

8 THE SUMMARY OF THE RESULT OF THE COMMISSIONED SURVEY (South Kalimantan)

8-1 Outline of the Respondent

	Tungtung Pandang	Hidup Baru	Harapan Pertama	TOTAL	
Condition of Respondent					
1	Number of respondent family	20 fam.	20 fam.	20 fam.	60 fam.
2	Number of respondent	20 prs.	20 prs.	20 prs.	60 prs.
	- male	20 prs.	20 prs.	20 prs.	60 prs.
	- female	0	0 prs.	0	0 prs.
3	KUD Member	15 prs.	14 prs.	19 prs.	48 prs.
4	Non member	5 prs.	6 prs.	1 prs.	12 prs.
Condition of the Family Head					
5	Number of family head	20 prs.	20 prs.	20 prs.	60 prs.
	- male	20 prs.	20 prs.	20 prs.	60 prs.
	- female	0	0 prs.	0	0 prs.
6	KUD member	20 prs.	14 prs.	18 prs.	52 prs.
7	Non member	0 prs.	6 prs.	2 prs.	8 prs.
8	Farmer	19 prs.	19 prs.	20 prs.	58 prs.
9	Other job	1 prs. (public servant)	1 prs. (public servant)		2 prs.
The main income source of the family					
10	Agriculture	19 prs.	19 prs.	19 prs.	57 prs.
11	Laborer	1 prs.	1 prs.	1 prs.	3 prs.
12	Daily employee	0 prs.	0	0	0 prs.
13	Land rent	0	0	0	0
14	Others	0 prs.	0 prs.	0	0 prs.

* The samples of the survey were selected by interviewers and the the KUD chairman with special considerations to obtain impartial respondents.

8-2 Rural Community and Rural Economy

- Customs, Ceremonies and Social Life in Rural Community

There are certain traditional ceremonies which are still conducted by farmers in South Kalimantan. In Karo, every village conducts a year-end festival, just after the harvest time, to rejoice. Similar processions can also be found in Simol.

Farmers usually gather and pray together just before planting the seed and after harvesting. When the paddy is filled out, in several place in South Kalimantan (Dayak Tribe), they have some ceremonies which use to pray.

Other popular customs are those which implement the principle of "gotong royong" (togetherness), such

as cleaning the waterworks, wedding ceremonies, entering the new house, or funerals.

- Prerogatives of Various Economic Entities

Small shops and kiosks are the main economic entities in many villages in South Kalimantan, and they play a vital role in providing farmers with daily necessities and input for their production activities. There are several cases in which these entities also act as distribution channels for farmers' products. While home industries have become an alternative for farmers to create added-values for their products and an additional sources of income.

8-3 Agricultural Production

- Distribution of Agricultural Input Material such as Makers and Dealers of Chemicals, Vinyl, Feed-Stuff

While the production of most of the agricultural inputs e.g., urea, other chemical fertiliser and paddy seeds remains in the hands of the government-owned companies, the majority of distribution is channelled through the KUD system. Farm inputs for plantation/estate crops is done through the PT Pertani.

The vinyl sheeting is not used in South Kalimantan.

There is no significant livestock development or dairy activity in the province. However, some individuals own livestock. They obtain their feed-stuff supplies from the local market. The cattle-feed is imported generally from East Java. There are no local cattle-feed formulators in the province.

- Distribution of Farm Machinery (Makers and Dealers)

Over the years the use of farm machinery in the province has increased. The following table indicates the availability of farm machinery in South Kalimantan in the years 1993 and 1994.

Type of Farm Machines	1993	1994	% of 1993
2-wheel tractors	110	124	112.7
Tractors/all types	122	134	109.8
Hand Sprayers	13,667	14,764	108.0
Other Pest Control Eqpt	1,633	1,513	92.6
Threshers	1,662	1,722	103.6
Paddy Processors (out of which, RMU)	29,895 (489)	26,984 (546)	90.2 (111.6)
Water Pumps	1,287	359	27.8

Source: Statistik Indonesia-Year Book 1994. BPS-Jakarta

A majority of farm machines are within the KUD sector, mostly owned by farm households. Some of the equipments have been imported, and some have been locally assembled. Some of the farm machines have been acquired under OECF and Kennedy Round programmes. Nearly all the KUD owned paddy drying platforms and small godowns to hold paddy and rice. Some transportation vehicles are also owned by the KUD. Cooperatives are not reported to own any cold stores or any other agro-processing units.

8-4 Agro-Processing and Its Distribution

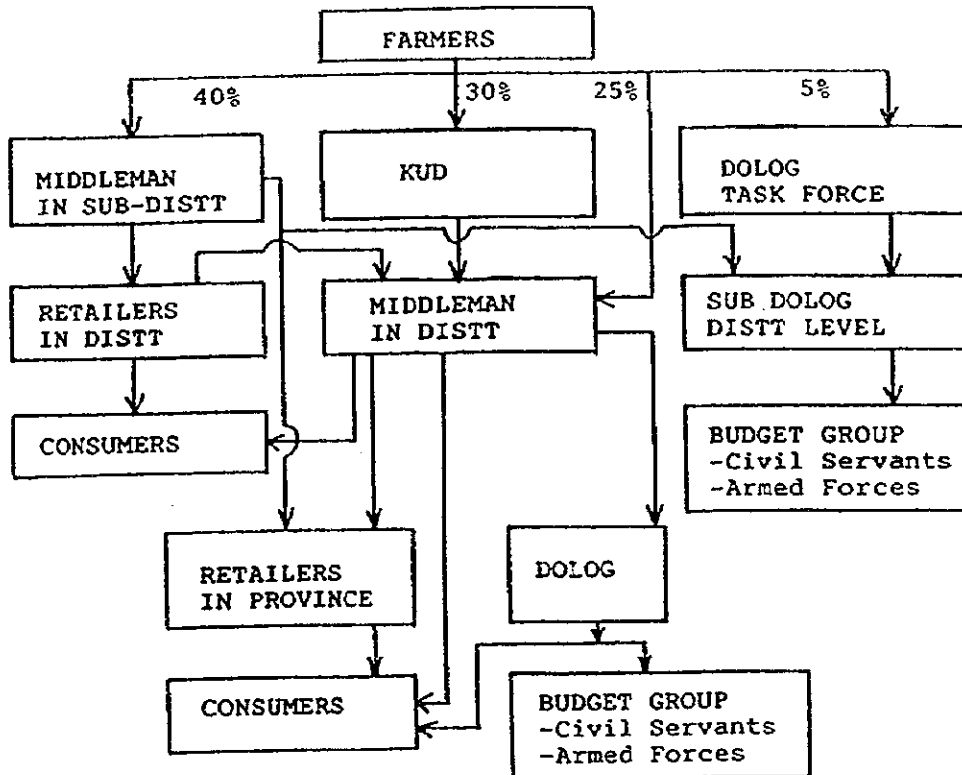
- Demand of Major Farm Products (Commodities, Form of Processing, Consumption Areas)

Production of major commodities of South Kalimantan in 1985, 1990 and 1994 has been as follows:

Particulars	1985	1990	1994	% of 1985
Paddy/Rice	875,097	982,167	1125,443	128.5
All Vegetables	11,163	21,156	25,900	236.3
All Fruits	105,969	53,426	125,477	117.9

Source: South Kalimantan in Figures, 1995, Banjarmasin

Except for paddy/rice, part of which is delivered to the Bulog, rest of the farm products are entirely consumed within the province. A Flow Chart on the distribution of rice in the province is given below.



The production of some selected vegetables in the province has been as follows:

Particulars	1985	1990	1994	% of 1985
All Vegetables	11,163	21,156	25,900	236.3
Cucumber	3,736	5,501	4,172	111.6
Chilies	785	1,982	2,841	361.9

Source: South Kalimantan in Figures, 1995, Banjarmasin

Except for rice milling there is no other agro-processing activity in the province. The rice milling capacity is given below:

Particulars	1985	1990	1994	% of 1985
KUD-Facilities	18	39	63	350.0
Non-KUD Facilities	1,178	1,338	1,535	130.3
Total Milling (Tons)	418,736	464,307	592,869	141.5

Source: South Kalimantan in Figures, 1995, Banjarmasin

The farm products are collected through the KUD network either at the initiative of the traders and their agents or at the behest of the KUD or its farmers' groups.

Some of KUD in the province are also engaged in coal mining activity and horse rash (a tall grass used for making mats) collection and processing.

-Technical Level of Major Processed Farm Products by Commodities

Rice is the major farm product followed by vegetables and some cash crops. Rice is distributed in the open market and to the national food-stock (Bulog). Vegetables are consumed in the local market. Cash crops are collected by private traders and some through the KUD network. There is some orange production which is collected by the KUD and shipped to Jakarta and other parts of Java. There is no agro-processing industry within the cooperative sector. Milk production is insignificant, and whatever is produced is consumed locally.

There is some production of poultry and livestock in the province. The provincial government has declared the development of broiler as one of the "strategy commodities", as seen in the table below:

Particulars	1985	1990	1994	% of 1985
Local Hen Eggs (T)	1,669	1,840	2,033	121.8
Broilers (Nos)	1,776,025	3,764,620	4,163,603	234.4
Local Chicks (No)	2,468,625	2,994,325	5,414,641	219.3
Milk (Lt)	35,500	31,614	77,760	216.6
Beef (Tons)	-	2,607	2,525	96.8

Source: South Kalimantan in Figures, 1995, Banjarmasin

-Major Agro-Processing Business Entities, Volume of Production and Facilities

No processing of poultry is undertaken in the province in the cooperative sector, except that they help procure the raw material including eggs and ship it to the consumer centres of Java and Bali through traders. Some slaughtering of cattle takes place in the province mostly in the government-operated

slaughter houses. On beef slaughtering the government holds 84% of share, 16% by individuals (in 1994, government slaughter houses handled 13,579 heads and the individuals handled 2,567 heads).

In 1993, the following was the slaughtering activity in the province:

Particulars	No. Slaughtered	Meat Production (kg)
Beef Cattle	13,985	2,706,346
Buffalo	1,664	378,400
Goat	164	152,570
Sheep	63	9,020
Pig	1,397	125,450

- Marketing Area of Major Farm Products, Distribution System

Major marketing destinations of farm products from South Kalimantan have been Bali and Java. Cash crops, vegetables and fruits generally move into Java Island.

- Business Customs and Its Practice (Pricing, Accounting Settlement)

These practices are more or less fixed. Some slight variations occur due to the type of commodity and its degree of durability. The terms are generally cash upon delivery of goods. However, for larger values the transactions can be partly cash and partly through bank instruments. In the case of various commodities, the customs can be enumerated as under:

a) Rice:

The procurement is under the government programme. The procurement price is fixed by the government. The farmers sell their paddy/rice to the KUD against the fixed price. The KUD pays the farmers in cash and rarely through their accounts in the cooperative. The surplus paddy/rice is sold by the farmer in the open market, generally to the trader who comes to his house with cash in hand. In this case the terms are usually cash, and in many cases, a token advance payment is also made to the farmers for the next crop.

b) Vegetables:

The transactions are usually cash and carry from the road-head. In the case of farmer bringing the crop to the open market, he returns home with cash in hand. The KUD in the province do not deal in vegetable business. The transactions are between the KT/households and the traders. In some cases the KUD organises contacts between the traders and the farmers.

c) Cash crops:

Except for clove, all transactions are on cash-and-carry basis.

d) Poultry:

Generally terms are cash upon collection from the producer. The middleman, in turn, either sells the commodity on cash terms to the retailer or on payment-after-sale basis;

e) Contracted Business:

Where the KUD are engaged in coal mining, they receive the delivery fee from the coal contractors. For some of the KUD this business is the profit centre.

8-5 Actual Situation of Agriculturist and their demands

(1) Actual situation of agriculturist

1. Ownership of farmland area

Households in KUD Harapan Pertama have about 1.0 ha cultivated land area in average/household (38.3% from that classify as land leased); while households in KUD Hidup Baru have about 4.4 ha/household and 3.4 ha/household in KUD Tuntung Pandang. There is no farmland leased in last two KUDs.

Table 8-5-1 Ownership of Farmland Area

Kind of Ownership		Name of KUD			
		HP (n=20)	HB (n=20)	TP (n=20)	Total (N=60)
Owned	Total Area	122,930	5,837,076	682,612	6,642,618
	Average*	6,147	291,854	34,131	110,710
	%	61.7	100	100	98.9
	Total Area	76,260	-	-	76,260
Leased	Average*	3,813	-	-	1,271
	%	38.3	-	-	1.1
Total	Total Area	199,190	5,837,076	682,612	6,718,878
	Average*	9,960	291,854	34,131	111,981
	%	100	100	100	100

* = average per household

- Farm management pattern

All 3 KUD locate in kabupaten Barito-Kuara in the province of South Kalimantan and in terms of agro-eco system classification the KUD belong to swamp area. Member farmers of the two (2) KUD hold much larger paddy field (2.3 ha and 2.7 ha respectively) but other KUD's member farmers cultivate 0.9 ha in an average. As to a KUD, upland field is relatively large (0.2 ha in an average) but a large part of holding is wet land. Thresher and hand-sprayer are main farm machinery which extended relatively widely among farmers. Draft cattle and buffalos are not kept by member farmers.

Paddy is by far the most important farm product for member farmer in the KUD and average production in each KUD is 4.6 tons, 7 tons and 2.5 tons respectively. Other than rice, a few member farmer grow some fruits like rambutan and banana and in a KUD 8 member farmers Produced 14.6 tons of coconut. Almost all of the member farmers in two (2) KUD purchased chemical fertilizer and farm machinery through KUD but purchase of paddy seeds was from one (1) respondent in each KUD.

- Cultivated land area by commodities and number of livestock

Households in KUD Harapan Pertama cultivate paddy in average of 0.91 ha/household. They do not have others commodity cultivation. While households in KUD Hidup Baru cultivate paddy in average of 2.3 ha/household or 86.96% from total farmland, 2.1 ha for upland cultivation and the rest of the land use for another facilities. Furthermore, households in KUD Tuntung Pandang cultivate paddy in average of 2.2 ha/household or 82.7% from total farmland, while orchard in 0.8 ha/household. The main crop of the households is paddy field. The most largest poultry raised by the households is local chicken. Every household has nearly 12 local chicken in three KUDs. A little amount of duck, beef cattle and pig have been raised by the fewer households in KUD Tuntung Pandang.

Table 8-5-2 Cultivated Land Area

Commodity		Name of KUD			
		HP	HB	TP	Total
Paddy Field	Total Area	181,590	2,941,000	435,000	3,557,590
	Average*	9,079.5	147,050	21,750	59,293
	%	98.0	97.75	82.73	95.64
Upland	Total Area	-	40,000	-	40,000
	Average*	-	2,000	-	667
	%	-	1.33	-	1.08
Orchard	Total Area	-	2,300	15,700	18,000
	Average*	-	115	785	300
	%	-	0.08	-	0.48
Residential site	Total Area	3,700	5,328	75,069	84,117
	Average*	185	266	3,755	1,402
	%	2.0	0.18	14.28	2.26
Other Land Area	Total Area	-	20,000	-	20,000
	Average*	-	1,000	-	333
	%	-	0.67	-	0.54
Total	Total Area	185,290	3,008,628	525,799	3,719,717
	Average*	9,365	150,431	26,290	61,995
	%	100	100	100	100

* = average of household

Table 8-5-3 Number of Livestock

Kind of Livestock		Name of KUD			
		HP	HB	TP	Total
Beef Cattle	Number	-	-	10	10
	Average*	-	-	0.5	0.2
Pig	Number	-	-	40	40
	Average*	-	-	2	0.7
Local Chicken	Number	151	107	370	628
	Average*	7.55	5.35	18.5	10.5
Duck	Number	-	-	10	10
	Average*	-	-	0.5	0.2

* = average of household

- Situation of Holdings of Farm Machinery and Facilities

The survey covered 60 farm households from the area of operation of three KUDs in South Kalimantan (KUD Harapan Pertama, KUD Tuntung Pandang and KUD Hidup Baru). Major production of the area has been paddy/rice and some vegetables and fruits. On an average, income of a farm household from paddy/rice has been 83% of the gross agricultural income. The production expenses of a farm household, on an average, have been 41.6% of the gross agricultural income, leaving 58.4% as the net agricultural income. The investment of the farmers in agricultural implements have not been significant. The highest concentration of farm machines and equipment has been the KUD Hidup Baru area of operation.

A break-up of the farm machines available with the 60 farm households is as follows: Fan mills-30 units; Containers-23 units; Threshers-22 units; Comb Threshers-22 units; Hand sprayers-10 units; 4-wheel tractor-01 unit; 2-wheel tractor-01 unit; Carts-03 units.

The farmers also possessed, on an average, 22m² of farm produce storage, 22m² of cattle-shed, and 9.5m² of poultry house space. The farm machines, equipment and the facilities have been rather traditional, and are the minimum required for cultivation of paddy and vegetables.

The farmers hold, on an average, 3-4 heads of beef cattle, 13-14 pigs, 210 of local chicken and 3-4 ducks. The highest concentration of cattle and poultry has been among the households of the KUD Tuntung Pandang area of operation.

- Number of family members and persons engaged in farming

The most part of households (65%) surveyed in KUD Harapan Pertama have 1-3 persons of member, while in the Hidup Baru and KUD Tuntung Pandang have 4-6 persons (55% and 40% respectively). In average, family members of the three KUDs are 4.68 persons (3.45 persons in KUD Harapan Pertama, 5.5 persons in KUD Hidup Baru, and 5.1 persons in KUD Tuntung Pandang).

The amount of family members in the three KUDs engaged in farming ranges from 1 to 2 persons (34 households or 56.67%). In average, the figure is 2.6 persons (2.45 persons in KUD Harapan Pertama, 2.95 persons in KUD Hidup Baru, and 2.5 in KUD Tuntung Pandang).

Table 8-5-4 Number of Family Member

Family Member	HP		HB		TP		Total	
	Fr.	%	Fr.	%	Fr.	%	Fr.	%
1 - 3	13	65	5	25	4	20	22	37
4 - 6	5	25	8	40	11	55	24	40
7 - 9	2	10	5	25	5	25	12	20
10 & over	-	-	2	10	-	-	2	3.3
Total	20	100	20	100	20	100	60	100

Table 8-5-5 Number of Family Member by Sex

Sex	HP		HB		TP		Total	
	Amount	Ave.	Amount	Ave.	Amount	Ave.	Amount	Ave.
Male	33	1.7	54	2.7	58	2.9	145	2.4
Female	36	1.8	56	2.8	44	2.2	136	2.3
M + F	69	3.5	110	5.5	104	5.1	281	4.7

Table 8-5-6 Number of Family Members Engaged in Farming

Family Members	HP		HB		TP		Total	
	Fr.	%	Fr.	%	Fr.	%	Fr.	%
1 - 2	12	60	8	40	14	70	34	56.7
3 - 4	8	40	9	45	4	20	21	35.0
5 - 6	-	-	3	15	2	10	5	8.3
Total	20	100	20	100	20	100	60	100

Table 8-5-7 Number of Family Members Engaged in Farming by Sex

Sex	HP		HB		TP		Total	
	No	Ave	No	Ave	No	Ave	No	Ave
Male	33	1.6	54	2.7	58	2.9	145	2.42
Female	36	1.8	56	2.8	44	2.2	136	2.27
M + F	69	3.45	110	5.5	104	5.1	281	4.68

- Farm household income and balance of farm management

Households in KUD Harapan Pertama have average annual family income nearly Rp 2.70 million/household in which 75.04% come from agriculture, while households in KUD Tuntung Pandang earned in average of Rp 1 million (78.57% come from agriculture activity). It is important to look at agricultural activity cost ratio. In KUD Tuntung Pandang, the cost ratio is 0.46 while in KUD Harapan Pertama is 0.41. There are no data about KUD Hidup Baru.

Table 8-5-8 Farm Household Income

Source of Family Income	Name of KUD		
	HP	HB	TP

Annual Family Income	Gross Agri-Income	Total Average* %	40,510,000 2,025,500 75.04	X X X	15,725,000 786,250 78.57
	Non Agri Income	Total Average* %	13,257,000 662,850 24.96	X X X	4,288,000 214,400 21.43
	Total Income	Total Average* %	53,983,000 2,699,150 100	X X X	20,013,000 1,000,650 100
Net Agricultural Income	Gross Agri Income	Total Average* %	41,510,000 2,075,500 100	X X X	16,570,000 828,500 100
	Production Expenses	Total Average* %	19,050,000 952,500 45.89	X X X	6,800,000 340,000 41.03
	Net Agri-Income	Large Average* %	22,460,000 1,123,000 54.11	X X X	9,770,000 488,500 58.97

* = average per household

- Savings Patterns of Farm Households

The commissioned survey results of savings patterns for farm households in South Kalimantan is as follows:

TYPE/PLACE OF SAVINGS	SAVINGS (Rp. Million)	% TOTAL SAVINGS	TOTAL # RES-PONSE	% TOTAL FAMILIES SURVEYED	% TOTAL RES-PONSE	AVE SIZE SAVINGS (Rp. 000)
Total Savings	12.1	100.0	48	80.0	100.0	252.8
KUD Voluntary Savings	9.3	76.6	46	76.7	100.0	202.1
Other Savings	2.8	23.4	12	20.0	100.0	236.4

- Measures to obtain farming technology (situation of using KUD) :

Majority member farmer of a KUD (17 of 20 respondents) relies on agricultural extension field worker (PPL) .but as to other KUD a few member farmer responded that they obtain technical information from PPL .Neighbours are main source of such information to a case of a KUD (13 out of 20 respondents). Participation in meetings and gatherings on farming technology is also not so active.

- Measures for Obtaining Production/Consumer Goods (Situation of Using KUD)

On an average, the gross agricultural income of a household constitutes 78.3% of the total income. (see the table below):

BREAK-UP (PERCENTAGE) OF AGRICULTURAL INCOME OF FARM HOUSEHOLDS : 3 KUD AREAS IN SOUTH KALIMANTAN

Source of Income	HARAPAN	TUNGTUNG	HIDUP BARU	Av. %
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Rice	85.0	75.9	88.0	83.0
Livestock/Dairy	-	2.8	-	-
Fruits & Veg.	7.0	16.2	12.0	11.6
Cash Crops	8.0	0.6	-	-
Other income	-	-	-	-

41.6% of the gross agricultural income is spent on production-related expenses. The breakdown of the agricultural income is as follows: 83% is derived from paddy/rice, and 11.6% from the vegetables and fruits cultivation. The highest income-generating sector has been paddy/rice.

The breakdown of household expenses is as follows: on an average 60% goes towards food expenses; 13% clothing; 12% housing; 6% education; 5% ceremonial activities; and 4% towards other expenses. (see table below):

BREAK-UP (PERCENTAGE) OF HOUSEHOLD EXPENSES

Expenses	HARAPAN	TUNGTUNG	HIDUP BARU	Av. %
Food	51.0	63.0	67.0	60.0
Clothing	12.0	16.0	12.0	13.0
Housing	12.0	9.0	17.0	12.0
Education	5.0	9.0	5.0	6.0
Ceremonies	12.0	2.0	3.0	5.0
Others	7.0	3.0	2.0	4.0

Households have been making use of their KUDs, to some extent, to procure their production and consumer needs as well as for sale of their products. 60% of the farm households purchased their fertilizer and farm chemicals requirements from the retail shops and TPKs of their KUD. 6.6% purchased their farm machines and implements, 31.6% food requirements and 21.6% clothing from the KUD. Other purchases made included: fish and paddy seeds.

- Loans Received, Loan Repayment and Loan Repayment Intentions of Farm Households

The commissioned survey results for loans received, loan repayment and loan repayment intentions for farm households in South Kalimantan is as follows:

TYPE OF LOANS	LOANS (Rp. Million)	% TOTAL LOANS	TOTAL # RES-PONSE	% TOTAL FAMILIES SURVEYED	% TOTAL RES-PONSE	AVE SIZE OF LOAN (Rp.000)
Total Loans	9.8	100.0	54	90.0	100.0	180.8
KUD Loans	5.1	51.7	24	40.0	100.0	210.3
Other Loans	4.7	48.3	34	56.7	100.0	138.7
- Not Specified	2.9	29.4	17	-	50.0	168.9
- Fertilizr	0.3	3.6	2	-	5.9	177.5
- Landlord	1.5	15.2	15	-	44.1	99.3

CATEGORY	TOTAL #	% TOTAL
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	RESPONSES	RESPONSE
REPAYMENT OF KUD LOANS:	32	100.0
1. Repaying loan on time	23	71.9
2. Deadline has arrived but repayment is partially overdue	1	3.1
3. Deadline has arrived but unable to repay most of debt	1	3.1
4. Deadline has arrived but have not repaid any of debt	1	3.1
5. Deadline has not yet arrived	6	18.8
INTENTION TOWARD LOAN REPAYMENT:	56	100.0
1. The loan should be repaid exactly by the deadline	55	98.2
2. The loan should be repaid but not necessary to repay exactly on deadline	1	1.8
3. The loan does not have to be repaid (decision of debtor)	0	0.0

- Merchandise Ratio and Marketing Methods of Farm Products (Situation of Using KUD)

Nearly all the farm households used their KUDs to market their farm products, in this case, paddy/rice, 66.6%. Vegetables and fruits were sold by them in the open market.

None of the households or any of their KUDs possessed any grading, packaging and cold storage/warehousing facilities. The KUDs, however, operate outlets (kiosks) from which the farmers purchase their agricultural inputs and implements, but the range has been limited. Members have suggested their renovations and expansion (55-57%), too far a location (33%), range of items available was limited.

(2) Intentions for farm management

- Key commodities in the future

Poultry draw strong interest from the member farmers in KUD. 55 respondents out of 60 indicated such an interest. Four (4) items, namely, vegetable, beef cattle, palawija and fruits are interested in by considerable numbers of member farmers (18, 16, 12, 12 respondents from 60 respectively).

- Intention to Introduce Farm Machinery and Facilities

Since the main occupation and earning source of the farm households has been paddy/rice and vegetable & fruits cultivation, the emphasis on anticipated mechanization has been on the following: Threshing (57%), rice transplanting (26.6%), tilling (25%), transportation (23.3%), harvesting (20%). The table below summarises the intentions of the farm households:

FARM HOUSEHOLDS' INTENTION TO MECHANISE FARM OPERATIONS

Intention to Mechanise	HARAPAN	TUNGTUNG	HIDUP BARU	Responses Received	Av. %
Tilling	3	7	5	15/60	25.0
Rice Transplanting	1	8	7	16/60	26.6
Harvesting	3	3	6	12/60	20.0
Threshing	16	10	8	34/60	56.6
Drying	--	2	2	04/60	6.6
Transportation	9	2	3	14/60	23.3
Feeding Machines	1	1	--	02/60	3.3
Milking	--	--	--	--	--
Others	--	--	--	--	--

The farm households have given highest priority to threshing as a factor for mechanisation followed by rice transplanting and tilling.

- Demand for Credit to Improve Farm Management

The commissioned survey results of credit demand patterns for farm households in South Kalimantan is as follows:

CATEGORY	TOTAL # RESPONSES	% TOTAL RESPONSE
HOW IS LOAN SYSTEM FOR SATISFYING YOUR NEEDS?:	62	100.0
a. Sufficient	6	9.7
b. Commodities should be increased	53	85.5
c. Should not be increased	3	4.8
d. Other	0	0.0
- don't know		
- never borrowed		
- timeliness needed		
- need credit		
HOW EASY IS IT TO BORROW MONEY FROM KUD?:	66	100.0
a. Easy	52	78.8
b. Difficulty of security/guarantor	8	12.1
c. Procedure is complicated	3	4.6
d. Manager/Employee are too severe	2	3.0
e. Other	1	1.5
- don't know		
- never borrowed		
- KUD credit still needed		
- same as worker's pay		
- too complicated	1	

CATEGORY	TOTAL # RESPONSES	% TOTAL RESPONSE
MAXIMUM LIMIT OF LOAN AMOUNT:	59	100.0
a. Sufficient	35	59.3
b. Too low, should be increased	24	40.7
c. Too high	0	0.0
d. Other	0	0.0
- don't know		
- never borrowed		
- can't say		
- don't understand		
LOAN INTEREST RATE:	59	100.0
a. Satisfactory	50	84.7
b. Can't say either way	8	13.6
c. Higher than other banks	1	1.7
d. Other	0	0.0
- don't know		
- never borrowed		
- interest is small		
- like bank		
- important for SHU (profit)		

- The field of farming technology demanded:

Between the two (2) KUD, distinctly separate support was observed. For a KUD, majority of member farmer (14 to 16 out of 20 each) express their satisfaction on all fields of technology guidance, i.e., production, application of fertilizer/ farm chemicals and grading/packaging, on one hand, and for the other KUD majority (11 to 15) responded as dissatisfaction, on the other. The third KUD member farmers seemed satisfied on both production technology and agricultural inputs technology but as to the technology on grading/packaging, member farmer's interests seem rather weak at present.

(3) Expectation to KUD

- Condition of Joining the KUD

- a. There are plural number of members from one household, the average number from one house hold is 2.18 persons. Out of 57 households joining the KUD, there are 40 households with plural members.
 - b. The number of farm household is 59 out of them 2 households are not joining the KUD.
 - c. Condition of contributions
- Initial fee is Rp. 3,000 or Rp. 5,000. Out of 48 persons of KUD members, 47 persons consider the amount to be "proper", the level was set appropriately.

- Considering the compulsory savings, the number of KUD members consider the amount to be "proper" is 44 persons (92%), to be "cheap" is 3 persons.
- Evaluations and wishes to the management of the KUD
 - a. Considering the usefulness of the KUD (whether it is useful or not), 42 persons (88%) of KUD members said "very useful", 9 persons said "useful". However, the evaluation from non-members was relatively lower.
 - b. Considering the reliability of the KUD, 30 persons (63%) of KUD members said "highly reliable" and 18 persons (37%) said "reliable".
 - c. Considering the satisfaction of the members to KUD's activity, 38 persons (79%) said "satisfied", 10 persons (21%) said "no opinion" and there was no persons said "unsatisfied".
 - d. Considering the frequency of KUD staff to visit the members, 65% of members said that during the last 1 year they got two times of visits, while only 2 persons of KUD members at Tuntung Pandang said that they got two visit. But, 15 persons of KUD member at Harapan said they got more than 5 times visits, there was a big gap between KUD.
 - e. Considering the reflection of members' opinion to KUD management 94% of the KUD members said that it is "reflected very well".
 - f. Considering the conveniency of KUD's facility, 44% replied "the present codition is good", 42% said "far", the distance between member's houses and office is a problem on management. 90% of the members said the facility is "small" or "since it has been old, repairment is necessary". Especially, the number of people who said it is "small" is 73%.

Table 8-5-9 Evaluation to the KUD
(respondent: 60 persons, 46 of them are members)

	Tungtung Pandang	Hidup Baru	Harapan Pertama	Total	Ratio
- very useful (inclusion: member)	16 14	15 12	16 16	47 42	78.3% 87.5
- highly reliable (inclusion: member)	9 8	10 9	13 13	32 30	53.3 62.5
- satified on the activity (inclusion: member)	15 12	10 8	19 18	44 38	73.3 79.2

- Evaluations and wishes to the officials and employees
 - a. Considering the officers, 90% of KUD members said "working hard".
 - b. Considering the accurateness of office works, 79% of the members said "accurate", while considering promptness of the employees, 79% said "prompt".
Also, the evaluation from non-member was as high as that of members.

Table 8-5-10 The evaluation of office works of KUD
(respondent: 60 persons, 46 of them are members)

	Tungtung Pandang	Hidup Baru	Harapan Pertama	Total	Ratio
- accurate	16	12	17	45	75.0%
(Of which : member)	13	9	16	38	79.2
- not accurate	0	0	0	0	0.0
(Of which : member)	0	0	0	0	0.0
- prompt	16	13	18	47	78.3
(Of which : member)	13	8	17	38	79.2
- delayed	0	0	0	0	0.0
(Of which : member)	0	0	0	0	0.0

- Attendance to the General Meeting and Other Gatherings

- a. The condition of attendance to the general meeting is good for every KUD, 85% of KUD members surveyed said "attended" the general meeting. This is probably because they attended the regional "preliminary general meeting".
- b. Considering the participations to gatherings other than the general meeting, 25 persons said that they participated actively in kelompok tani gathering, KUD members meeting, explanation meeting of KUT, fertilizer, paddy, etc.
- c. Considering the reasons for joining the KUD, 34 persons responded. The contents were; "service" : 5 persons; "financial" : 4 persons; "fertilizer purchase" : 4 persons; "consultation" : 2 persons; "organization activity, development of KUD" : 5 persons.
This indicates that the KUD members have strong concern for their farm management, or have a good understanding on the KUD's activity.
- d. The reason for being a member is almost the same as the reason for joining, the contents were, "use of purchasing business", "service", "financial" and "use of facility".

- The Role of the member in KUD

- a. The results of the question related to the condition of the members who are assuming as officials, there was 12 persons who assuming officials. They were KUD Chairman 1 person, 3 directors, 2 supervisors, as well as treasurer, head of electricity department.

- Evaluation and Demand for Business Activities (Purchasing, marketing, processing, joint shipment, joint-use facilities, terms of loans, farm guidance, better-living guidance and others)

The farm households have indicated that purchasing and marketing activities, equipments including the RMUs were inadequate and needed either renovations or upgrading. (see table below):

EXPECTATIONS OF THE FARM HOUSEHOLDS FROM THEIR KUD

Expectations	Av. %
-Upgrading Kiosks and Waserda.....	83.0
-Kiosks: Expansion of Items Range.....	57.0
-Waserda: Expansion of Items Range.....	60.0
-Establishing Joint Purchasing.....	26.6
-Establishing Joint Marketing.....	26.6
-Establishing Joint-use Facilities.....	92.0
-Renovate & Expand Warehousing Capacity...	52.3
-Improve/Expand Assembly Hall... ..	93.3
-Expand Loan Variety... ..	88.3
-Increase Existing Credit Limits	88.3
-Increase Farm Production Guidance.....	48.3
-Increase Fertilizer Guidance... ..	41.6
-Increase Guidance on Grading & Packaging...	46.6
-Increase Better-Living Guidance	20.6

Kiosks and retail shops were too small and did not have enough range of merchandise (83%), assembly halls for community use were either not available or were too small (93.3%), transport facilities utilization fee was too high and were also inadequate (56.6%), TPKs were too small and did not have variety of goods and farm inputs (57%), joint purchasing and joint marketing (26.6%), joint use facilities (92%). Although getting a loan was comparatively easy (86%), its variety and credit limit should increase (88.3%). 48.3% wanted more farm production guidance, 41.6% more on guidance on fertilizer, 46.6% wanted guidance on grading and packaging, and 20.6% on better-living guidance.

- Questions for Non Members

- Out of 12 of non-members, 9 persons replied that they wanted to be a member. One person, who responded to the questions on the difficulties to become members, said no difficulties. Also, if they finally joined, the merit they expect are "loan" 4 persons, "use of the KUD facility", "very useful" 2 persons, "organization activity" and "cooperatives consciousness" was 1 person out of 7 persons responded.
- The reason for not joining is responded by 6 persons. The contents are "don't know about the role of KUD" : 3 persons; "just move to the region" and "no chance" was 1 person respectively.

APPENDIX

III

COMPARISON OF KUD MANAGEMENT BEFORE AND
AFTER SELF-RELIANCE IN RICE SUPPLY (1984)

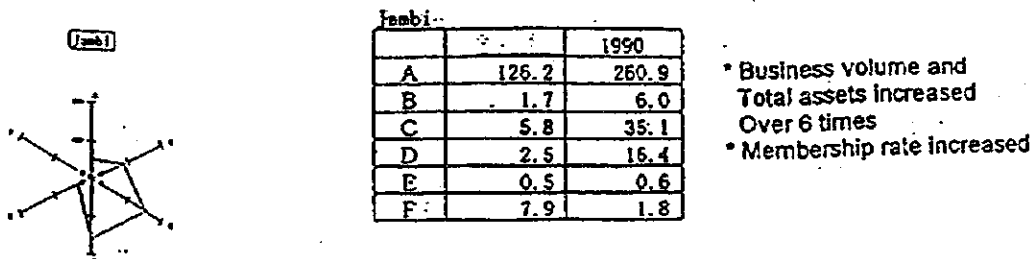
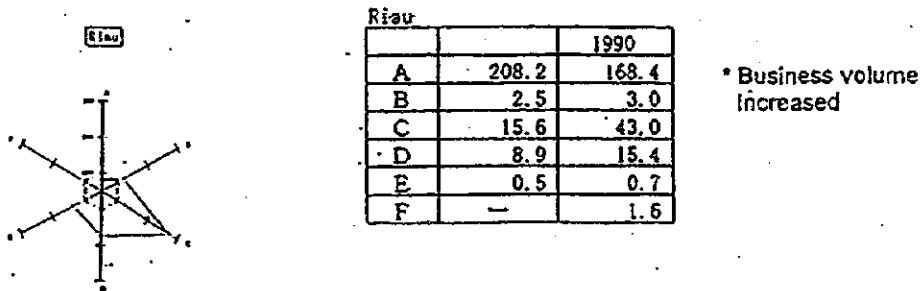
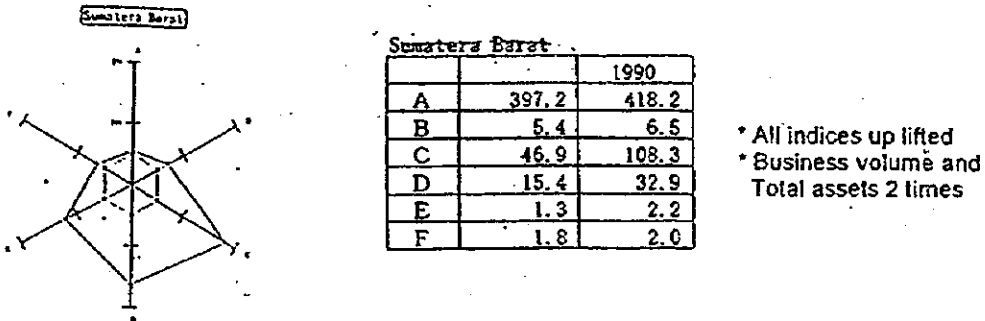
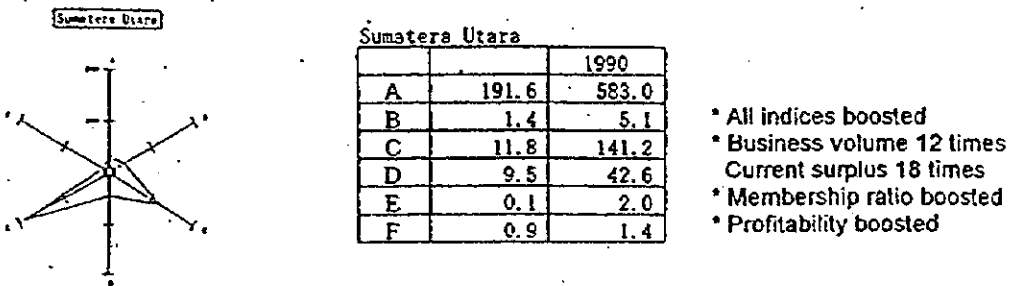
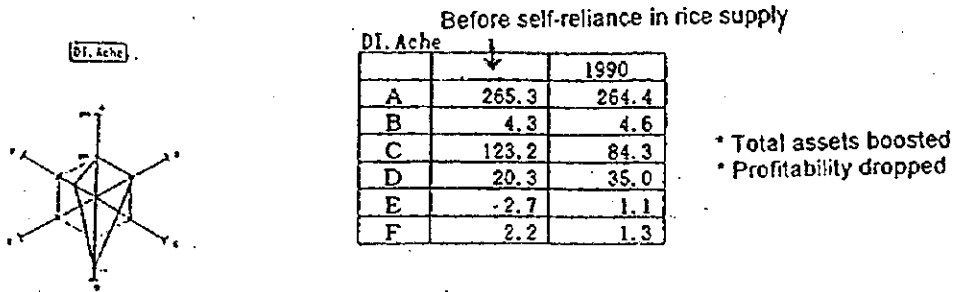
APPENDIX -- III

Coparison of KUD Management Before and After the Self-Reliance in Rice Supply

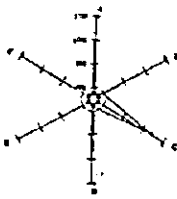
- Comparison of average figures of each province
- Figures before self reliance in rice supply are calculated from statistics of 1980,81,82,83
- Price hike rates are not considered
- The diagram was made as before self supply of rice as 100 and the indices are shown for 1990

----- before self supply
 _____ fiscal 1990

- A Number of members Unit: person
 - B Membership rate Unit: %
 - C Business volume Unit: Rp Million
 - D Total assets Unit: Rp Million
 - E Current surplus Unit: Rp Million
 - F Profitability Unit: %
- * Profitability is calculated by current surplus/business volume



Sumatera Selatan

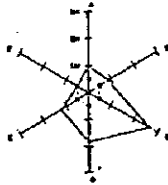


Sumatera Selatan

		1990
A	359.5	394.1
B	3.2	6.2
C	11.7	135.8
D	9.6	12.2
E	1.0	1.2
F	1.0	0.9

- * Business volume increased 12 times
- * Other indices also increased

Bengkulu

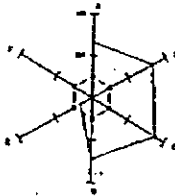


Bengkulu

		1990
A	130.0	192.7
B	3.8	5.3
C	14.5	45.8
D	5.2	12.1
E	0.3	0.6
F	1.3	1.2

- * Profitability levelled off while others were increased
- * Business volume boosted 3 times

Lampung

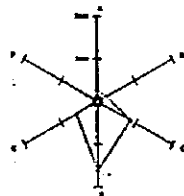


Lampung

		1990
A	268.6	703.4
B	1.5	5.0
C	109.8	383.5
D	21.9	63.4
E	2.9	1.9
F	—	0.5

- * Increased except current surplus
- * Membership rate, business volume boosted 3 times

Java Barat

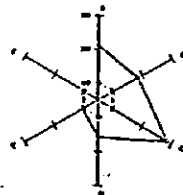


Java Barat

		1990
A	1,311.6	3,447.8
B	6.8	16.5
C	39.7	349.7
D	7.3	117.7
E	0.5	3.1
F	1.3	0.9

- * Total assets 16 times, business volume 9 times, current surplus 6 times

Java Tengah

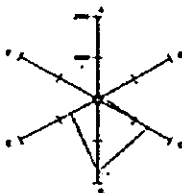


Java Tengah

		1990
A	906.9	2,919.0
B	3.4	9.3
C	140.4	660.5
D	89.5	192.9
E	3.7	4.0
F	6.3	0.6

- * Expanded except profitability
- * Membership rate 3 times
- * Business volume 5 times

D. I. Yogyakarta

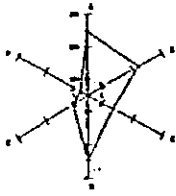


D. I. Yogyakarta

		1990
A	3,098.3	3,951.6
B	10.8	11.7
C	86.0	1,180.2
D	10.6	182.6
E	0.9	6.1
F	1.0	0.5

- * Business volume 14 times
- * Total assets 17 times
- * Current surplus 7 times
- * Profitability dropped

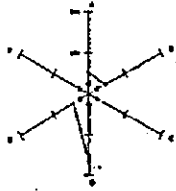
Java Timur



		1990
A	1,252.1	3,105.5
B	4.8	10.6
C	734.3	986.2
D	113.3	279.9
E	6.9	7.0
F	0.9	0.7

* All boosted except profitability

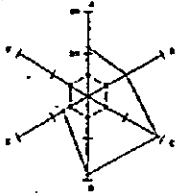
Bali



		1990
A	995.9	2,092.2
B	5.3	9.9
C	—	709.2
D	42.6	283.1
E	4.2	7.3
F	—	1.0

* All indices boosted
* Total assets 7 times

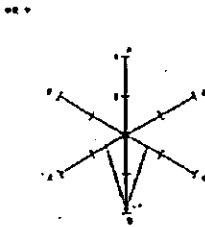
Nusa Tenggara Barat



		1990
A	663.0	1,529.4
B	5.9	12.1
C	163.1	612.9
D	24.2	90.3
E	3.7	5.1
F	—	0.8

* All boosted
* business volume and total assets about 4 times

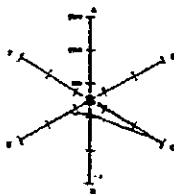
Nusa Tenggara Timur



		1990
A	1,021.0	863.3
B	8.3	6.5
C	18.3	223.4
D	1.7	65.8
E	0.3	3.5
F	1.6	1.6

* Total assets 38 times, business volume and current surplus 12 times

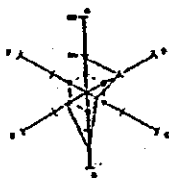
Timor Timur



		1990
A	410.6	354.7
B	6.1	5.4
C	11.7	274.0
D	8.0	32.1
E	0.9	7.8
F	—	2.8

* Business volume 23 times
* Current surplus 8 times
* Total assets 4 times

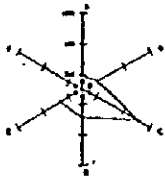
Kalimantan Barat



		1990
A	190.9	352.8
B	2.3	4.5
C	115.3	65.9
D	6.9	21.1
E	1.1	1.3
F	—	2.0

* Total assets 3 times
* Business volume declined

Kalimantan Tengah

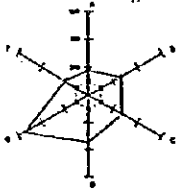


Kalimantan Tengah

		1990
A	151.8	272.6
B	3.5	7.5
C	3.1	25.5
D	3.8	14.4
E	0.4	1.3
F	24.2	5.0

- * All except profitability boosted
- * Business volume 8 times
- * Total assets 4 times
- * Current surplus 3 times

Kalimantan Selatan

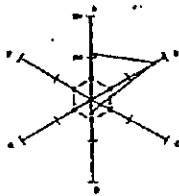


Kalimantan Selatan

		1990
A	172.6	308.3
B	1.7	4.4
C	23.2	63.4
D	6.3	21.7
E	0.3	1.8
F	1.5	2.9

- * All indices increased
- * Current surplus 5 times
- * Total assets 3 times
- * Profitability boosted

Kalimantan Timur

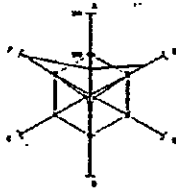


Kalimantan Timur

		1990
A	119.3	189.8
B	2.4	5.2
C	27.0	19.9
D	9.3	7.7
E	0.9	0.5
F	ERR	2.5

- * Totally stagnant
- * Membership rates improved

Sulawesi Utara

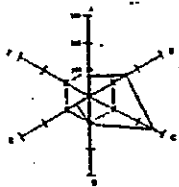


Sulawesi Utara

		1990
A	1,391.0	889.6
B	10.2	14.8
C	647.1	67.0
D	125.3	65.4
E	7.7	0.8
F	0.6	1.2

- * Totally stagnant
- * Profitability uplifted
- * Sampling KUD increased 3 times

Sulawesi Tengah

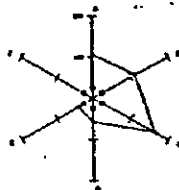


Sulawesi Tengah

		1990
A	452.9	342.9
B	4.3	5.6
C	26.3	69.3
D	23.6	24.7
E	2.2	1.2
F	—	1.8

- * Business volume increased , others stagnant
- * Caused by increase of sampling KUD

Sulawesi Selatan

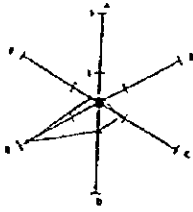


Sulawesi Selatan

		1990
A	453.1	1,932.0
B	4.9	21.8
C	74.2	437.3
D	28.6	64.6
E	2.8	4.4
F	ERR	0.9

- * All boosted
- * Business volume 7 times
- * Membership rate 4 times

Sulawesi Tenggara

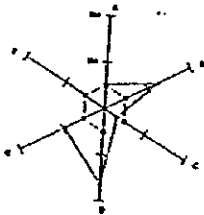


Sulawesi Tenggara

		1990
A	279.0	254.0
B	4.8	8.4
C	3.9	34.0
D	2.1	19.8
E	0.1	1.6
F	1.5	4.6

- * Current surplus 27 times
- * Both business volume and total assets boosted 9 times

Maluku

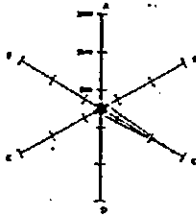


Maluku

		1990
A	227.1	232.1
B	2.2	3.9
C	82.2	67.3
D	21.9	46.6
E	3.1	4.5
F	-	6.8

- * Total assets boosted, business volume levelled off

Irian Jaya

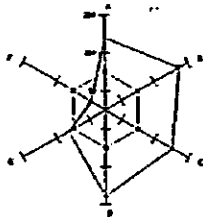


Irian Jaya

		1990
A	175.1	193.2
B	1.8	3.4
C	1.6	34.6
D	12.5	17.2
E	0.6	1.1
F	-	3.2

- * All boosted
- * Business volume 23 times

National



National

		1990
A	710.4	1,351.0
B	4.7	10.5
C	145.9	295.7
D	35.5	81.2
E	2.4	2.7
F	2.1	0.9

- * All items except profitability boosted
- * Profitability dropped to half

APPENDIX

IV

PROJECT EVALUATION SENSITIVITY ANALYSIS

Contents

Appendix Table	1	Depreciation cost by each facilities improvements plan
Appendix Table	2	Operation cost for each facilities plan
Appendix Table	3	Results of the sensitivity analysis
Table	3.1	Sensitivity analysis for KUD TANI MUKUTI
Table	3.2	Sensitivity analysis for KUD PASIR JAMBU
Table	3.3	Sensitivity analysis for KUD WALATRA
Table	3.4	Sensitivity analysis for KUD SIPATUWO
Table	3.5	Sensitivity analysis for KUD SEMANGAT
Table	3.6	Sensitivity analysis for KUD MATUTU

Appendix Table 1 Depreciation cost by each facilities improvements plan (2/2)

unit: RP1,000

KUD/ Facility & Equipment	1 2000	2 2001	3 2002	4 2003	5 2004	6 2005	7 2006	8 2007	9 2008	10 2009	11 2010	On and after 2011
4. KUD SIPATUWO												
(1) Rice mill plant	159,281	159,281	159,281	159,281	159,281	159,281	159,281	159,281	159,281	159,281	159,281	159,281
1) Facility	50,348	50,348	50,348	50,348	50,348	50,348	50,348	50,348	50,348	50,348	50,348	50,348
2) Equipment	57,333	57,333	57,333	57,333	57,333	57,333	57,333	57,333	57,333	57,333	57,333	57,333
3) Vehicles	51,600	51,600	51,600	51,600	51,600	51,600	51,600	51,600	51,600	51,600	51,600	51,600
(2) Mini grain processing	20,520	20,520	20,520	20,520	20,520	20,520	20,520	20,520	20,520	20,520	20,520	20,520
1) Facility	6,187	6,187	6,187	6,187	6,187	6,187	6,187	6,187	6,187	6,187	6,187	6,187
2) Equipment	14,333	14,333	14,333	14,333	14,333	14,333	14,333	14,333	14,333	14,333	14,333	14,333
3) Vehicles	0	0	0	0	0	0	0	0	0	0	0	0
5. KUD SEMANGAT												
(1) Rice mill plant	159,281	159,281	159,281	159,281	159,281	159,281	159,281	159,281	159,281	159,281	159,281	159,281
1) Facility	50,348	50,348	50,348	50,348	50,348	50,348	50,348	50,348	50,348	50,348	50,348	50,348
2) Equipment	57,333	57,333	57,333	57,333	57,333	57,333	57,333	57,333	57,333	57,333	57,333	57,333
3) Vehicles	51,600	51,600	51,600	51,600	51,600	51,600	51,600	51,600	51,600	51,600	51,600	51,600
(2) Mini grain processing	20,520	20,520	20,520	20,520	20,520	20,520	20,520	20,520	20,520	20,520	20,520	20,520
1) Facility	6,187	6,187	6,187	6,187	6,187	6,187	6,187	6,187	6,187	6,187	6,187	6,187
2) Equipment	14,333	14,333	14,333	14,333	14,333	14,333	14,333	14,333	14,333	14,333	14,333	14,333
3) Vehicles	0	0	0	0	0	0	0	0	0	0	0	0
6. KUD MATUTU												
(1) Facility	85,813	85,813	85,813	85,813	85,813	85,813	85,813	85,813	85,813	85,813	85,813	85,813
2) Equipment	5,040	5,040	5,040	5,040	5,040	5,040	5,040	5,040	5,040	5,040	5,040	5,040
3) Vehicles	34,400	34,400	34,400	34,400	34,400	34,400	34,400	34,400	34,400	34,400	34,400	34,400

Appendix Table 2 Operation cost for each facility plan (1/2)

1. KUD TANI MUKUTI unit:RP1,000

Facility plan	Small scale dairy product	Dairy cow & calf		Feed mixing
		1st. year	On after 2nd. year	
1. Operation cost	285,600	209,226	659,755	763,200
-processing cost	248,400	-	-	763,200
-labor cost	37,200	70,804	150,000	-
-feed	-	119,600	470,875	-
-maintenance cost	-	1,500	3,000	-
-administration cost	-	-	-	-
-utilities cost	-	17,322	35,880	-
2. Purchase cost	360,000	300,000	612,500	3,579,840

2. KUD PASIR JAMBU unit:RP1,000

Facility plan	Dairy cow & calf	Feed mixing	Total
1. Operation cost	170,000	763,200	9,332,000
-administration cost	170,000	763,200	9,332,000
2. Purchase cost	125,000	3,579,840	3,704,840

3. KUD WALATRA unit:RP1,000

Facility plan	Potato processing
1. Operation cost	12,573,850
-processing cost	9,900,000
-labor cost	856,750
-utilities	1,287,100
-marketing cost	530,000
2. Purchase cost	9,450,000

Appendix Table 2 Operation cost for each facility plan (2/2)

4. KUD SIPATUWO

unit:RP1,000

Facility plan	Rice mill	Mini grain processing	Total
1. Operation cost	186,410	75,521	261,931
-labor cost	62,400	33,600	96,000
-utilities	36,000	28,800	64,800
-administration cost	17,280	1,728	19,008
-bags	14,000	1,400	15,400
-maintenance	10,800	5,400	16,200
-Others	45,930	4,593	50,523
2. Purchase cost	906,440	117,500	1,023,940

5. KUD SEMANGAT

unit:RP1,000

Facility plan	Rice mill	Mini grain processing	Total
1. Operation cost	186,410	75,521	261,931
-labor cost	62,400	33,600	96,000
-utilities	36,000	28,800	64,800
-administration cost	17,280	1,728	19,008
-bags	14,000	1,400	15,400
-maintenance	10,800	5,400	16,200
-Others	45,930	4,593	50,523
2. Purchase cost	906,440	117,500	1,023,940

6. KUD MATUTU

unit:RP1,000

Facility plan	Cattle fattening
1. Operation cost	225,720
-feeds	205,200
-administration cost	20,520
2. Purchase cost	674,640

Appendix Table 3.1 Sensitivity Analysis for KUD TANI MUKUTI

(1) Over all project

Basic case

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	6,405,180	0	- 6,405,180
1	2000	0	- 177,066	- 177,066
2	2001	0	724,905	724,905
3	2002	0	724,905	724,905
4	2003	0	724,905	724,905
5	2004	0	724,905	724,905
6	2005	195,000	724,905	529,905
7	2006	0	724,905	724,905
8	2007	0	724,905	724,905
9	2008	0	724,905	724,905
10	2009	0	724,905	724,905
11	2010	0	724,905	724,905
12	2011	195,000	724,905	529,905
13	2012	0	724,905	724,905
14	2013	0	724,905	724,905
15	2014	2,299,037	724,905	- 1,574,132
16	2015	0	724,905	724,905
17	2016	0	724,905	724,905
18	2017	195,000	724,905	529,905
19	2018	0	724,905	724,905
20	2019	0	724,905	724,905

FIRR = 5.6%

Case 1: Cost increased 5 percent

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	6,725,439	0	- 6,725,439
1	2000	0	- 177,066	- 177,066
2	2001	0	724,905	724,905
3	2002	0	724,905	724,905
4	2003	0	724,905	724,905
5	2004	0	724,905	724,905
6	2005	204,750	724,905	520,155
7	2006	0	724,905	724,905
8	2007	0	724,905	724,905
9	2008	0	724,905	724,905
10	2009	0	724,905	724,905
11	2010	0	724,905	724,905
12	2011	204,750	724,905	520,155
13	2012	0	724,905	724,905
14	2013	0	724,905	724,905
15	2014	2,413,989	724,905	- 1,689,084
16	2015	0	724,905	724,905
17	2016	0	724,905	724,905
18	2017	204,750	724,905	520,155
19	2018	0	724,905	724,905
20	2019	0	724,905	724,905

FIRR = 4.9%

Case 2: Income decreased 5 percent

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0 1999	6,405,180	0	0	- 6,405,180
1 2000	0	0	- 168,213	- 168,213
2 2001	0	0	688,660	688,660
3 2002	0	0	688,660	688,660
4 2003	0	0	688,660	688,660
5 2004	0	0	688,660	688,660
6 2005	0	195,000	688,660	493,660
7 2006	0	0	688,660	688,660
8 2007	0	0	688,660	688,660
9 2008	0	0	688,660	688,660
10 2009	0	0	688,660	688,660
11 2010	0	0	688,660	688,660
12 2011	0	195,000	688,660	493,660
13 2012	0	0	688,660	688,660
14 2013	0	0	688,660	688,660
15 2014	0	2,299,037	688,660	- 1,610,377
16 2015	0	0	688,660	688,660
17 2016	0	0	688,660	688,660
18 2017	0	195,000	688,660	493,660
19 2018	0	0	688,660	688,660
20 2019	0	0	688,660	688,660

FIRR = 4.8%

Case 3: Case 1 + Case 2

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0 1999	6,725,439	0	0	- 6,725,439
1 2000	0	0	- 168,213	- 177,066
2 2001	0	0	688,660	724,905
3 2002	0	0	688,660	724,905
4 2003	0	0	688,660	724,905
5 2004	0	0	688,660	724,905
6 2005	0	204,750	688,660	483,910
7 2006	0	0	688,660	724,905
8 2007	0	0	688,660	724,905
9 2008	0	0	688,660	724,905
10 2009	0	0	688,660	724,905
11 2010	0	0	688,660	724,905
12 2011	0	204,750	688,660	483,910
13 2012	0	0	688,660	724,905
14 2013	0	0	688,660	724,905
15 2014	0	2,413,989	688,660	- 1,725,329
16 2015	0	0	688,660	724,905
17 2016	0	0	688,660	724,905
18 2017	0	204,750	688,660	483,910
19 2018	0	0	688,660	724,905
20 2019	0	0	688,660	724,905

FIRR = 4.1%

(2) Small scale dairy products facility plan

Basic case

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	2,098,000	0	- 2,098,000
1	2000	0	240,000	240,000
2	2001	0	240,000	240,000
3	2002	0	240,000	240,000
4	2003	0	240,000	240,000
5	2004	0	240,000	240,000
6	2005	75,000	240,000	165,000
7	2006	0	240,000	240,000
8	2007	0	240,000	240,000
9	2008	0	240,000	240,000
10	2009	0	240,000	240,000
11	2010	0	240,000	240,000
12	2011	75,000	240,000	165,000
13	2012	0	240,000	240,000
14	2013	0	240,000	240,000
15	2014	1,813,000	240,000	- 1,573,000
16	2015	0	240,000	240,000
17	2016	0	240,000	240,000
18	2017	75,000	240,000	165,000
19	2018	0	240,000	240,000
20	2019	0	240,000	240,000

FIRR = 4.1%

Case 1: Cost increased 5 percent

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	2,202,900	0	- 2,202,900
1	2000	0	240,000	240,000
2	2001	0	240,000	240,000
3	2002	0	240,000	240,000
4	2003	0	240,000	240,000
5	2004	0	240,000	240,000
6	2005	78,750	240,000	161,250
7	2006	0	240,000	240,000
8	2007	0	240,000	240,000
9	2008	0	240,000	240,000
10	2009	0	240,000	240,000
11	2010	0	240,000	240,000
12	2011	78,750	240,000	161,250
13	2012	0	240,000	240,000
14	2013	0	240,000	240,000
15	2014	1,903,650	240,000	- 1,663,650
16	2015	0	240,000	240,000
17	2016	0	240,000	240,000
18	2017	78,750	240,000	161,250
19	2018	0	240,000	240,000
20	2019	0	240,000	240,000

FIRR = 2.8%

Case 2: Income decreased 5 percent

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	2,098,000	0	- 2,098,000
1	2000	0	228,000	228,000
2	2001	0	228,000	228,000
3	2002	0	228,000	228,000
4	2003	0	228,000	228,000
5	2004	0	228,000	228,000
6	2005	75,000	228,000	153,000
7	2006	0	228,000	228,000
8	2007	0	228,000	228,000
9	2008	0	228,000	228,000
10	2009	0	228,000	228,000
11	2010	0	228,000	228,000
12	2011	75,000	228,000	153,000
13	2012	0	228,000	228,000
14	2013	0	228,000	228,000
15	2014	1,813,000	228,000	- 1,585,000
16	2015	0	228,000	228,000
17	2016	0	228,000	228,000
18	2017	75,000	228,000	153,000
19	2018	0	228,000	228,000
20	2019	0	228,000	228,000

FIRR = 2.8%

Case 3: Case 1 + Case 2

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	2,202,900	0	- 2,202,900
1	2000	0	228,000	228,000
2	2001	0	228,000	228,000
3	2002	0	228,000	228,000
4	2003	0	228,000	228,000
5	2004	0	228,000	228,000
6	2005	75,000	228,000	149,250
7	2006	0	228,000	228,000
8	2007	0	228,000	228,000
9	2008	0	228,000	228,000
10	2009	0	228,000	228,000
11	2010	0	228,000	228,000
12	2011	75,000	228,000	149,250
13	2012	0	228,000	228,000
14	2013	0	228,000	228,000
15	2014	1,813,000	228,000	- 1,675,650
16	2015	0	228,000	228,000
17	2016	0	228,000	228,000
18	2017	75,000	228,000	149,250
19	2018	0	228,000	228,000
20	2019	0	228,000	228,000

FIRR = 1.4%

(3) Dairy cow and dairy steer calf facility

Basic case

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0 1999	3,309,000	0	0	- 3,309,000
1 2000	0	0	- 509,226	- 509,226
2 2001	0	0	392,745	392,745
3 2002	0	0	392,745	392,745
4 2003	0	0	392,745	392,745
5 2004	0	0	392,745	392,745
6 2005	0	75,000	392,745	317,745
7 2006	0	0	392,745	392,745
8 2007	0	0	392,745	392,745
9 2008	0	0	392,745	392,745
10 2009	0	0	392,745	392,745
11 2010	0	10,000	392,745	382,745
12 2011	0	75,000	392,745	317,745
13 2012	0	0	392,745	392,745
14 2013	0	0	392,745	392,745
15 2014	0	0	392,745	392,745
16 2015	0	0	392,745	392,745
17 2016	0	0	392,745	392,745
18 2017	0	75,000	392,745	317,745
19 2018	0	0	392,745	392,745
20 2019	0	0	392,745	392,745

FIRR = 6.7%

Case 1: Cost increased 5 percent

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0 1999	3,474,450	0	0	- 3,474,450
1 2000	0	0	- 509,226	- 509,226
2 2001	0	0	392,745	392,745
3 2002	0	0	392,745	392,745
4 2003	0	0	392,745	392,745
5 2004	0	0	392,745	392,745
6 2005	0	78,750	392,745	313,995
7 2006	0	0	392,745	392,745
8 2007	0	0	392,745	392,745
9 2008	0	0	392,745	392,745
10 2009	0	0	392,745	392,745
11 2010	0	10,500	392,745	372,245
12 2011	0	78,750	392,745	313,995
13 2012	0	0	392,745	392,745
14 2013	0	0	392,745	392,745
15 2014	0	0	392,745	392,745
16 2015	0	0	392,745	392,745
17 2016	0	0	392,745	392,745
18 2017	0	78,750	392,745	313,995
19 2018	0	0	392,745	392,745
20 2019	0	0	392,745	392,745

FIRR = 6.2%

Case 2: Income decreased 5 percent

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	3,309,000	0	- 3,309,000
1	2000	0	- 483,765	- 483,765
2	2001	0	373,108	392,745
3	2002	0	373,108	392,745
4	2003	0	373,108	392,745
5	2004	0	373,108	392,745
6	2005	75,000	373,108	298,108
7	2006	0	373,108	392,745
8	2007	0	373,108	392,745
9	2008	0	373,108	392,745
10	2009	0	373,108	392,745
11	2010	10,000	373,108	362,745
12	2011	75,000	373,108	298,108
13	2012	0	373,108	392,745
14	2013	0	373,108	392,745
15	2014	0	373,108	392,745
16	2015	0	373,108	392,745
17	2016	0	373,108	392,745
18	2017	75,000	373,108	298,108
19	2018	0	373,108	392,745
20	2019	0	373,108	392,745

FIRR = 6.1%

Case 3: case 1 + case 2

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	3,474,450	0	- 3,474,450
1	2000	0	- 483,765	- 483,765
2	2001	0	373,108	392,745
3	2002	0	373,108	392,745
4	2003	0	373,108	392,745
5	2004	0	373,108	392,745
6	2005	78,750	373,108	294,358
7	2006	0	373,108	392,745
8	2007	0	373,108	392,745
9	2008	0	373,108	392,745
10	2009	0	373,108	392,745
11	2010	10,500	373,108	352,245
12	2011	78,750	373,108	294,358
13	2012	0	373,108	392,745
14	2013	0	373,108	392,745
15	2014	0	373,108	392,745
16	2015	0	373,108	392,745
17	2016	0	373,108	392,745
18	2017	78,750	373,108	294,358
19	2018	0	373,108	392,745
20	2019	0	373,108	392,745

FIRR = 5.6%

(4) Feed mixing facility

Basic case

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	998,180	0	- 998,180
1	2000	0	92,160	92,160
2	2001	0	92,160	92,160
3	2002	0	92,160	92,160
4	2003	0	92,160	92,160
5	2004	0	92,160	92,160
6	2005	45,000	92,160	47,160
7	2006	0	92,160	92,160
8	2007	0	92,160	92,160
9	2008	0	92,160	92,160
10	2009	0	92,160	92,160
11	2010	0	92,160	92,160
12	2011	45,000	92,160	47,160
13	2012	0	92,160	92,160
14	2013	0	92,160	92,160
15	2014	476,037	92,160	- 383,877
16	2015	0	92,160	92,160
17	2016	0	92,160	92,160
18	2017	45,000	92,160	47,160
19	2018	0	92,160	92,160
20	2019	0	92,160	92,160

FIRR = 2.6%

Case 1: Cost increased 5 percent

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	1,048,089	0	- 1,048,089
1	2000	0	92,160	92,160
2	2001	0	92,160	92,160
3	2002	0	92,160	92,160
4	2003	0	92,160	92,160
5	2004	0	92,160	92,160
6	2005	47,250	92,160	44,910
7	2006	0	92,160	92,160
8	2007	0	92,160	92,160
9	2008	0	92,160	92,160
10	2009	0	92,160	92,160
11	2010	0	92,160	92,160
12	2011	47,250	92,160	44,910
13	2012	0	92,160	92,160
14	2013	0	92,160	92,160
15	2014	499,839	92,160	- 407,679
16	2015	0	92,160	92,160
17	2016	0	92,160	92,160
18	2017	47,250	92,160	44,910
19	2018	0	92,160	92,160
20	2019	0	92,160	92,160

FIRR = 1.7%

Case 2: Income decreased 5 percent

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	998,180	0	- 998,180
1	2000	0	87,552	87,552
2	2001	0	87,552	87,552
3	2002	0	87,552	87,552
4	2003	0	87,552	87,552
5	2004	0	87,552	87,552
6	2005	45,000	87,552	42,552
7	2006	0	87,552	87,552
8	2007	0	87,552	87,552
9	2008	0	87,552	87,552
10	2009	0	87,552	87,552
11	2010	0	87,552	87,552
12	2011	45,000	87,552	42,552
13	2012	0	87,552	87,552
14	2013	0	87,552	87,552
15	2014	476,037	87,552	- 388,485
16	2015	0	87,552	87,552
17	2016	0	87,552	87,552
18	2017	45,000	87,552	42,552
19	2018	0	87,552	87,552
20	2019	0	87,552	87,552

FIRR = 1.6%

Case 3: case 1 + case 2

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	1,048,089	0	- 1,048,089
1	2000	0	87,552	87,552
2	2001	0	87,552	87,552
3	2002	0	87,552	87,552
4	2003	0	87,552	87,552
5	2004	0	87,552	87,552
6	2005	47,250	87,552	40,302
7	2006	0	87,552	87,552
8	2007	0	87,552	87,552
9	2008	0	87,552	87,552
10	2009	0	87,552	87,552
11	2010	0	87,552	87,552
12	2011	47,250	87,552	40,302
13	2012	0	87,552	87,552
14	2013	0	87,552	87,552
15	2014	499,839	87,552	- 412,287
16	2015	0	87,552	87,552
17	2016	0	87,552	87,552
18	2017	47,250	87,552	40,302
19	2018	0	87,552	87,552
20	2019	0	87,552	87,552

FIRR = 0.7%

Appendix Table 3.2 Sensitivity Analysis for KUD PASIR JAMBU

(1) Over all project

Basic case

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0 1999	1,730,180	0	0	- 1,730,180
1 2000	0	0	- 202,840	- 202,840
2 2001	0	0	- 202,840	- 202,840
3 2002	0	0	207,160	207,160
4 2003	0	0	207,160	207,160
5 2004	0	0	207,160	207,160
6 2005	0	45,000	207,160	162,160
7 2006	0	0	207,160	207,160
8 2007	0	0	207,160	207,160
9 2008	0	0	207,160	207,160
10 2009	0	0	207,160	207,160
11 2010	0	0	207,160	207,160
12 2011	0	45,000	207,160	162,160
13 2012	0	0	207,160	207,160
14 2013	0	0	207,160	207,160
15 2014	0	481,037	207,160	- 273,877
16 2015	0	0	207,160	207,160
17 2016	0	0	207,160	207,160
18 2017	0	45,000	207,160	162,160
19 2018	0	0	207,160	207,160
20 2019	0	0	207,160	207,160

FIRR = 3.8%

Case 1: Cost increased 5 percent

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0 1999	1,816,689	0	0	-1,816,689
1 2000	0	0	- 202,840	- 202,840
2 2001	0	0	- 202,840	- 202,840
3 2002	0	0	207,160	207,160
4 2003	0	0	207,160	207,160
5 2004	0	0	207,160	207,160
6 2005	0	47,250	207,160	159,910
7 2006	0	0	207,160	207,160
8 2007	0	0	207,160	207,160
9 2008	0	0	207,160	207,160
10 2009	0	0	207,160	207,160
11 2010	0	0	207,160	207,160
12 2011	0	47,250	207,160	159,910
13 2012	0	0	207,160	207,160
14 2013	0	0	207,160	207,160
15 2014	0	505,089	207,160	- 297,929
16 2015	0	0	207,160	207,160
17 2016	0	0	207,160	207,160
18 2017	0	47,250	207,160	159,910
19 2018	0	0	207,160	207,160
20 2019	0	0	207,160	207,160

FIRR = 3.3%

Case 2: Income decreased 5 percent

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0 1999	1,730,180	0	0	- 1,730,180
1 2000	0	0	- 192,698	- 192,698
2 2001	0	0	- 192,698	- 192,698
3 2002	0	0	196,802	196,802
4 2003	0	0	196,802	196,802
5 2004	0	0	196,802	196,802
6 2005	0	45,000	196,802	151,802
7 2006	0	0	196,802	196,802
8 2007	0	0	196,802	196,802
9 2008	0	0	196,802	196,802
10 2009	0	0	196,802	196,802
11 2010	0	0	196,802	196,802
12 2011	0	45,000	196,802	151,802
13 2012	0	0	196,802	196,802
14 2013	0	0	196,802	196,802
15 2014	0	481,037	196,802	- 284,235
16 2015	0	0	196,802	196,802
17 2016	0	0	196,802	196,802
18 2017	0	45,000	196,802	151,802
19 2018	0	0	196,802	196,802
20 2019	0	0	196,802	196,802

FIRR = 3.2%

Case 3: case 1 + case 2

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0 1999	1,816,689	0	0	- 1,816,689
1 2000	0	0	- 192,698	- 192,698
2 2001	0	0	- 192,698	- 192,698
3 2002	0	0	196,802	196,802
4 2003	0	0	196,802	196,802
5 2004	0	0	196,802	196,802
6 2005	0	47,250	196,802	149,552
7 2006	0	0	196,802	196,802
8 2007	0	0	196,802	196,802
9 2008	0	0	196,802	196,802
10 2009	0	0	196,802	196,802
11 2010	0	0	196,802	196,802
12 2011	0	47,250	196,802	149,552
13 2012	0	0	196,802	196,802
14 2013	0	0	196,802	196,802
15 2014	0	505,089	196,802	- 308,287
16 2015	0	0	196,802	196,802
17 2016	0	0	196,802	196,802
18 2017	0	47,250	196,802	149,552
19 2018	0	0	196,802	196,802
20 2019	0	0	196,802	196,802

FIRR = 2.7%

(2) Dairy cow rearing facility

Basic case

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	732,000	0	- 732,000
1	2000	0	- 295,000	- 295,000
2	2001	0	- 295,000	- 295,000
3	2002	0	115,000	115,000
4	2003	0	115,000	115,000
5	2004	0	115,000	115,000
6	2005	0	115,000	115,000
7	2006	0	115,000	115,000
8	2007	0	115,000	115,000
9	2008	0	115,000	115,000
10	2009	0	115,000	115,000
11	2010	0	115,000	115,000
12	2011	0	115,000	115,000
13	2012	0	115,000	115,000
14	2013	0	115,000	115,000
15	2014	5,000	115,000	110,000
16	2015	0	115,000	115,000
17	2016	0	115,000	115,000
18	2017	0	115,000	115,000
19	2018	0	115,000	115,000
20	2019	0	115,000	115,000

FIRR = 4.4%

Case 1: Cost increased 5 percent

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	768,600	0	- 786,600
1	2000	0	- 295,000	- 295,000
2	2001	0	- 295,000	- 295,000
3	2002	0	115,000	115,000
4	2003	0	115,000	115,000
5	2004	0	115,000	115,000
6	2005	0	115,000	115,000
7	2006	0	115,000	115,000
8	2007	0	115,000	115,000
9	2008	0	115,000	115,000
10	2009	0	115,000	115,000
11	2010	0	115,000	115,000
12	2011	0	115,000	115,000
13	2012	0	115,000	115,000
14	2013	0	115,000	115,000
15	2014	5,250	115,000	109,750
16	2015	0	115,000	115,000
17	2016	0	115,000	115,000
18	2017	0	115,000	115,000
19	2018	0	115,000	115,000
20	2019	0	115,000	115,000

FIRR = 4.1%

Case 2: Income decreased 5 percent

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	732,000	0	- 732,000
1	2000	0	- 309,750	- 309,750
2	2001	0	- 309,750	- 309,750
3	2002	0	109,250	109,250
4	2003	0	109,250	109,250
5	2004	0	109,250	109,250
6	2005	0	109,250	109,250
7	2006	0	109,250	109,250
8	2007	0	109,250	109,250
9	2008	0	109,250	109,250
10	2009	0	109,250	109,250
11	2010	0	109,250	109,250
12	2011	0	109,250	109,250
13	2012	0	109,250	109,250
14	2013	0	109,250	109,250
15	2014	5,000	109,250	104,250
16	2015	0	109,250	109,250
17	2016	0	109,250	109,250
18	2017	0	109,250	109,250
19	2018	0	109,250	109,250
20	2019	0	109,250	109,250

FIRR = 3.7%

Case 3: case 1 + case 2

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	768,600	0	- 768,600
1	2000	0	- 309,750	- 309,750
2	2001	0	- 309,750	- 309,750
3	2002	0	109,250	109,250
4	2003	0	109,250	109,250
5	2004	0	109,250	109,250
6	2005	0	109,250	109,250
7	2006	0	109,250	109,250
8	2007	0	109,250	109,250
9	2008	0	109,250	109,250
10	2009	0	109,250	109,250
11	2010	0	109,250	109,250
12	2011	0	109,250	109,250
13	2012	0	109,250	109,250
14	2013	0	109,250	109,250
15	2014	5,250	109,250	104,000
16	2015	0	109,250	109,250
17	2016	0	109,250	109,250
18	2017	0	109,250	109,250
19	2018	0	109,250	109,250
20	2019	0	109,250	109,250

FIRR = 3.4%

(3) Feed mixing facility

Basic case

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0 1999	998,180	0	0	- 998,180
1 2000	0	0	92,160	92,160
2 2001	0	0	92,160	92,160
3 2002	0	0	92,160	92,160
4 2003	0	0	92,160	92,160
5 2004	0	0	92,160	92,160
6 2005	0	45,000	92,160	47,160
7 2006	0	0	92,160	92,160
8 2007	0	0	92,160	92,160
9 2008	0	0	92,160	92,160
10 2009	0	0	92,160	92,160
11 2010	0	0	92,160	92,160
12 2011	0	45,000	92,160	47,160
13 2012	0	0	92,160	92,160
14 2013	0	0	92,160	92,160
15 2014	0	476,037	92,160	-383,877
16 2015	0	0	92,160	92,160
17 2016	0	0	92,160	92,160
18 2017	0	45,000	92,160	47,160
19 2018	0	0	92,160	92,160
20 2019	0	0	92,160	92,160

FIRR = 2.6%

Case 1: Cost increased 5 percent

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0 1999	1,048,089	0	0	- 1,048,089
1 2000	0	0	92,160	92,160
2 2001	0	0	92,160	92,160
3 2002	0	0	92,160	92,160
4 2003	0	0	92,160	92,160
5 2004	0	0	92,160	92,160
6 2005	0	47,250	92,160	44,910
7 2006	0	0	92,160	92,160
8 2007	0	0	92,160	92,160
9 2008	0	0	92,160	92,160
10 2009	0	0	92,160	92,160
11 2010	0	0	92,160	92,160
12 2011	0	47,250	92,160	44,910
13 2012	0	0	92,160	92,160
14 2013	0	0	92,160	92,160
15 2014	0	499,839	92,160	-407,679
16 2015	0	0	92,160	92,160
17 2016	0	0	92,160	92,160
18 2017	0	47,250	92,160	44,910
19 2018	0	0	92,160	92,160
20 2019	0	0	92,160	92,160

FIRR = 1.7%

Case 2: Income decreased 5 percent

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	998,180	0	- 998,180
1	2000	0	87,552	87,552
2	2001	0	87,552	87,552
3	2002	0	87,552	87,552
4	2003	0	87,552	87,552
5	2004	0	87,552	87,552
6	2005	45,000	87,552	42,552
7	2006	0	87,552	87,552
8	2007	0	87,552	87,552
9	2008	0	87,552	87,552
10	2009	0	87,552	87,552
11	2010	0	87,552	87,552
12	2011	45,000	87,552	42,552
13	2012	0	87,552	87,552
14	2013	0	87,552	87,552
15	2014	476,037	87,552	-388,485
16	2015	0	87,552	87,552
17	2016	0	87,552	87,552
18	2017	45,000	87,552	42,552
19	2018	0	87,552	87,552
20	2019	0	87,552	87,552

FIRR = 1.6%

Case 3: case 1 + case 2

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	1,048,089	0	-1,048,089
1	2000	0	87,552	87,552
2	2001	0	87,552	87,552
3	2002	0	87,552	87,552
4	2003	0	87,552	87,552
5	2004	0	87,552	87,552
6	2005	47,250	87,552	40,302
7	2006	0	87,552	87,552
8	2007	0	87,552	87,552
9	2008	0	87,552	87,552
10	2009	0	87,552	87,552
11	2010	0	87,552	87,552
12	2011	47,250	87,552	40,302
13	2012	0	87,552	87,552
14	2013	0	87,552	87,552
15	2014	499,839	87,552	-412,287
16	2015	0	87,552	87,552
17	2016	0	87,552	87,552
18	2017	47,250	87,552	40,302
19	2018	0	87,552	87,552
20	2019	0	87,552	87,552

FIRR = 0.7%

Appendix Table 3.3 Sensitivity Analysis for KUD WALATRA

Basic case

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0 1999	7,083,000	0	0	- 7,083,000
1 2000	0	0	- 1,434,460	- 1,434,460
2 2001	0	0	853,250	853,250
3 2002	0	0	853,250	853,250
4 2003	0	0	853,250	853,250
5 2004	0	0	853,250	853,250
6 2005	0	45,000	853,250	808,250
7 2006	0	0	853,250	853,250
8 2007	0	0	853,250	853,250
9 2008	0	0	853,250	853,250
10 2009	0	0	853,250	853,250
11 2010	0	0	853,250	853,250
12 2011	0	45,000	853,250	808,250
13 2012	0	0	853,250	853,250
14 2013	0	0	853,250	853,250
15 2014	0	2,196,037	853,250	-1,342,750
16 2015	0	0	853,250	853,250
17 2016	0	0	853,250	853,250
18 2017	0	45,000	853,250	808,250
19 2018	0	0	853,250	853,250
20 2019	0	0	853,250	853,250

FIRR = 5.3%

Case 1: Cost increased 5 percent

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0 1999	7,437,150	0	0	- 7,437,150
1 2000	0	0	- 1,434,460	- 1,434,460
2 2001	0	0	853,250	853,250
3 2002	0	0	853,250	853,250
4 2003	0	0	853,250	853,250
5 2004	0	0	853,250	853,250
6 2005	0	47,250	853,250	806,000
7 2006	0	0	853,250	853,250
8 2007	0	0	853,250	853,250
9 2008	0	0	853,250	853,250
10 2009	0	0	853,250	853,250
11 2010	0	0	853,250	853,250
12 2011	0	47,250	853,250	806,000
13 2012	0	0	853,250	853,250
14 2013	0	0	853,250	853,250
15 2014	0	2,305,800	853,250	-1,452,550
16 2015	0	0	853,250	853,250
17 2016	0	0	853,250	853,250
18 2017	0	47,250	853,250	806,000
19 2018	0	0	853,250	853,250
20 2019	0	0	853,250	853,250

FIRR = 4.8%

Case 2: Income decreased 5 percent

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	7,083,000	0	- 7,083,000
1	2000	0	- 1,362,737	- 1,362,737
2	2001	0	810,588	810,588
3	2002	0	810,588	810,588
4	2003	0	810,588	810,588
5	2004	0	810,588	810,588
6	2005	45,000	810,588	765,588
7	2006	0	810,588	810,588
8	2007	0	810,588	810,588
9	2008	0	810,588	810,588
10	2009	0	810,588	810,588
11	2010	0	810,588	810,588
12	2011	45,000	810,588	765,588
13	2012	0	810,588	810,588
14	2013	0	810,588	810,588
15	2014	2,196,037	810,588	-1,385,413
16	2015	0	810,588	810,588
17	2016	0	810,588	810,588
18	2017	45,000	810,588	765,588
19	2018	0	810,588	810,588
20	2019	0	810,588	810,588

FIRR = 4.7%

Case 3: case 1 + case 2

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	7,437,150	0	- 7,437,150
1	2000	0	- 1,362,737	- 1,362,737
2	2001	0	810,588	810,588
3	2002	0	810,588	810,588
4	2003	0	810,588	810,588
5	2004	0	810,588	810,588
6	2005	47,250	810,588	763,338
7	2006	0	810,588	810,588
8	2007	0	810,588	810,588
9	2008	0	810,588	810,588
10	2009	0	810,588	810,588
11	2010	0	810,588	810,588
12	2011	47,250	810,588	763,338
13	2012	0	810,588	810,588
14	2013	0	810,588	810,588
15	2014	2,305,800	810,588	-1,495,213
16	2015	0	810,588	810,588
17	2016	0	810,588	810,588
18	2017	47,250	810,588	763,338
19	2018	0	810,588	810,588
20	2019	0	810,588	810,588

FIRR = 4.2%

Appendix Table 3.4 Sensitivity Analysis for KUD SIPATUWO

Basic case

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0 1999	4,389,161	0	0	- 4,389,161
1 2000	0	0	476,629	476,629
2 2001	0	0	476,629	476,629
3 2002	0	0	476,629	476,629
4 2003	0	0	476,629	476,629
5 2004	0	0	476,629	476,629
6 2005	0	258,000	476,629	218,629
7 2006	0	0	476,629	476,629
8 2007	0	0	476,629	476,629
9 2008	0	0	476,629	476,629
10 2009	0	0	476,629	476,629
11 2010	0	0	476,629	476,629
12 2011	0	258,000	476,629	218,629
13 2012	0	0	476,629	476,629
14 2013	0	0	476,629	476,629
15 2014	0	1,075,000	476,629	- 598371
16 2015	0	0	476,629	476,629
17 2016	0	0	476,629	476,629
18 2017	0	258,000	476,629	218,629
19 2018	0	0	476,629	476,629
20 2019	0	0	476,629	476,629

FIRR = 6.7%

Case 1: Cost increased 5 percent

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0 1999	4,608,619	0	0	- 4,608,619
1 2000	0	0	476,629	476,629
2 2001	0	0	476,629	476,629
3 2002	0	0	476,629	476,629
4 2003	0	0	476,629	476,629
5 2004	0	0	476,629	476,629
6 2005	0	270,900	476,629	205,729
7 2006	0	0	476,629	476,629
8 2007	0	0	476,629	476,629
9 2008	0	0	476,629	476,629
10 2009	0	0	476,629	476,629
11 2010	0	0	476,629	476,629
12 2011	0	270,900	476,629	205,729
13 2012	0	0	476,629	476,629
14 2013	0	0	476,629	476,629
15 2014	0	1,128,750	476,629	- 652,121
16 2015	0	0	476,629	476,629
17 2016	0	0	476,629	476,629
18 2017	0	270,900	476,629	205,729
19 2018	0	0	476,629	476,629
20 2019	0	0	476,629	476,629

FIRR = 5.9%

Case 2: Income decreased 5 percent

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	4,389,161	0	- 4,389,161
1	2000	0	452,798	452,798
2	2001	0	452,798	452,798
3	2002	0	452,798	452,798
4	2003	0	452,798	452,798
5	2004	0	452,798	452,798
6	2005	258,000	452,798	194,798
7	2006	0	452,798	452,798
8	2007	0	452,798	452,798
9	2008	0	452,798	452,798
10	2009	0	452,798	452,798
11	2010	0	452,798	452,798
12	2011	258,000	452,798	194,798
13	2012	0	452,798	452,798
14	2013	0	452,798	452,798
15	2014	1,075,000	452,798	-622,202
16	2015	0	452,798	452,798
17	2016	0	452,798	452,798
18	2017	258,000	452,798	194,798
19	2018	0	452,798	452,798
20	2019	0	452,798	452,798

FIRR = 5.9%

Case 3: case 1 + case 2

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	4,608,619	0	- 4,608,619
1	2000	0	452,798	452,798
2	2001	0	452,798	452,798
3	2002	0	452,798	452,798
4	2003	0	452,798	452,798
5	2004	0	452,798	452,798
6	2005	270,900	452,798	181,898
7	2006	0	452,798	452,798
8	2007	0	452,798	452,798
9	2008	0	452,798	452,798
10	2009	0	452,798	452,798
11	2010	0	452,798	452,798
12	2011	270,900	452,798	181,898
13	2012	0	452,798	452,798
14	2013	0	452,798	452,798
15	2014	1,128,750	452,798	-675,952
16	2015	0	452,798	452,798
17	2016	0	452,798	452,798
18	2017	270,900	452,798	181,898
19	2018	0	452,798	452,798
20	2019	0	452,798	452,798

FIRR = 5.1%

Appendix Table 3.5 Sensitivity Analysis for KUD SEMANGATO

Basic case

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0 1999	4,586,335	0	0	- 4,586,335
1 2000	0	0	476,629	476,629
2 2001	0	0	476,629	476,629
3 2002	0	0	476,629	476,629
4 2003	0	0	476,629	476,629
5 2004	0	0	476,629	476,629
6 2005	0	258,000	476,629	218,629
7 2006	0	0	476,629	476,629
8 2007	0	0	476,629	476,629
9 2008	0	0	476,629	476,629
10 2009	0	0	476,629	476,629
11 2010	0	0	476,629	476,629
12 2011	0	258,000	476,629	218,629
13 2012	0	0	476,629	476,629
14 2013	0	0	476,629	476,629
15 2014	0	1,075,000	476,629	- 598,371
16 2015	0	0	476,629	476,629
17 2016	0	0	476,629	476,629
18 2017	0	258,000	476,629	218,629
19 2018	0	0	476,629	476,629
20 2019	0	0	476,629	476,629

FIRR = 6.1%

Case 1: Cost increase 5 percent

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0 1999	4,815,652	0	0	- 4,815,652
1 2000	0	0	476,629	476,629
2 2001	0	0	476,629	476,629
3 2002	0	0	476,629	476,629
4 2003	0	0	476,629	476,629
5 2004	0	0	476,629	476,629
6 2005	0	270,900	476,629	205,729
7 2006	0	0	476,629	476,629
8 2007	0	0	476,629	476,629
9 2008	0	0	476,629	476,629
10 2009	0	0	476,629	476,629
11 2010	0	0	476,629	476,629
12 2011	0	270,900	476,629	205,729
13 2012	0	0	476,629	476,629
14 2013	0	0	476,629	476,629
15 2014	0	1,128,750	476,629	- 652,121
16 2015	0	0	476,629	476,629
17 2016	0	0	476,629	476,629
18 2017	0	270,900	476,629	205,729
19 2018	0	0	476,629	476,629
20 2019	0	0	476,629	476,629

FIRR = 5.3%

Case 2: Income decreased 5 percent

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	4,586,335	0	- 4,586,335
1	2000	0	452,798	452,798
2	2001	0	452,798	452,798
3	2002	0	452,798	452,798
4	2003	0	452,798	452,798
5	2004	0	452,798	452,798
6	2005	258,000	452,798	194,798
7	2006	0	452,798	452,798
8	2007	0	452,798	452,798
9	2008	0	452,798	452,798
10	2009	0	452,798	452,798
11	2010	0	452,798	452,798
12	2011	258,000	452,798	194,798
13	2012	0	452,798	452,798
14	2013	0	452,798	452,798
15	2014	1,075,000	452,798	-622,202
16	2015	0	452,798	452,798
17	2016	0	452,798	452,798
18	2017	258,000	452,798	194,798
19	2018	0	452,798	452,798
20	2019	0	452,798	452,798

FIRR = 5.3%

Case 3: case 1 + case 2

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	4,815,652	0	- 4,815,652
1	2000	0	452,798	452,798
2	2001	0	452,798	452,798
3	2002	0	452,798	452,798
4	2003	0	452,798	452,798
5	2004	0	452,798	452,798
6	2005	270,900	452,798	181,898
7	2006	0	452,798	452,798
8	2007	0	452,798	452,798
9	2008	0	452,798	452,798
10	2009	0	452,798	452,798
11	2010	0	452,798	452,798
12	2011	270,900	452,798	181,898
13	2012	0	452,798	452,798
14	2013	0	452,798	452,798
15	2014	1,128,750	452,798	-675,952
16	2015	0	452,798	452,798
17	2016	0	452,798	452,798
18	2017	270,900	452,798	181,898
19	2018	0	452,798	452,798
20	2019	0	452,798	452,798

FIRR = 4.5%

Appendix Table 3.6 Sensitivity Analysis for KUD MATUTU

Basic case

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	3,199,574	0	- 3,199,574
1	2000	0	0	-312,240
2	2001	0	0	278,160
3	2002	0	0	278,160
4	2003	0	0	278,160
5	2004	0	0	278,160
6	2005	0	172,000	278,160
7	2006	0	0	278,160
8	2007	0	0	278,160
9	2008	0	0	278,160
10	2009	0	0	278,160
11	2010	0	0	278,160
12	2011	0	172,000	278,160
13	2012	0	0	278,160
14	2013	0	0	278,160
15	2014	0	75,607	278,160
16	2015	0	0	278,160
17	2016	0	0	278,160
18	2017	0	172,000	278,160
19	2018	0	0	278,160
20	2019	0	0	278,160

FIRR = 3.0%

Case 1: Cost increased 5 percent

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	3,359,553	0	- 3,359,553
1	2000	0	0	-312,240
2	2001	0	0	278,160
3	2002	0	0	278,160
4	2003	0	0	278,160
5	2004	0	0	278,160
6	2005	0	180,600	278,160
7	2006	0	0	278,160
8	2007	0	0	278,160
9	2008	0	0	278,160
10	2009	0	0	278,160
11	2010	0	0	278,160
12	2011	0	180,600	278,160
13	2012	0	0	278,160
14	2013	0	0	278,160
15	2014	0	79,387	278,160
16	2015	0	0	278,160
17	2016	0	0	278,160
18	2017	0	180,600	278,160
19	2018	0	0	278,160
20	2019	0	0	278,160

FIRR = 2.3%

Case 2: Income decreased 5 percent

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	3,199,574	0	- 3,199,574
1	2000	0	-296,628	-296,628
2	2001	0	264,252	264,252
3	2002	0	264,252	264,252
4	2003	0	264,252	264,252
5	2004	0	264,252	264,252
6	2005	172,000	264,252	92,252
7	2006	0	264,252	264,252
8	2007	0	264,252	264,252
9	2008	0	264,252	264,252
10	2009	0	264,252	264,252
11	2010	0	264,252	264,252
12	2011	172,000	264,252	92,252
13	2012	0	264,252	264,252
14	2013	0	264,252	264,252
15	2014	75,607	264,252	188,645
16	2015	0	264,252	264,252
17	2016	0	264,252	264,252
18	2017	172,000	264,252	92,252
19	2018	0	278,160	278,160
20	2019	0	278,160	278,160

FIRR = 2.3%

Case 3: case 1 + case 2

RP:1,000

Year	Project Cost	Reinvestment	Income before depre. & interest	Net income
0	1999	3,359,553	0	- 3,359,553
1	2000	0	-296,628	-296,628
2	2001	0	264,252	264,252
3	2002	0	264,252	264,252
4	2003	0	264,252	264,252
5	2004	0	264,252	264,252
6	2005	180,600	264,252	83,652
7	2006	0	264,252	264,252
8	2007	0	264,252	264,252
9	2008	0	264,252	264,252
10	2009	0	264,252	264,252
11	2010	0	264,252	264,252
12	2011	180,600	264,252	83,652
13	2012	0	264,252	264,252
14	2013	0	264,252	264,252
15	2014	79,387	264,252	184,865
16	2015	0	264,252	264,252
17	2016	0	264,252	264,252
18	2017	180,600	264,252	83,652
19	2018	0	278,160	278,160
20	2019	0	278,160	278,160

FIRR = 1.8%

APPENDIX

V

**PRESENT SITUATION AND EVALUATION OF KUD
ACTIVITIES IN 7 PROVINCES**

CONTENTS

WEST JAVA	1
SOUTH SLAWESI	15
NORTH SUMATRA	28
EAST JAVA	40
LAMPUNG	53
WEST NUSA TENGGARA	66
SOUTH KALIMANTAN	78

I WEST JAVA PROVINCE

A : Organization and Management

1 Organization of KUD

(1) Conditions

There are 759 KUD in West Java and 756 of these are KUD Mandiri. There are 35 KUD Mandiri INTI and there are many Kabupaten where several have been established. There are many KUD that cover all areas of one Kecamatan and there are some Kabupaten where one KUD covers all the Kecamatan. As a result, the average in the province for number of cooperative members, size of assets, business turnover and number of employees is much higher than the national average. However, there are some Kecamatan where there are many small KUD.

Many KUD are engaged in supplying fertilizers, handling rice, credit businesses, and collecting electricity charges and in the Highland region, dairy businesses such as the production and sale of milk and the processing and supply of concentrated fodder are flourishing. However, most businesses are based on government programs and few involve profits derived from buying and selling. Hardly any KUD handle vegetables, the major produce in the province.

The adult membership rate is 15.4%, which is higher than the national average, and the average number of cooperative members is 4,242, 2.9 times more than the national average.

Few KUD publish advertising material and pamphlets.

As the main businesses that KUD engage in are agricultural and dairy farming-related, the majority of cooperative members are farmers. The benefits of joining KUD are the use of businesses, facilities and services, discounts on fertilizers and products purchased, the availability of loans, and the exchange of information with KUD or other cooperative members.

Every KUD uses Kelompok Tani to collect KUT loans, communicate information, provide education on agricultural technology and life management and to put together quantities of fertilizer supplied. In addition, many KUD hold meetings and training classes every month at Kelompok Tani. Kelompok Tani are an important opportunity for cooperative members to exchange information and to voice their opinions on KUD.

Some KUD have cooperating members' organizations such as groups for women and young people. In addition, there are other KUD whose members are organized into savings and loan groups and home industries making agricultural implements as well as female handicraft organizations. These KUD provide assistance and also contribute to self – assistance.

Directors meetings are held frequently by KUD with some holding them every week. Many directors are old age pensioners, self-employed, retailers, former village heads, former military personnel, and teachers. In addition, people with a certain level of knowledge of cooperative management and well-known local leaders are also elected. In the case of KUD in dairy farming regions, dairy farmers are also elected.

Audits by auditors are carried out every quarter. These focus on "finances, accounting, bookkeeping" and "organization, management, and services for cooperative members". The auditors tend to have almost the same occupations as directors but there is a higher proportion of farmers.

Various sections exist under the direction of the general manager and they carry out daily operations. However, general managers have little authority and it has been pointed out they have not become established because they are not well paid.

Hardly any KUD have established planning and administration departments. Some KUD have appointed people in charge of teaching farming and life management but no KUD have established departments for this purpose.

The number of employees in the whole province has grown annually and as of December 1995, the average was 11.0 people, well above the nationwide average of 8.3. In particular, there were large numbers of employees at KUD that handle fresh milk.

(2) Evaluation

Although the number of cooperative members is large, the cultivation of cooperative member organizations apart from Kelompok Tani, with some exceptions, is inadequate. Moreover, insufficient promotional activities, such as distributing newsletters, are being carried out. However, the membership rate among dairy farmers is high and cooperative member organizations are solid. Female handicraft groups have also been organized in some cases, and if attractive

activities are conducted, it will be possible to boost the number of cooperative members and strengthen the organizational and business base.

Systems for teaching farming and life management are weak and there is insufficient teaching of agricultural skills desired by cooperative members and instruction on how to improve life. As there are large KUD and some KUD have appointed administrative staff, it would be possible to set up administrative departments. Moreover, small KUD lack employees and funds and inadequate services are provided to cooperative members but as cooperative members and directors both feel there is a lack of business capability, it would be possible to encourage mergers and to strengthen business capability.

The authority of general managers is limited and they are unable to display sufficient ability as management specialists. Furthermore, as remuneration is inadequate, proficient general managers have not become established. If they were given appropriate authority and there were systems for paying remuneration based on results achieved, general managers would be more willing to engage in business and this would lead to better management.

2 Management and Administration

(1) Conditions

As regards operating conditions for KUD in the province as a whole, the average net surplus was 2.5 times higher than the nationwide average while business turnover was 1.9 times higher than the national average. As the KUD we surveyed were engaged in dairy goods businesses, they all exceeded the average for the province. The average amount of total assets for the province was large at about 1.3 times the national average but the equity ratio was only 32.2%, well below the national average. About 40% of the KUDs' net surplus is provided by internal reserves but the average amount of their own capital is only Rp 94.0 million, some 80% of the nationwide average of Rp 114.1 million.

Many KUD set low membership fees of Rp 5,000 and monthly compulsory savings deposits of about Rp 1,000, but an increasing number of KUD are raising these amounts. Some KUD have linked payments to the milk marketing business and part of the proceeds from selling milk are saved as compulsory savings deposits.

The rest of the KUD capital is mainly funded by institutional loans from BRI and BUKOPIN (Cooperative Bank of Indonesia) but this is loaned to cooperative members without profit and does not form part of the real assets of KUD. As most KUD provide a return on voluntary deposits that is lower than the general level, few deposits are made and they account for less than 10% of total assets.

In terms of profitability, the average ratio of current surplus to business turnover for the province is 1.4% and this is slightly higher than the national average.

It is difficult for small KUD to create internal checking mechanisms and it is likely that corruption exists. Moreover, even most large KUD do not carry out internal audits.

According to audits carried out by the KJA, only 24 KUD were audited by the KJA in fiscal 1995, and only 100 KUD are KJA members out of a total of 759 KUD. The reason that other KUD were not audited is that they were unable to pay the auditing fees.

Some KUD calculate annual departmental profit and loss at the end of the fiscal year but no KUD do this on an everyday basis.

Many KUD want to construct new facilities and equipment or expand them in the case of milk sterilization equipment, yoghurt and coffee milk processing facilities, refrigerated trucks, cattle rearing facilities and fodder factories.

All KUD have telephones and some have installed personal computers. As economic growth and technological reform are proceeding rapidly in West Java, KUD will also need to upgrade facilities and introduce computers.

(2) Evaluation

Although there are plans to handle seeds and carry out marketing operations, many KUD are unable to turn these into reality. One reason for this is the absence of planning and administration departments. As most KUD have arranged a Mandiri system, it would be possible to establish specialized planning and administration departments, to clarify departments in charge and to strengthen planning and administration functions according to actual conditions prevailing at

KUD, including appointing people responsible for these functions.

There is little equity capital and there is a chronic shortage of funds for equipment and working capital. As some KUD are increasing membership fees and compulsory savings and accept part of the proceeds of fresh milk sales as compulsory savings and voluntary savings, this system could be adopted by other KUD and equity capital could be gradually strengthened. Moreover, with the cooperation of cooperative members, dividends from surpluses could be allocated to compulsory savings.

KUD are concerned about the lack of funds for facilities and working capital but if institutional funds existed, KUD management would develop considerably. In addition, KUD could expand their business operations and as management awareness is growing, there is capacity to receive and repay funds. From the viewpoint of efficiency, if several KUD organized institutional funds for facilities that they used jointly, KUD offices and facilities would become closer in some cases and as road conditions would improve, obstacles to convenience would be overcome.

Most transactions are based on cash and as cooperative members and KUD both lack cash, business growth is being limited. This is one reason why KUD are unable to engage in selling vegetables. Settling sales and purchases by means of agricultural settlement accounts would also be highly convenient for cooperative members and if such a system were created, it would probably be adopted by other KUD.

Hardly any KUD conduct internal audits and few KUD are audited by KJA. Furthermore, in the case of KUD with few employees, it is not easy to establish internal checking mechanisms so there is a chance that corruption and mistakes will occur. In the case of large KUD, planning and administration staff, etc. could be asked to take charge of internal auditing. It would also be possible to increase the frequency of audits by auditors and KJA audits.

Few KUD calculate departmental profit and loss in a timely manner and no evaluation is made of the progress of businesses or profit and loss by department. If KUD recognized the need to calculate departmental profit and loss, they could appoint staff responsible for this and if personal computers were used, this could be easily carried out.

Only some KUD have introduced computers and business and work procedures have not been rationalized. Moreover, as there is no policy to unify the introduction of computers and individual KUD have installed them separately, KUD will be forced to bear high software costs in the future if this situation continues. KUD are aware of the need for greater speed and accuracy in their clerical work and if they become more aware of future software costs, joint development and joint use could be introduced in a short time. There are systems to promote this in DEKOPINWIL and PUSKUD.

B Present Situation and Evaluation of Economic Business

1) Present Situation:

Distribution of chemical fertiliser still remains to be a major business of KUD. Farm chemicals, seeds for paddy, palawija and horticulture crops are available to the farmers in the open market. Paddy seeds are obtained by the farmers from a State-owned company, PT Seng Hyangseri.

There were 1,695 warehouses of all types, 238 RMUs and other machines which were owned by KUD, as in July 1995. Some of the equipments have been imported (mostly from Japan), and some have been locally assembled. Several of farm equipments and rice processing machines were given to the KUD under OECF and Kennedy Round Programmes. Equipments like the large-sized warehouses, dryers, rice polishers, moisture testers, soybean threshers, cassava root-cutters, corn shellers and trucks are owned by other organisations but have been placed at the disposal of the KUD for their use. Nearly all KUD owned paddy drying floors. KUD engaged in milk business own cooling units, holding tanks, milk testing equipment, transfer trucks/tankers besides dairy-related machines, and the cattle-feed mixing units and small warehouses. No cold stores or any other processing industrial units are owned by the KUD.

Principal business of the KUD in the province, among others, are rice procurement, horticulture, milk collection, procurement of cloves, livestock development, cattle-feed manufacture, and distribution of chemical fertiliser, farm credit and consumer goods. In 1995, 293 KUD procured from the farmers a total of 325,150 tons of paddy/rice, and 286 KUD had sold 82,645 tons to the Bulog. The supplies to the Bulog are getting reduced due to: i) shortage of procurement funds; and ii) open market situation. In West Java only 35.8% of the year 1985-86 was supplied by the KUD network to Bulog in 1994-95.

Except for a few KUD (for instance KUD Pasir Jambu, and KUD Sarva Mukti), marketing of vegetables and fruits is usually done by the members themselves through the farmers' groups. Major horticulture products are potatoes, tomatoes, chilies, cucumber, baby corn, carrots and some green leafy vegetables. Products are sent to the wholesale markets in Bandung and Jakarta. PT Indofood purchases a bulk of potatoes, tomato and chilies for processing at its own facilities. There are no KUD which supply horticulture products to fast food companies. KUD Pasir Jambu has a direct agreement with Hero Supermarket for supply of certain designated farm products. On an average, during 1996, this KUD had sold about 25 tons of horticulture products worth Rp 40.5 million per month. Some of the KUD had even attempted to export some of the horticulture products. Another cooperative, KUD Walatra is known to encourage contract farming of a special variety of potatoes.

Milk marketing has gradually become the profit-centre of many milk cooperatives/KUD. Fresh milk is collected by the cooperatives, chilled and transported to the milk processing companies and the GKSI. 99% of the milk procured is supplied to the IPS, and only 1% to the GKSI Milk Treatment Plant in Bandung. The GKSI markets ready-to-drink milk and some basic milk products under the brand name of "Susu Alam Murni". During 1994, the share of West Java cooperatives in national milk production was 44.7%, followed by East Java.

The total business volume and total surplus of KUD in 1995 and 1996 was as follows:

Particulars	1995 (M.Rp)	1996 (M.Rp)
Total Business Volume	851,001.0	906,105.0
Total KUD Surplus-SHU	12,972.0	13,224.0

The Puskud-West Java is a major cooperative organisation to which 759 KUD are affiliated. Its main business relation with the KUD relates to fertiliser distribution, procurement of cloves and distribution of some consumption goods e.g., sugar, wheat flour, soybeans etc. Its business is uni-directional, from the Puskud to the KUD only. Its total sales during 1996 was Rp 10,770.7 million. Its major source of income has been the commissions and fees. It has recently entered into joint venture business with PT Goro, a private enterprise dealing in wholesaling. It has recently (1997) upgraded its Supermarket "Citra".

2) Evaluation:

KUD main business revolves around government-supported programmes: fertiliser 49-52% (of turnover)(highest in KUD Byongbong 89%), 65.3% in respect of Puskud; farm credit and procurement of cloves. Fees and commissions received form the core of KUD working capital; milk and horticulture are important KUD business e.g., 70.2% of milk in KUD Tani Mukti and 44.6% in KUD Cikajang; vegetables 22.8% in KUD Pasir Jambu, and 12.5% in KUD Bayongbong; farmer-members are engaged in livestock development; KUD produce 70% of cattle-feed requirements using wheat-pollard (the nutritional quality of cattle-feed is low); no joint-marketing, joint purchasing and joint-use facilities concepts adopted by KUD; and the GKSI contributes significantly to milk handling technology and facilities although its own facilities in Bandung are grossly under-utilised.

C

**CREDIT BUSINESS AND OTHER BUSINESS: Present Situation
& Evaluation**

a. KUD Savings and Loan Performance

KUD SAVINGS - WEST JAVA					
CATEGORY/YEAR (Rp Million)	1991	1992	1993	1994	1995
o Initial Savings	-	2,714.1	2,974.1	-	-
o Compulsory Saving	-	9,754.3	10,966.0	-	-
o Voluntary Saving	-	4,649.0	7,373.7	-	-
Total Member Saving	-	17,117.4	21,313.8	-	-

Source: BPS

AVERAGE SAVINGS OF SURVEYED KUD - WEST JAVA

CATEGORY/YEAR (Rp Million)	1990	1994	1995
o Initial Savings	8.0	15.2	19.8
o Compulsory Savings	95.3	110.2	149.8
o Voluntary Savings	62.2	114.1	114.8
Total Member Savings	165.5	239.5	284.4

Source: KUD field survey, West Java

KUD LOANS - WEST JAVA

CATEGORY/YEAR (Rp Million)	1991	1992	1993	1994	1995
o Trader Credit(KCK)	-	3,800.0	3,630.6	-	-
o Investment Credit	-	23,761.1	25,710.0	-	-
o Farmer Bus. Credit (KUT)	-	-	-	-	38,897.0
o Savings & Loan Unit(USP)	-	-	-	-	26,911.0
Total Credit (Trade/Invest)	-	27,561.1	29,340.6	-	-
Total Credit (KUT/USP)	-	-	-	-	65,808.0

Source: BPS (KCK and Investment Credit data)
Department of Cooperatives, Central Office (KUT and USP data)

Results of the field survey of five KUD in West Java showed the total institutional loans for the surveyed KUD amounted to Rp. 1,716.5 million, for an average of Rp. 343.3 million each. However, most surveyed KUD cited problems accessing bank investment and working capital credit. Total member loans outstanding, including savings and loan business, averaged Rp. 173.0 million per KUD surveyed. Farm production credit outstanding, under member credit channeling programs, averaged Rp. 967.8 million per KUD surveyed.

b. Other business

Non-credit financial services practiced by West Java KUD include collection of utility bill (537 KUD) and telephone service business (19 KUD).

c. Evaluations

1) Institutional Borrowing

Primary hampering factors to KUD business growth in West Java include: insufficient access to bank-supplied working capital ; and insufficient access to bank-supplied investment capital. It was observed in most of the KUD surveyed that the lack of sufficient working capital and investment capital was limiting growth in business volume and turnover.

Possibilities for expanding West Java KUD access to institutional credit include: greater KUD contact with private commercial banks engaged in agribusiness financing (e.g. BCA, BAI); expanded KUD lending and deposit business with local rural banks (e.g. KBPR, BPR, BKPD); developing banking system policies and procedures (e.g. BUKOPIN, BRI) which supply non-program specific (general) standby working capital lines of credit to KUD; and expanded financing from private joint venture business partners.

2) Member Savings and Loans

The savings and loan business of KUD in West Java has expanded from Rp. 5.2 billion in 1993 to Rp. 9.7 billion in 1995, yet only represents 1.1 percent of total business volume of West Java KUD. Primary hampering factors limiting this business include: low rate of growth in member voluntary savings; delays in loan processing and credit releases; and inadequate KUD loan supervision resulting in delinquent loan repayment and loan losses.

Possibilities for improving West Java KUD savings and loan programs include: ensuring a competitive market rate of interest paid on savings; starting savings promotion campaigns; making timely payment to members for interest earnings on savings; and reducing time for loan processing

and standardizing lending procedures. KUD should also pursue bank sources of medium-term credit for expanding savings and loan business.

3) Member Credit Channeling

Primary hampering factors for KUD income growth in this business include: recent decline in farm credit supplied by banks; complex credit planning/ approval procedures; insufficient KUD staff to provide loan supervision; lack of KUD participation in loan risk; inadequate coordination between KUD, handling bank and farmer groups.

Possibilities for increasing West Java KUD earnings in the area of member credit channeling include: simplify credit planning/approval procedures; improving KUD human resource skill levels in loan supervision; KUD sharing loan risk with handling bank; and improving communication channels between KUD, handling bank and farmer groups in loan administration.

D Human Resource Development and Guidance Activities in West Java

a. Present situations and evaluation of education and training for officials and employees of KUD

According to the Department of Cooperatives and Small Enterprises Development in West Java, about 75% of officials and employees of KUD have experienced some of the training programs through various institutions. The results of implementation of training by various institutions in 1995 were as follows:

- BALATKOP has trained 539 employees, 165 officials and 721 KUD members;
- KJA (Audit Service Cooperative) of West Java has conducted training for 569 employees from 194 KUD in 1995 concerning cooperative accounting system.
- PUSKUD has received 56 employees from 56 KUD for the training of the clove accounting system.
- LAPENKOP in West Java has trained 77 qualified instructors for member education, 114 facilitators, 144 directors, 3,377 members and 59 KUD employees.
- DEKOPINWIL is also conducting training for cooperatives including KUD.

Besides, training at training institutions, at KUD level, KUD Mandiri Inti established more than one at each district is conducting training for officials and employees of KUD with assistance from the District Office of Department of Cooperatives and Small Enterprises Development.

As the provincial average number of employees is exceeding that of the national average, West Java has high potential to develop training program for staff of KUD. The training of employees at private enterprizes is also possible with the government assistance under Inkubator Program.

b. Situations of training and education activities in 5 KUD surveyed

According to BALATKOP of West Java, 10% of KUD Mandiri has already established the education fund as a part of appropriation of the surplus fund. In case of 5 KUD surveyed, all of them have appropriated a part of the surplus fund for education fund with the rates ranging from 1.5% to 5%. Generally, the amount of the education fund is not sufficient to provide training for staff of KUD. According to interviews for 5 KUD the necessary training subjects are, credit business, marketing strategy and internal control system. KUD Pasir Jambu has established education plan for employees, however, other KUD has no systematical education program. Except for KUD Pasir Janbu, there is no specified instructor for in-service training.

c. Situations of guidance activities in 5 KUD surveyed

The five KUD surveyed in West Java conducts farm guidance although there are no specific section or employees in charge except for KUD involved in dairy business. In case of KUD, engaged in dairy business, they have established members's organizations as a unit of group

guidance. Five KUD acknowledge the needs of better living guidance as service to members. However, they have almost no technical sources. KUD Pasir Jambu is organizing 1,500 women from dairy farm households and promoting active guidance for both dairy farming technology and better living. They also started mutual help for assisting medical expenses of members from member's welfare fund. Other KUD has no women's group which is promoting better living activities. Fostering of leaders of women's group is vital for future development of better living activities at KUD level.

In the horticulture, the guidance structure and technical level of farm advisors are weak. The lack of market information is the basic problem for vegetable producers.

The employees in charge of guidance can obtain technical information from PPL when they visit to farm households for extension service. Regular meeting for PPL, PKL and employees of KUD are held once in three months and the meeting are the place of exchange of information each other.

E**Organization and Management Condition of PUSKUD**

The number of PUSKUD members as the end of December 1995 was 714, including 658 KUD and other cooperatives. Under the board of directors 5 of team managers are assigned, these are general affairs, treasurer, trade, tofu cooperatives, clove and other departments. Further, other than the secretary they assigned one staff in charge of audit. In the office (service center) of each district, one manager and 3-4 staffs are assigned, while at the workshop 14 staffs and at the super market 28 staffs are allocated.

The total supply amount by the Puskud in 1995 was Rp 14,205 of which farm chemical accounted for 57.3%. The main commodities which the members of the Puskud sell to the Puskud are: cloves, rice and maize. In 1995 the marketing business was as follows:

Total rice procured from members	195,557 tons
Out of which supplied to Bulog	76,139 tons (39%)
Balance sold in the open market	119,418 tons (61%)
Rice procured from KUD	393 KUD

Some of the joint use facilities developed by the Puskud have been the rice mills in Karawang and Indramayu districts, Toserba Pelangi supermarket in Bandung, Rajapolah show room in Bandung, Pasar Induk Cipinang (PIC), a fleet of 20 heavy duty trucks, a printing unit and a few others. During the year 1995-96, the rice mills have declined in operations and consequently closed down, the Toserba Pelangi has been put under renovations, and the PIC has been rented out. The trucks are being used to transport fertilizer and cement.

II SOUTH SULAWESI PROVINCE

A Organization and Management

(1) Conditions

There are 536 KUD in the province, of which 378 are KUD Mandiri, for a Mandiri ratio of 70.5%, compared with the national average of 61.0%. However, there are 6 sub-districts in 3 districts where no KUD have been established. In all 23 districts there is one KUD Mandiri INTI per district, making a total of 23.

The membership rate per adult population is 10.2%, which is lower than the national average. The average number of cooperative member per KUD is 765, roughly half the national average. The number of KUD per subdistrict is 3.0, slightly higher than the national average of 2.5. Moreover, some KUD have a membership rate of more than 90%.

On average, the number of cooperative members and employees is low but total assets and business turnover are higher than the national average while profitability is on a par with the national level.

The main businesses are fertilizer distribution, rice and rice husk marketing, and operating RMUs (rice milling units). In the case of other businesses, 270 KUD are carrying out savings and loan business (Simpan Pinjam), 252 KUD run purchasing stores (Waserda), and 8 KUD operate Wartel. The needs of cooperative members are provided for by KUT loans but 152 KUD provide general funds in the form of rice and only 58 provide special funds.

The membership rate for farmers in the whole province is 26.3% but the membership rate for Kelompok Tani cooperative members in KUD is more than 90%. However, KUD are open to members apart from farmers: there is one KUD that is training business people that want to expand their businesses and lending them funds, another that makes good use of Kelompok Tani and traders and another that has started recruiting consumers as cooperative members.

No KUD published newsletters or pamphlets and no active measures to increase membership were being adopted.

Most Kelompok Tani are groups that handle rice and KUD use them to put together KUT applications and quantities of fertilizer, communicate information and operate

TPK. In the case of organizations apart from Kelompok Tani, a women's livestock group makes mince using discarded poultry and KUD provide assistance with marketing while financial assistance is provided to a handicraft group and training is carried out.

Directors meetings are generally held once a month. In the case of five KUD we surveyed, farmers accounted for half of the directors and the other occupations comprised teachers, self-employed, former military personnel, former village chiefs, and a member of parliament. Moreover, 85% of KUD have full-time directors.

Many KUD conduct audits by auditors 4 times a year. The audits mainly focus on finances and each audit takes 2-4 days. In one case, PKL and accounting personnel assisted the auditors. Among the five KUD we surveyed, 3 KUD did not have any farmers as auditors and the proportion of farmers was low.

Directors are appointed at general meetings by means of a vote or discussion and directly elected by cooperative members. However, in the case of candidates for the position of director, 5-7 cooperative members, influential local people, and leaders are recommended in some cases.

The average number of employees was 3.47, less than half the national average of 8.3. There were 3 Kabupaten where the average number was less than 2 people.

The number of employees in the KUD we surveyed ranged from 11 to 49 and all had general managers, under whom various departments were established. In general there were few employees, hardly any KUD had appointed people to teach farming and life management and there was a lack of systems to carry out business operations.

(2) Evaluation

Although membership rates are low and organizations are small in size, no active promotional measures are being implemented. Moreover, few KUD are encouraging the formation of producer organizations and women's groups and the organizational base is weak. However, many people who have not yet become members would like to do so and there is room to increase the number of cooperative members if managers make an effort. In addition, managers could all work together with the cooperation of positive cooperative members to promote their KUD while large KUD could publish newsletters. As there are some KUD

with high membership rates and others that are cultivating women's groups, their experience could be adopted by other KUD.

There are few employees, insufficient systems to carry out business operations and hardly any farming or life management instruction is being provided. There are also insufficient measures to improve the desire to work, with some KUD not paying their employees a regular salary. Furthermore, the ability of general managers is inadequate. However, as KUD executives are also aware of the importance of cultivating and maintaining proficient managers and general managers, gradual improvement could be achieved if education were provided through KJA audits and other means.

There are sometimes several KUD in one sub-district, each of them is small, there is a lack of employees, funds and facilities, and it is impossible to provide sufficient services to cooperative members. Moreover, if the divisions of Kecamatan are changed, KUD would separate and might become even smaller. However, many small KUD are aware of their lack of funds and business capability and it would be possible to encourage mergers or joint businesses per Kecamatan. If there are concerns that KUD will become separated, this could be avoided by persuasion.

2 Management and administration

(1) Conditions

If we look at operating conditions at the KUD in the province, on average, the current surplus was 1.4 times higher than the national average and business turnover exceeded the national average. Average total assets were about 1.4 times greater than the national average, equity capital was 1.7 times greater and the equity ratio was higher than the national average. There were few voluntary savings deposits and ratio of these to total assets was only 3.2% in the largest KUD.

The ratio of current surplus to business turnover averaged 1.5% in the province, exceeding the national average and profitability was high overall. The average ratio of current surplus to total assets in the province was 3.0%, on a par with the national average. However, many KUD do not distribute dividends from their current surplus to cooperative members.

There was a shortage of working capital and many KUD were unable to buy rice at a

suitable time.

As many businesses have few employees, they are unable to set up internal checking mechanisms and there is a high risk of accidents. Hardly any KUD carry out internal checking.

In fiscal 1995, 147 KUD were audited by KJA.

Of the KUD we surveyed, only Semangat had telephones installed.

All of the KUD had RMUs, warehouses, and drying areas and many had rice-related facilities. However, as the scale of facilities was unbalanced, some KUD were unable to operate at full capacity. At Belopa, small-scale credit business (TPSP) stores had been set up in 6 locations.

The South Sulawesi Province office of the Ministry of Cooperatives and Small Enterprises is aware that facilities are currently inadequate at KUD and that there is a need to construct animal feed plants, to introduce corn shellers, to update RMUs, to introduce hand tractors and to build more warehouses.

(2) Evaluation

As planning and administrative functions are insufficient, even though plans exist, many items in them cannot be carried out. However, large KUD could set up planning and administration departments while small KUD could appoint general managers to take charge of planning and administration. Moreover, it would be possible to set up Kecamatan conferences and formulate a plan for the whole Kecamatan under the direction of government authorities to improve planning and administration.

Equity capital ratios are high but the absolute amount of equity capital is low and there is a lack of funds to provide facilities and a shortage of working capital. As membership fees and compulsory savings per person are low, the overall amount is small. However, as many KUD are posting current surpluses, it would be possible to gradually increase equity capital by making efforts to boost internal reserves. In addition, as cooperative members are aware that membership fees and compulsory savings deposits per person are low, the amount of these could be raised.

As the majority of funds procured are institutional funds, they are loaned directly to cooperative members and do not form part of the real assets of KUD. If institutional funds were organized to provide facilities and working capital for KUD, business could be expanded and as management awareness is growing, there is a capacity to borrow and repay institutional funds.

As most transactions involve cash, it is easy for KUD to run short of funds (cash) to buy agricultural produce and cooperative members also have to save cash to buy materials. Consequently, business expansion by KUD is restricted. If KUD with clerical systems and good credit standing opened agricultural settlement accounts, this would be very convenient and could therefore be adopted by other KUD.

As there are few employees and it is difficult not only to establish internal audit systems, but also internal checking mechanisms, corruption and mistakes are likely to occur. However, large KUD could appoint staff in charge of internal audits and in the case of small KUD, directors or general managers could check the accuracy of accounting figures if they acquired the methods to do so. In addition, the frequency of audits by auditors and external audits could be increased and as some KUD put aside savings in a fund to pay KJA audit costs, this system could be adopted by other KUD.

Few KUD calculate departmental profit and loss and the progress of business and profit and loss is not evaluated. However, as some KUD calculate departmental profit and loss at the end of the business year, it would be possible to gradually improve the ability to use progress management.

B Present Situation and Evaluation of Economic Business

1) Present Situation:

Distribution of chemical fertiliser still remains to be a major business of KUD. During 1995, 228 KUD had distributed 212,943 tons. Farm chemicals, seeds for paddy, palawija and horticulture crops are available to the farmers in the open market. Paddy seeds are obtained by the farmers from a State-owned company, PT Seng Hyangseri.

During 1995 the KUD owned the following rice processing facilities and equipment: 296 RMUs, 208 rice drying units, and 680 drying floors. Some of the equipment have been imported (mostly from Japan) and some have been locally assembled. The KUD have received farm machines under OECF and Kennedy Round Programmes. The farmers purchase their farm equipment either through the KUD or from the open market. No cold stores or any other processing industrial units are owned by the KUD.

Principal business of the KUD in the province, among others, are rice procurement, procurement of cloves, procurement of cassava and its processing, cash crops like coffee, coconut, cocoa, livestock development, distribution of chemical fertiliser, farm credit and consumer goods. In 1995, 229 KUD had procured from the farmers a total of 191,837 tons of paddy/rice, and 203 KUD had sold a total of 146,676 tons to the Bulog. The supplies to the Bulog are getting reduced due to: i) shortage of procurement funds; and ii) open market situation. South Sulawesi is a major paddy producing area outside Java.

All cash crops move out of the province for further processing. Groundnut, coconut, and coffee is procured by the agents of the processing industry for shipment to processing units within South Sulawesi or on Java. Whatever quantity of clove is produced in the province (8,336 tons in 1994), it is procured by the Puskud through the KUD network for the national cloves buffer stock. Some of the agricultural products of the province were exported, as is explained below:

Commodity	Volume Exported (T)			Value Exported (US\$)		
	1994	1995	%	1994	1995	%
Cassava Chips	61,094	51,600	15.5	6.19m	7.37m	18.9
Markissa Syrup	144	198	37.7	0.10m	0.18m	84.8
Wheat Pollard	70,021	95,247	36.0	5.2m	8.44m	61.2
Coffee/Arabika	2,963	1,331	55.0	11.07m	4.41m	60.1
Coffee/Robusta	4,440	477	89.2	9.54m	1.45m	84.7
Cocoa	146,130	119,277	18.3	150.56m	134.16m	10.8

Other commodities exported were Cashew nuts, pepper, rubber, tea, molasses, copra.

No KUD in the province undertakes dairy, livestock development, meat production and poultry business.

The total business volume and total surplus of KUD in 1994 and 1995 was as follows:

Particulars	1994 (M.Rp)	1995 (M.Rp)
Total Business Volume	278,593	339,329
Total KUD Surplus-SHU	3,378	5,192

The Puskud-Hasanudin South Sulawesi (established 1974) is a major cooperative organisation to which 425 KUD/cooperatives are affiliated. Its business activities include: trading and providing services and credit in various sectors e.g., trading, services, cultivation, animal husbandry, fisheries, processing industry through its subsidiary organisations and also directly. Some of its facilities include: Rice Milling Units, coffee and cassava processing units, cocoon dryer units, silk show room, wholesale depot, fertiliser and sugar warehouses and a large size modern supermarket. It is regarded to be a dynamic and successful business cooperative. Its sales during 1995 were Rp 93,757.5 million (85.8% of its total turnover).

2) Evaluation:

KUD main business revolves around government-supported programmes: fertiliser 22.7% (of turnover); paddy/rice 75.8%; cloves procurement 63.4% (for Puskud); 28.2% for sugar distribution (for Puskud); and farm credit disbursement; Fees and commissions received form the core of KUD working capital; KUD are not involved in 'value addition' activities even in key cash crops like coffee, cloves, rattan and coconut; KUD are also not engaged in the business of poultry, cattle-feed production, meat production, livestock development; All KUD-Member transactions are in cash; Farm machines, transportation equipment are insufficient; and the Puskud handles processing of key commodities and is engaged in export and import business.

C CREDIT BUSINESS AND OTHER BUSINESS: Present Situation & Evaluation

a. KUD Savings and Loan Performance

KUD SAVINGS - SOUTH SULAWESI					
CATEGORY/YEAR (Rp Million)	1991	1992	1993	1994	1995
o Initial Savings	-	1,104.2	1,258.8	-	-
o Compulsory Savings	-	2,270.9	2,636.9	-	-
o Voluntary Savings	-	952.6	1,376.8	-	-
Total Member Savings	-	4,327.7	5,272.5	-	-

Source: BPS

AVERAGE SAVINGS OF SURVEYED KUD - SOUTH SULAWESI				
CATEGORY/YEAR (Rp Million)	F/Y			
	1990	1994	1995	
o Initial Savings	1.9	2.0	2.6	
o Compulsory Savings	9.1	12.8	13.9	
o Voluntary Savings	7.9	13.2	11.7	
Total Member Savings	18.9	28.0	28.2	

Source: KUD field survey, South Sulawesi

KUD LOANS - SOUTH SULAWESI					
CATEGORY/YEAR (Rp Million)	1991	1992	1993	1994	1995
o Trader Credit (KCK)	-	540.2	550.3	-	-
o Investment Credit	-	5,754.5	6,167.0	-	-
o Farmer Bus. Credit (KUT)	-	-	-	-	16,168.0
o Savings & Loan Unit(USP)	-	-	-	-	5,344.0
Total Credit (Trade/Invest)	-	6,294.7	6,717.3	-	-
Total Credit (KUT/USP)	-	-	-	-	21,512.0

Source: BPS (KCK and Investment Credit data)
Department of Cooperatives, Central Office (KUT and USP data)

Results of the field survey of five KUD in South Sulawesi showed the total institutional loans for the surveyed KUD amounted to Rp. 593.3 million, for an average of Rp. 118.7 million each. Most surveyed KUD cited problems accessing bank credit for investment and working capital to finance new facilities and/or business expansion. Total member loans outstanding, including savings and loan business, averaged Rp. 30.5 million per KUD surveyed. Agricultural production credit

outstanding, under member credit channeling programs, averaged Rp. 205.1 million per KUD surveyed.

b. Other business

Financial services of South Sulawesi KUD, other than credit, include collection of utility bill (297 KUD) and telephone service business (8 KUD).

c. Evaluations

1) Institutional Borrowing

Primary hampering factors to KUD business growth in South Sulawesi include: insufficient access to bank-supplied working capital (BRI, the major lender of working capital loans to KUD within the province, puts priority on rice production/ procurement, making it difficult for most KUD to source working capital for other business activities not related to paddy rice); and insufficient access to bank-supplied investment capital (BRI generally does not provide medium or long-term financing to KUD).

Possibilities for expanding South Sulawesi KUD access to institutional credit include: greater KUD contact with private commercial banks engaged in agribusiness financing (e.g. BNI, Danamon Bank, Bank Panin); expanded KUD lending and deposit business with local rural banks (e.g. KBPR, BPR) and with the regional development bank (BPD); developing banking system policies and procedures (e.g. BUKOPIN, BRI) which supply non-program specific (general) standby working capital lines of credit to KUD; and expansion of financing from private joint venture business partners.

2) Member Savings and Loans

For 1995 the savings and loan business of KUD in South Sulawesi grew to Rp. 7.6 billion, yet only represents 2.2 percent of total business volume of provincial KUD. Primary hampering factors limiting this business include: low rate of growth in member voluntary savings due to insufficient incentive and no or below market interest rates; delays in loan processing and credit releases; inadequate KUD loan supervision resulting in delinquent repayment of loans and loan losses; and failure of KUD management to see the value of growing savings and loan business as a means of serving member credit demand and generating added capital.

Possibilities for increasing capital in support of KUD savings and loan activity (USP) include: utilizing PUSKUD credit union fund program; and accelerated expansion of TPSP credit from BRI and other banks (i.e. Danamon). Possibilities for increasing member voluntary savings growth

include: paying market rates of interest on savings; introducing savings promotion campaigns; ensuring timely payment to members for interest earnings on savings; and improving timeliness of loan releases.

3) Member Credit Channeling

In spite of recent increases by BRI, the overall total volume of credit in South Sulawesi supplied by banks to farmers has declined. Primary hampering factors for KUD income growth in this business include: lack of KUD participation in loan risk; insufficient number and skills of KUD staff to provide adequate loan supervision; poor coordination between KUD, handling bank, and farmer groups; inability of KUD to adequately supply production inputs and to procure, process and market farmer members produce; and complex credit planning and approval procedures.

Possibilities for increasing South Sulawesi KUD income from member credit channeling include: KUD sharing loan risk with handling bank; improving KUD human resource skill levels in loan supervision; developing better coordination between KUD, handling bank and farmer groups in loan the loan administration; improving capacity (e.g. access to credit) of KUD to adequately supply production inputs and to procure/process/market farmer members produce; and simplify credit procedures.

D Human Resource Development and Guidance Activities in South Sulawesi

a. Present situations of education and training for officials and employees of KUD

The situation of implementation of training for employees of KUD by both Government and Cooperative Organizations in 1995 was as follows.

- BALATKOP** - 874 trainees from KUD and small enterprises were accepted in 1995 and all costs were paid by BALATKOP including 50 employees of KUD and 41 directors of KUD
- DEKOPINWIL** - Conducting training through training institute established by the assistance of Canadian Cooperative Development.
They conducted 3 training courses and received 290 persons from KUD and other cooperatives in 1994.
- DEKOPINDA** - 18 DEKOPINDA out of 23 conducted training for KUD and small enterprises. And received totally 2,539 participants. The contents of training are, basic course, cooperative management for directors, accounting system, tax filing, fertilizer distribution system for KUD, cooperative law, bylaw of KUD, methods for preparation of general meeting, poultry technology, lecture for high school students on cooperative, cooperation with state own companies, Cooperation among cooperatives and others.
- PUSKUD** - Training on clove accounting system

According to the BALATKOP of South Sulawesi, needs for training for officials and employees are as follows;

- Supervisor** - Cooperative principle, Accounting system, Financial management
- Director** - How to improve management and organization, Accounting system, Marketing business system
- Manager** - Management skills, How to operate and develop business, Savings and loan
- Employees** - Cooperative principle, Savings and loan business methods, Cooperative accounting system, Management in general

b. Situations of training and education activities in 5 KUD surveyed

Education fund has implemented at 4 KUD. One KUD has not produced surplus for four years. All of the 5 KUD surveyed has sent their officials and employees to training courses organized by BALATKOP, DEKOPINWIL, DEKOPINDA and PUSKUD in 1995. The training subjects were post harvest technology, savings and loan management, electricity service, clove administration, accounting, fertilizer distribution and business management. The need for training which raised by 5 KUD are accounting system, marketing and business diversification. They are also demanding the training facility for rice milling unit operation and maintenance,

computer accounting system and farm machinery repairment as there is a very few technical information sources in the province.

c. Situations of guidance activities in 5 KUD surveyed

In South Sulawesi, the concept of farm guidance and better living activities is adopted by some of advanced KUD although there are no specified employees or sections in charge.

However, there is no training subject concerning better living activities offered by BALATKOP or DEKOPINWIL.

The four KUD out of five KUD surveyed in South Sulawesi are providing farm guidance and three KUD are promoting better living guidance, although there are no specific section or employees in charge, the employee of KUD is engaged in guidance activities as additional works. Five KUD acknowledge the needs of both farm guidance and better living activities as service to improve welfare of members.

E Organization, Management And Business Of PUSKUD

PUSKUD of the province of South Sulawesi was established on December 12th, 1974.

Currently, besides the export of tapioca and coffee, PUSKUD is also handling the farm products such as soya beans, yellow corns and cloves, etc., the supply business of sugar, cement and feed, construction, transportation, shipping, RMU, WARTEL, service business such as the processing of cloves, the estate business of mulberry and palm oil etc., and the handling of fish, hens, goat and cows. Moreover, PUSKUD is also handling various kind of business such as the management of credit business and taxi business.

There are 536 KUD in the province, of which 415 are members and 121 are non members. The membership coverage rate among KUD stays at 77.4%.

The total number of employees is 248 persons, of which there is a general manager, 8 heads of department and 239 employees. The number of employees increased by 59 persons compare to the end of 1994, in line with the construction of branch offices.

The total assets at the end of 1995 was 81,048.6 million Rp and the own capital was 6,306.1 million Rp. The breakdowns of the total profits (Volume Usaha) of 109,245.6 million Rp. are the clove handling amount of 58,883.4 million Rp which accounts for 53.9%, and the sugar handling amount of 26,352.6 million Rp. which account for 24.1%. The total of these two accounts for 78%.