

Annex 6.1.6-1 Summary Profiles of Select Agro-Processing Enterprises using JICA Target Crops

Company	Description	Products	Distribution	Features	Needs
Agrofrut (Urucura, AM) Mr. Manoel Braga Paes Ph: 571-1110	Specialty guarana cooperative (buy 40T seed/yr)	Guarana grain and high quality powder	Export 5T powder to Italy; 35T grain sold to Ambev and Recofarme	Export demand is doubling every yr (Italian customer pays 12R/kg for seeds); Farmers achieve high quality through uniform harvesting and roasting techniques	Training in business mgmt., accounting, quality control; Int'l marketing skills; - English/Italian language skills; May expand into fruit pulp business
Fazenda Bom Viver (Maues) Mr. Abraham Levy Ph: 542-1318	Small guarana processor and trader; buys 20-30T/yr	Guarana grain, powder, syrup, bars; Mirata syrup; sells "kit" with both syrups and guarana powder (good for 10 servings)	100% Amazonas	Guarana purchases are declining; processed products are well known only locally; not a serious processor	Improve quality of packaging and labeling; Regional marketing; Wants Maues lab to certify guarana purity
AgroRisa (Maues) Mr. Rivaldo goncalves de Araujo Ph: 9984-5463	Medium-size guarana trader, processor, exporter	Mainly powder, also syrup and bars; Makes high quality powder from Satere Indian guarana for export	Exports 5-10T powder to Italy; most other products sold within Amazonas or Mato Grosso	Has developed close relationship with Satere Indian tribe and Italian importers (they pay 50-100R/kg for powder); Has high quality packaging and labeling; exhibits in int'l food fairs	Wants to expand export business; Looking for business partners (Agrofrut?)
Guaran'apis (Itubera, BA) Dr. Luciano Orrico de Araujo Ph: 073-256-2370	Medium-large guarana processor; Has nationally recognized product lines (Arrebite, Rio Amazonas, Ligante, Enerbite)	Export quality powder; Concentrated energy drinks based on guarana and other natural extracts such as marapuama, ginger, catuaba, honey, and vitamins C and E; energy capsules based on guarana and vitamins	Sells high quality powder to Europe (Spain, Switzerland); All other drink products well distributed throughout Brazil; Quantities not known but yearly seed requirement is >50T	Have their own guarana farm for 50% of their needs; pay other suppliers a premium for high quality seeds; Processing plant is modern and well managed; food safety principles are in place; Packaging is high quality	Expansion of factory to meet rising demand; training of staff in food safety principles; development of new product lines; food technology support to achieve higher production efficiency
Fruityba (Itubera, BA) Fax: 073-256-2479	Small guarana processor with export capacity	Powder, syrup, and concentrated energy drinks; Powder for export is instant powder mixed with catuaba, ginger, and muirapuama	50% sold in Rio and Sao Paolo, 40% in other States, 10% exported to Italy and USA; buys an estimated 20T of seed	Very high quality packaging and labeling; is one of few processors of INSTANT guarana powder; has s	Assistance with export documentation; food safety training for staff; marketing assistance; English language assistance
Guarana Emporium (Botafogo, BA) Mr. Jose Marcos Fochi Ph: 021-2869161	Medium size guarana processor and leading trader; products have trade name "Guarana Emporium"	Sell seeds to Marubeni and Nestle; sell extract and powder to regional and int'l markets; buy 200T seeds/yr, process 50-80T	Many years experience selling Bahia guarana to Rio and Sao Paolo traders; processed products sold all over Brazil; some experience selling to USA and Portugal	Have considerable trading experience with contacts in Bahia, Amazonas, Rio, and S.Paolo; processed products are high quality; have internet marketing, also exhibit in int'l fairs	Despite their sophistication and high product quality, are having difficulty maintaining export sales; exports peaked 3 yrs ago and have been declining; need marketing and promotion support abroad
CAMTA-Mixed Agric. Coop. Of Tome Acu (Para) Mr. Hitoshi Saiki Ph: 091-734-1319	Large size cooperative which produces and processes tropical fruits;	Produce 2000T frozen fruit pulp, mainly cupuacu, maracuja, acai	Sell to distributors in Para, Maranhao, Tocantins, Goiania, Minas Gerais, and Brasilia; sell to food companies in Rio and S. Paolo	Have doubled their sales since 1997; success is mainly due to high quality pasteurized product, and ability to process over 10 kinds of fruits; have highly effective distribution network	Need assistance in food safety and good manufacturing practices; Have hired marketing assistant to find export markets, but want more help in finding European buyers
SUCASA (Castanhal, PA)	Large fruit processing company with significant marketing and export experience	10 kinds of frozen fruit pulp (acai, acerola, pineapple, graviola, murici, cupuacu, etc.) for local markets – new export contract for 20T to France; 16T/mo. concentrated juice (acerola, maracuja) export to Europe	Demonstrated success for pulp in Brazil markets (Belem, Rio, Sao Paolo) and juice in Europe markets (France, Spain); now trying to market new energy drink (acai + guarana) in USA	Success due to very high quality from pasteurization and much attention to food hygiene; started by successful selling to important Brazilian firms (Yakult, Citrovita, Rio Dourado), then moved to export markets	Seeking more financing from BASA for expansion and equipment upgrades; already invested several million in labs alone; operating only at 50% capacity; need to make deals in Portugal and Italy for juices

Source: Personal interviews with the enterprises, May- July 2001

Annex 6.1.6-2 Significant Research and Background Articles in Processing, Distribution and Marketing of Guaraná, Tropical Fruits and Vegetables (1/3)

Guaraná Processing	
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3.	SOUSA, N.R.; NASCIMENTO FILHO, F.J. do; CRAVO, M. da S; ATROCH, A.L. Variation of the caffeine level in Guaraná's clonal germoplasm (<i>Paullinia cupana</i> var. <i>sorbilis</i>). In: SYMPOSIUM OF GENETIC RESOURCES FOR LATIN AMERICA AND CARIBE (SIRGEALC). Brasilia, DF, 21 st to 26 th of November 1999. Summaries. Brasilia, 1999. CD-ROM.
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13.	SILVA, A.F. da; AZEVEDO, E. dos S.; GUERREIRO, F. de M.; SOUZA, G.N. de P. e; CHAGAS, V.R. das Powdered guaraná. Manaus: SEBRAE-AM, 1989. 43p. (SEBRAE. Amazon State Opportunity Investment Studies. Small Production Units, 10). FOL5566.
14.	TEIXIERA, S.M. Guaraná market study. In: SIMPOSIO BRASILEIRO DO GUARANÁ, 1., 1983, Manaus. Anais... Manaus: EMBRAPA-UEPAE Manaus, 1984..p.157-177.
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16.	TORREZAN, R. et al. Home processing of fruits manual. Riio de Janeiro: Embrapa-CTAA Manual. 2000. 30 p.
17.	EMBRAPA-CTAA. Use of banana husks for processing into flour. Rio de Janeiro: Technical Document #34. 1999. 16 p.
18.	EMBRAPA-CTAA. Home processing of jellies. Rio de Janeiro: Technical Document #22. 1997. 15p.
19.	EMBRAPA-CTAA. Processing of maracuja jelly. Rio de Janeiro: Technical Communication #31. 1998. 4 p.
20.	EMBRAPA-CTAA. Reduction in the viscosity of processed acerola pulp. Rio de Janeiro: Technical Document #31. 1998. 31 p.
21.	EMBRAPA-CTAA. The processing of conserved acai heart ot palm. Rio de Janeiro: Technical Communication #28. 9 p.
22.	EMBRAPA-CTAA. Guidance for the civil construction of food processing plants. Rio de Janeiro: Technical Document #35. 28 p.
23.	NOGUEIRA, R.I. et al. Manual for the processing of “bananada”. Rio de Janeiro: EMBRAPA-CTAA. Technical Document #9. 27 p.
24.	RODRIGUES, H. da R. Manual for labeling of food products. Rio de Janeiro: Embrapa-CTAA. 1999. RODRIGUES, F.M. Farm to market production chain for cupuacu in Presidente Figueiredo. Manaus: SEBRAE-AM/Embrapa-CPAA. 2001. 25 p.
25.	EMBRAPA-CPAA. Farm to market production chain for cassava in Amazonas. Manaus: SEBRAE Edition. 1999. 31 p.
26.	SEBRAE-AM. Production of frozen acai pulp. Manaus: Business Profiles Series. 2000. 53 p.
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2.	NASCIMENTO, E.F. do et al. Minimally processed vegetables: marketing and production. Brasilia: Emater-DF. 2000. 53
3.	LANA, M.M. et al. Handling and marketing of vegetables. Brasilia: Embrapa-SPI/Embrapa-CNPH. 1998. 54 p.
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Annex 6.1.7-1 Bibliography (1/2)

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Annex 6.1.7-1 Bibliography (2/2)

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Annex 7.1.5-1 Comparison of Aquaculture Activity among 27 States of Brazil.

Region and State	Basic data gathered from each state						Analysis		
	Production (ton)		Number of producers		Total area (ha)		Average	Productivity	
		%		%		%	pond area (ha/producer)	per ha (ton/ha)	per producer (ton/prod.)
North Region	4,752	4.1 %	4,319	4.4 %	3,014	3.8 %	0.70	1.58	1.1
Rondonia	1,412		646		404		0.63	3.50	2.2
Acré	900		2,500		1,411		0.56	0.64	0.4
Amazonas	814		222		183		0.82	4.45	3.7
	(For justification of data of the Amazonas State, see text)								
Pará	803		449		502		1.12	1.60	1.8
Roraima	600		300		373		1.24	1.61	2.0
Tocantins	153		91		70		0.77	2.19	1.7
Amapá	70		111		71		0.64	0.99	0.6
Northeast Region	26,420	22.9 %	5,067	5.1 %	20,951	26.6 %	4.13	1.26	5.2
Bahia	8,070		4,318		15,195		3.52	0.53	1.9
Ceará	7,257		158		1,059		6.70	6.85	45.9
Rio Grande do Sul	4,304		65		1,388		21.35	3.10	66.2
Pernambuco	1,910		65		599		9.22	3.19	29.4
Sergipe	1,703		177		420		2.37	4.05	9.6
Piauí	1,496		130		1,520		11.69	0.98	11.5
Paraíba	1,166		21		434		20.67	2.69	55.5
Maranhão	409		87		294		3.38	1.39	4.7
Alagoas	105		46		42		0.91	2.50	2.3
Central-West Reasion	5,792	5.0 %	1,795	1.8 %	2,099	2.7 %	1.17	2.76	3.2
Goiás	3,442		675		642		0.95	5.36	5.1
Mato Grosso do Sul	1,500		421		863		2.05	1.74	3.6
Mato Grosso	634		525		535		1.02	1.19	1.2
Brasília	216		174		59		0.34	3.66	1.2
Southeast Region	21,800	18.9 %	17,804	18.0 %	5,588	7.1 %	0.31	3.90	1.2
São Paulo	15,830		5,827		2,661		0.46	5.95	2.7
Rio de Janeiro	4,500		335		984		2.94	4.57	13.4
Espirito Santo	970		1,242		710		0.57	1.37	0.8
Minas Gerais	500		10,400		1,233		0.12	0.41	0.0
South Region	56,635	49.1 %	69,672	70.6 %	47,142	59.8 %	0.68	1.20	0.8
Santa Catarina	22,650		23,244		11,303		0.49	2.00	1.0
Rio Grande do Sul	17,448		24,381		27,676		1.14	0.63	0.7
Paraná	16,537		22,047		8,163		0.37	2.03	0.8
Total	115,399	100.0 %	98,657	100.0 %	78,794	100.0 %	0.80	1.46	1.2

Source: Valenti, W. C. (ed.) Aquicultura no Brasil, Ministerio da Ciencia e Tecnologia, Brasilia, 2000

Annex 7.1.5-2 Photographs in Relation to Fish Farms



F-1 Raceway-type nursery tank for surubim, Project Pacu



F-2 Development of aquaculture pond by Agropeixe LTDA



F-3 A special vessel deployed with hatchery, Amazonas Ecopexie LTDA



F-4 Inside of the left



F-5 Net cage culture of pirarucu in Iranduba, Amazonas Ecopexie LTDA



F-6 Small-scale net cage of EMBRAPA, Lago do Arianzinho, Iranduba



F-7 Private net cages of Rio Urubu, Itacoatiara



F-8 Private net cages of Lago do Puraquequara, Manaus

Annex 7.1.5-3 Feasibility of surubim culture in Mato Grosso Do Sul

Basic condition

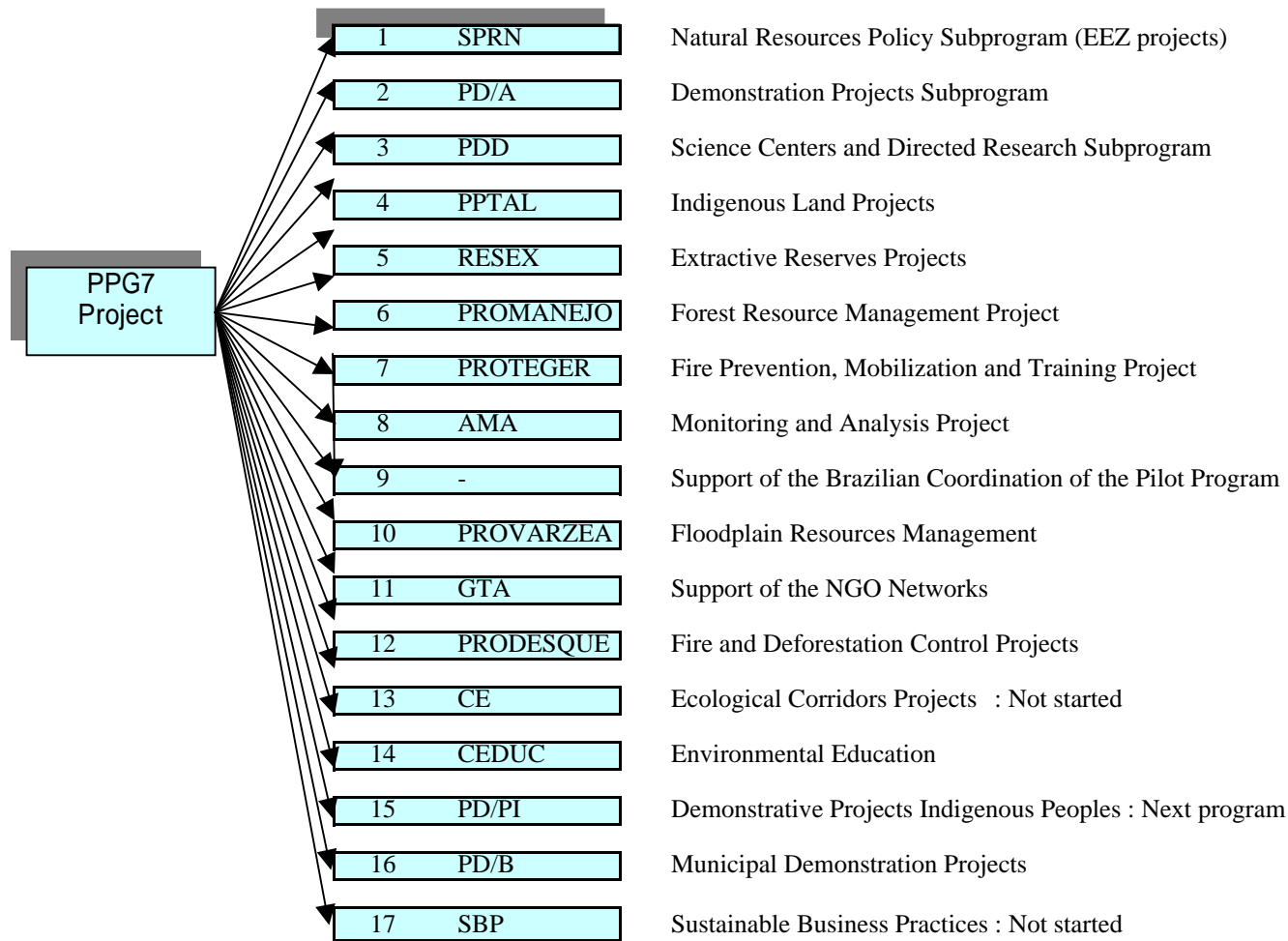
1) Fish fry of	13-15 cm is stocked
at a density of	0.3 individuals/m ² .
2) Fish are harvested after	14 months of culture period
at size of	3 kg in body weight
with survival rate of	85 %
and food conversion rate of	2 : 1.
3) Total area	3 ha.

	Quantity	Unit price	Total
Operation cost			
Fish fry	9,000 fry	2 R\$/fry ^{*1)}	R\$ 18,000
Artificial feed (P: 40%)	45.9 ton	1.08 R\$/kg	R\$ 49,572
Labor	14 M/M	277 R\$/M/M ^{*2)}	R\$ 3,875
Harvest and transportation	23.0 ton	400 R\$/ton ^{*3)}	R\$ 9,180
Others (electricity, chemicals and other consumable)			R\$ 14,289 ^{*4)}
Sub-total			R\$ 94,916
Depreciation			
Facility (ponds)			R\$ 1,600 ^{*5)}
Equipment (pumps, net, aerator, etc)			R\$ 2,000
Sub-total			R\$ 3,600
Marketing tax			R\$ 19,278 ^{*6)}
Total cost			R\$ 117,794
Revenue			
Sales of surubim (3 kg size)	23.0 ton	7 R\$/kg	R\$ 160,650
(Productivity:	7.7 ton/ha/production cycle)		
Profit during one production cycle			R\$ 42,856
		Profit per month	R\$ 3,061

Source: Interview to Agropexie LTDA (2000)

Remarks

- 1) Current price at Projeto Pacu
- 2) R\$250/month + 10.7% of social security
- 3) Fish are transported alive by truck with container for live fish.
- 4) 20% of the above total
- 5) Construction cost of pond is estimated to be R\$ 8,000/ha. Repayment period is set for 15 years. Therefore, R\$ 8,000/15yr x 3 ha = R\$ 1,600.
- 6) 12% of selling price



Note:

Details of each project refer to Annex 5.3.4-1

The study for improving Rural people's livelihoods through Agricultural Activities and Sounds Natural Resources Management

Japan International Cooperation Agency

Annex 7.5.1-1

Component of PPG 7 Project

Annex 8.4.3-1 Frozen Fish Production and Export of the Target Species through Frigorificos of the Amazonas State (1994-1998)

		Unit: ton				
		1994	1995	1996	1997	1998
<i>Production for domestic market</i>						
Pirarucu	Whole fish	24	7	-	-	-
	Without gut	103	47	-	-	-
	Cut in pieces	2	0	-	-	-
	Fillet	149	-	-	-	-
	Salted	53	34	3	-	-
	Total	331	89	3	-	-
Surubim	Without gut	965	643	682	958	553
	Cut in pieces	0	2	4	2	5
	Fillet	-	4	12	20	2
	Total	965	648	698	980	560
Tambaqui	Whole fish	8	12	3	36	12
	Without gut	131	107	42	106	18
	Cut in pieces	9	15	2	-	-
	Fillet	-	-	1	-	-
	Others	-	9	-	-	-
	Total	148	143	48	142	29
Matrinchã	Whole fish	70	2	155	-	-
	Without gut	4	1	1	-	-
	Total	74	3	155	-	-
Jaraqui	Whole fish	158	10	146	45	15
	Without gut	24	-	-	2	-
	Total	182	10	146	47	15
<i>International export</i>						
Pirarucu	Fillet	35	-	-	-	-
Surubim	without gut	-	-	8	-	-
Tambaqui	without gut	-	-	5	-	-

Source: DFA-AM, Setor de inspecao de produto de origem animal (1994-1998)

Annex 10.2.5-1 Outline of Fishery-related Projects to be Examined Further

Project components	Outline of activities	Considerable effects	Implementing agency	Remarks
1) Fishery resource management				
Base-line study	<ul style="list-style-type: none"> - Topographic survey - Basic biological survey - Socio-economic survey 	<ul style="list-style-type: none"> - Site selection - Preparation of overall project plan 	IBAMA, INPA	
Procurement of necessary equipment	<ul style="list-style-type: none"> - GIS system - Communication system - Equipment for aquatic environment survey - Equipment for fishery activity monitoring - Improvement of measures to access local communities 	<ul style="list-style-type: none"> - Baseline study and monitoring can be implemented effectively 	IBAMA, INPA	
Support to organization of target fishermen and their education	<ul style="list-style-type: none"> - Explanation on necessity and scope of project - Dissemination of basic knowledge on fishery resource management 	<ul style="list-style-type: none"> - Fishermen understand scope of project and are going to participate in the project. 	IDAM, Municipal government	Effects shall be disseminated among all the member of fishery colonia.
Strengthening of law enforcement activity	<ul style="list-style-type: none"> - Training of fishermen's group - Linkage with police patrol system - Objective application of law and regulation 	<ul style="list-style-type: none"> - Decrease of illegal fishing 	IBAMA	
Monitoring	<ul style="list-style-type: none"> - Monitoring of fish catch - Survey on fishery socio-economy 	<ul style="list-style-type: none"> - Identification of problems 	DPA	
Evaluation of resource condition	<ul style="list-style-type: none"> - Analysis of all the above results and compilation - Implementation of seminar 	<ul style="list-style-type: none"> - Preparation of fishing ground utilization map - Calculation of allowable catch amount - Propose sustainable fishing system 	IBAMA, DPA	
Introduction of resource enhancement measures	<ul style="list-style-type: none"> - Examination of effective close season and sanctuary - Seed release program 	<ul style="list-style-type: none"> - Realize rehabilitation of fishery resources 	INPA, IDAM	
2) Fish marketing and processing				
Survey on demand and supply balance of fishes in Amazonas State and Manaus	<ul style="list-style-type: none"> - Review of existing references - Field survey and analysis 	<ul style="list-style-type: none"> - Clarify problems about fish demand and supply balance 	DPA, IBAMA, FUA, SUFRAMA, SEBRE, FEPESCA	Coordination of implementing agency will be necessary.
Improvement of fish unloading and relevant facilities (fishing port)	<ul style="list-style-type: none"> - Improvement of fish unloading places - Improvement of communication system - Examination of fishing control system - Construction of temporary stocking facilities 	<ul style="list-style-type: none"> - Effective utilization of unloaded fishes 	SUFRAMA, FEPESCA, SEBRE	
Development of fish processing techniques	<ul style="list-style-type: none"> - Examination of fish species as alternative processing materials - Examination about necessary facilities 	<ul style="list-style-type: none"> - Improvement of value of fishery project 	INPA, EMBRAPA	
Improvement of fish quality	<ul style="list-style-type: none"> - Increase of ice plants - Improvement of post-harvest treatment 	<ul style="list-style-type: none"> - Improvement of freshness 	INPA, IDAM, SUFRAMA	

Annex 12.4.1-1 Preliminary Examination on Required Number of Fishery Specialists in IDAM

No.	Location of local units	Covering area	Present number			Required number		
			Graduated	Non-graduate d	Total	Graduate d	Non-graduate	Total
	Head quarters	All the State	2 ^{*1)}	-	2	4	-	4
	IDAM Balbina Hatchery	All the State	1	-	1	3	2	5
	Existing local units							
1	Apui	Apui, Novo Aripuanã - parte	-	-	-	1	-	1
2	Autazes	Autazes	-	-	-	-	-	-
3	Barreirinha	Barreirinha	-	-	-	-	-	-
4	Boa Vista do Ramos	Boa Vista do Ramos	-	-	-	-	-	-
5	Boca do Acre	Boca do Acre, Pauini	-	-	-	1	-	1
6	Borba	Borba	-	-	-	-	-	-
7	Carauari	Carauari, Itamarati - parte	-	-	-	1	-	1
8	Careiro da Várzea	Careiro da Várzea	-	-	-	-	-	-
9	Careiro Castanho	Careiro Castanho, Manaquiri - parte	-	-	-	-	-	-
10	Coari	Coari	1	1	2	1	1	2
11	Eirunepé	Eirunepé, Itamarati - parte	-	-	-	1	-	1
12	Envira	Envira	-	-	-	-	-	-
13	Guajará	Guajará, Ipixuna	-	-	-	-	-	-
14	Humaitá	Humaitá, Manicoré - parte, Canutama - parte	-	-	-	-	-	-
15	Iranduba	Iranduba, Manaquiri - parte	-	-	-	1	1	2
16	Itacoatiara	Itacoatiara, Urucurituba	-	-	-	1	1	2
17	Lábrea	Lábrea, Canutama - parte, Tapauá	-	-	-	-	-	-
18	Manacapuru	Manacapuru, Caapiranga, Novo Airão,	-	-	-	1	1	2
19	Manaus	Manaus	2	-	2	3	2	5
20	Manicoré	Manicoré, Novo Aripuanã - parte	-	-	-	-	-	-
21	Maués	Maués	-	-	-	1	-	1
22	Nhamunda	Nhamundá	-	-	-	-	-	-
23	Parintins	Parintins	1	-	1	1	-	1
24	Presidente Figueiredo	Presidente Figueiredo	-	-	-	1	-	1
25	Rio Preto da Eva	Rio Preto da Eva	1	-	1	2	-	2
26	Silves	Silves, Itapiranga - parte	-	-	-	-	-	-
27	Tabatinga	Tabatinga, Atalaia do Norte, Benjamin	-	-	-	2	1	3
28	Tefé	Tefé, Alvarães, Uarini, Japurá, Maraã - parte	-	-	-	1	1	2
29	Urucará	Urucará, São Sebastião do Uatumã, Itabiranga - parte	-	-	-	-	-	-
	Proposed new unit							
	Sao Gabriel da Cachoeira		-	-	-	1	-	1
Total			8	1	9	27	10	37

Remarks: *1) One of them takes leave for 2 years now for post-graduate study.

Annex 12.4.2-1 Specification and Construction Cost of Aquaculture Facilities

1) Barragem (dam ponds)

	Small-scale barragem	Medium-scale barragem
Expected dam water area	0.2 ha	1 ha
Flow volume of spring water	5l./sec	50l./sec
Specifications		
Dyke length	20 m	70 m
Dyke height	3 m	4 m
Dyke width	3 m (upper) 15 m (bottom)	6 m (upper) 26 m (bottom)
Sluice gate	no (overflow)	yes
Construction	mainly by family labor	use of heavy duty machinery
Approximate construction cost	R\$ 2,200	R\$ 25,000
Payback period	10 years	15 years
Salvage value	30%	10%
Depreciation cost	R\$ 154 /year R\$ 13 /month	R\$ 1,500 /year R\$ 125 /month

2) Net cages

	Small-scale cage	Medium-scale cage
Specifications		
Material	Carbonsteel-epoxy coating (local, Manaus)	Carbonsteel-epoxy coating (local, Manaus)
Dimension	2 x 2 x 2 m	5x5x2.5 m
Effective water volume	7m ³	50m ³
Mesh size	2.5 cm	2.5 cm
Construction	mainly by beneficiaries	mainly by beneficiaries
Approximate material cost		
Cage material	R\$ 400	R\$ 4,000
Associate materials	20% of the above	20% of the above
Total	R\$ 480	R\$ 4,800
Depreciation period	5 years	10 years
Salvage value	0%	10%
Depreciation cost	R\$ 96 /year/cage R\$ 8.0 /month/cage	R\$ 432 /year/cage R\$ 36 /month/cage

Annex 12.4.2-2 Examination of Cost and Benefit of Family Fish Farmers (1) Barragem

		Tambaqui		Matricnha		Pirarucu	
		Small-scale	Medium-scale	Small-scale	Medium-scale	Small-scale	Medium-scale
Rearing conditions							
Area	ha	0.2	1.0	0.2	1.0	0.2	1.0
water depth	m	1.0-1.2	1.5-1.8	1.0-1.2	1.5-1.8	1.0-1.2	1.5-1.8
Additonal labor	person	0.0	0.5	0.0	0.5	0.0	0.5
Size of fish fry		3-4 cm		3-4 cm		30 cm<	
Stocking densigy	fry/ha	3,000	3,000	5,000	5,000	250	500
Grow-out period	month	18		8		24	
Size at harvest	kg/fish	2.0	2.5	0.8	1.0	20	20
Survival rate	%	85		85		95	
Kind of food		Pellet		Pellet		Trash fish	
Feeding rate (feed/fish)		1.0	1.5	1.1	1.4	4.0	5.0
Fish to be harvested	ton/harvest	1.02	6.38	0.68	4.25	0.95	9.50
Productivity per harvest	ton/ha/harvest	5.10	6.38	3.40	4.25	4.75	9.50
Productivity per year	ton/ha/year	3.40	4.25	5.10	6.38	2.38	4.75
Productivity per family	ton/year/family	0.68	4.25	1.02	6.38	0.48	4.75
Basis of cost and revenue estimation							
Fish fry	R\$/fry	0.08		0.12		20	
Feed	R\$/kg	0.65		0.65		0.15	
Fertilizer etc.	R\$/ha/year	750	1000	750	1000	750	1000
Labor	R\$/month	180					
Harvest and marketing	R\$/ton	80					
Depreciation of faciliy	R\$/year	154	1500	154	1500	154	1500
Depreciation of equipment (20% of above)		31	300	31	300	31	300
Maintenance	R\$/ha/year	800					
Environmental license	R\$/ha/year	50					
Selling price of fish	R\$/kg	3.0	3.3	2.2	2.5	3.5	3.5
Cost calculation per rearing cycle							
Fish fry	R\$	48	240	120	600	1,000	10,000
Feed	R\$	663	6,216	486	3,868	570	7,125
Fertilizer etc.	R\$	225	1,500	100	667	300	2,000
Labor	R\$	0	1,620	0	720	0	2,160
Harvest and marketing	R\$	82	510	54	340	76	760
Depreciation of faciliy	R\$	231	2,250	103	1,000	308	3,000
Depreciation of equipment (20% of above)		46	450	21	200	62	600
Maintenance	R\$	240	1,200	107	533	320	1,600
Environmental license	R\$	15	75	7	33	20	100
Total	R\$	1,550	14,061	997	7,961	2,656	27,345
Gross revenue per rearing cycle	R\$	3,060	21,038	1,496	10,625	3,325	33,250
Crude profit							
per harvest (per rearing cycle)	R\$	1,510	6,977	499	2,664	669	5,905
per year	R\$	1,007	4,651	748	3,996	335	2,953
per month	R\$	84	388	62	333	28	246

Annex 12.4-2-3 Examination of Cost and Benefit of Family Fish Farmers (2) Net cage culture

		Tambaqui		Matricinha		Pirarucu	
		Small-scale	Medium-scale	Small-scale	Medium-scale	Small-scale	Medium-scale
Rearing conditions							
Demension		2 x 2 x 2 m	5 x 5 x 5 m	2 x 2 x 2 m	5 x 5 x 5 m	2 x 2 x 2 m	5 x 5 x 5 m
Useful Area	m ² /cage	16	100	16	100	16	100
Effective volume	m ³ /cage	7.0	50.0	7.0	50.0	7.0	50.0
Number of cages		4	2	4	2	4	2
Additional labor	person	0.0	0.5	0.0	0.5	0.0	0.5
Size of fish fry		about 8 cm		about 8 cm		15 cm	15 cm
Stocking densigy	fry/m ³	20	30	40	60	50	5
Grow-out period	month	18		8		3	18
Size at harvest	kg/fish	2.5		1.0		0.5	12
Survival rate	%	85		85		95	90
Kind of food		Pellet		Pellet		Trash fish	
Feeding rate (feed/fish)		2.0		1.8		5.0	8.0
Fish to be harvested	ton/harvest	1.2	6.4	1.0	5.1	0.7	5.4
Productivity per harvest	kg/m ³ /harvest	42.5	63.8	34.0	51.0	23.8	54.0
Productivity per year	kg/m ³ /year	28.3	42.5	51.0	76.5	95.0	36.0
Productivity per family	ton/year/family	0.79	4.3	1.4	7.7	2.7	3.6
Basis of cost and revenue estimation							
Fish fry	R\$/fry	0.20		0.25		15	15
Feed	R\$/kg	0.80		0.80		0.15	0.15
Fertilizer etc.	R\$/m ³ /year	0					
Labor	R\$/month	180					
Harvest and marketing	R\$/ton	80					
Depreciation of faciliy	R\$/cage/year	96	432	96	432	432	432
Depreciation of equipment (20% of above)		19	86	19	86	86	86
Maintenance (5% of cage price)	R\$/cage/year	18	200	18	200	200	200
Environmental license (LO)	R\$/ha/year	216					
Selling price of fish	R\$/kg	3.3		2.5		40.0	3.5
Cost estimate per rearing cycle							
Fish fry	R\$	112	600	280	1,500	21,000	7,500
Feed	R\$	1,904	10,200	1,371	7,344	499	6,480
Fertilizer etc.	R\$	0					
Labor	R\$	0	1,620	0	720	0	1,620
Harvest and marketing	R\$	95	510	76	408	53	432
Depreciation of faciliy	R\$	576	1,296	256	576	432	1,296
Depreciation of equipment (20% of above)		115	259	51	115	86	259
Maintenance	R\$	110	600	49	267	200	600
Environmental license	R\$	2	6	1	3	0	6
Total	R\$	2,914	15,092	2,084	10,933	22,271	18,194
Gross revenue per rearing cycle	R\$	3,927	21,038	2,380	12,750	26,600	18,900
Crude profit							
per harvest (per rearing cycle)	R\$	1,013	5,946	296	1,817	4,329	706
per year	R\$	675	3,964	444	2,726	17,317	471
per month	R\$	56	330	37	227	1,443	39

Annex 12.4.3-1 Rough Estimate of Candidate Sites and Potential Beneficiaries for Lake Ranching Program

Candidate sites	Community around lakes		Rough estimation of water area (ha)	Remarks
	Number	Population		
1. Iranduba				
Islands having varzea lakes				
Ilna Paciencia	3	450	80	
Ilna Muratu	1	125	20	
Ilna Jacurutu	2	285	20	
Ilna Maria Antonia	1	80	few	
Ilna Baixio	2	400	20	Lake size is measured by C.Lima of INPA
Ilna Machantaria	6	1,100	50	
Sub-total	15	2,440	190	
Varzea lakes				
Lago do Iranduba	1	300	50	
Lago do Ariauzinho	1	110	25	Lake size is measured by C.Lima of INPA
Lago do Limao	1	1,600	30	
Lago do Caldeirao	4	525	25	Open lake
Lago do Ubim	1	150	30	A part of lake is
Lago do Catalao	1	300	20	
Lago do Ariaui	1	75	10	
Lago do Cacau Pirera	1	305	10	
Lago do Santo Antonio	1	125	5	
Lago do Teste	1	220	10	
Lago do Guedes	1	275	15	
Lago do Janauari	1	105	10	
Sub-total	15	4,090	240	
Total	30	6,530	430	
2. Itacoatiara				
Islands having varzea lakes				
Ilha do Risco	9	834	50	
Ilha do Soriano	3	340	30	
Ilha Beija Flor	2	205	5	
Ilha Grande	1	94	5	
Ilha da Trindade	1	76	25	
Ilha do Janeiro	1	250	N.A.	} Unidentified on the map
Ilha do Bom Planalto	1	105	N.A.	
Ilha da Maquila	1	77	N.A.	
Ilha de Fatima/Acacy	1	248	N.A.	
Ilha do Cumaru	2	282	N.A.	
Sub-total	22	2,511	200	
Varzea lakes				
Lago do Araca	1	196	10	Communities organized
Lago do Serpa	2	158	15	Communities organized
Lago do Canacai	2	372	10	Communities organized, a part of lake is measured.
Lago do Maguaca	1	157	5	
Lago do Mutuca	1	348	60	
Lago do Moura	2	236	25	
Lago do Batista	1	748	40	
Other about 20 lakes	27	3,320	N.A.	Unidentified on the map
Sub-total	37	5,535	420	
Total	59	8,046	620	
3. Maues				
Lago Grande	2	250	180	
Lago Castanhal/P.Uraria Cima	3	360	30	
Other 6 lakes	6	1,000	200	Mostly open type lakes
Total	11	1,610	410	
Grand total	100	16,186	1,460	

Remarks

*1) Water areas in which seed release program will be applied are roughly estimated by using map

Annex 13.1.4-1 Establishment of Objectively Variable Indicators after Start of the Aquaculture Development Program for the Target Three Municipalities

1) Number of beneficiaries (family fish farmers) Unit: family

	5 years	10 years	20 years
(% of project influence)	(10-20%)	(50%)	(80%)
Aquaculture			
Barragem	60	200	330
Net cage	60	330	530
Lake ranching	260	1,300	2,000
Total	380	1,830	2,860

2) Development area Unit: ha

	5 years	10 years	20 years
Aquaculture			
Barragem	6	20	33
Net cage	0.12	0.66	1.06
Lake ranching	150	750	1,200
Total	156	771	1,234

3) Production Unit: ton/year

	5 years	10 years	20 years
Aquaculture			
Barragem	7	71	157
Net cage	7	118	252
Lake ranching	0	0	0
Total	14	189	409

Assumptions

1) Rearing facilities

		Small-scale	Medium-scale
Barragem			
Area (ha)		0.2	1.0
Number per family		1	1
Net cage			
Demension		2 x 2 x 2 m	5 x 5 x 5 m
Useful area (m ² /cage)		16	100
Effective volume (m ³ /cage)		7.0	50.0
Number of cages per family		4	2

2) Ratio of family fish farmers

	Small-scale	Medium-scale
Barragem	90%	10%
Net cage	90%	10%

3) Productivity (ton/year/family)

		Small-scale	Medium-scale
Aquaculture ^{*1)}			
Barragem		0.85	5.95
Net cage		1.11	5.95
Lake ranching		0.087	

Remarks: *1): Average of tambaqui and matrincha culture is used.

4) % of fish farms or lake communities which start production

5 years	10 years	20 years
20%	60%	80%

Annex 13.1.4-2 Number of Fish Fry Required after Start of the Aquaculture Development Program for the Target Three Municipalities

		Unit: individual		
		5 years	10 years	20 years
Aquaculture				
	Barragem	68,040	226,800	374,220
	Net cage	72,360	397,980	639,180
Lake ranching		150,000	750,000	1,200,000
Total		290,400	1,374,780	2,213,400

Assumptions

1) Stocking density of fish fry

		Small-scale	Medium-scale
Aquaculture ^{*1)}			
	Barragem (fry/ha)	4000	4500
	Net cage (fry/m ³)	30	45
Lake ranching (fry/ha) ^{*2)}		1000	

Remarks: *1): Average of tambaqui and matrincha is used.

*2) Only tambaqui

2) For other assumptions, see Table .

Laws related to Environment in the Study Area

No.	Contents		No.	Year
1	Environmental law (Gov't law)	EIA	No.001	1986
2	Environmental law (Gov't law)	Environmental License System	No.1532	1982
3	Environmental law (Gov't law)	Environmental License System	No.1642	1984
4	Environmental law (Gov't law)	Environmental License System	No.8821	1985
5	Environmental law (Gov't law)	Water Quality Standard	CONAMA20	1976
6	Federal forest law	Forest Management	No.44他	
7	Federal forest law	Environmental Protection	No.519	1965
8	IBAMA ministry law	Land Management	No.48	1995
9	Indigenous people's law	Indigenous People	No.6001	1973
10	Amazonas State Law	Prohibition Issue of Fishing	No.16	1999
11	Amazonas State Law	Prohibition Issue of Fishing	NO.18	1999
12	Amazonas State Law	Prohibition Issue of Fishing	NO.19	1999
13	Amazonas State Law	Prohibition Issue of Fishing	NO.20-N	1999
14	Amazonas State Law	Prohibition Issue of Fishing	No.21-N	1999
15	Amazonas State Law	Prohibition Issue of Fishing	No.9.605	1998
16	Amazonas State Law	Prohibition Issue of Fishing	No.3.179	1999

ATTACHMENT


Scope of Work
for
The study for Improving Rural People's Livelihoods
through Agricultural Activities and Sound Natural Resources Management
in the State of Amazonas
in the Federative Republic of Brazil
agreed upon
between
Institute of Agricultural and Livestock Development of
the State of Amazonas,
Brazilian Cooperation Agency
and
Japan International Cooperation Agency

Manaus, January 15, 2000

松本 勘 己

Kunimasa MATSUMOTO
Leader
The Preparatory Study Team
Japan International Cooperation Agency
(JICA)

Ambassador Elin S. Dutra
General -Director
Brazilian Cooperation Agency
(ABC)



Sidney de Oliveira Leite
President Director
Institute of Agricultural and Livestock
Development of the State of Amazonas
(IDAM)

I. INTRODUCTION

In response to the request of the Government of the Federative Republic of Brazil (hereinafter referred to as "GOB"), the Government of Japan decided to conduct the study for Improvement Rural People's Livelihoods through Agricultural Activities and Sound Natural Resources Management in the State of Amazonas (hereinafter referred to as "the Study") in accordance with the Agreement on Technical Cooperation between the Government of Japan (hereinafter referred to as "GOJ") and GOB signed in Brasilia on September 22, 1970 (hereinafter referred to as "the Agreement").

Accordingly, Japan International Cooperation Agency (JICA), as an official agency responsible for the implementation of technical cooperation programs of GOJ, Brazilian Cooperation Agency (ABC) as a legal intervenient agency on behalf of GOB and the Institute of Agricultural and Livestock Development of the State of Amazonas (IDAM) as an executive agency responsible for the implementation of the technical cooperation for the Study, will undertake the Study in close cooperation with the other Brazilian authorities concerned. The present document sets forth the scope of work with regard to the Study.

II. OBJECTIVES OF THE STUDY

The objectives of the study are as follows;

- to formulate a plan for income generation and provision of employment opportunity through creating agricultural system under rational natural resource use, which will contribute natural environment conservation, and
- (2) to conduct a technology transfer to Brazilian counterpart personnel through on-the-job trainings in the course of the Study.

III. STUDY AREA

1. The Study shall be conducted in MAUÉS, IRANDUBA, and ITACOATIARA. The total land area approximately 51,000km² (Refer to the location map attached as Annex 1).
2. Beneficial population of the Study would be principally classified into two types;
 - (1) family farmers relying on agricultural production with limited land scale (from 25 ha to 100 ha), which is defined as family farming by PRONAF, and,
 - (2) people whose livelihoods rely on extractive activities exploiting natural resources including forest products and aquatic produce.

IV. SCOPE OF THE STUDY

In order to achieve the objectives above, the Study shall consist of the following items.

[Phase I]

1. Data collection

1.1 Collect and review the existing information relevant to the Study on the following items;

- (1) Existing projects / studies
- (2) National / regional development plan
- Others

1.2 Carry out field surveys and interviews together with the supplementary data collection on following aspects;

A: Guarana

- (1) Production activity
- (2) Post-harvest
- (3) Market trend (price, supply & demand, and etc.)
- (4) Rural economy and credit
- (5) Extension service / system

B: Vegetable

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AT - 2

- (1) Production activity
- (2) Post-harvest
- (3) Market trend (price, supply & demand and etc.)
- (4) Rural economy and credit
- (5) Extension service / system

C: Tropical fruit

- (1) Post-harvest
- (2) Market trend (price, supply and demand and etc.)
- (3) Rural economy and credit
- (4) Extension service / system

D: Aquaculture

- (1) Market trend (price, supply & demand and etc.)
- (2) Rural economy and credit

2. Verification of the potential of study area

- 2.1 Analyze the collected information, and identify major constraints, problems and potentials, taking natural resource conservation into account.
- 2.2 Conduct the Initial Environment Evaluation (IEE)

[Phase 2]

3. Formulation of a plan

- 3.1 Propose a plan for improving the people's livelihoods, taking following components into account;
 - (1) Improvement of agricultural activity (including forestry and aqua culture)
Ecological, economical, social and technical rationality of production and post-harvesting is examined.
 - (2) Improvement of extension service and rural credit
 - (3) Others

3.2 Support the Environment Impact Assessment (if necessary)

4. Prepare Conclusion and Recommendation

STUDY SCHEDULE

The Study shall be carried out in accordance with the Tentative Work Schedule attached as Annex 2.

VI. REPORTS

JICA shall prepare and submit the following reports, written in English and Portuguese, to the GOB;

- | | |
|---------------------|---|
| Inception Report | : Ten (10) copies in English and twenty (20) copies in Portuguese at the commencement of the Study |
| Progress (1) Report | : Ten (10) copies in English and twenty (20) copies in Portuguese at the end of the first work in Brazil of Phase I |
| Progress (2) Report | : Ten (10) copies in English and twenty (20) copies in Portuguese at the end of work in Brazil of Phase I |
| Interim Report | : Ten (10) copies in English and twenty (20) copies in Portuguese at commencement of Phase II |
| Progress (3) Report | : Ten (10) copies in English and twenty (20) copies in Portuguese at the end of Work in Brazil of Phase II |
| Draft Final Report | : Ten (10) copies in English and forty (40) copies in Portuguese at the end of Phase II |

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Final Report

Brazilian side shall submit written comments on the Draft Final Report to JICA in one (1) month after the receipt of the report.
: Ten (10) copies in English and forty (40) copies in Portuguese in two (2) months after the receipt of comments on the Draft Final Report from Brazilian side

VII. UNDERTAKING OF THE BRAZILIAN SIDE

1. The Government of Federative Republic of Brazil accord privileges, exemptions and other benefits to the Japanese study team (hereinafter referred to as "the Team") in accordance with the Agreement, as follows;
 - (1) To secure the safety of the team,
 - (2) To permit the members of the Team to enter, leave and stay in the Federative Republic of Brazil for the duration of their assignment therein, and exempt them from foreign registration requirements and consular fees,
 - (3) To exempt the members of the Team from taxes, duties and other charges on equipment, machinery and other materials brought into the Federative Republic of Brazil for the conduct of the Study,
 - (4) To exempt the members of the Team from income tax and other charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Team for their services in connection with the implementation of the Study,
 - (5) To provide necessary facilities to the Team for the remittance as well as utilization of the funds introduced into the Federative Republic of Brazil from Japan in connection with the implementation of the Study,
 - (6) To ensure permission for entry into relevant areas for the implementation of the Study,
 - (7) To ensure permission for the Team to take all data and documents out of the Federative Republic of Brazil to Japan, in accordance with laws and regulations in force in Brazil, for analysis during the implementation of the Study, and
 - (8) To provide medical services as needed. Its expenses will be chargeable on the members of the Team.
2. The Brazilian side shall bear claims, if any arises, against the members of the Team resulting from, occurring in the course of, or otherwise connected with, the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the members of the Team.
3. IDAM shall act as the counterpart agency to the Team and also as coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.
4. IDAM shall, at its own expense, provide the Team with the following, in cooperation with other relevant organizations concerned;
 - (1) available data and information related to the Study,
 - (2) full-time counterpart personnel, technical supporting staff, clerical staff, etc,
 - (3) suitable office space with necessary equipment ,
 - (4) adequate means of transport for the Team, and
 - (5) credentials or identification cards.

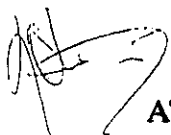
VIII. UNDERTAKING OF JAPANESE SIDE

For the implementation of the study, Japanese side shall take the following measures through JICA;

- (1) Dispatch, at its own expense, study teams to Brazil, and,
- (2) Pursue technology transfer to the Brazilian counterpart personnel in the course of the study.

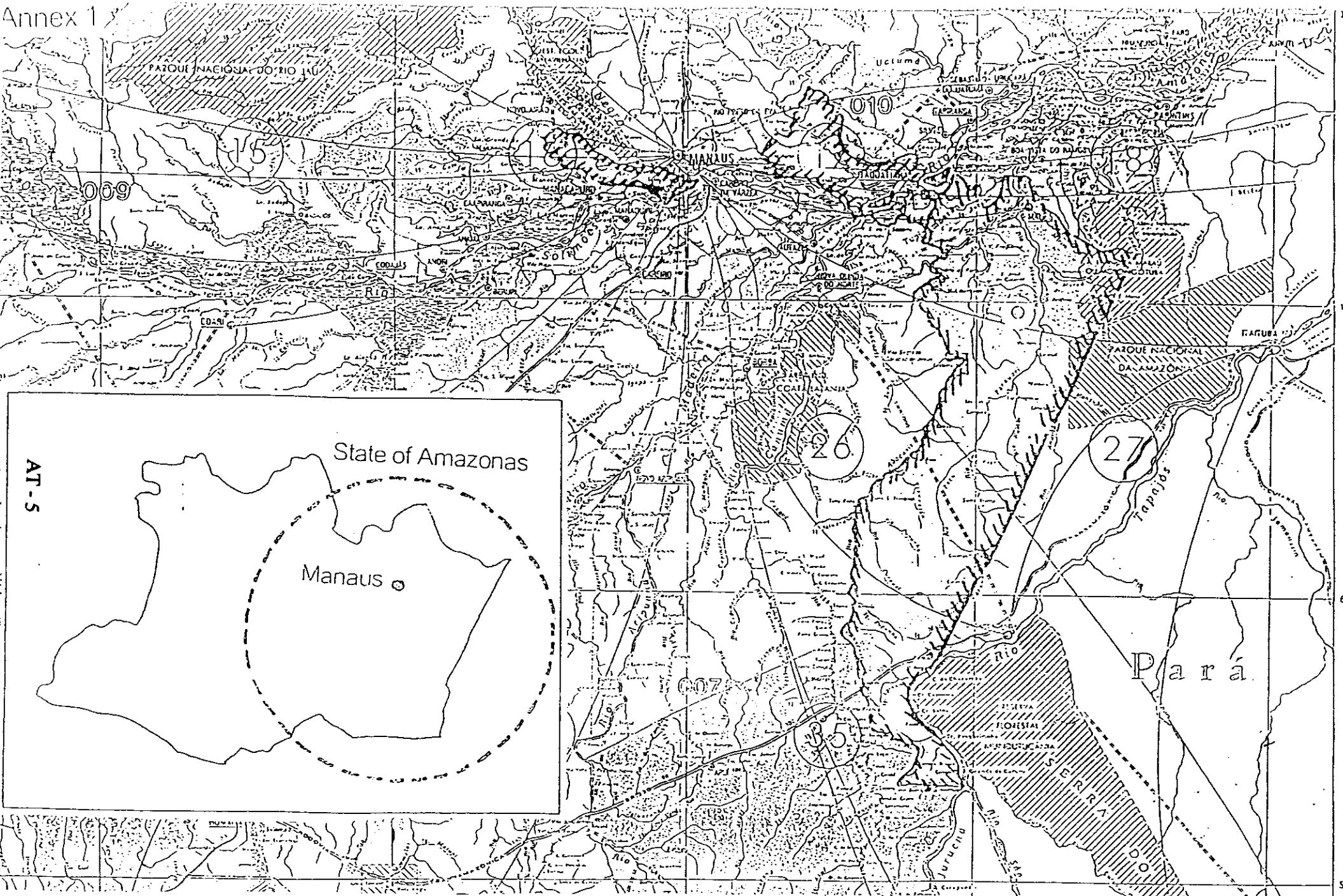
IX. CONSULTATION

JICA and IDAM shall maintain constant communication and consult with each other in respect of any matters that may arise from or in connection with the Study.



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Location map of the study area

TENTATIVE WORK SCHEDULE

MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Work in Brazil		█					█						█					█			
Work in Japan	█			█						█						█				█	
Stages	← Phase 1 →					← Phase 2 →															
Reports	△ IC/R	△ P/R(1)			△ P/R(2)			△ It/R		△ P/R(3)			△ DF/R		◎		△ F/R				

(Remarks)

- IC / R : Inception Report
- P / R(1) : Progress Report(1)
- P / R(2) : Progress Report(2)
- It / R : Interim Report(1)
- P / R(3) : Progress Report(3)
- F / R : Final Report
- ◎ : Comments on Df / R by Brazilian side

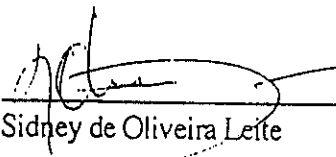
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Minutes of Meetings
of
Scope of Work
for
The study for Improving Rural People's Livelihoods
through Agricultural Activities and Sound Natural Resources Management
in the State of Amazonas
in the Federative Republic of Brazil
agreed upon
between
Institute of Agricultural and Livestock Development of
the State of Amazonas,
Brazilian Cooperation Agency
and
Japan International Cooperation Agency

Manaus, January 15, 2000

松本 訓正

Kunimasa MATSUMOTO
Leader
The Preparatory Study Team
Japan International Cooperation Agency
(JICA)



Sidney de Oliveira Leite
President Director
Institute of Agricultural and Livestock
Development of the State of Amazonas
(IDAM)

In response to the request of the Government of Brazil, the Preliminary Study Team headed by Mr. K. MASTUMOTO (hereinafter referred to as "the Team"), was sent to Brazil by the Government of Japan through the Japan International Cooperation Agency (hereinafter referred to as "JICA"), from January 5 to 19, 1999 for the purpose of discussing and confirming the Scope of Work for the study for Improving Rural People's Livelihoods through Agricultural Activities and Sound Natural Resources Management in the State of Amazonas (hereinafter referred to as "the Study").

The Team held a series of discussions with the relevant authorities of the Government of Brazil represented by Mr. Sidney de Oliveira Leite (hereinafter referred to as "The Brazilian side").

As a result of the discussions, the Brazilian side and the Team agreed on the Scope of Work for the Study.

The following are the main issues discussed and agreed upon by both sides in relation to the Scope of Work for the Study. The list of participants and resource persons in the series of meetings is attached as Annex 1.

1. Terminology

Both sides confirmed that 'natural resources' means forests, soils and water resources in the study area.

2. Exception of the Study

Both sides confirmed that new land reclamation, land clearing and any activity against natural resource conservation are out of the Study's scope

3. Study area

Both sides confirmed that the crops, which are mentioned in 'IV. SCOPE OF THE STUDY', the item 1.2 of the Scope of Work, are observed in municipalities below. Both sides agreed works relevant to these crops are conducted mainly in the municipalities.

Guaraná - MAUÉS

Vegetable, Aquaculture - IRANDUBA

Tropical fruit - ITACOATIARA

4. Vegetables and to be studied

Regarding 'IV. SCOPE OF THE STUDY', the item 1.2 of the Scope of Work, both sides agreed to choose approximately three (3) or four (4) vegetables to be studied at the beginning of the Study.

5. Tropical fruits and aquaculture

Both sides agreed that cupuaçu, açaí, passionfruits banana, etc. are considered as tropical fruits to be studied.

Both sides also agreed that the study shall focus on the fishes, which IDAM is planning to develop a hatchery technology in a future on, such as pirarucu (*Arapaima gigas*), mantrinchã (*Brycon cephalus*), surubin (*Pseudoplatystoma fasciatum*) and jaraqui (*Semaprochilodus insignis*) are to be studied.

6. Ecological-Economic Zoning (EEZ)

Both sides agreed that the result of EEZ is one of the resources of basic information and the Study is conducted taking it into account.



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7. Environment Impact Assessment (EIA)

Both sides confirmed that EIA is to be conducted by the Brazilian side with its responsibility. Both sides agreed the Japanese side support EIA under condition that its necessity is recognized.

8. Steering Committee

Regarding 'VII. UNDERTAKING OF THE BRAZILIAN SIDE', the item 3 of the Scope of Work, both sides agreed that it is necessary to establish a Steering Committee for the smooth and efficient implementation of the Study. The committee shall be occasionally convened in order to be discussed on the findings of the Study and shall be composed of following institutions coordinated by IDAM.

(Brazilian side) IDAM, EMBRAPA, INPA, INCRA, IPAAM and other organizations concerned

(Japanese side) Japanese study teams, JICA Office and Embassy of Japan

9. Office space and equipment

Both sides agreed the Brazilian side provides to the Japanese study team(s) a suitable office space in MANAÛS, equipped with desk(s), chair(s), a telephone with facsimile function, the executive use of telephone line and a photocopier during the Study period. Both sides also agreed the Brazilian side arranges office space(s) out of MANAÛS, equipped in the same manner above for the Japanese study team(s) on its request.

The Brazilian side requested that the Japanese side provides a fuel for vehicle(s) and ship(s).

The Japanese side promised to convey its request to the Government of Japan.

10. Counterpart-training in Japan

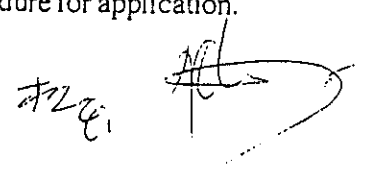
The Brazilian requested the training of counterpart personnel in Japan. The Japanese side promised to convey it to the government of Japan.

11. Final report

Both sides agreed that the Final Report would be made available to any institutions or individuals who may have an interest in the Study.

12. Pilot Program for Protection of the Tropical Forests of Brazil (PPG7)

Both sides confirmed that this study shall be applied for the Bilateral associated projects of Pilot Program for Protection of the Tropical Forests of Brazil (PPG7). IDAM shall take a necessary procedure for application.



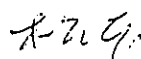
The list of participants

Institute of Agricultural and Livestock Development (IDAM)

Mr. Sidney Ricardo de Oliveira Leite	President Director
Mr. Luiz Antônio Araújo Cruz	Technical Director
Ms. Eda Maria Oliva Souza	Projects & Programs Manager
Mr. Geraldo Couto Araújo	Vegetable Production Manager
Mr. José Milton Barbosa Filho	Operation Manager
Mr. João Bosco Alves Siqueira	Aquaculture / Fishery Manager
Mr. Marcos Antônio Cerqueira	Fishery / Aquaculture Technical Assistant
Ms. Angela Maria Tribuzy de Magalhães Cordeiro	Agronomy Engineer

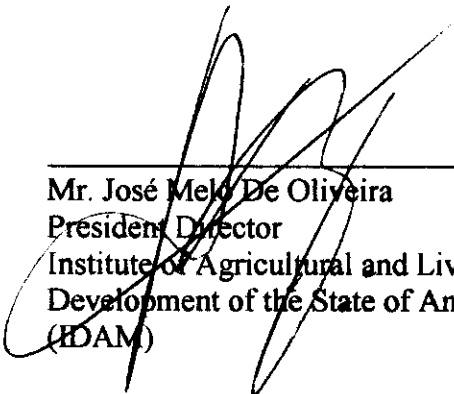
Japan International Cooperation Agency (JICA)

Mr. Kunimasa MATSUMOTO	Leader
Mr. Hiroyuki TAKEDA	Agriculture
Mr. Makoto ASAI	Coordinator
Ms. Mitsue MISHIMA	Regional society / economy
Ms. Adelia Nanae Suzuki MIYAMOTO	Interpreter
Mr. Akihiko YAMADA	Staff, JICA-Belém
Mr. Flávio K. TODAKA	Staff, JICA-Belém



MINUTES OF MEETING
ON
THE INCEPTION REPORT
FOR
THE STUDY FOR IMPROVING RURAL PEOPLE'S LIVELIHOODS
THROUGH
AGRICULTURAL ACTIVITIES
AND SOUND NATURAL RESOURCES MANAGEMENT
IN THE STATE OF AMAZONAS
IN THE FEDERATIVE REPUBLIC OF BRAZIL

Manaus, April 26, 2000




Mr. José Melo De Oliveira
President Director
Institute of Agricultural and Livestock
Development of the State of Amazonas
(IDAM)



Mr. Masamitsu FUJIOKA
Team Leader, JICA Study Team

Witnessed by



Toshio OGAWA
Leader of Advisory Team,
JICA Headquarters, Tokyo

MINUTES OF MEETING
ON
THE INCEPTION REPORT
FOR
THE STUDY FOR IMPROVING RURAL PEOPLE'S LIVELIHOODS
THROUGH
AGRICULTURAL ACTIVITIES
AND SOUND NATURAL RESOURCES MANAGEMENT
IN THE STATE OF AMAZONAS
IN THE FEDERATIVE REPUBLIC OF BRAZIL

DATE : April 25, 2000
TIME : 9:00 a.m. to 11:30 a.m.
VENUE : Meeting Room, IDAM Headquarters, Manaus
ATTENDANCE : As listed in Annex

JICA Study Team submitted 20 copies of the Inception Report written in Portuguese and 10 copies in English to IDAM on April 25, 2000. The meeting was convened to explain and discuss the Inception Report.

The meeting was opened by Mr. Toshio OGAWA, the leader of advisory team for the project dispatched by JICA headquarters in Tokyo, who pointed out the importance of both natural resources conservation and improvement of the quality of life for the inhabitants of Amazonia. He then reviewed and confirmed the responsibilities and roles of IDAM in the Study, which were agreed upon in the Scope of Work signed between IDAM and JICA during January 2000. IDAM accepted his review of their responsibilities.

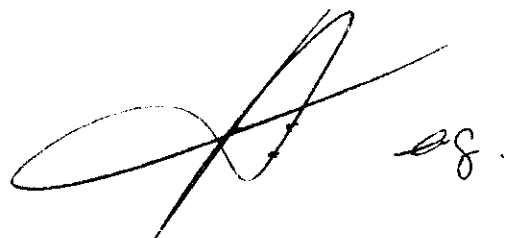
Mr. Masamitsu Fujioka, Team Leader of JICA Study Team made detailed explanation for the Inception Report.

In Principle the Brazilian side accepted the contents of the Inception Report, and indicated



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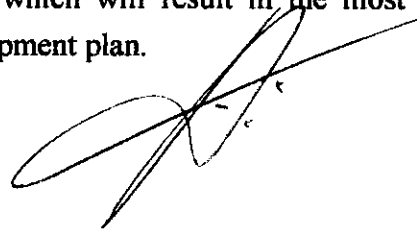
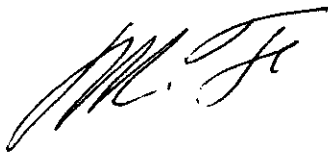


that the approach proposed by JICA Study Team for the Study was highly appreciated.

The Brazilian side made the following comments and suggestions:

- a) Both sides agreed that the Portuguese translation of the project title would be as follows:
“Estudo para Melhoria da Qualidade de Vida das Populações Rurais Através da Agricultura, Gestão e Manejo Racionais dos Recursos Naturais”
- b) Regarding the Questionnaire Survey and Rapid Rural Appraisal (RRA), IDAM has knowledge, idea and experiences. Thus the methodology of the survey will be discussed with IDAM counterpart personnel beforehand. Relative to the above, IDAM offered to provide the Study Team with the results of previous surveys undertaken by IDAM.

The JICA Study Team replied to the comments and suggestions of Brazilian side as follows:
During the Study period, the JICA Study Team will identify and evaluate the status quo of the Study area with the close cooperation of IDAM, which will result in the most effective approach towards the formulation of the rural development plan.



List of Participants

[Brazilian Side]

Luis Antonio A. Cruz

IDAM, Technical Director

Alfredo Da Silva Pinheiro

IDAM, Planning Development Coordinator

Eda Maria Oliva Souza

IDAM, Project and Program Manager

Almando Jorge Luz Da Silva

IDAM, Information Manager

José Milton Barbosa Filho

IDAM, Operation Manager

[Japanese Side]

JICA Advisory Team

Toshio OGAWA

Leader of the Advisory Team

JICA Study Team

Masamitsu FUJIOKA

Team Leader

Shigeru KANAYA

Environment

John E. BOWMAN

Agricultural Product Processing and Distribution

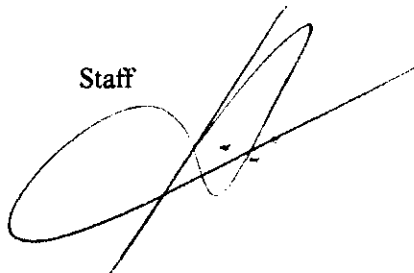

Fumiaki MURAKAMI

Work Coordination

JICA Belem Branch office

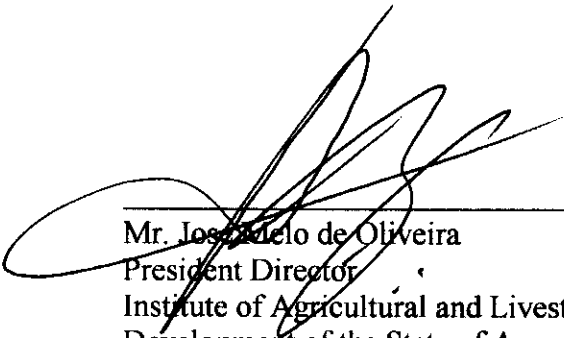
Flávio K. TODAKA

Staff



MINUTES OF MEETING
ON
PROGRESS REPORT (I)
FOR
THE STUDY
FOR
IMPROVING RURAL PEOPLE'S
LIVELIHOODS THROUGH AGRICULTURAL ACTIVITIES AND
SOUND NATURAL RESOURCES MANAGEMENT
IN
THE STATE OF AMAZONAS
IN
THE FEDERATIVE REPUBLIC OF BRAZIL

JULY 17, 2000
Manaus, Brazil



Mr. José Celso de Oliveira
President Director
Institute of Agricultural and Livestock
Development of the State of Amazonas
(IDAM)



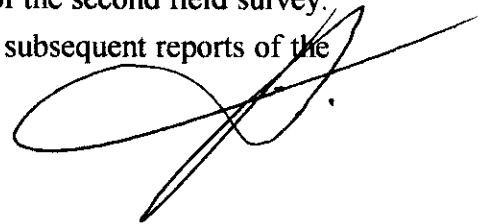
Mr. Masamitsu FUJIOKA
Leader, JICA Study Team

1. Date and Time : July 17, 2000
9:00 a.m. – 10:30 a.m.
2. Place: Meeting Room,
IDAM Headquarters, Manaus
3. Attendants: As listed in Annex
4. Summary of Discussions:

The JICA Study Team submitted 10 copies of the Progress Report (I) of English edition and 20 Copies of Portuguese edition respectively to IDAM in accordance with the "Scope of Work (S/W) for the Study for Improving Rural People's Livelihoods through Agricultural Activities and Sound Natural Resources Management in the State of Amazonas in Federative Republic of Brazil " agreed upon between IDAM and JICA on the 17th day of July, 2000.

The meeting on the Progress Report (I) was held in Manaus between IDAM and JICA Study Team. The meeting was chaired by Ms. Eda Maria Oliva Souza, Project and Program Manager of IDAM. Mr. M. Fujioka, Leader of the JICA Study Team, explained contents of the report to the attendants at the meeting. After the presentation of Mr. M. Fujioka, various discussions were made between IDAM and the JICA Study Team. The following were confirmed in the discussions:

- (1) The Progress Report (I) was generally accepted by IDAM and JICA by mutual confirmation.
- (2) Both IDAM and JICA agree that there are some important corrections that must be made to the Progress Report.
- (3) The JICA Study Team expects that the IDAM side will submit further written comments on the Progress Report (I) before the initiation of the second field survey. These comments and corrections will be incorporated into subsequent reports of the JICA Study Team.



LISTA DOS PARTICIPANTES

LADO BRASILEIRO:

Luis Antônio A Cruz
Alfredo da Silva Pinheiro
Eda Maria Oliva Souza
Maria Aldenir Mota de Brito
Ana Fabiola da Silva Coelho
Washington Luis Aguiar
Armando Jorge Luz da Silva
Marco Antônio Cerqueira
João Bosco Alves Siqueira

IDAM, Diretor Presidente
IDAM, Diretor Técnico
IDAM, Coordenador de Planejamento
IDAM, Gerente de Programas e Projetos
IDAM,
IDAM,
IDAM,
IDAM,
IDAM,
IDAM,

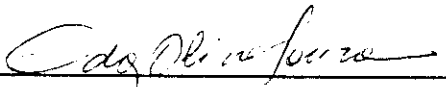
LADO JAPONÊS

Masamitsu FUJIOKA
Yoshihiko OGATA
Masanori DOI
John BOWMAN
George TELLO
Toshiaki NAGAYA
Frances RUBIN
Yasuko HACHIYA
Itsuo HAYASHI (Brazsl)

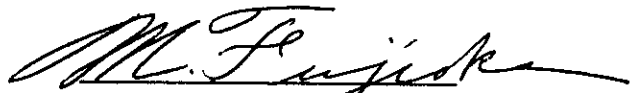
Líder do Time da JICA
Vegetais
Pescado
Processamento de Prod. Agrícolas
Frutas Tropicais
Mercado
Sociedade Rural
Coord. Financeiro
Assessoria Técnica

MINUTES OF MEETING
ON
THE STUDY APPROACH OF AQUACULTURE
FOR
THE STUDY FOR IMPROVING RURAL PEOPLE'S LIVELIHOODS
THROUGH
AGRICULTURAL ACTIVITIES
AND SOUND NATURAL RESOURCES MANAGEMENT
IN THE STATE OF AMAZONAS
IN THE FEDERATIVE REPUBLIC OF BRAZIL

Manaus, September 27, 2000

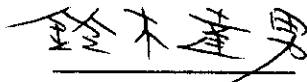


Eda Oliva Souza
Project and Program Manager
Institute of Agricultural and Livestock
Development of the State of Amazonas
(IDAM)



Masamitsu FUJIOKA
Team Leader, JICA Study Team

Witnessed by



Tatsuo SUZUKI
Resident Representative of JICA-Belem,
JICA Brazil Office

The Institute of Agricultural and Livestock Development of the State of Amazonas (IDAM) and the JICA study team held a discussion regarding the study approach of aquaculture for the Study for Improving Rural People's Livelihoods through Agricultural Activities and Sound Natural Resources Management in the State of Amazonas in the Federative Republic of Brazil (hereinafter, referred to as "the Study") on 27 September 2000 at IDAM Headquarters, Manaus. The following are the main issues discussed and agreed upon by the both sides.

1. Fish species to be studied

As for fish species to be investigated in the Study, IDAM and JICA agreed in the Minutes of Meetings of Scope of Work for the Study on 15 January 2000 as follows:

The study shall focus on the fishes, which IDAM is planning to develop a hatchery technology in a future on, such as pirarucu (*Arapaima gigas*), mantrincha (*Bryrycon cephalus*), surubin (*Pseudoplatystoma fasciatum*) and jaraqui (*Semaprochilodus insignis*) are to be studied.

Based upon the finding of the first field survey, the JICA study team recommended to carry out more investigation about existing aquaculture species namely tambaqui (*Colossoma macropomum*) in addition to the above four new species from the aspect of aquaculture extension to small-scale family farmers.

IDAM understood the recommendation and proposed the JICA study team to include tambaqui as an additional species to be studied.

As the result of discussion, IDAM and the JICA study team confirmed that the said four new species and tambaqui, shall be investigated development potentials in this Study from the aspect of introducing them as an alternative livelihood for the beneficiaries of the Study.

2. Scope of study

The scope of study for aquaculture is stated as 1) Market trend and 2) Rural economy and credit in the Scope of Work for this Study exchanged on 15 January 2000. This scope of the study is appropriate for the four new species. On the other hand, more study can be possible and necessary for tambaqui such as production and post harvest activities and present extension activities for agriculture product. Both IDAM and the JICA study team understood the rational of scope of study that would be extended partly.

List of Participants

[Brazilian Side]

Luis Antônio A. Cruz	IDAM, Technical Director
Eda Maria Oliva Souza	IDAM, Project and Program Manager
Armando Jorge Luz da Silva	IDAM, Information Manager
Alfredo da Silva Pinheiro	IDAM, Planning Coordinator
Maria Aldenir Mota de Brito	IDAM, Agronomist – Vegetal Production
Márcia Gonçalves Kaneko	IDAM, Manager Marketing
Geraldo Couto Araújo	IDAM, Coordinator of Rural Extention
Alfeu Ferraz Filho	IDAM, Extentionist

[Japanese Side]

JICA Study Team

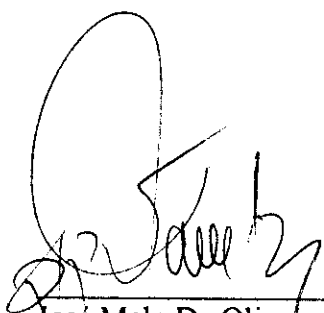
Masamitsu FUJIOKA	Team Leader
John E. BOWMAN	Agricultural Product Processing and Distribution Expert
Masanori DOI	Fishery Product Processing and Distribution Expert
Yasuko HACHIYA	Work Coordinator
Masanori OMURA	Study Supporter

JICA Belem Branch

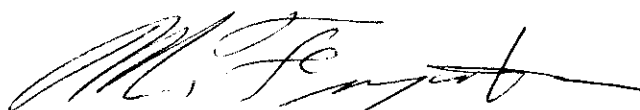
Tatsuo SUZUKI	JICA Belem, Resident Representative
Flávio K. TODAKA	JICA Belem, Staff

MINUTES OF MEETING
ON
PROGRESS REPORT II
FOR
THE STUDY FOR IMPROVING RURAL PEOPLE'S LIVELIHOODS
THROUGH
AGRICULTURAL ACTIVITIES
AND SOUND NATURAL RESOURCES MANAGEMENT
IN THE STATE OF AMAZONAS
IN THE FEDERATIVE REPUBLIC OF BRAZIL

Manaus, December 18, 2000

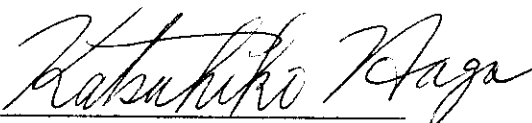


José Melo De Oliveira
President Director
Institute of Agricultural and Livestock
Development of the State of Amazonas
(IDAM)



Masamitsu FUJIOKA
Team Leader
JICA Study Team

Witness by



Katsuhiko HAGA
Resident Representative of JICA-Belem,
JICA Brazil Office

The Institute of Agricultural Development for the State of Amazonas (IDAM) and the JICA Study Team held a meeting to conclude the second field phase of "A Study to Improve the Quality of Life of Rural Populations through Agricultural Development and Sound Natural Resources Management in the State of Amazonas, Federal Republic of Brazil". The meeting was held at the headquarters of IPAAM in Manaus on the 18th of December, 2000. More than twenty participants from IDAM, JICA-Belem, the JICA Study Team, and the State Secretariat of the Interior attended the meeting. In this meeting, the JICA Study Team officially delivered Progress Report II to IDAM.

The JICA Study Team explained that whereas Progress Report I had focused on an overall description of the existing conditions in the target municipalities, Progress Report II provides a more complete description of these conditions together with an analysis of the main problems at the level of small-scale farmers. Specifically, the beneficiaries of the project were clearly defined and a series of workshops were held with the beneficiaries to identify their major problems and needs in the important areas of agronomic production, marketing, and healthcare assistance. These workshops were managed with a close cooperation between IDAM and the JICA Study Team.

Also noted was the close cooperation between IDAM and the JICA Study Team in defining the logical framework for problem analysis and objective analysis for Progress Report II. The framework focused on approaches to the three important areas of productivity and quality improvement, marketing improvement, and the improvement of social conditions. Through the close cooperation experienced in the second field phase, JICA and IDAM agreed that problem analysis for the third field phase should emphasize:

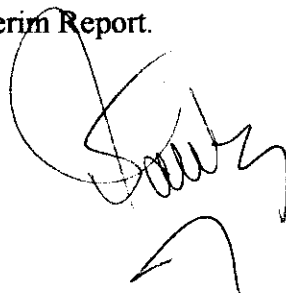
1. Solutions to the problem of poor farmer organization
2. Solutions to the problem of insufficient support services

IDAM noted that the good level of cooperation between JICA and IDAM had been maintained during the second field phase. IDAM also appreciated JICA's efforts to spend a considerable amount of time in the rural communities conducting problem analysis with the small farmers themselves. IDAM also mentioned that they look forward to continuous cooperation during the next field phase, and they promised to improve office conditions for the JICA Team.

JICA-Belem expressed its satisfaction with the collaborative work between the Study Team and IDAM, and looked forward to completion of the studies during the next field phase.

The meeting was concluded by the representative from the Secretary of the Interior, Dr. Marcos Daniel Dias de Andrade, who looked forward to working more closely with IDAM and JICA in the next field phase, and who mentioned that significant budget increases for staff and equipment are forthcoming for IDAM in 2001. In summary:

1. Progress Report II was generally accepted by IDAM and JICA by mutual confirmation
2. The JICA Study Team expects that IDAM will submit written comments on Progress Report II before submission of the Interim Report.



List of Participants

[Brazil Side]

Marcos Daniel Dias de Andrade
Eda Maria Oliva Souza
Armando Jorge Luz da Silva
Washington Luis Aguiar
Ana Fabiola Coelho
Alfeu Ferraz Filho
Marcia Goncalves Kaneko

Additional Executive Secretary / SEINT
IDAM, Project and Program Manager
IDAM, Information Manager
IDAM, Vegetal Production Manager
IDAM, Tropical Fruits / Post-harvest
IDAM, Extentionist
IDAM, Marketing Manager

[Japanese Side]

JICA Study Team

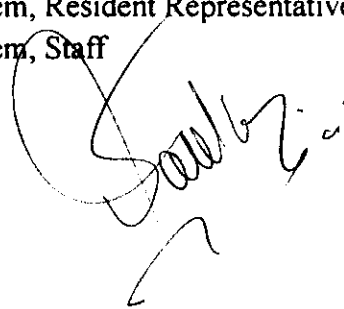
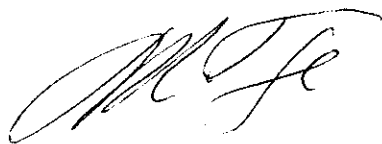
Masamitsu FUJIOKA
Shigeru KANAYA
Toshiaki NAGAYA
Suzunne S. SAULNIERS
R. ROJAS
Yoshihiko OGATA
John E. BOWMAN
Masanori DOI
Yasuko HACHIYA
Masanori OMURA

Team Leader
Environment
Marketing
Rural Society
Tropical Fruits
Vegetable
Agricultural Product Processing & Distribution
Fishery Product Processing & Distribution
Work Coodinator
Study Supporter

JICA Belem Branch

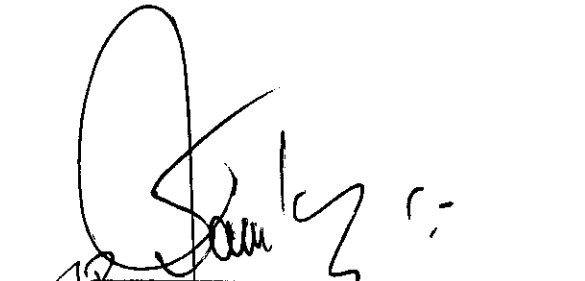
Katsuhiko HAGA
Flavio K. TODAKA

JICA Belem, Resident Representative
JICA Belem, Staff

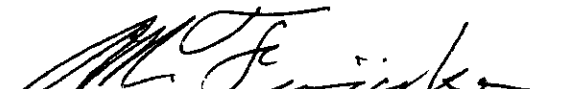


MINUTES OF MEETING
ON
INTERIM REPORT
FOR
THE STUDY FOR IMPROVING RURAL PEOPLE'S LIVELIHOODS
THROUGH
AGRICULTURAL ACTIVITIES
AND SOUND NATURAL RESOURCES MANAGEMENT
IN THE STATE OF AMAZONAS
IN THE FEDERATIVE REPUBLIC OF BRAZIL

Manaus, May 7, 2001




José Melo De Oliveira
President Director
Institute of Agricultural and Livestock
Development of the State of Amazons
(IDAM)



Masamitsu FUJIOKA
Team Leader
JICA Study Team

Witness by



Junichi HANAI
Adviser for Project,
JICA Headquarters Office, Tokyo

MINUTES OF MEETING
ON
THE INTERIM REPORT
FOR
THE STUDY FOR IMPROVING RURAL PEOPLE'S LIVELIHOODS
THROUGH
AGRICULTURAL ACTIVITIES
AND SOUND NATURAL RESOURCES MANAGEMENT
IN THE STATE OF AMAZONAS
IN THE FEDERATIVE REPUBLIC OF BRAZIL

DATE: May 4 and 5, 2001

TIME: May 4: 9:00 a.m. to 6:30 p.m.
May 5: 8:30 a.m. to 11:30 a.m.

VENUE: Meeting Room, IDAM Headquarters, Manaus

ATTENDANCE: As listed in Annex

The JICA Study Team submitted 20 copies of the Interim Report written in Portuguese and 10 copies in English to IDAM on May 4, 2001. The meeting was convened to explain and discuss the Interim Report.

The meeting was opened by Mr. Junichi HANAI, the Advisor for the Project dispatched by JICA headquarters in Tokyo, who commented on the importance of this natural resources management project to the rural inhabitants of Amazonia. He also expressed the keen interest of JICA and the Consulate General of Japan in this project.

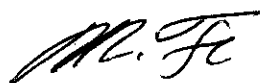
Mr. Masamitsu FUJIOKA, Team Leader of the JICA Study Team, made a detailed explanation of the Interim Report.

In principle, the Brazilian side accepted the contents of the Interim Report, and indicated that the strategies for planning proposed by the JICA Study Team were highly appreciated – especially the following matters:

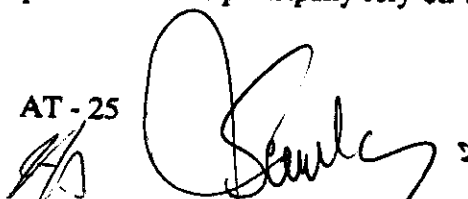
1. The following basic project approaches were selected through objective analysis.
 - 1) Productivity and quality improvement approach
 - 2) Marketing improvement approach
 - 3) Social conditions improvement approach

The above are the basic development strategies and the basic approaches for improving the livelihood of the regional inhabitants. The plan will be structured based on these basic development strategies.

Putting the basic strategies into practice would principally rely on the strength of



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farmers' organizations, and supporting services, especially those of IDAM. These correspond to the articles of "Advancement of farmers' technology and knowledge", "Strengthening farmers' organizations" and "Adequate supporting service and research" described in the objective tree. Sustainable rural development would be based on development and improvement of both farmers' and IDAM capacity, therefore capacity building of both sides is recognized to be the key strategy. Capacity building is targeted not only at farmers but for IDAM (as the main implementation agency) as well; so planning focused on this key strategy could be justifiable as a major element of the actualization plan.

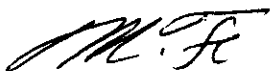
2. The following items were established as approaches to achieve the target of improvement of the support system. These approaches shall include the following sub-projects:
 - 1) The need to reorganize the organizational structure of IDAM to meet future demands of the project
 - 2) Development of IDAM's human resources
 - 3) Building the support system of IDAM (Improved technology and information network to address the lack of budget and human resources. Increased farmers participation in the extension activities.)

The IDAM side made the following comments:

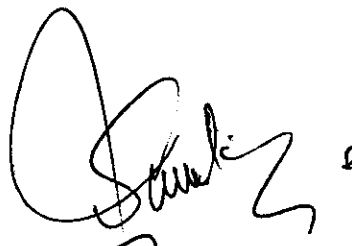
1. The basic components of each sector are basically agreed upon. In the third field study, there might be increased level of participation of the municipal Mayors' office in project planning.
2. The meeting was concluded by the representative from the Secretary of the Interior, Dr. Marcos Daniel Dias de Andrade, who expressed his satisfaction with the strong sense of cooperation between IDAM and the JICA Study Team. Additionally, he reported that the State Government of Amazonas recently supplemented IDAM's budget for 2001 to approximately R\$ 60 million- a figure which represents a significant increase over the 2000 budget of R\$ 25 million. Some important projects which are already being pursued through these funds include support of:
 - 1) Processing plants for agricultural products
 - 2) Improved infrastructure for rural communities
 - 3) Implementation of agricultural programs
 - 4) Protection of the entire agro-ecosystem

The JICA Study Team replied to the comments of IDAM side as follows:

The JICA Study Team agreed that the third field study might be implemented with close cooperation between IDAM and Mayors' offices.



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List of Participants

[Brazil Side]

Marcos Daniel Dias de Andrade	Additional Executive Secretary / SEINT
Alfredo Da Silva Pinheiro	IDAM, Planning Development Coordinator
Eda Maria Oliva Souza	IDAM, Project and Program Manager
Armando Jorge Luz da Silva	IDAM, Information Manager
Washington Luis Aguiar	IDAM, Vegetal Production Manager
Maria Aldenie Mota De Brito	IDAM, Tropical Fruits / Post-harvest
Alfeu Ferraz Filho	IDAM, Extentionist
Marcia Goncalves Kaneko	IDAM, Marketing Manager
Geraldo Couto Araujo	IDAM, Technical Assist. / Rural Exp.
Ana Paula Cardoso De Queiroz	IDAM, Vegetal Production Engineer
João Bosco Alves Siqueira	IDAM, Aquaculture Manager / Fishery

[Japanese Side]

JICA Study Team

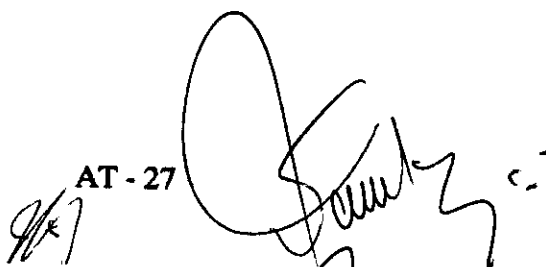
Masamitsu FUJIOKA	Team Leader
Rafael M. ROJAS	Tropical Fruits
John E. BOWMAN	Agricultural Product Processing & Distribution
Masanori OMURA	Work Coordinator

JICA Office

Junichi HANAI	JICA Headquarter, Tokyo
Flavio K. TODAKA	JICA Belem, Staff
Yoshinori SHIBATA	JICA Brazil, Staff

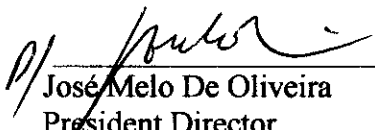


AT - 27




MINUTES OF MEETING
ON
PROGRESS REPORT III
FOR
THE STUDY FOR IMPROVING RURAL PEOPLE'S LIVELIHOODS
THROUGH
AGRICULTURAL ACTIVITIES
AND SOUND NATURAL RESOURCES MANAGEMENT
IN THE STATE OF AMAZONAS
IN THE FEDERATIVE REPUBLIC OF BRAZIL

Manaus, August 15, 2001

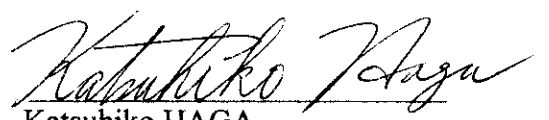


José Melo De Oliveira
President Director
Institute of Agricultural and Livestock
Development of the State of Amazonas
(IDAM)



Masamitsu FUJIOKA
Team Leader
JICA Study Team

Witness by



Katsuhiko HAGA
Resident Representative of JICA-Belem,
JICA Brazil Office

The Institute of Agricultural Development for the State of Amazonas (IDAM) and the JICA Study Team held a meeting to conclude the second phase of "A Study to Improve the Quality of Life of Rural Populations through Agricultural Development and Sound Natural Resources Management in the State of Amazonas, Federal Republic of Brazil". The meeting was held at the headquarters of IPAAM in Manaus on the 15th of August, 2001. More than thirty participants from IDAM, JICA-Belem, the JICA Study Team, the State Secretariat of the Interior, EMBRAPA, INPA, IBAMA, and IPAAM attended the meeting. In this meeting, the JICA Study Team officially delivered Progress Report III to IDAM.

The JICA Study Team explained that Progress Report III presented a summary of lessons learnt from additional field studies in order to confirm previous field studies and Final Project activities previously proposed in the Interim Report.

Progress Report III was well received by all the participants. IDAM especially appreciated the new field findings and new modifications for the Final Project activities. IDAM also appreciated the close level of cooperation between the JICA Study Team and IDAM specialists, principally those located in Manaus, Maues, Itacoatiara, and Iranduba.

The President of IDAM expressed his high level of satisfaction with the findings of the JICA Study Team, acknowledged its high level of importance to the State, and suggested that the Final Project should be extended to many other municipalities in Amazonas.

The JICA Study Team made a final suggestion that to the President of IDAM that the State should make a significant "capacity-building" effort to finance the training of IDAM staff of all technical levels, in all areas that are relevant to this Project.



List of Participants

[Brazil Side]

José Melo	IDAM, President
Marcos Daniel Dias de Andrade	Additional Executive Secretary / SEINT
Eda Maria Oliva Souza	IDAM, Project and Program Manager
Armando Jorge Luz da Silva	IDAM, Information Manager
Alfredo da Silva Pinheiro	IDAM, Technicians Manager
Ana Fabíola da Silva Coelho	IDAM, Tropical Fruits / Post-harvest
Alfeu Ferraz Filho	IDAM, Extensionist
Marcia Goncalves Kaneko	IDAM, Marketing Manager
Paulo Levy de Carvalho	IDAM, Technical Engineer of Maués
Ana Paula C. Queiroz de Paiva	IDAM, Forestry Engineer
Luiz Armando da Silva	IDAM, Agronomist
Maria Aldenir M. de Brito	IDAM, Agronomist
Geraldo Couto Araujo	IDAM, Agronomist
Hugo Stênio Gama dos Santos	IDAM, Agropecuary Technicians
Rolângio Pereira de Souza	IDAM, Agronomist
Eulinda Silveira	IBAMA, Technicians of Education
Gladys Ferreira de Souza	EMBRAPA, Researcher
José Nestor Lourenço	EMBRAPA, Project Leader
Hiroshi Noda	INPA, Substitute Researcher

[Japanese Side]

JICA Study Team


Masamitsu FUJIOKA	Team Leader
Suzanne S. SAULNIERS	Rural Society
Yoshihiko OGATA	Vegetable
John E. BOWMAN	Agricultural Product Processing & Distribution
Masanori DOI	Fishery Product Processing & Distribution
Masanori OMURA	Study Supporter

JICA Belem Branch

Katsuhiko HAGA	JICA Belem, Resident Representative
Flavio K. TODAKA	JICA Belem, Staff
Jun SHIMA	JICA Belem, Executive manager
Chiham MORITA	JICA Belém, Coordinator

MINUTES OF MEETING
ON
DRAFT FINAL REPORT
FOR
THE STUDY FOR IMPROVING RURAL PEOPLE'S LIVELIHOODS
THROUGH
AGRICULTURAL ACTIVITIES
AND SOUND NATURAL RESOURCES MANAGEMENT
IN THE STATE OF AMAZONAS
IN THE FEDERATIVE REPUBLIC OF BRAZIL

Manaus, January 11, 2002



Marcos Daniel Dias de Andrade
Adjunct Executive Secretary
Secretary of Interior/
Institute of Agricultural and Livestock
Development of the State of Amazonas
(SEINT/IDAM)



Masamitsu FUJIOKA
Team Leader
JICA Study Team



Katsuhiko HAGA
Resident Representative of JICA-Belem,
JICA Brazil Office

MINUTES OF MEETING
ON
THE DRAFT FINAL REPORT
FOR
THE STUDY FOR IMPROVING RURAL PEOPLE'S LIVELIHOODS
THROUGH
AGRICULTURAL ACTIVITIES
AND SOUND NATURAL RESOURCES MANAGEMENT
IN THE STATE OF AMAZONAS
IN THE FEDERATIVE REPUBLIC OF BRAZIL

DATE: January 10 and 11, 2002

TIME: January 10: 9:30 a.m. to 5:30 p.m.
January 11: 9:30 a.m. to 12:30 p.m.

VENUE: Auditorium, IDAM Headquarters, Manaus

ATTENDANCE: As listed in Annex

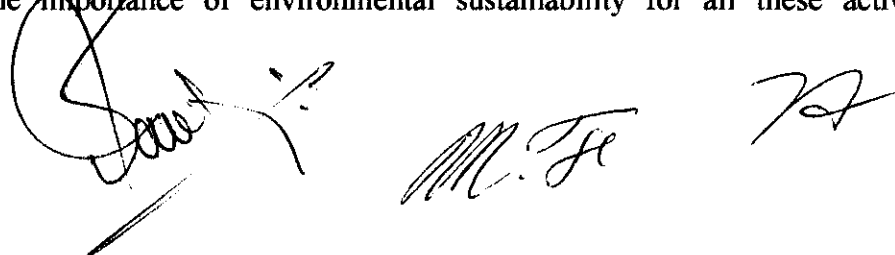
The JICA Study Team submitted 40 copies of the Draft Final Report written in Portuguese and 10 copies in English to IDAM on January 11, 2002. The meeting was convened to explain and discuss the Draft Final Report.

The meeting was opened by Mr. Katsuhiko Haga, the Coordinator for the JICA Regional Office in Belem/PARA, who commented on the importance of this study for natural resources management and rural development in the State of Amazonas.

Opening comments for the Brazilian side were made on behalf of IDAM President Director Jose Melo de Oliveira by the Adjunct Executive Secretary of IDAM, Mr. Marcos Daniel Dias de Andrade. The Brazilian side commented on the importance of the entire 2-year study process to the State of Amazonas, particularly with regard to technology transfer to counterpart staff of IDAM.

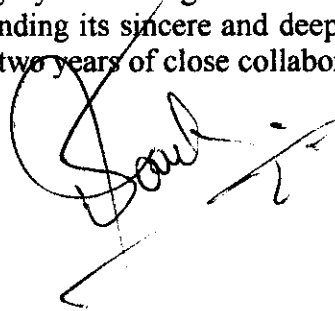
Mr. Masamitsu Fujioka, Team Leader of the JICA Study Team, made a detailed explanation of the Draft Final Report to key staff of IDAM and participants from other State and Federal cooperation agencies.

A detailed discussion on the key points of the Executive Summary of the Draft Final Report was led by Dra. Eda Maria Oliva Souza, Manager of IDAM Projects and Programs. Activities proposed by the Study Team for the strengthening of community groups, agricultural production, aquaculture production, processing, distribution, and marketing were discussed. The importance of environmental sustainability for all these activities was emphasized.



The meeting was concluded with both IDAM and JICA in agreement to the following points:

1. The Draft Final Report was accepted by IDAM without the need for any major revisions. IDAM's concluded that from its perspective, the report had met all the obligations as outlined in prior discussions between IDAM and JICA. IDAM considered the report to be of very high quality and of very high value to the State of Amazonas. IDAM complemented the JICA Study Team members for their highly professional conduct and their ability to promote the spirit of team work with IDAM counterpart staff in Manaus and in the municipalities.
2. IDAM stated that the Draft Final Report, after some minor revisions to address discrepancies in translation of technical terminology, will now be utilized as an important instrument of negotiation through which IDAM can pursue new partnerships and financing options with local, state, federal, and international agencies.
3. IDAM indicated a preliminary interest in initiating new activities and seeking technical assistance in "high priority" areas such as capacity building for IDAM staff, strengthening of community organizations, and improving market access.
4. It was agreed by both Sides that a meaningful step towards implementation of activities proposed by the Study would be for IDAM to initiate a focused and limited request for "technical cooperation" from JICA. The JICA Representative from Belem stated that the Belem Regional Office would be available to assist IDAM in its preparation of such a request, which would eventually be presented to the Government of Japan through the official channels of the "Brazilian Cooperation Agency" (ABC).
5. IDAM concluded the meeting by reiterating its extreme level of satisfaction with the Draft Final Report, while extending its sincere and deepest appreciation to JICA and the Government of Japan for over two years of close collaboration in this important effort.



List of Participants

(Brazil Side)

Marcos Daniel Dias de Andrade	Adjunct Executive Secretary - SEINT/IDAM
Alfredo da Silva Pinheiro	IDAM, Technical Manager
Eda Oliva Souza	IDAM, Coordinator of Study Team Counterparts
Armando Jorge Luz da Silva	IDAM, Chief of Planning Department
Geraldo Couto Araújo	IDAM, Chief of ATER
Hugo Stênio Gama dos Santos	IDAM, Manager of Monitoring and Control
Sidney Reis Coelho	IDAM, Director of Administration and Finance
Marcia Gonçalves Kaneko	IDAM, Agribusiness Manager
Ana Fabíola da Silva Coelho	IDAM, Irlanduba
Rolângio Pereira de Souza	IDAM, Irlanduba
Paulo César Levy de Carvalho	IDAM, Maués
Fernando Albreto de Lima e Silva	AFEAM
Jessé José Vieira da Cunha	AFEAM
Hiroshi Noda	INPA
Aparecida das G. Claret de Souza	EMBRAPA
André Luiz Atroch	EMBRAPA
Jeferson Luiz de Macêdo	EMBRAPA
Malvino Salvador	IBAMA

(Japanese Side)

Katsuhiko HAGA	JICA Belem, Resident Representative
Masamitsu FUJIOKA	JICA, Study Team Leader
John E. BOWMAN	JICA, Study Team Member
Yoshihiko OGATA	JICA, Study Team Member

