

Table 1. Proposals for professional staff recruitment and training to support rice food security program

Profession	Number needed	Local training costs, K62,500 / head	Splitting training into ten years, will cost / annum, Kina
1. Plant Breeder	2	125,000	
2. Training Specialist	4	250,000	
3. Irrigation Engineer	2	125,000	
4. Soil Scientist	1	62,500	
5. Plant Protectionist	1	62,500	
6. Sociologist/Anthropologist	1	62,500	
7. Agronomist	10	625,000	
8. Agro-Engineer	2	125,000	
9. Irrigation Agronomist	4	250,000	
10. Agro-Economist	1	62,500	
11. Post-Harvest Technologist	1	62,500	
12. Extension Specialist	10	625,000	
Total	39	2,437,500	243,750

Table 2. The area to be mobilized, seed needs, costs and sources of seed supply.

Project area	Area needed in hectares	Seed needed, tons	Seed costs, at 600 Kina/ton	Estimated Freight Charges, Kina	Initial Seed Sources
Morobe Province	2,800		224	134,400	ROC Taiwan & DAL-Erap
Central Province	700		56	33,600	DAL-Konedobui/ Beriena
East & West Sepik	600		48	28,800	DAL-Mappik
East New Britain	300		24	14,400	OISCA
Buka/ Bougainville	300		24	14,400	OISCA
Oro	200		16	9,600	ROC Taiwan & DAL-Erap
Madang	100		8	4,800	ROC Taiwan & DAL-Erap
Sub Total	5,000	400	240,000	200,000	
Total				440,000	

Seed costs divided over first five years would be K88,000 / year. Farmers will be trained to produce good seed in subsequent years.

Table 3. Five Year Costs as Relates to Fifty Extension Staff Needed to Provide effective extension.

Item Description	Unit Price /(K/ha)	Year 1 Quantity	Year 1 Costs, K/ha	Year 2 Quantity	Year 2 Costs, K/ha	Year 3 Quantity	Year 3 Costs, K/ha	Year 4 Quantity	Year 4 costs, K/ha	Year 5 Quantity	Year 5 costs, K/ha	Year 6-10 extension costs	Total Costs [K/ha]
Prefab Kit Houses	20,000	15	300,000	10	200,000	14	280,000	13	600,000	0	240,000	0	0
Land cruiser vehicle	75,000	4	300,000	3	225,000	5	375,000	2	325,000	1	75,000	0	0
Motor bikes	4,000	7	28,000	4	16,000	4	16,000	3	12,000	2	8,000	0	0
Vehicle per annum servicing costs	4,000	4	16,000	7	28,000	12	48,000	14	56,000	15	60,000	300,000	300,000
Vehicle fuel usage per annum	2,366	14	36,466	7	16,562	12	28,392	14	33,124	15	35,490	177,450	177,450
Motor bike per annum servicing costs	600	7	4,200	11	6,600	15	9,000	18	10,800	20	12,000	60,000	60,000
Motor bike fuel usage per annum	442	7	2,954	11	4,862	15	6,330	18	7,956	20	8,840	42,200	42,200
Total 1			660,000		496,804		764,722		404,520		438,930	579,650	3,343,426
Salaries per annum (K300/fortnight)	7,800	15	117,000	25	195,000	39	304,200	42	327,600	50	390,000	195,000	195,000
Incidentals, meal, camping allowances	1,200	15	18,000	25	30,000	39	46,800	42	50,400	50	60,000	300,000	300,000
Total			145,600		1,218,608		1,876,444		1,187,040		1,327,860	340,930	10,475,852

Year 6-10 will cost a total of K282,950, thus each year costs K565,930

Total 1 assumes that National Government will not pay salaries and wages for extension staff. Provinces would do that.

Table 4. Rice Based Farming Systems Related Training Courses for Technicians, Farmer Leaders and Farmers.

Item Description	Unit Price (Kina)	Year 1 quantity	Year 1 costs	Year 2 quantity/Kina	Year 2 costs	Year 3 quantity	Year 3 costs, Kina	Year 4 quantity	Year 4 costs, Kina	Year 5 quantity	Year 5 costs, Kina	Total costs
1.1. General Expenses												
Thirty student training lodge	200,000		200,000	0	0	0	0	0	0	0	0	0
Thirty student training Classroom	60,000		60,000	0	0	0	0	0	0	0	0	0
Hostel Beds	103	30	3090	0	0	0	0	0	0	0	0	0
Hostel mattresses	50	30	1500	0	0	0	0	0	0	0	0	0
Classroom Tables	105	32	3360	0	0	0	0	0	0	0	0	0
Classroom Chairs	110	32	3520	0	0	0	0	0	0	0	0	0
Sub Total 1			27170									
1.2. Fifty Technician Training Related												
Airfares to training center	400	15	6000	10	4000	14	5600	11	4400	11	4400	4400
Meal costs K300/head/month	300	15	4500	10	3000	14	4200	11	3300	11	3300	3300
Pocket allowance K20/month	200	15	3000	10	2000	14	2800	11	2200	11	2200	2200
Training course materials	100	15	1500	10	1000	14	1400	11	1100	11	1100	1100
Sub Total 2			15000		10000		14000		11000		11000	11000
1.3 Fifty Farmer Leaders Training on Station												
Airfares to training center	400	20	8000	20	8000	10	4000	10	4000	10	4000	4000
Meal costs K300/head/month	300	20	6000	20	6000	10	3000	10	3000	10	3000	3000
Pocket allowance K20/month	200	20	4000	20	4000	10	2000	10	2000	10	2000	2000
Training course materials	100	20	2000	20	2000	10	1000	10	1000	10	1000	1000
Sub Total 3			20000		20000		10000		10000		10000	10000
1.4 Ten Thousand Farmers Training on Site												
Meal allowance 100/head/month	100	2000	200,000	2000	200,000	2000	200,000	2000	200,000	2000	200,000	200,000
Training course materials	10	2000	20,000	2000	20,000	2000	20,000	2000	20,000	2000	20,000	20,000
Airfares: 5 training specialists @ sites	400	5	2000	5	2000	5	2000	5	2000	5	2000	2000
1/2 for 5 training specialists @ sites	400	5	2000	5	2000	5	2000	5	2000	5	2000	2000
Accommodation: 5 specialists @ 30 days @	400	5	2000	5	2000	5	2000	5	2000	5	2000	2000
Sub Total 4			226,000		226,000		226,000		226,000		226,000	226,000
Total Training Related Costs												
			502,170		256,000		450,000		247,000		236,000	1,521,170

Table 5b. The number of farm households, area to be mobilized, extension staff needed, production of rice and minimum value expected for year 1-10

Project area	2. Number of farm households		4. Extension staff		Year 1		Year 2		Year 3		Year 4		Year 5		Year 6-10		Expected income at 10% per ton (Millions)
	by year 5	by year 10	Year 1 area (ha)	Year 1 yield (tons)	Year 2 area (ha)	Year 2 yield (tons)	Year 3 area (ha)	Year 3 yield (tons)	Year 4 area (ha)	Year 4 yield (tons)	Year 5 area (ha)	Year 5 yield (tons)	Total area (ha)	Total yield (tons)	Total area (ha)	Total yield (tons)	
Moroto Province	15,000 - 11,200	2,000	28	550	1,120	2,240	1,680	3,360	2,240	4,480	2,800	5,600	14,000	28,000	14,000	28,000	
Meru	14,000 - 8,000	2,000	16	400	800	1,600	1,200	2,400	1,600	3,200	2,000	4,000	10,000	20,000	10,000	20,000	
Finlandia	1,500 - 1,000	400	6	150	300	600	450	900	600	1,200	800	1,600	4,000	8,000	4,000	8,000	
Moroto Pos.	300 - 600	150	2	30	60	120	90	180	120	240	150	300	750	1,500	750	1,500	
Central Province	1,400 - 2,800	700	7	140	280	560	840	1,120	1,680	2,240	3,360	4,480	14,000	28,000	14,000	28,000	
Beritaf	1,600 - 1,200	300	3	60	120	240	180	360	240	480	300	600	1,500	3,000	1,500	3,000	
Ripoi area	1,400 - 800	200	2	40	80	160	120	240	160	320	200	400	1,000	2,000	1,000	2,000	
Cade Rodney	1,400 - 800	200	2	40	80	160	120	240	160	320	200	400	1,000	2,000	1,000	2,000	
East & West Sepik	1,200 - 2,400	600	6	120	240	480	360	720	480	960	600	1,200	3,000	6,000	3,000	6,000	
Maorili	1,800 - 1,600	400	4	80	160	320	240	480	320	640	400	800	2,000	4,000	2,000	4,000	
Nuku	1,400 - 800	200	2	40	80	160	120	240	160	320	200	400	1,000	2,000	1,000	2,000	
East New Britain	1,600 - 1,200	300	3	60	120	240	180	360	240	480	300	600	1,500	3,000	1,500	3,000	
Bukal Bougainville	1,600 - 1,200	300	3	60	120	240	180	360	240	480	300	600	1,500	3,000	1,500	3,000	
Ore	1,400 - 800	200	2	40	80	160	120	240	160	320	200	400	1,000	2,000	1,000	2,000	
Maubang	1,200 - 400	100	1	20	40	80	60	120	80	160	100	200	500	1,000	500	1,000	
Total	110,000 - 20,000	5,000	50	1000	1980	3920	3000	5920	4000	7940	5,000	10,000	25,000	50,000	25,000	50,000	47,795K47.6K

1. Project areas are current and potential rice areas. Projections are based on the area not listed here would be added to the area currently being cultivated.
 2. Household number is based on each cultivator (5 ha. or more) or on cultivator only (0.25 ha. or more) which is the current practice.
 3. Crop need was based on 0.25 ha. of rice cultivator.
 4. Each extension officer is to provide extension support to 4000-10000 farmers each week (lower number of farmers for new and less developed areas).
 5. Grain yield calculated conservatively based on 2 tons/ha basis only for planning purposes. Yields are expected to be higher.
 6. Rice price pegged conservatively at current Kina value of K1000/ton. At the current Kina devaluation rate, prices are expected to increase in the future.

Table 6a. Machinery and Equipment: Proposed Sites of Location and Costs in Kina.

Machinery and Equipment	Markham valley	Finischa	Garalana	Mtprobe Post	Berigina	Riipo groa	Cape Rodney	Maprik	Nuku	Oro Province	Easi New Britain	Buka	Madingi	Total	Unit cost, Kina	Total Cost
Tractor 150 H.P.	1													1	180,000	180000
Tractor 84 H.P.	5				2	1	1	3			1	2		18	75,000	1125000
Tractor 84 H.P.	4				1	1	1	1			1	1		14	45,000	630000
4 Disc Plough	9				2	1	1	4			1	2		25	5,500	137500
15/18 Disc Harrow	9				2	1	1	4			1	1		23	6,500	149500
Reaper Harvester	34				3	2	2	3			3	4		60	3162	189120
Striper Harvester	5				3	1	1	2			2	2		21	5345	12245
Thresher/Winnower	20				3	1	2	3			2	2		39	5634	219728
Thresher	20				2	2	1	5			2	2		49	4552	146314
Winnower	20				2	3	3	5			3	4		61	2372	144692
Batch dryer	34				4	3	2	5			3	4		74	4190	310060
Single pass rice mill	2				1	2	1	3			2	2		24	22827	547848
Mill and storage shed	2				2	2	2	3			2	4		29	30,000	870000
Three phase rice mill	1													1	113736	113736
Mobile dryer	2													2	15000	30000
Power tiller	5				2	2	2	2			2	2		26	5000	140000
Total	173	21	15	10	33	22	19	43	24	25	37	32	20	459		5045743

Table 6b. Expected Machinery and Equipment Procurement Year and costs

Machinery/Equipment	Year 1	Year 1 costs	Year 2	Year 2 costs	Year 3	Year 3 costs	Year 4	Year 4 costs	Year 5	Year 5 costs	Total	Unit cost, Kina	Total Cost Kina
Tractor 150 H.P	0	0	1	180000	0	0	0	0	0	0	1	180,000	180000
Tractor 94 H.P	4	300000	4	300000	4	300000	3	225000	3	225000	18	75,000	1125000
Tractor 84 H.P	3	135000	3	135000	3	135000	3	135000	2	90000	14	45,000	630000
4 Disc Plough	5	27500	5	27500	5	27500	5	27500	5	27500	25	5,500	137,500
16/18 Disc Harrow	5	32500	5	32500	5	32500	5	32500	3	19500	23	6,500	149500
Reaper Harvester	12	37824	12	37824	12	37824	12	37824	12	37824	60	3162	189120
Stripper Harvester	5	26725	4	21380	4	21380	4	21380	4	21380	21	5345	112245
Thresher/Winnow	8	45072	7	39438	8	45072	8	45072	8	45072	39	5634	219728
Thresher	10	20860	9	26874	10	29860	10	29860	10	29860	49	2966	146314
Winnow	13	30836	12	28464	12	28464	12	28464	12	28464	61	2372	144692
Batch dryer	15	63850	14	58660	15	62850	15	62850	15	62850	74	4190	310060
Single pass rice mill	5	114135	4	91308	5	114135	5	114135	5	114135	24	22827	547848
Mill and storage shed	6	180000	6	150000	6	180000	6	180000	6	180000	29	30,000	870000
Three phase rice mill	1	113736	0	0	0	0	0	0	0	0	1	113736	113736
Mobile dryer	1	15000	1	15000	0	0	0	0	0	0	2	15000	30000
Power tiller	6	30000	5	25000	6	30000	6	30000	5	30000	28	5000	140000
Total	99	1173030	91	1168948	95	1044585	94	969585	90	911585	469		5045743

Table 7. Costs as relates to Mechanics, Technicians and tractor operators and running costs of tractors and machinery.

Item Description	Unit Price [Kina]	Year 1 quantity	Year 1 costs	Year 2 quantity	Year 2 costs	Year 3 quantity	Year 3 costs	Year 4 quantity	Year 4 costs	Year 5 quantity	Year 5 costs	Total
H/L 40 House for Head Mechanics	60,000	2	120,000	1	60,000	1	60,000	1	60,000	0	0	0
Prelab Houses for mechanics	20,000	2	40,000	1	20,000	1	20,000	1	20,000	0	0	0
Village kit houses for tractor drivers	14,000	7	98,000	8	112,000	7	98,000	6	84,000	5	70,000	0
Land cruiser vehicle	75,000	2	150,000	1	75,000	1	75,000	1	75,000	0	0	0
Motor bikes	4,000	2	8,000	1	4,000	1	4,000	1	4,000	0	4,000	0
Vehicle per annum servicing costs	4,000	2	8,000	3	12,000	4	16,000	5	20,000	5	20,000	0
Vehicle fuel usage per annum	2,366	2	4,732	3	7,098	4	9,464	5	11,830	5	11,830	0
Motor bike per annum servicing costs	600	2	1,200	3	1,800	4	2,400	5	3,000	5	3,000	0
Motor bike fuel usage per annum	442	2	884	3	1,326	4	1,768	5	2,210	5	2,210	0
Mechanics salaries/allowances per annum/K300/fortnight	7,800	2	15,600	3	23,400	4	31,200	5	39,000	5	39,000	0
Salaries and allowances for tractor operators K250/fortnight	5,000	7	35,000	15	75,000	22	110,000	28	140,000	32	160,000	0
Incidentals, meal, clothing allowances	600	7	4,200	15	9,000	22	13,200	28	16,800	32	19,200	0
Mobile workshop for site servicing machinery and equipment	30,000	2	60,000	1	30,000	1	30,000	1	30,000	0	0	0
Running and maintenance costs of tractors, machinery and equipment	100,000		200,000		300,000		400,000		500,000		600,000	0
Total	323,808		745,616		731,624		871,032		1,005,840		929,240	4,607,160

Table 8. Proposed irrigation development sites, costs, expected rice production and expected revenue

Proposed starting project areas	Proposed total Rice Area, ha	Proposed for irrigation (20%), ha	Year 1, area, ha	Year 2, area, ha	Year 3, area, ha	Year 4, area, ha	Year 5, area, ha	Year 6, area, ha	Year 7, area, ha	Year 8, area, ha	Year 9, area, ha	Year 10, area, ha	Total
Morobe Province	2,800	560	60	100	100	100	100	100	100	20			560
Central Province	700	140	20	20	20	20	20	20	20				140
East & West Sepik	600	120		10	10	10	10	10	10	20	20	10	120
East New Britain	300	60		10	10	10	10	10	10	10			60
Bukar Bougainville	300	60				10	10	10	10	10		10	60
Oro	200	40				10	10	10	10				40
Madang	100	20					10	10					20
Total Area	5,000	1,000	80	130	140	160	170	170	170	40	30	10	1,000
Cost of development, 5000/ Kina/ha			400,000	650,000	700,000	800,000	850,000	850,000	850,000	200,000			4,900,000
Cumulative irrigated area, ha (on yearly basis)			80	210	350	510	680	850	920	960	990	1,000	
Effective irrigated for production (year after development), ha			0	80	210	350	510	680	850	920	960	990	
Expected rice production, Twp crop/ year, tons				840	1,680	2,800	4,000	5,440	6,800	7,360	7,680	7,920	44,600
Revenue from paddy (K400 / ton)				336,000	672,000	1,120,000	1,632,000	2,176,000	2,720,000	2,944,000	3,072,000	3,168,000	17,840,000
Milled rice equivalent 60% recovery, tons				504	1,008	1,680	2,448	3,264	4,080	4,416	4,608	4,752	26,760
Revenue from milled rice, at (K1000/ton)				504,000	1,008,000	1,680,000	2,448,000	3,264,000	4,080,000	4,416,000	4,608,000	4,752,000	26,760,000

Note that a well developed irrigation infrastructure would last 50-100 years, with basic periodic maintenance costs only. Thus irrigation development is an investment for the future. Effective irrigated area available for production is projected from year 2 (instead of year 1 (the irrigation development period) since planting is expected to begin the year after irrigation development).

Table 9. Five-Year Management related costs, National and Sub Management Teams.

Item Description	Unit Price (Kina)	Year 1 Quantity	Year 1 Costs (Kina)	Year 2 Quantity	Year 2 Costs (Kina)	Year 3 Quantity	Year 3 Costs (Kina)	Year 4 & 5 Costs (Kina)	Total Cost (Kina)
L/H 65 Houses	80,000	3	240000	2	160000	0	0	0	400,000
Land cruisers	75,000	3	225000	2	150000	0	0	0	375,000
Vehicle fuel, per annum	2,366	3	7098	5	11830	5	11830	23660	54,418
Vehicle servicing charges per annum	4,000	3	12000	5	20000	5	20000	40000	92,000
Salary per annum	11,700	3	35100	5	58500	5	58500	117000	269,100
Fax/phone costs and installation	2,000	3	6000	2	4000	0	0	0	10,000
Fax/phone, electricity, water charges	8,400	3	25200	5	42000	5	42000	84000	193,200
Airfares per annum	1,600	3	4800	5	8000	5	8000	16000	36,800
Travel allowances per annum	672	3	2016	5	9360	5	9360	6720	15,456
Travel accommodation charges	1,920	3	5760	5	9600	5	9600	19200	52,200
Incidentals, meal and camping allowances	2,400	3	7200	5	12000	5	12000	24000	52,200
Salaries and Wages for Headquarter staff			400000		400000		400000	800000	800000
Total			970174		879290		565290	1130580	3,545,334

Area / Province managers are supposed to be in weekly contact with their extension staff and farmers and in quarterly visits to headquarters for upgrading, reporting and planning.

Year 4 and 5 costs are the same as year 3 costs, so their sum is double year 3 costs

Table 10. Ten Year Midterm Rice Program Budget, King

Item	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
Seed costs	88,000	88,000	88,000	88,000	88,000						
Extension related costs											
Overall Program Management Costs	680,800	496,804	752,722	404,620	579,650	579,650	579,650	579,650	579,650	579,650	5,812,846
Technicians and farmer training related costs	970,174	879,290	565,290	565,290	565,290	565,290	565,290	565,290	565,290	565,290	6,371,784
Post graduate training costs	532,470	256,000	250,000	247,000	238,000						
	243,750	243,750	243,750	243,750	243,750	243,750	243,750	243,750	243,750	243,750	1,523,470
Machinery/equipment costs	1,173,038	1,168,948	1,044,585	989,585	911,585	982,849	982,849	982,849	982,849	982,849	10,181,986
Mechanics/tradesmen and tractor/equipment running and maintenance costs	323,808	745,616	731,624	871,032	1,008,940	929,240					
Irrigation Development costs	400,000	650,000	700,000	800,000	850,000	850,000	2,500,000	2,000,000	1,500,000	500,000	490,000.00
Total	4,324,040	4,440,408	4,287,971	4,189,277	4,394,115	4,150,779	2,631,539	2,571,539	2,621,539	2,421,539	35,922,746

Table 11a. Rice Production statistics based on paddy price in PNG.

Input and Output items	1. Maprik	2. Nu'ku	affin	Valley]
Land Development	80	80	80	200
Seed	32	32	32	32
Planting labor costs	40	40	40	40
Basal Fertilizer	0	0	0	20
Chemical Weed Control	0	0	0	0
Hand Weed Control	80	80	80	80
Top Dressing Feertilizer	0	0	0	20
Harvesting/Cleaning costs	120	120	120	120
Pesticides/Insecticides	0	0	0	0
Less sacks K0.9/sack	18	25.2	22.5	40.5
Production costs Kina/ ha. basis	370	377.2	374.5	552.5
Average Grain yield, tons / ha.	2	2.75	2.5	4.5
Revenue as paddy, K400/ton	800	1100	900	1800
Profit based on Paddy sales	430	722.8	525.5	1247.5
Gross Margin A [Profit/costs] %	116.2	191.8	140.3	225.8

Note that all labour costs are estimated based on sweat equity of family labour

Table 11b. Rice Production statistics based on mill rice equivalent in PNG

Input and Output items	1. Maprik	2. Nuku	3. Eneabaff	4. Mad'ham Valley]
Land Development	80	80	80	200
Seed	32	32	32	32
Planting labor costs	40	40	40	40
Basal Fertilizer	0	0	0	20
Chemical Weed Control	0	0	0	0
Hand Weed Control	80	80	80	80
Top Dressing Fertilizer	0	0	0	20
Harvesting/Cleaning costs	120	120	120	120
Pesticides/Insecticides	0	0	0	0
Less sacks K0.9/sack	18	25.2	22.5	40.5
Milling costs K50/ton	100	137.5	125	225
Production costs Kina/ ha. basis	470	514.7	499.5	777.5
Average Grain yield, tons / ha.	2	2.75	2.5	4.5
Milled rice equivalent 60% recovery	1.2	1.65	1.5	2.7
Revenue as milled-rice, K1000/ton	1200	1650	1500	2700
Profit based on milled-rice	730	1135.3	1000.5	1922.5
Gross margin [Profit / Costs]%	155	221	200	247

Note that all labour costs are estimated based on sweat equity of family labour

資料 2 : 農業畜産省 2003 年度予算内訳表

247	DEPARTMENT OF AGRICULTURE AND LIVESTOCK	247
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PROJECT DOMESTIC RICE PRODUCTION AND DEVELOPMENT (247-3101-5-216)

A. Expenditure (in Thousands of Kina)

Expenditure Items	Actual	Appropriation	
	2001	2002	2003
135 Other Operational Expenses			150.0
222 Purchase of Vehicles			120.0
224 Plant, Equipment and Machinery			80.0
225 Construction, Renovation and Improvement			150.0
TOTAL			500.0

B. Other Data in 2003

- 1 Target/Performance Indicators: The Performance Indicator is increased subsistence production of rice by 40% in the rice management areas by 2006.
- 2 Footnote: The project is in support of the national food security program and is aimed at reducing the importation of rice.

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PROGRAM: TECHNICAL SERVICES

Program Objectives:

To provide technical advisory services to the minister and secretary and the stakeholders in agriculture, regarding responsibilities that have not been transferred to the industry corporations, including the management of animal and plant health, soil utilization and the operations of the agriculture information system.

Program Description:

This program is a national program covering all provinces. Technical, advisory and financial support is provided to provincial DAL's, to facilitate and rehabilitate the agriculture stations, farm, and to enhance production of various crops and livestock. Satellite farmers - villages communities with (livestock and aquaculture) benefit as too. Acquisition of machinery and equipment, including wages of staff are accounted under this project. Policy directives are implemented through this program. The program consists of one activity, the expenditure and other data of which are as follows;

PROJECT NATIONAL FOOD SECURITY PROGRAMME (247-3101-9-201)

A. Expenditure (in Thousands of Kina)

Expenditure Items	Actual		Appropriation	
	2001	2002	2002	2003
112 Wages	358.4	260.8		202.9
121 Travel and Subsistence Expenses	79.1	214.5		92.0
122 Utilities	124.2	101.0		77.0
123 Office Materials and Supplies	90.0	100.0		45.0
124 Operational Materials and Supplies	180.0	70.0		123.1
125 Transport and Fuel	85.9	95.0		69.0
126 Administrative Consultancy Fees	130.0		60.0	70.0
127 Rental of Property	180.0	225.0		89.0
128 Routine Maintenance Expenses	172.0	370.0		50.0
135 Other Operational Expenses	269.0	220.0		
136 Training	40.0	40.0		
141 Retirement Benefits, Pensions, Gratuities and Retrenchment				50.0
144 Grants to Individuals and Non-Profit Organisations	35.0	7.0		72.0
221 Office Furniture and Equipment	340.0	40.6		
222 Purchase of Vehicles	176.0	121.1		60.0
224 Plant, Equipment and Machinery	199.5	75.0		
225 Construction, Renovation and Improvement				
TOTAL	2,459.1	2,000.0		1,000.0

B. Other Data in 2003

1 Performance Indicators: Increased food production beyond 1.7% per annum to keep pace with population growth rate of 2.3% per annum. Reduced wide disparity in income distribution which exacerbate household food security problems. Increased balance of trade and minimized food import bill to solve food security problems.

3 Footnotes: The program represents a national strategy for achieving food security in PNG, framed along the general outline set out by the FAO Strategic Framework for 2010 to 2015, currently funded by PNG Government. Donor agencies could assist in the future.

資料 3 : 予算申請レター



OFFICE OF THE SECRETARY

Telephone : (675) 321 3302 / 321 4096
Facsimile : (675) 321 1387

21st February, 2003

Mr. Valentine Kambori
Secretary
Department of National Planning & Rural Development
P O Box 631
WAIGANI
National Capital District

My dear Secretary,

**RE: RE-ALLOCATION OF FOOD SECURITY PROGRAM BUDGET TO
DOMESTIC RICE DEVELOPMENT PROJECT**

You are aware that the Domestic Rice Development Project has been identified as one of the impact projects for funding under 2003 development budget and a sum of K500,000 has been appropriated. Considering the nature of the project and its implication on food security, at the national and household levels the amount is grossly inadequate to carry out meaningfully the various activities envisaged under this project.

Further, currently the project is assisted by the Japan International Cooperation Agency (JICA) and the Government through the rice development project provides counterpart funding and staff to ensure that their efforts are adequately supported. We are seeking the assistance of JICA to initiate a five-year rice development project in PNG. A study team from Japan is expected to arrive in the country in March for field evaluation.


Under these circumstances, we are proposing that a major portion of the K1,000,000 that have been appropriated for the food security program under the 2003 development budget be diverted to support the domestic rice development. We are of the opinion that such a move will boost rice production in the country, which is gathering momentum at the moment.

It is encouraging to note that our farmers have responded positively to the challenge of producing rice locally and the government is obliged to support them by all means.

If your office agrees with this proposal my department will take appropriate action to work out the details.

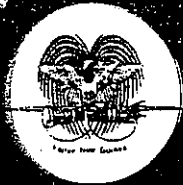
Your early response will be much appreciated.

Yours sincerely

A handwritten signature in black ink, consisting of several overlapping loops and a long horizontal stroke at the bottom.

MATTHEW WELA B. KANUA
Secretary

資料4：2KR見返り資金積み立て状況表



FOOD SECURITY BRANCH



MINUTE

TO : A/DIRECTOR - FINANCE BRANCH. DAL

FROM : A/DIRECTOR, FOOD SECURITY BRANCH

DATE : 31st DECEMBER, 2003

FILE : 1-7-10

**SUBJECT : SEPT, OCT & NOV STATEMENTS
2KR AID TRUST ACCOUNT**

The balance of funds in the 2KR Aid Trust Account as of 31st December, 2002.

A:	2KR Trust Cheque Account BSP No. 6305931	=	K 29,636.74
B.	1. BPNG Treasury Bill - Tap Issue TB01/12-02 (Settlement Price after Tax, Maturity 14/6/02)	=	K288,770.00
	2. BPNG Treasury Bill - DOT TB02/02-02-08 (Settlement Price after Tax, Maturity 09/08/02)	=	<u>K 98,036.00</u>
	Total	=	<u>K416,442.74</u>

Enclosed are copies of the following documents:-

1. Bank reconciliation for Sept, Oct and November, 2002
2. Bank statement for Sept, Oct and November, 2002
3. Certificates of Treasury Bills.

Dept. of Agriculture and Livestock is required to maintain the overall balance of the 2KR Aid Trust account at K401,445.37. This amount is the required Counterpart Fund Amount for the FOB value of 2KR fertilizers extended in 1995 by the Japanese Government to PNG as per Exchange Notes signed on 07/10/94.

S. SIVA

Copies to: A/Deputy Secretary - PATS - DAL
Deputy Secretary - Corporate Services - DAL
JICA Smallholder Support Advisor - DAL
✓ JICA, Resident Representative, PO Box 6639 Boroko
OIC Govt. Trust Accounts Dept. of Treasury PO Box 710 Waigani
Senior Advisor Japan Desk, FAMB, DPM PO Box 631 Waigani

資料 5 : マダン州稲作状況報告書



MADANG PROVINCIAL ADMINISTRATION

AGRICULTURE LIVESTOCK & FISHERIES BRANCH

Telephone 852 3371
Facsimile 852 3038

P O Box 296
MADANG 511
Madang Province

Date: 17 March 2003
Ref:

- Mr Satoshi Fujii
- Ms Kotohi Inoue

FACT FINDING TEAM

ON

RICE PRODUCTION PROMOTION COOPERATION PROGRAM IN PNG

We are privilege to receive another delegation from the Government of Japan visiting Madang Province with respect to Rice Development Program in Papua New Guinea.

We welcome your visit and value the commitment of your Country to assist us in this important food crop.

The first Technical Mission from the Government of Japan visited us on 24th – 26th October 2002. Your visit further fosters and strengthens this commitment to help us.

We thank you very much.

I have not been able to compile you a report representing the latest progress as of 2002 on Rice Development activities in the Province. I only returned to Madang last Friday evening (14 March 2003) from the Philippines on Rice Study Trip sponsored by JICA.

However, for your information, I provide you the 2002 activities and progress report on Rice Program and the copy of the 2KR Technical Mission Visit Report.

I hope these reports and the Model Farmers field visits will expose you to some of our activities.

Our implementation program basically follows the strategies and programmes set out in the 2KR Mission Report.

Thank you very much once again!

Yours sincerely


PASCHAL FERIA
Advisor

ANNUAL REPORT OF RICE DEVELOPMENT PROGRAMME IN MADANG PROVINCE

JANUARY - DECEMBER 2002

Compiled by: Mary Lilih
Provincial Foodcrops Officer

1. BACKGROUND INFORMATION

Eighty (80%) of Rural Population derive their livelihood from subsistence Agriculture (Staple Foodcrops). Rice Production Promotion Program is targeted towards Rural Family Units to produce rice as a staple crop.

It is now on its 3rd year of production. Due to price increase in imported rice, the number of farmers and production has doubled this year, which is of our advantage in rice production promotion.

2. PROGRAM GOALS AND OBJECTIVES

2.1 *National Goals:*

Develop and increase domestic rice production to cut down import replacement.

2.2 *Provincial Objectives:*

- (i). Encourage Rural Family Unit to grow rice as a staple foodcrop just like other staple crops for their home consumption.
- (ii). Encourage increasing of production for consumption and for storage towards food security in times of disaster (*Taim Hangere*) and Surplus sold for cash income.
- (iii). Collaborate with NGOs and Institutions and Agencies for promotion of rice production.
- (iv). Collaborate with NGOs, Institutions and other Agencies to purchase Rice Machineries.
- (v). Encourage formation of Rice Growers Association.

3. MAJOR ACHIEVEMENTS

3.1 *Distribution of Rice Machineries*

- (a). Distributed 4 x Rice Mills to 3 Districts:
- Bogia x 2
- Bogia Station
 - Yakiba Mama Group – Yakiba Village

Usino Bundi x 1

- Walium Station

Raicoast x 1

- Mot No. 2 Women's Group – Wab Village

Madang x 2

- PHQ Office

Note: All these Rice Mills are all in operation and are performing well.

- (b). 1 x food threshers and 1 x moisture meter have been distributed with the mills.
- ©. 1 x Hand Tractor –PHQ Madang.

3.2 **Training Programme**

- a. *Farmer Training:*
- Conducted 18 x Awareness meetings and on farm training to 500 farmers.
 - Coordinated with DAL – JICA training programme by which 11 x farmers have been trained on Rice Production at OISCA.
- b. *Officers Training:*
- 2 x Officers trained at OISCA on Rice Production.
 - 1 x Officer trained on Rice Production in Japan.
 - 1 x Officer trained on Post Harvest Rice and Rice Processing.

3.3 **Seeds Distribution:**

- a. Received 1 x Tonne TCS 10 from ROC and distributed to 5 x Districts.
- b. Received 2 x Tonnes IR10 from OISCA and distributed to:
- 6 x District Program Managers
 - 15 x OISCA Trained Farmers

- 1 x NGO Group
- 1 x High School
- 3 x farmer groups and Beon Correctional Services.

- c. Seed Distributed to:
- 1009 interested farmers
 - Farmer to farmer, not recorded
 - Other Districts not submitted the lists.

3.4 Visits:

- a. 2 x follow up visits was conducted by OISCA training team to assess the progress of farmers who were trained by OISCA.
- b. DAL-JICA Consultant Team conducted Baseline Data Survey in 2 x Districts which were:
- Madang – Lagaha and Umun Village x 20 Growers interviewed.
 - Usino Bundi – Danaru and Yakombu Villages x 20 Growers interviewed.
 - Madang Town – 20 x Rice Consumers in and around Madang Town were interviewed.
- c. First Seminar was conducted with DAL-JICA Team on 2KR Program.

3.5 1KG Plastic Packets:

5,000 pieces were purchased and printed with logo “*Magic Marasin*”.

3.6 Rice Farming Notes:

5,000 pieces were received from OISCA and are being distributed with the seeds.

3.7 Production Figures:

Progressive Status as of 2000.

a. Table 1: March – December 2000

DISTRICT	NO. OF FARMERS	PADDY WT KG	MILLED WT KG	KINA VALUE @K2/KG
Madang	53	1948.3	1394.70	K2789.40
Usino Bundi	30	4500.0	2931.80	K5863.60
Bogia	32	1917.6	1018.80	K2037.60
Sumkar	4	204.0	152.00	K304.00
Raicoast	4	674.0	440.00	K880.00
Middle Ramu	-	-	-	-
TOTAL	126	9243.9	5036.60	K11,874.00

b. Table 2: January – December 2001

DISTRICT	NO. OF FAMILIES	PADDY WT KG	MILLED WT KG	KINA VALUE @K2/KG
Madang	161	10,120.0	6,621.70	K2,789.40
Usino Bundi	69	8,882.1	5,414.90	5,863.6
Bogia	27	1,297.0	866.00	2,037.60
Sumkar	23	794.0	507.60	304.00
Raicoast	30	1,470.0	1,037.50	880.00
Middle Ramu	-	-	-	-
TOTAL	310	22,563.10	15,800.00	K28,895.40

c. Table 3: January – December 2003

DISTRICT	NO. OF FARMERS	PADDY WT KG	MILLED WT KG	KINA VALUE @K2/KG
Madang	325	23,268.0	15261.0	K30,522.00
Usino Bundi	157	7708.0	7369.0	14,738.00
Bogia	299	25431.0	15,665.5	31,331.00
Sumkar	62	3119.0	1854.5	3,709.00
Raicoast	69	1555.0	1074.5	2,149.00
Middle Ramu	1	38.5	24.5	49.00
TOTAL	913	60,756.5	41,245.0	K82,490.00

3.8 Major Constraints:

- a. Shortage of seeds supply
- b. Delay in release of Funds
- c. The running cost of Rice & Grain vehicle PAD. 129 is met by the Fees collected from rice mill.
- d. Delay in reporting system (from Districts to PHQ).
- e. Weather Pattern changes.
- f. Districts not fully involved in rice promotion.
- g. About 70% of farmers who received rice seeds planted them.
- h. Lack of spare parts like rubber roller to be found within the Country. It is expensive to get from Overseas.

3.9 Assets in stock

- a. 1 x Rice shed in good condition, however need to be repaired and old rice mills need to be removed to give plenty of space to accommodate rice coming in for milling.
- b. Need to complete renovation of Office and tools room, and install electricity into the Office.
- c. 1 x One pass polisher – Iseki model in good condition and operation.

- d. 1 x Satake 10D in good condition and operating well.
- e. 2 x Grain Cleaners – One in use and other engine not working.
- f. 2 x Micro mills, 1 at Usino Bundi District and the other at PHQ. It is in good condition but poor performance.
- g. 1 x Batch Driver, burner not working.
- h. 1 x Toyota Land Cruiser donated by DAL in good condition and is on the road.
- i. 1 x hand tractor received through 2KR Program.
- j. 1 x Plastic packet sealer.

4. MAN POWER

- 1 x Provincial Foodcrops Officer
- 1 x (JOCV) JICA Volunteer, Provincial Rice Officer
- 1 x Driver
- 2 x Rice Machine and Power Tiller Operators.

5. DISTRICT SUPPORT

- Bogia – 1 x Officer
- Madang – 1 x Officer
- Sumkar – Nil
- Usino Bundi – 3 x Officers
- Raicoast – Nil
- Middle Ramu – Nil

6. FARMERS AND OFFICERS TRAINED AT OISCA

1. Year 2001
 - .5 farmers
 - .2 Officers
- a. Raicoast District:
 - Mr Boting Bongut – Yangpela Didiman Coordinator
 - Mr Kalang Asangi – Farmer - Ayawang
- b. Usino Bundi District:
 - Mr George Gene – Officer
- c. Simbai Sub-district
 - Mr Jerome

- d. Madang District
 - Mr Dimi Lalos – Lagaha
 - Mr Peter Kaimu – Balama

- 2. Year 2002
 - 11 farmers
 - 2 Officers = 13 trained.

Madang District:

Mr Koman Dowal – Umun Village
 Mr Alex Silsil – Opi Village
 Mrs Sussan Dadau – Sisiak
 Mr Samson Itau – Officer

Sumkar District:

Mr Adelbert Kubod – Liksal
 Mr Andrew Feng – Aronis
 Mr Reynold Wagab – Barudik

Bogia District:

Mr John Gaure – Masawura
 Mr Lorrie Suarkia – Officer
 Mr John Wenko – Moro (Malala Area)
 Mr Caspar Kaukanam – Yakiba

Usino Bundi District:

Mr William Umbaria – Usino (Danaru)
 Mr John Koinari – Sausi (Yakumbu)

7. COMMENTS

1. The involvement of the Program, physical and Financial input is still executed from the Provincial Office.
2. Usino Bundi District is fully involved in Rice Promotion with up to date Quarterly Reports submitted to the Provincial Office. The other Districts are not fully involved.
3. Due to shortage of Officers, training of farmers to train other farmers would boost the production of rice.

MADANG PROVINCIAL ADMINISTRATION

AGRICULTURE LIVESTOCK AND FISHERIES BRANCH



VISIT OF 2KR JAPANESE GOVERNMENT TECHNICAL MISSION
ON RICE PROMOTION AND DEVELOPMENT

24TH - 26TH OCTOBER 2002

MADANG PROVINCE
PAPUA NEW GUINEA

1.0 INTRODUCTION – WELCOME

- 1.1 On behalf of the Madang Provincial Government and the people of Madang Province and in the interest of rice promotion and production, we express our warm welcome to each of the members of the Technical Mission, coming all the way from Japan, which now visits Madang Province.
- 1.2 Other members of the delegation are also welcome.
- 1.3 Like any other rice consuming Countries in the World, rice is a very important food crop for Papua New Guinea and Madang Province. It has been unfortunate that there had been no clear and firm direction and commitment by the Country to grow rice as an important food crop.
- 1.4 The visit of the Technical Mission from the Government of Japan is the first of its kind undertaken by a donor Country like Japan for the development of this important food crop.
- 1.5 It is not easy to immediately visualise the importance of the visit of this Technical Mission for this project. But we believe that this undertaking by the Japanese Government by way of Technical Cooperation and financial package, will create an impact on rice production.
- 1.6 The JICA Volunteers have already set some foundation to rice production in Madang Province

2.0 PROVINCIAL PROFILE

- 2.1 This section provides a very brief information on the size of the project area which is the Madang Province.
- 2.2 The land area of the Province is 28,339.0 square kilometres, but 94,000.0 square kilometres with the inclusion of the sea area.
- 2.3 The year 2000 National Census recorded a population of 362805 persons. This is 7.1% of the Papua New Guinea population. Average annual growth rate since 1980 was 2.7%. Sex ratio is 109 males to 100 females, with a density of 12 persons per square kilometre of land. Average household size is 5.7 persons.
- 2.4 The foregoing information on land area and population is summarised in Table 1.

TABLE 1. POPULATION FIGURES FROM YEAR 2000 NATIONAL CENSUS

DISTRICT	AREA SQ KM	MALE	FEMALE	TOTAL	H/HOLDS
Raicoast	2979	28832	27571	56403	9973
Madang	7020	45216	39735	84951	14390
Bogia	5370	29385	27356	56741	10198
Middle Ramu	7146	29337	28624	57961	9512
Usino Bundi	5388	21185	18781	39966	7669
Sumkar	436	35182	31601	66783	12007
TOTAL	28339	109137	173668	362805	63749

3.0 POLITICAL AND ADMINISTRATIVE STRUCTURE

3.1 As described in Table 1, the Province is divided into Six (6) administrative units of:

- Raicoast District
- Madang District
- Sumkar District
- Bogia District
- Middle Ramu District
- Usino Bundi District

3.2 Table 2 summarises the information on the Political Structure under which the administrative functions are implemented.

TABLE 2. CENSUS GEOGRAPHICAL UNITS

DISTRICT	LLGS	WARDS	CENSUS UNITS	MEMBERS & COUNCIL PRESIDENTS
Madang Provincial	Provincial Member			Sir. Peter Barter MP
Raicoast	Open Member Raicoast Astrolabe Bay Naho Rawa Nayudo*	77	284	James Yali MP (Governor) Wanas Kosi Nambera Gau Sapia Ussy Tito Salbung (EO)
Madang	Open Member Ambenob Trans Gogol Madang Urban	40	312	Alois King MP Bunag Kiup Bernard Koma David Kanagu
Bogia	Open Member Yawar Almami Yabu	91	232	John Hickey MP Paul Marika Moses Oram Joe Tola (Dep Governor)
Middle Ramu	Open Member Arabaka Simbai Josephstaal Kovon *	88	252	Ben Sembri MP Mark Bogande Kingsley Yombyomb John Sakar Humphrey Kolai (EO)
Usino Bundi	Open Member Usino Bundi Gama*	64	201	Peter Yama MP Fred Maliupa Gaka Buna Vacant
Sumkar	Open Member Karkar Sumgilbar	64	231	Mathew Gubag MP Lincoln Ireng Otto Aiye
TOTAL	19	424	1512	

* Newly approved LLGs but no elections carried out as yet.

4.0 CURRENT STATUS ON RICE CONSUMPTION

- 4.1 It is said that PNG imports 140,000.0 to 150,000.0 tonnes of rice annually at the cost of K250 to K270 million.
- 4.2 On estimate Madang Province imports around 7000.0 to 8000.0 tonnes of rice annually. This is about K17.5 million to K20 million.
- 4.3 But Trukai Rice Industry estimates 20,000.0 tonnes which can cost up to K50 million. It is a business norm that Private Companies normally do not give business information freely.
- 4.4 Rice is now being promoted as one of the most important food crop. It is part of the National Food Security and Food Sufficiency Policy Programme of the Country.
- 4.5 The recognition of the National Food Security Policy as a National concern, the creation of the Food Security Division within the National Department of Agriculture and Livestock (DAL) and the engagement of the JICA expert (Mr Odashima Noriyoshi) with the National DAL, were factors that strengthen and facilitate the involvement of Provinces into rice production as a food crop, but not for income generation at this stage.
- 4.6 In the case of Madang Province, JICA Volunteers specialising in rice cropping have been recruited to assist on rice production. The present JICA Volunteer is the third specialist who will go finish in April 2003. We have applied for a replacement volunteer.
- 4.7 The following Tables contain the information on rice promotion and production to date from 2000 to June 2002.

4.7.1 TABLE 3: MARCH – DECEMBER 2000

DISTRICT	No. of Farmers	Paddy Weight (kg)	Milled Weight (kg)	Kina Value K2.00/kg
Madang	53	1948.3	1394.70	2789.40
Usino Bundi	30	4500.0	2931.80	5863.6
Bogia	32	1917.6	1018.80	2037.60
Sumkar	4	204.0	152.00	304.00
Raicoast	4	674.0	440.00	880.00
Middle Ramu	-	-	-	-
Total	126	9243.9	5936.60	K11,874.60

4.7.2 TABLE 4: JANUARY – DECEMBER 2001

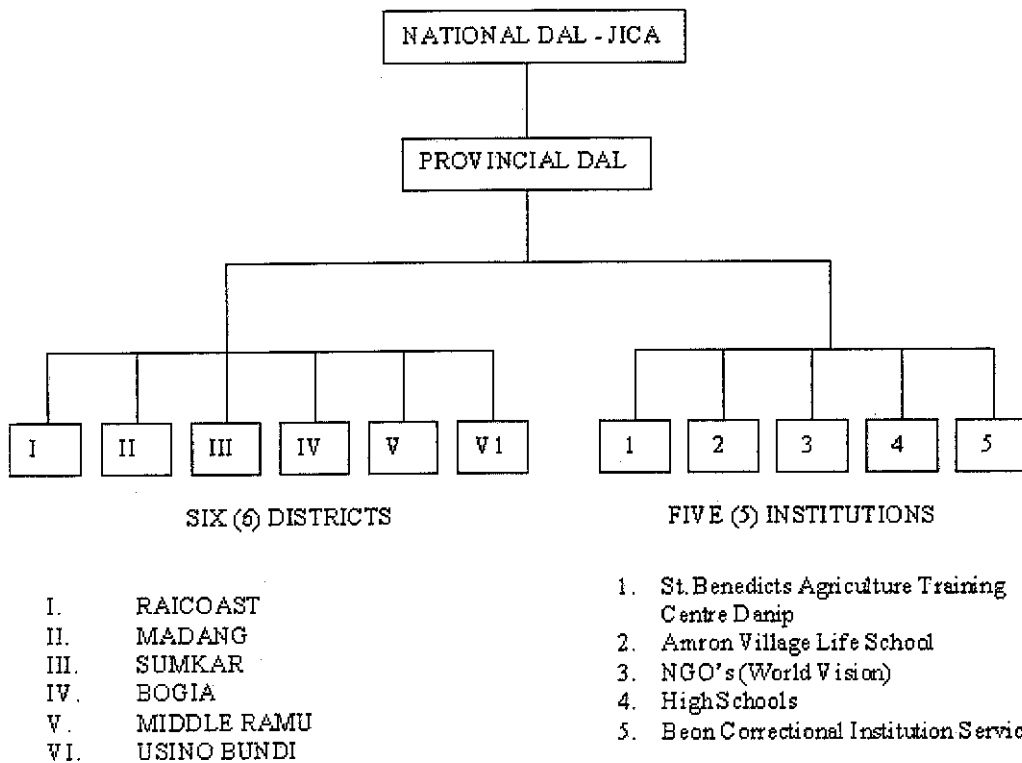
DISTRICT	No. of Farmers	Paddy Weight (kg)	Milled Weight (kg)	Kina Value K2.00/kg
Madang	161	10120.0	6621.70	2789.40
Usino Bundi	69	8882.1	5414.90	5863.6
Bogia	27	1297.0	866.00	2037.60
Sumkar	23	794.0	507.60	304.00
Raicoast	30	1470.0	1037.50	880.00
Middle Ramu	-	-	-	-
Total	310	22,563.10 22.6 tonnes	15800.00 15.8 tonnes	K28,895.40

4.7.3 Table 5: JANUARY – JUNE 2002

DISTRICT	No. of Farmers	Paddy Weight (kg)	Milled Weight (kg)	Kina Value K2.00/kg
Madang	157	8992.0	6212.0	2789.40
Usino Bundi	?	5783.0	3163.0	5863.6
Bogia	13	465.5	284.0	2037.60
Sumkar	23	1334.0	896.5	304.00
Raicoast	15	407.0	284.0	880.00
Middle Ramu	-	-	-	-
Total	208	16798.5 16.8 tonnes	10859.50 10.8 tonnes	K21,679.00

5.0 PROVINCIAL ORGANISATION STRUCTURE TO PROMOTE RICE PRODUCTION

5.1 CHART 1: NATIONAL AND PROVINCIAL DAL STRUCTURE



JICA, Provincial DAL and its relationship at the Provincial level (6 x Districts, 5 x Institutions).

- 5.2 At the National level DAL-JICA partnership will provide:
- Policy direction and advice;
 - National rice development objectives and strategies;
 - Secure and Coordinate Training bids;
 - Technical and professional advice;
 - Coordination, monitoring and evaluation;
 - Logistical support for machinery, equipment and spare parts;
 - Secure specific funding to support rice development programme.
- 5.3 At the Provincial level, the logistical framework consist of the six (6) Districts and other organisations that can form partnership and networking in rice development programme.
- 5.4 So the role and function of Provincial DAL/ALF (Agriculture, Livestock and Fisheries) is to effectively extend the duties and tasks similar to DAL-JICA partnership at the National Level.
- 5.5 Each of the Districts are sufficiently resourced with manpower, transport and funding. Rice promotion and production is part and parcel of agricultural development in a District.
- 5.6 In the Districts each district is administered through Local Level Governments (LLGs). Most Districts have three (3) LLGs, but a few have either two (2) or four (4) LLGs.
- 5.7 Development planning and priority setting are done by each of the LLGs which are endorsed and sanctioned by the Joint District Planning and Budget Priority Committee (JDP & BPC).
- 5.8 As the Districts are autonomous in District Planning and funding decision making, the option to promote rice production in Districts, looks good.
- 5.9 Thus the Provincial DAL/ALF Office becomes the Central Link to all Stakeholders to rice programme:
- Provide linkage to DAL-JICA at the National Level;
 - Provide linkage, coordination, advise, programme planning, implementation, monitoring, evaluation and reporting;
 - Provide linkage, coordination, advice, logistical support to Agricultural Institutions, NGOs, High Schools in particular and other interested groups like BEON CIS, Women and Youth Groups;

- The greater part of the management responsibility of the Provincial Office is to the Smallholder rice farmers. This networking is established through the training of model farmers who form the contact farmers network. This network is described in Charts 2, 3 and 4.

CHART. 2 DISTRICT STRUCTURE

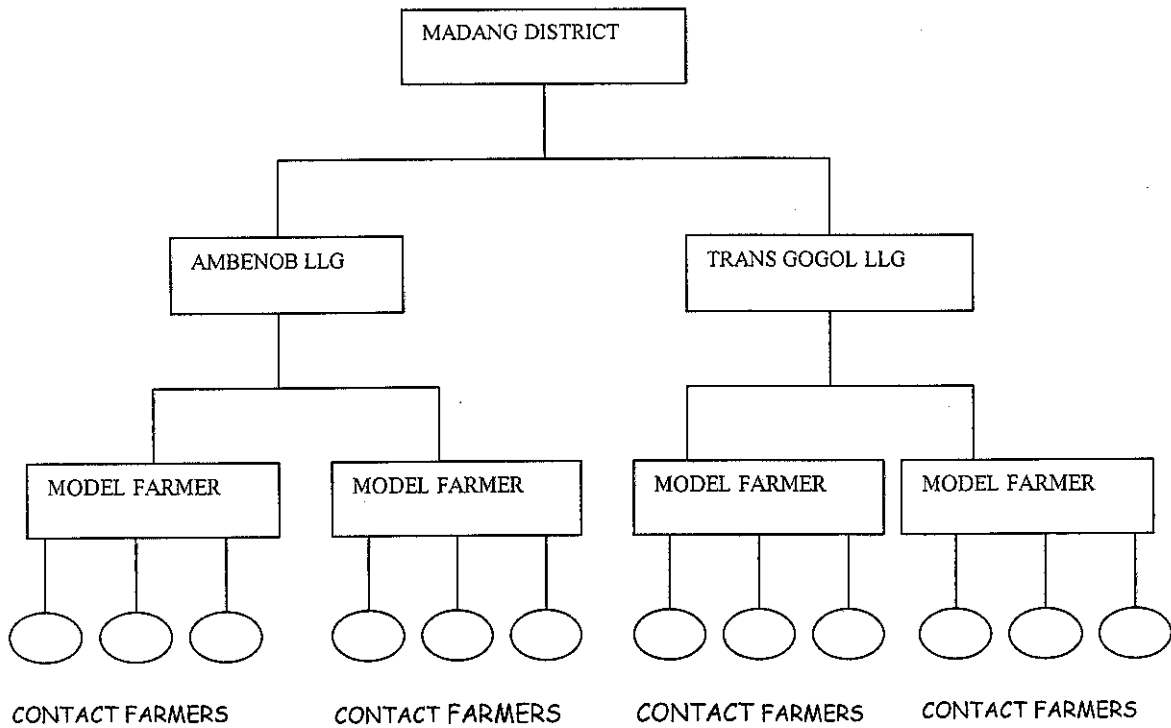


CHART. 3 RICE FARMERS ASSOCIATIONS

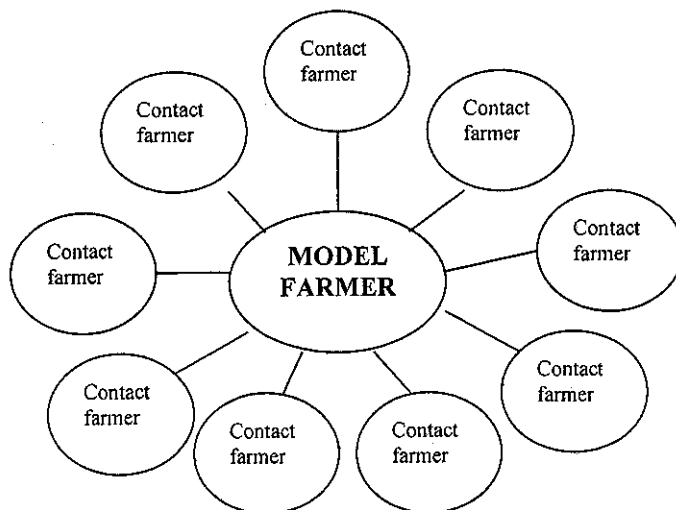
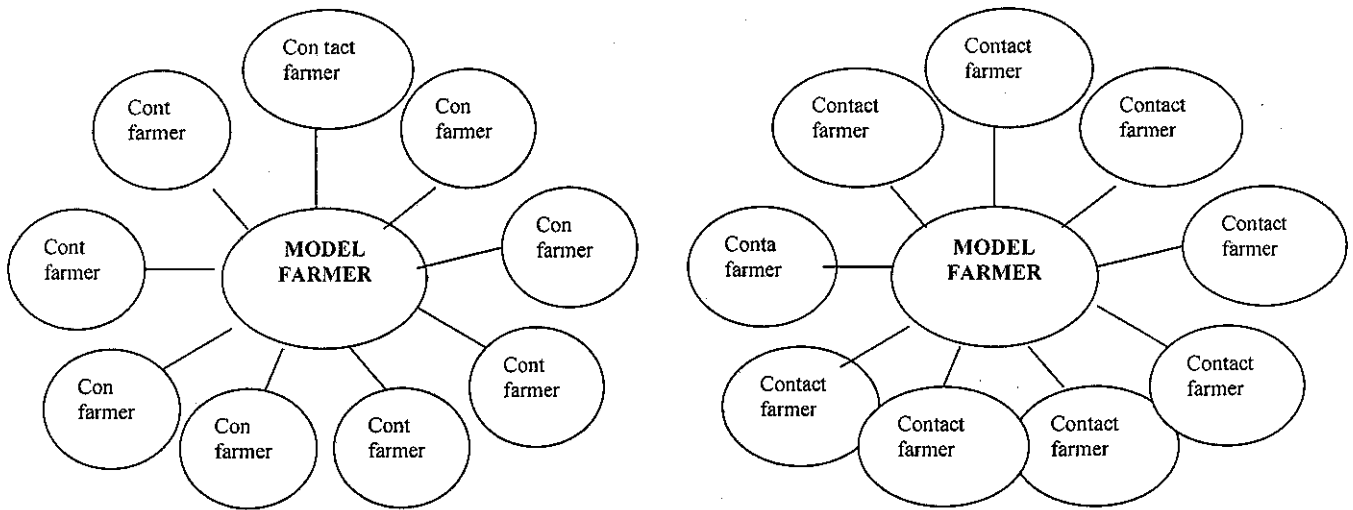


CHART. 4 RICE FARMERS COOPERATIVE



- In short the Provincial DAL/ALF Office must provide a strong linkage, coordination, logistical support, monitoring, advice, evaluation and reporting. Planning is done as a joint effort.

5.10 The training of Model Farmers commenced in 2001. It has been done at OISCA-ECHO-TECH Training Centre in Rabaul for One (1) month period:

- In 2001 – 5 x Farmers and 2 x Officers
- In August 2002 – 6 x Farmers
- In October 2002 – 5 x Farmers and 2 x Officers
- More to be trained in 2003, and the programme ends.

6.0 PROVISION OF EXTENSION SERVICES

- 6.1 Presently rice promotion and production programme has been strongly supported, supervised and monitored from the Provincial Head Quarters.
- 6.2 This has been done by the Provincial Food Crops Officer and JICA Volunteer rice specialist.
- 6.3 The donation of a Landcruiser, PAD 129 by DAL in 2000 was a great boost to rice development programme in the province.

- 6.4 Districts have been doing their best to do extension work on rice promotion and production, but have been handicapped by lack of funding for extension work, lack of transport or unreliable state of transport arrangements. All districts have been and are working under difficult situation. But this is the way things are now.
- 6.5 The main constraints in the provision of effective Extension Services are manpower shortage, lack of transport and lack of funding by Districts in particular.
- 6.6 But we are confident that the situation will change for the importance of producing rice locally. Through effective and constant management strategies of communication, contact, awareness, cooperation and collaboration with the interested parties will bring about this change. This provincial network must be strengthened, maintained and active.
- 6.7 If there is a will, there must be a way principle.

7.0 PURCHASE AND DISTRIBUTION OF RICE MILLS AND EQUIPMENT

- 7.1 Agriculture, Livestock and Fisheries (ALF) Branch bought 1 x Iseki Rice Mill and two (2) Micro Mills from Philippines with funds appropriate in the Provincial Annual Budget.
- 7.2 In 2001 ALF Branch received 5 x sets Satake 10D Rice Mills, Six (6) sets of Foot Threshers and six (6) sets of Moisture Meters as donations from the Embassy of Japan in Port Moresby. JICA assisted with 1 x Satake Rice Mill 10D, 2 x Foot Threshers and 2 x Moisture Meters included with the above total.
- 7.3 It may be noted as an information that the Satake Rice Mills manufactured in Indonesia for the Japanese Firm, seemed to lack workmanship and efficiency. We experience some problems with those Rice Mills.
- 7.4 In August 2002, a Hand Tractor (Power Tiller – Kubota) a Paddy Wheel were received under the 2KR Counterpart Funding as a JICA support equipment. The Madang Provincial Government need to pay its contribution of K20,000.00 into the 2KR Trust Account No. 201 006 305931 already opened at the Boroko Branch of PNGBC/BSP.
- 7.5 The following Table summarised the Machinery and equipment distribution list.

TABLE 6. MACHINERY EQUIPMENT DISTRIBUTION

DISTRICT	RAICOAST	MADANG	SUMKAR	BOGIA	MIDDLE RAMU	USINO BUNDI
ISEKI	-	1	-	-	-	-
SATAKE	1	1	-	2	-	1
MICRO MILL	-	1	-	-	-	1
HAND TRACTOR	-	1	-	-	-	-
FOOT THRESHERS	1	2	-	2	-	1
MOISTURE METRE	1	2	-	2	-	1

Note: The Iseki Rice Mill has been moved from location to location, milling rice on production site. This is the case with Sumkar District. Middle Ramu has yet to start.

8.0 MANAGEMENT OF FARM MACHINERY

- 8.1 ALF Branch employs a qualified mechanic. He is now recognised by the Madang Provincial Administration (through the Provincial Administrator) that he maintains all Administration vehicles for general servicing, repairs and maintenance.
- 8.2 The mechanic now maintains also all the rice mills (5 x Satake, 1 x Iseki and 2 x Micro Mills plus foot threshers). The mechanic is called upon by Districts for any mechanical help.
- 8.3 We have applied through JICA for the Mechanic to be given a scholarship to do a course on Rice Mill repairs and maintenance in Japan. He was already interviewed by JICA Port Moresby Office. We await the outcome of the application.
- 8.4 All major machinery like tractors and other equipment be held and controlled from the provincial office. Only small machinery like Hand Tractor will be distributed to Districts and Model Farmer Groups. This is necessary to cut down costs on operations, spare parts and proper use of machinery and equipment.
- 8.5 District DAL/ALF Programme Manager will have the overall control and monitoring of machinery and equipment distributed to Districts and Model Farmers.
- 8.6 The concept of collecting rental charges for the use of farm machinery and equipment cannot be applied across the board and instantly. Such a requirement has to evolve with time and circumstances. Any immediate enforcement of the concept will certainly have a negative effect on rice production efforts.
- 8.7 Initially more rice production be encouraged and revenue be raised from rice milling fees. This be contributed towards the 2KR Counterpart Funding requirement.

- 8.8 It is certainly inevitable that initially Counterpart Funding for machinery and equipment may have to come from the Government, LLGs, Provincial or the National Government or as a joint commitment. It requires direct funding through the Annual Budget Appropriation.

9.0 2KR FUNDING OF MACHINERY AND EQUIPMENT

9.1 *Non 2KR Funding*

- 9.1.1 The Madang Provincial Government funded for the purchases of 1 x Iseki Rice Mill and 2 x Micro Mills from the Philippines.
- 9.1.2 National Department of Agriculture and Livestock donated a Landcruiser PAD. 129 through donor assistance.
- 9.1.3 The Embassy of Japan in Port Moresby donated 4 x Satake 10D Rice Mills, 4 x Foot Threshers and 4 x Moisture Meters.
- 9.1.4 JICA donated 1 x Satake 10D Rice Mill, 2 x Foot Thresher and 2 x Moisture Meters.

9.2 *2KR Machinery and Equipment*

- 9.2.1 The first 2KR Counterpart Funding machinery and accessories, a motorised Hand Tractor and Paddy Wheel were received in August 2002.
- 9.2.2 Madang Provincial Government has yet to deposit/pay K20,000.00 into the Bank Account Number: 201 006 305931 as Counterpart Funding for the Hand Tractor and accessories.
- 9.2.3 Claims were submitted to Provincial Treasury to draw out K20,000.00 from the K54,000.00 2002 Budget Appropriation to purchase 3 x new Rice Mills for the Province. It is better to draw the full K54,000.00 and be paid into the 2KR Account, if there is no cash-flow problem.
- 9.2.4 A Financial Instrument be effected by Finance, Budget and Revenue Branch to effect this change of scope.
- 9.2.5 The 2KR Machinery and equipment on request are the following:
- 1 x Iseki Rice Mill
 - 1 x Tractor and implements
 - 10 x Hand Tractor and accessories
 - 1 x Irrigation Pump
 - 1 x Rotovator

10.0 BUDGET APPROPRIATION

10.1.0 Non 2KR Budget Appropriation

10.1.1 The Madang Provincial Government made the following appropriations over the years on rice programme. These were for recurrent activities.

10.1.2 Recurrent:	1997	- K8000.00
	1998	- K3000.00
	1999	- K1100.00
	2000	- K8300.00
	2001	- K8000.00
	2002	- Nil

10.1.3 Projects:

1998	- K25,000.00	(Purchase of 1 x Iseki Rice Mill)
1999	- K10,000.00	(Purchase of 2 x Micro Mills)
2002	- K54,000.00	(Purchase of 3 x Iseki Rice Mills)
2002	- K20,000.00	(Rice Mills Installation).

10.2.0 2KR Budget Estimates

10.2.1 The rice development budget estimates will be prepared and submitted as part of the Annual Government Budget.

10.2.2 This budget estimates will be submitted for five (5) years period from 2003 to 2007.

10.2.3 The budget estimates will be in two (2) parts:

- One part is for the recurrent operational costs, such as extension patrols, duty travels, fuel cost, vehicle servicing and stationeries.
- The other budget component is for projects. In this situation it will be the 2KR Counterpart funding for Machinery tools and equipment.

10.2.4 It is inevitable that the Madang Provincial Government would be obliged to fully meet the 2KR Counterpart Funding cost of all the machinery and equipment supplied through the programme.

10.2.5 The funding be done through the annual budget appropriation.

10.2.6 It is estimated that the total cost of all the machinery and equipment, landed Madang from Japan is K350,000.00.

1 x Iseki Rice Mill	- K 25,000.00
1 x Tractor	- K100,000.00
1 x Plough	- K 10,000.00
1 x Rotovator	- K 10,000.00
10 x Hand Tractors	- K200,000.00
1 x Water Pump	- <u>K 5,000.00</u>

TOTAL = K350,000.00

10.2.7 The K350,000.00 is the total Counterpart Funding expected.

10.2.8 But the K350,000.00 be contributed over a period of three (3) years. Therefore annual contribution is at K117,000.00. This is for the period 2003, 2004 and 2005 respectively.

10.2.9 The Counterpart Funding will become a revolving fund which Madang can use to buy new or replacement machinery and equipment.

10.2.10 Once the K350,000.00 is fully paid, the K350,000.00 will be reimbursed or put back into the Bank Account No. 201 006 305 931 opened for Madang Province.

10.2.11 However, the amount could be at K370,000.00. K20,000.00 for the Hand Tractor received in August 2002 has yet to be paid.

10.2.12 ALF Branch will do all it can to collect rental fees for the use of machinery and equipment from the users.

11.0 PROVINCIAL RICE DEVELOPMEN PLAN

11.1 This rice promotion plan is for five (5) years (2003 – 2007).

11.2 The production target is set on milled rice in metric tonnes:

<u>YEAR</u>	<u>TONNES</u>
2003	50.0
2004	100.0
2005	150.0
2006	200.0
2007	250.0

11.3 Other details of the plan were set out in Tables 7, 8, and 9 respectively.

Table 7. LAND AREA (HAC) AND PRODUCTION (TONNES)

YEAR	AREA	SEED REQUIREMENT	PADDY PRODUCED	MILLED RICE	KINA VALUE K2/KG
2003	33.75	1.022	67.50	50.00	100,000.00
2004	67.50	2.025	135.00	100.00	200,000.00
2005	101.25	3.03	202.50	150.00	300,000.00
2006	135.00	4.05	270.00	200.00	400,000.00
2007	168.75	5.06	337.50	250.00	500,000.00

Table 7. Specifies number of rice farmers / households to be engaged per year by province and per districts to produce rice as specified in the five (5) year plan

Table 8. NUMBER OF FARMERS TO BE INCLUDED EACH YEAR

YEAR	PROVINCIAL	RAI COAST	MADANG	SUMKAR	BOGIA	USINO BUNDI	MIDDLE RAMU
2003	250	20	100	40	40	50	?
2004	500	40	200	100	60	100	?
2005	750	50	350	100	100	150	?
2006	1000	70	450	120	110	250	?
2007	1250	100	500	150	150	300	?

- Note:
- Middle Ramu remains uncertain at this stage due to lack of logistical support and management and extension arrangements. It is one of the highly potential areas due to the Ramu Valley plains.
 - In this plan each farmer / household is expected to farm 0.27 hectares instead of the prescribed 0.10 hectares per farmer.
 - Table 8. Does not include training and educational institutions. Their need will be accommodated, as they will be partners in rice production.

RICE SEED PRODUCTION

Table 9 outlines the target for rice seed production to supply seeds to the targeted rice farmers during the planned period.

Table 9. RICE SEED PRODUCTION TARGET (IN TONNES)

YEAR	ANNUAL TARGET	PRODUCERS			
		DANIP	ALF USINO	P. KAIMU	AMRON
2003	1.012	0.40	0.60	0.20	-
2004	2.025	0.80	0.60	0.20	0.40
2005	3.030	1.00	1.00	0.40	0.80
2006	4.050	1.50	1.50	0.40	0.80
2007	5.060	2.00	2.00	0.40	0.80

- Note:
- Other institutions and model farmers be assisted to produce rice seeds.
 - But DAL and NARI should play this role to control seed quality.

11.4 The production increment of 50.0 tonnes per year may not seem to justify the use of 2KR Machinery and equipment. However, as the programme is new, it is wise to set the plan with caution.

12.0 CONCLUSION

12.1 With the conclusion of this presentation on rice promotion and development for the province, we take this opportunity to put these requests to the Technical Mission for noting:

The present JICA Volunteers on Rice Programme is going finish in April 2003. A replacement rice specialist volunteer is needed.

We would be very grateful if the application for sponsorship of our mechanic to undergo a mechanical training on rice machinery and equipment in Japan.

The application is with JICA. The applicant Mr Maskulan Gubag was already interviewed by PNG JICA Office. We now are awaiting the outcome of the application.

Presently the OISCA-ECHO-TECH Training Centre is in Rabaul, serving farmers mostly from the New Guinea Islands Region. It is cost effective and convenient for farmers in the New Guinea Islands Region.

It is hereby suggested that a similar Institution be considered for the Mainland (MOMASE & HIGHLANDS) Regions. Madang is ideal as it is centrally located. The training programme can be incorporated with St. Benedict's Agricultural and Technical Training Centre – Danip.

- 12.2 Madang Province wishes the members of the Technical Mission a safe and a successful visit and consultation.


PASCHAL FERIA
Advisor

For Promotion and Development

資料 6 : 調査団調査報告メモ

**JICA Fact Finding Team for Rice Production Promotion Program
(March 15, 2003 ~ March 22, 2003)**

1. Findings

- (1) Promotion of producing rice is highly relevant to the PNG's national agricultural policy as well as farmers' needs.
- (2) In some areas, rice production is practiced among small sale farmers by the efforts of several organizations concerned.
- (3) Seed production for the extension of rice production has already began and seed has been distributed to farmers.
- (4) Some measures to promote rice production are taken under the government policy.
- (5) In advanced provinces in rice production, such as Madang province, the modality of rice production promotion for small scale farmers is set up, although it should be strengthened.
- (6) At present, some farmers are aware of the advantage of producing rice.
- (7) The number of technical personnel with adequate experience for rice cultivation is quite limited.
- (8) Facility for promotion of rice production in the village level is not adequate.
- (9) There are differences among provinces in their progress in formulating the system for rice production promotion.
- (10) Budget allocation for rice production promotion is not adequate.
- (11) The region-wise and time-wise strategy of rice production promotion is not planned well both at the national and local government levels.
- (12) Coordination and collaboration of organizations concerned have not been

considered well.

- (13) Currently, plant diseases and pest are not serious. However, it is afraid that rice would be damaged by diseases and pest in the future, which might discourage farmers.

2. Issues to be clarified

- (1) Seed supply system
- (2) A total amount of budget allocated for rice production promotion.
- (3) Precise strategy of rice production promotion, including PR to small scale farmers.
- (4) The plan of personnel assignment for rice production promotion in national and local levels.
- (5) The plan of coordination and collaboration of concerned organizations, such as donor agencies, and their respective roles and responsibility.

3. Expected framework of JICA project (tentative)

- (1) Overall goal
Small scale farmers in target areas and surrounding areas adopt and practice rice production.
- (2) Project purpose
Sustainable model of subsistence rice production for small scale farmers is established in target areas.
- (3) Output
 1. Subsistence rice production technique suitable for small scale farmers is established.
 2. The farmer to farmer extension of rice production technique is conducted.

End