengthening of Economic Business

1) Setting Up a Committee for Examining the Promotion of Marketing Vegetable

With the exception of potatoes, the KUD hardly sells any crops from its horticulture business on the general market. And although it has exported tomatoes and other vegetables to Singapore, since this has only been handled on the spot basis because of standards and quality, the KUD will set up a Committee for Examining the Promotion of Marketing Vegetable to examine this business.

With its members consisting of KUD executives, the Cooperative Extension Officer (PKL), the Agriculture Extension Officer (PPL) and employees of other related offices, this committee will examine measures for securing marketing routes, improving the quality of potatoes and other vegetables, as well as storing, shipping, packaging and processing these vegetables.

2) Creating a System for the Joint Collection and Shipping of Potatoes and Other Vegetables

Adopting a system for the joint collection of potatoes and other vegetables, the KUD should enthusiastically introduce a uniform means of collecting these vegetables and a diversified means for marketing them, and put this system into practice. Setting up a joint collection and shipping center, the KUD will utilize this center as a place for the temporary storage of goods that it has collected, as well as a warehouse, a place to do the packaging, an office, and as a packaging and communications facility, and through this, in addition to fulfilling the needs of the members, the KUD will also be able to provide a means for transporting goods for the purpose of collection and shipping. The KUD will establish standards which have to do with grade and shipping. It will promote business negotiations with places which have a large demand, including hotels, hospitals, and fast-food restaurants. Utilizing the research results obtained by the "Seed Potato Multiplication and Training Center" in Pangalengan, which receives assistance from the Japan International Cooperation Agency (JICA), the KUD will provide potato seedlings to farm households which come with authoritative certificates of quality, at reasonable prices.

3) Setting Up a Facility for Processing Potatoes

There are already a lot of companies purchasing potatoes from the Pangalengan region which are used for processing purposes. This KUD is in a favorable geographic location. This region has facilities for receiving electrical power and irrigation water facilities in place. Setting up a refrigeration storage facility for potatoes for storing the products of the members during the harvest season, the KUD will be able to sell these products at a more profitable time. This will serve as a price-stabilizing mechanism for this region, and be profitable for the members from farm households. In order to maintain its dealings with places which have a large demand, the KUD will set up mid-size facilities for processing potatoes to be used in the production of sticks, fingers, chips and powder. The KUD will support the above-mentioned facilities through appropriate marketing strategy and marketing routes, by establishing quality standards and quality management, and entering into long-term contracts with places which have a large demand in Jakarta and Bandung. In order to secure stability for potatoes used as high-quality material for production, the KUD will enter into contracts with members from households engaged in farming.

4) Setting Up a System of Account Settlement with the Cooperative Members

In order to be certain of the clarity of business transactions and to appropriately manage these transactions, the KUD should urge its people to use computers. Transactions involving large amounts of cash should be avoided. The KUD will pay the members through settlement accounts that the KUD has opened for each of the members. This will help to promote increased savings among the members, and at the same time contribute to the working capital of the KUD.

(5) Plan for Strengthening of Credit Business

1) Strengthening the Involvement in Lending for Farm Management

The KUD should borrow the funds directly from the bank for bank loans used for activities for the production of horticulture crops among the members of the KUD, and lend these funds to the members. Through this system, the KUD will bear the burden of financial risk, and so be able to directly handle the matters of loan approval, as well as collection and management, and the KUD will probably get more enthusiastically involved in financial activities. This will probably lead the KUD to carefully select the people to whom the loan will go, thus improving the circumstances of repaying the various types of loans. Included in the system by which the KUD makes loans to the members is establishing a framework for making mid-term loans in order to provide the cooperative members with assistance in equipment, machinery and expanding the scale of small business. Since there is a possibility that the compulsory savings that are made in combination with the loans of working capital given by this KUD could have a minus effect on the repayment of the loans, the system needs to be reconsidered.

2) Strengthening of the System for the Management and Collection of Loans

This KUD needs to improve its ability to select members with whom financing is to be done, manage the financing and to collect the payments on these loans. In order to do so, it will be important for the KUD to educate and train its employees regarding finance. The official agency which provides financing to this KUD should assist the KUD in promoting this kind of training, splitting the costs with the KUD. This is because the development of this talent will benefit both of them. This is in line with the recent advice of the World Bank in which it has requested the development of talent and the improvement of financial agencies (see Indonesia: Maintaining High Growth of Net Assets; World Bank Report No. 16433 - IND; May 30, 1997).

By utilizing its own capital, the KUD should head itself in the direction of running its system of extending loans to the members.

So that the system of making loans will be able to meet the various financial demands of the members, the KUD should be flexible as to the purpose for which the funds are spent. The loan applications and the processing of approving the loans should be simplified in order to hasten the loan application process. Normally, the loan application process should not exceed 12 weeks. The present rate of interest which is applied to the system by which this KUD makes loans to the members is sufficient to cover the costs of loan management as well as to secure a business profit for the KUD.

3) Increasing Savings and Improving Borrowing Ability

In order to improve its overall borrowing ability, the KUD should increase its assets, positively increasing the savings of the members. It would be desirable to form women's savings groups. Women are enthusiastic savers, and have good savings records. Women are also actively engaged in the production and sales of crops of the field. There exists a margin for arranging different aspects of the compulsory savings and the voluntary savings which are used as a system for collecting funds. According to this system, when a portion of the products of the field which have been produced by the members are sold through the KUD, the KUD keeps this money for the members as a type of compulsory savings. This kind of compulsory savings should pay the same interest rates as are available on the market. As regards the government-supported system of finance, it would be desirable for the KUD to arrange things so that it will be able to apply a part of the interest to increasing the capital in the KUD, adding a profit margin to the interest.

(6) Plan for Strengthening of Organization and Management

As there is a shortage of owned capital, with a lot of members not paying completely their

membership fees and making complete compulsory savings, the KUD will promote activities to get such members to pay in full.

With the exception of some of the traditional processed farm products which are merchandised by women's groups, these products are produced and consumed by the individual households as food and other products for everyday use. In addition to spreading throughout the region technical know-how which is kept within the confines of individual households, the KUD will promote activities among women's groups and activate KUD activities.

Although the KUD has not paid out dividends as a result of appropriation of current surplus to the members since 1994, it will pay dividends if there is any current surplus. There are years when savings conducted by the Kelompok Tani are included in the savings balance of the KUD, while there are also years when these savings are not included. Also, it is unclear who should assume the profits and losses, the Kelompok Tani or the KUD. Since this might cause distrust among the members, the KUD will correct its accounting process.

1) Promoting Complete Payments of Membership Fees and Compulsory Savings

When the KUD makes the rounds once a week to conduct the savings and loan business at Kelompok Tani, the members will be urged to make complete payments. Also, membership fees and compulsory savings which should go to the KUD should be handled with the KUD's accounting, with the KUD cooperating with the Kelompok Tani to handle these deposits in its accounting.

2) Spreading Technological Knowledge for Processing Farm Products

Taking as a model the activities presently being conducted by women's groups, the KUD will foster groups to make different kinds of processed products. The instructors and teachers will be found from among the groups.

The immediate objective will be the mutual exchange of technology among the members, improving their understanding of the KUD, and acquiring a diverse range of technological knowledge, under the precondition that the products will be consumed at the individual households.

The materials and processing utensils will be provided by the participants, with the KUD urging people to join the groups, gathering together members and securing places for conducting the processing activities, and selecting the instructors and teachers. The KUD will also provide the participants with utensils, if necessary.

Once it has been found that it will be possible to merchandise these products in the future, the

KUD will then consider handling these products.

3) Paying Dividends to the Cooperative Members

The KUD will pay dividends from current surplus to the members since 1997.

4) Clarifying the Division of Accounting between the Kelompok Tani and the KUD

In regard to savings, membership fees and compulsory savings, the KUD will make the necessary changes so that these activities can be continuously conducted through the same process, selecting whether they should be unified into the KUD or whether they should be clearly separated from the Kelompok Tani.

If they are separated from the Kelompok Tani, the KUD will clarify who will bear the responsibility of the clerical costs, the Kelompok Tani or the KUD. (Refer training plan in Attachment 6)

(7) Plan for Strengthening of Human Resource Development and Guidance Activities

1) Implementation of 5 year plan for promotion of education activities

In a bid to foster capable employees, it is suggested to implement a five year plan which includes the following contents;

- Plan for recruitment of employees according to the business development plan, especially for saving loan business and marketing business.
- Plan for members education and fostering of leaders among members.
- Long-term plan for training of individual employee to develop his capability.
- Plan for fostering of instructors for in-service training and implementation of in-service training.
- Plan for training of farm advisors and leaders of producers' groups.
- Plan for fostering of better living advisors in KUD and implementation of better living activities.
- Annual implementation plan for above mentioned plans.

2) Strengthening of farm guidance

As potato producers are producing tomato, corn and cabbage as crop rotation commodities, it will be useful to organize members' joint shipment groups by geophysical regions. The regulation and grading standard for all commodities are necessary to be established for the joint shipment to the

KUD.

3) Strengthening of better living activities

As the number of women members is small, it is necessary to promote better living activities through organizing women's group. Based on the group activities, it would be possible to organize food processing group of women aiming at study and development of local food processing technology established in the local area.

In order to provide technical support and information on agro-processing for activities of KUD, a district level training facility will be necessary to be established.

(8) Other business

In addition to the collection of electricity fee, the KUD shall engage in the service of transmission wire installment through training of employees.

4.4.3 Facilities Plan and Project Evaluation

(1) Facilities Plan

A. Plan for Establishment of Potato Processing Facility

1) Objectives

KUD Walatra has been promoting to expand potato farming. All the members of KUD, except two womens groups of crop processing, are horticultural farmers. They mainly depend on the cash income from potato farming. However, the market price of potato fluctuates very widely, and the selling price has been controlled by brokers. Therefore, KUD has planned to establish and develop potato processing facilities for purchasing potato at a stable price from horticultural farmers as KUD members.

2) Project Outline

i. Planned Volume

The planned quantity of potato for processing into sticks, powder and flakes in this facility is 75 0 tons per month.

ii. Operation plan

The operation rate will be 30 % in the first year, 60 % in the second year and full in the third year.

3) Operation and Maintenance of Facility

i. Functions and Role of KUD

KUD shall establish and develop potato processing facilities.

KUD shall instruct well-planned programs of cultivating potato to horticultural farmers.

KUD shall purchases stable amount of potato daily from horticultural farmers as the members of KUD.

KUD shall purchase potato from horticultural farmers as the members of in stable price.

KUD shall process some amount of potato into sticks in some standard sizes, and others shall process into powder and flakes.

KUD shall sell the sticks, powder and flakes of potato to market.

ii. Role of Horticultural Farmers as Cooperative Members

Horticultural farmers cultivate potato by the well-planned programs from KUD.

Horticultural farmers shall potato in stable price to KUD.

iii. Personnel

The personnel who will be assigned to the facility are shown as follows:

	Number
Manager	1
General affairs and accounts administrators	3
General affairs and Sales	2
Operators	12
Maintenance workers	6
Workers	30
Guard	6
Driver and assistant	6

4) Conditions of Facility Design

i. Capacity of Facility

Capacity of processing volume of material are as follows:

Stick processing capacity : 600 tons per month (product rate 75 %)

Powder and flakes processing capacity : 150 tons (product weight 100 tons) per month

ii. Scale Facility

Total floor area the facility shall be approximately 4,000 m².

Raw materials shall be purchased every day, and the maximum capacity of the raw material storage shall be approximately 100 tons.

Stick shaped products shall be shipped every day, and the maximum capacity of the products storage in the refrigerator shall depend on a day production.

Capacity of the storage for powder and flakes shall be approximately 50 tons.

iii. Project Site

KUD intend to construct the facility on there own land (approximately 16,800m²) .

Address Jalan Ios Cimaung Kampung Sukalaksana Desa Sukamanah
Kecamatan Pangalengan

5) Preliminary Design of Facilities and Equipment

Required items of the facilities and equipment are shown in Table -4.4.3.1.1 with facilities scale (no. of stories, total floor area), type of foundation, and type of structure.

Furthermore, the layout plan of these facilities is shown in Fig. -4.4.3.1.1.

Table-4. 4. 3. 1. 1 Facilities Outline - KUD Walatra / Potato Processing Facilities

Facilities Items	No. of Facilities	No. of Story	Total Floor Area (sq.m)	Type of Foundation	Structure	Special Equipment
1 Potato Processing Facilities	1	1	4,000	Spread	R.C. / Steel	
(1) Stick shaping line	1					grader, wash and peeler, stick bar cutter, grinder, drier/moisturizer, extruder, packing machine
(2) Powdering line	1					

6) Implementation Plan

i. Project Cost

A summary of the cost estimation concerning this project is shown in Table-4. 4. 3. 1. 2. Construction cost is estimated using the BAPPENAS standard unit rate of construction cost 1997/98, and the results of actual construction cost research, the function / finishing grade of facilities.

ii. Construction Schedule

Table-4. 4. 3. 1. 3. shows the implementation schedule for this project.

B. Training for Personnel

The potato processing is a new business for KUD. Therefore, it will be needed for the personnel of the Potato processing facility to master Process technique for potato processing into sticks and powder, Operation and Maintenance technique for equipment and Quality control technique for controlling raw material and products quality and for sanitary control of the facility. As the training for personnel concerning Operation and Maintenance technique for the equipment which will be installed in the facility, two types of training methods are effective. The technical participants who will be engaged as operators and/or maintenance staff for the facility will be trained at the workshop of manufacturer who will supply the equipment before installation, or the manufacturer will dispatch engineer(s) to the facilities as technical instructor for a given period after the installation of equipment. The operators are needed to master not only Operation and Maintenance technique but also Quality control technique. Therefore, some technical training programs for food processing in advanced countries are much effective for the participants who will be engaged personnel as operators for the facility.

On the other hand, the plan for selling processed food through the establishment of Potato processing facility means that KUD actively promotes their agribusiness to the out of members for the future. Therefore, it is needed for KUD to obtain know-how for management and marketing and to promote Food processing technology for research and development of food processing which is based on marketing research by the establishment of facility. KUD

should train the staff as marketing experts and researchers or should employ new personnel for their new agribusiness, .

As training for personnel, some domestic training programs provided by the Government for promoting agribusiness are much effective for the participants who are engaged personnel as the directors, managers/accountants and operating engineers for the Potato processing facility.

C. Result on the Survey for Intentions of KUD Members on Improvement of Facilities/Equipment

KUD Walatra

Date: 1997.07.22 Interviews and discussion with 27 horticultural member farmers

Survey Result:

- 1) They wish to sell potato and vegetables with stable price and KUD buy their products. However, KUD has no enough fund to buy vegetables from members. They are suffering low price by disadvantageous business with middlemen.
- 2) They are thinking joint marketing to KUD with the system of 10% of temporarily payment and settlement of account after 7 days. In case of middlemen, they pay 30% to farmers and the rest of 70% is paid after 7 days. They do not stick to cash transaction.
- 3) The management of potato production is difficult due to price fluctuation. Potato processing facility will be effective to stabilize income of producers. They expressed strong wishes to utilize the facility of KUD.
- 4) Beside marketing, their problems are cost increase of production materials and damage by insects (Liriomija). They wish a strong farm guidance to KUD.

Table-4. 4. 3. 1. 2 Project Cost KUD Walatra / Potato Processing Facility

(unit : 1,000 Rupiah)

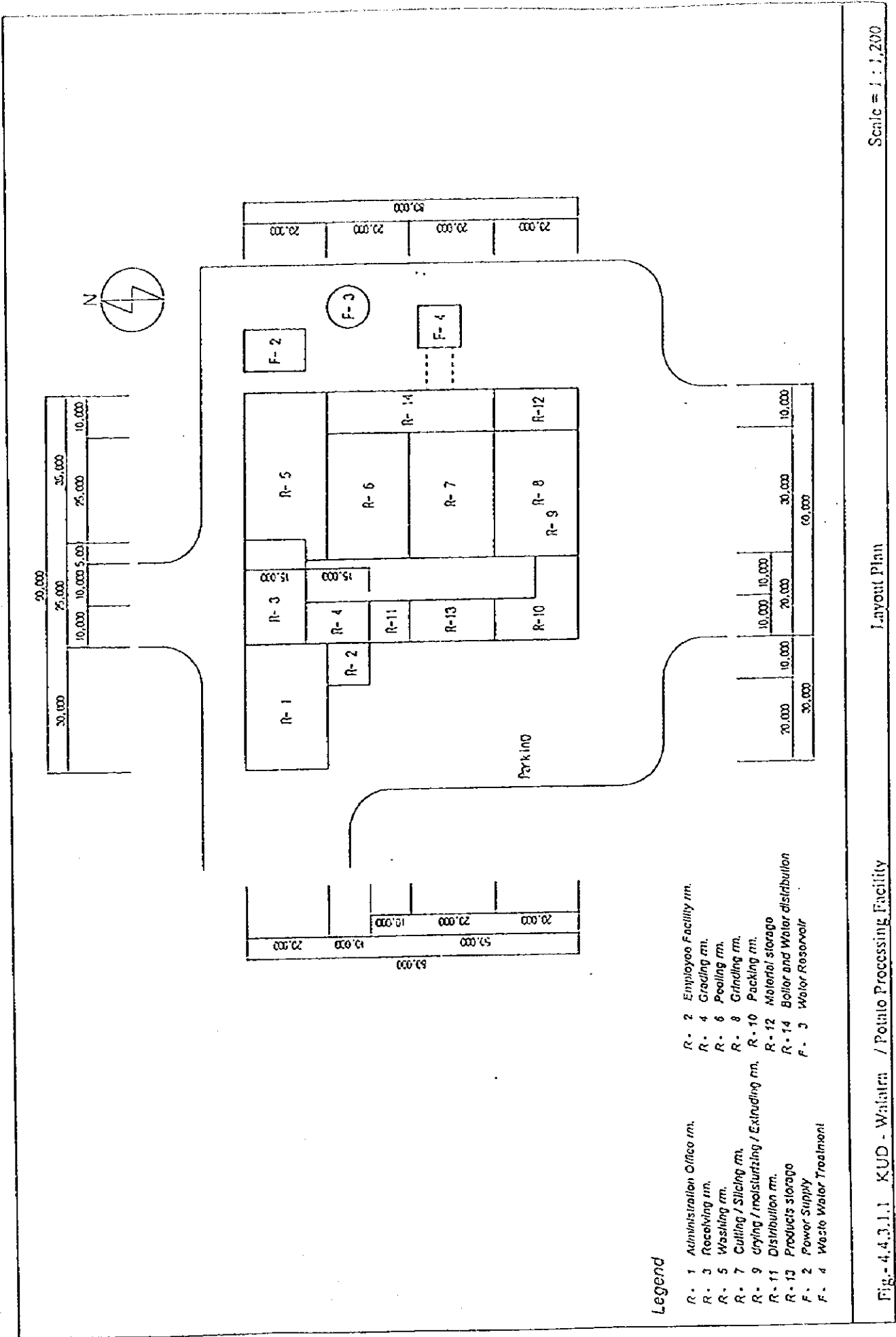
Item	Total floor area (sqm)	Total Cost	Foreign Currency	Local Currency
1. Facilities				
1 Potato Processing Plant	4,000	2,273,083		2,273,083
2 Stick Processing Line	-	1,075,000	1,075,000	-
3 Powder Processing Line	-	1,451,250	1,451,250	-
4 Waste Water Treatment	-	101,400	-	101,400
5 Sub-total		4,900,733	2,526,250	2,374,483
6 Detailed Design and Engineering Service		178,086		178,086
7 Overhead and Profit		491,231	5,750	415,481
Total - 1		5,570,050	2,602,000	2,968,050
2. External Works and Infrastructure				
1 External Works and Infrastructure		250,413	-	250,413
Sub-Total		250,413	-	250,413
2 Detailed Design and Engineering Service		18,780		
3 Overhead and Profit		43,757		
Total - 2		312,950		
3. Land Acquisition				
Total - 3		1,200,000	-	1,200,000
Total (excluding VAT 10%)				
		7,083,000		

8) Result on the Survey for Intentions of KUD Members on Improvement of Facilities / Equipment

KUD Walatra

Date : 1997.07.22 Interviews and discussion with 27 horticultural member farmers

1. They wish to sell potato and vegetables with stable price and KUD buy their products. However, KUD has no enough fund to buy vegetables from members. They are suffering low price by disadvantageous business with middleman.
2. They are thinking joint marketing to KUD with the system of 10% of temporally payment and settlement of account after 7 days. In case of middlemen, they pay 30% to farmers and the rest of 70% is paid after 7 days. They do not sick to cash transaction.
3. The management of potato production is difficult due to price fluctuation. Potato processing facility will be effective to stabilize income of producers. They expressed strong wishes to utilize the facility of KUD.
4. Beside marketing, their problems are cost increase of production materials and damage by insects (Liriomija). They wish a strong farm guidance to KUD.



Legend

- R - 1 Administration Office rm.
- R - 3 Receiving rm.
- R - 5 Washing rm.
- R - 7 Culling / Slicing rm.
- R - 9 Drying / Moisturizing / Extruding rm.
- R - 11 Distribution rm.
- R - 13 Products storage
- F - 2 Power Supply
- F - 4 Waste Water Treatment
- R - 2 Employee Facility rm.
- R - 4 Grading rm.
- R - 6 Peeling rm.
- R - 8 Grinding rm.
- R - 10 Packing rm.
- R - 12 Material storage
- R - 14 Boiler and Water distribution
- F - 3 Water Reservoir

Fig.-4.4.3.1.1 KUD - Walnut / Potato Processing Facility

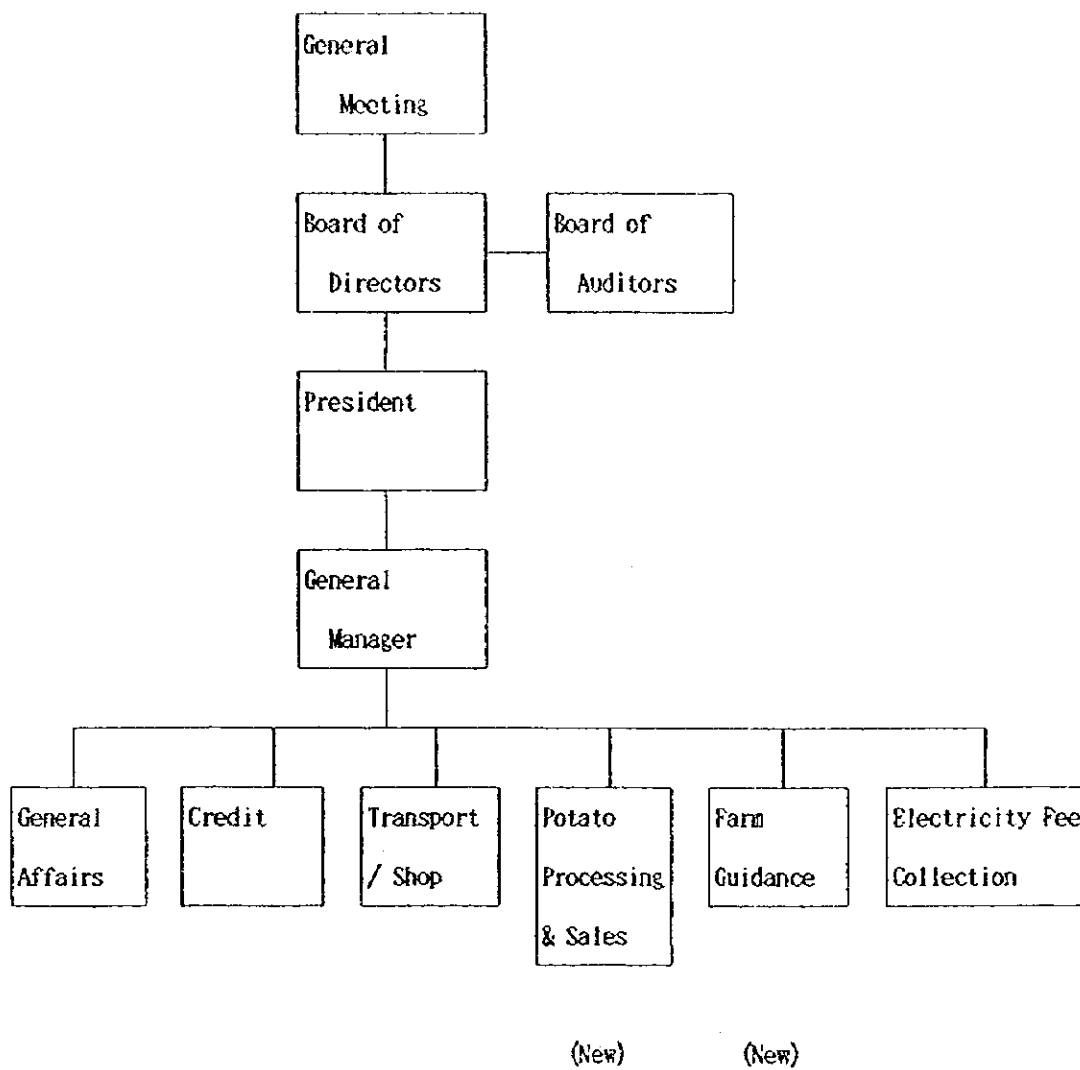
Layout Plan

Scale = 1 : 1,200

Table 4.4.3.1.3 Project Schedule (Draft) KUD - Tani Mukuti / PasiJambu / Walatra

Project Items	Project Schedule																																			
	Months																																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33			
1 Approval of Project																																				
Arrangement of Loan																																				
Appraisal by Loan Agency																																				
Selection / Appointment of Consultant / Implementing Agency																																				
Design of Project																																				
Submission of Plans for Approval by various Government Agencies																																				
Project Land Acquisition																																				
Calling of Tender																																				
Award of Contract																																				
2 Site Investigation Contract																																				
3 Project Construction																																				
Mobilization																																				
Temporary Works																																				
Site Clearing (Tree Culling) / Demolishing of Existing Bldg.																																				
Excavation / Back-fill / Soil Improvement																																				
KUD - Tani Mukuti / Cattle Fattening-Rearing Facility, Feed Mixing-Packing Facility, Milk Processing Facility																																				
KUD - Pasi Jambu / Cattle Rearing Facility, Feed Mixing-Packing Plant																																				
KUD - Walatra / Potato Processing Facility																																				

Chart--4.4.3.1.2 KUD Walatra Internal Structure for Management of Facilities



(2) Project Evaluation

1) Basic Evaluation Policy

The facility improvement plan for the KUD WALATRA is proposed potato processing facility. The basic evaluation policy for this facility is same as the KUD TANI MUKUTI mentioned earlier.

2) Preliminary items in the evaluation

The preliminary items in the evaluation are shown as follows:

① Fund procurement

a) Initial investment: The construction would be financed by following low-interest loans:

- Annual interest: 5 %
- Grace period for repayment of the capital: 5 years
- Repayment period: 20 years

b) Replacement investment: Own financing resources and government subsidies.

② Revenue and expenditure

Revenue	Expenditure
-sales of potatoes processed products: <ul style="list-style-type: none">• stick• chips• flour/flake	-cow purchase -operation cost(personnel expenses,utilities,etc.) -depreciation -interest

③ Unit price

Sales price	Expenditure price
-stick: RP2,850/kg	-purchase:RP1,050/kg
-chips: RP2,850/kg	-purchase:RP1,050/kg
-flour/flake: 5,900/kg	-purchase:RP1,050/kg

*details of the operation costs as shown in Appendix-IV Table 2.

3) Analysis and review of evaluation results

(a) Revenue and operation costs

The revenue and operation costs are shown as follows:

unit: RP1, 000

Revenue	On and after 1 st. year	Expenses	On and after 1 st. year
a) stick	7, 695, 000	a) purchase	9, 450, 000
b) chips	7, 659, 000	b) operation	12, 573, 850
c) flour/flake	7, 387, 400		
Total	22, 877, 100	Total	22, 023, 850

(b) Calculation of profit and loss and balance of cash flow

A statement of profit and loss, and table of cash position is shown in Table 4.4.3.2.1.

Depreciation, interest payment before profits, and net profits are anticipated to be in the red for the first year, since the production volume of the first fiscal year has been estimated 10 percent lower than actual production levels. However, they are anticipated to be in the black from second year and regular operations continued without any problems. Therefore, about 25 percent of the total investment amount of the equivalent of 1.8 billion RP should be obtained as operating funds through own capital or government subsidy at the initial start of the project. This will allow the cost of re-provisioning equipment in the facility plan to be met from the project revenue and difficulties concerning cash position will be avoided during the entire period. In addition, this will allow the investment capital to be recovered during the evaluation period.

(c) Financial Inter Rate of Return (FIRR) and sensitivity analysis

Results of the FIRR is shown in Table 4.4.3.2.2. FIRR has been calculated at 5.3 percent, this figure is exceeded low interest financing as explained in the preconditions of the evaluation. The sensitivity analysis is carried out based on the following various cases:

- Case 1 : 5 percent increased of the investment cost
- Case 2 : 5 percent decreased of the revenue
- Case 3 : Combined case of case 1 and case 2

The results of the sensitivity analysis is shown below. If there is a slight decrease in revenue and increase in investment, the interest becomes lower than the figure stipulated in the preconditions. Details results of the sensitivity analysis as shown in Appendix -IV Table 3.

	Investment cost(%)	Revenue(%)	FIRR(%)
Basic case	-	-	5.3
Case 1	+ 5	-	4.8
Case 2	-	- 5	4.7
Case 3	+ 5	- 5	4.2

(d) Comprehensive evaluation

As explained earlier, if this project is able to obtain financial assistance in the form of a low interest and government subsidy, it becomes financially viable. In addition, it has been concluded that the maintenance and control of facilities and equipment which will be introduced in this project will not be an impedimento due to the following reasons.

- KUD WALATRA targeted by this project has been producing potatoes as a vegetable producing cooperative and has more than 23 years developed organization

- KUD WLATRA has its own technical system and marketing channels in vegetable production and sales

-The KUD will be strengthened with organization management measures and plans to foster human resources, etc. which will be formulated separately to mobilize the KUD in this project

On the other hand, with the implementation of the facility improvement plan, following the indirect benefits which the regional society, economy and KUD's members farmers can be generated adding to the measurable direct benefits mentioned above.

a)National level : Model case for the support to the small scale vegetable production farmers

b)Regional level: Model case for the support to the small scale vegetable production farmers

c)KUD/Members: Improvement of the cooperatives members income and KUD's management condition through the increase of the potato products
 Stable production of potato farmers through the facility improvement
 Improvement of the agricultural household income

d)No. of beneficiary farmers: Cooperative members 4,360

unit: RP1, 000

	Present	Project
1. Agricultural gross income (RP1, 000)		
-sale of potato	45, 000	57, 000
-sales of vegetables	20, 000	20, 000
sub total	65, 000	77, 000
2. Production cost		
-seeds	18, 900	20, 790
-fertilizers	13, 500	14, 850
-chemicals	13, 500	14, 850
-others (water charge, etc.)	1, 500	1, 650
-labor cost	12, 600	15, 120
sub total	60, 000	67, 260
3. Agricultural net income (1-2)	5, 000	9, 740

(c) Environmental assessment

Main impacts on the environment by the project implementation is considered to be pollution of processed waste water produced by the expanded production of potato processed.

The installation and use of simple waste disposal equipment and other related equipment in the facility plan are anticipated to be sufficiently capable of coping with the mentioned above problems. The deterioration of the environment caused during the construction works of the project, the executing body of the project will control the contractor during the course of construction.

Table 4.4.3.2.3. Vegetable Farm Household Type (Vegetable mono-culture, Vegetable + Paddy + Dairy cow) : KUD WALATRA

Index	Farm Household Type		
	Potato mono-culture	Potato + Paddy	Potato + Dairy cow
1. Land holding area (ha)	1.5ha	4 ha	3.5 ha
2. No. of family	-	7	5
3. Farm machinery / No. of livestock	-	-	sprayer 5 milk cow
Income:			
1. Sales of potato production	65,000	60,000	30,500
2. Sales of rice and vegetables	-	3,000	-
3. Sales of milk	-	-	15,280
4. Gross income (RP1,000)	65,000	63,000	45,780
Expenditure:			
1. Production cost (RP1,000)	45,900	41,000	17,820
seeds	18,900	15,000	3,500
fertilizer	13,500	16,000	6,420
chemicals	13,500	10,000	7,900
2. Water charge & feed. etc.	1,500	1,000	6,800
3. Part time worker	12,600	8,000	3,600
Total (1+2+3) (RP1,000)	60,000	50,000	22,100
4. Living expenses (RP1,000)	4,000	12,500	7,200
Balance of household:			
1. Net agri. income (RP1,000)	5,000	13,000	23,680
2. Non-agri. income (RP1,000)	-	-	-
3. Balance (RP1,000)	1,000	500	16,480
4. % of agricultural income	8 %	21 %	52 %
Banking loan			
1. Balance of loan (RP1,000)	2,500	-	-
2. Total debt (RP1,000)	-	-	-
3. Banking institute. interest	-	-	-
4. Objectives	-	-	-

Source: Household Field Survey, JICA 1997