

Table AT-6-11 Ranking Evaluation Matrix for Prioritization of the Potential Orchard Development Sites and Projects in North Sumatra

Project Code/ Development Districts	Ranking		(1) Natural Condition											(2) Seeding Production			(3) Institutional Capability			(4) Development Needs				(5) Social Acceptability			(6) Crop Marketability			(7) Crop Profitability					
	Final Rank	Weighted Total Points*	Accumulated Scores	Agro-climate suitability	Physiography	Land availability and development potentials	Present land use condition and land preparation	Available farmland for fruit orchard development	Availability of water resources	Availability of recommended variety	Reliability of recommended mother plant variety	Seeding quality	Extension service system	Service capacity of extension workers	Possibility of organizing fruit growers	Alleviation of poverty	Opportunity of employment generation	Contribution to reduction of the regional disparities	Enhancement of agro-industry	Environmentally friendly development	Farmers' intention to promote orchard development	Farmers' familiarity with fruit growing	Contribution to improvement of the gender issue	Transportation and quality conservation	Local market size	Accessibility to regional markets	Supply and demand situation	Relationship between production and price	Crop budget analysing production cost and returns	Initial working capital requirement	Increase of farm income				
(1) Duanan																																			
NS(DR)-1 Dairi	4	9.12	59	3	1	3	2	2	3	2	2	2	3	2	3	3	2	2	1	3	2	2	2	1	1	1	2	2	2	2	2	2			
NS(DR)-2 Tapanuli Tengah	3	10.13	65	3	3	3	2	2	3	2	2	3	3	2	2	3	3	2	3	3	3	2	2	1	1	1	2	2	2	2	2	2			
NS(DR)-3 Tapanuli Utara	5	9.12	59	3	1	2	3	1	3	1	2	2	3	3	3	1	2	2	2	3	3	2	2	1	1	1	2	2	2	2	2	2			
(2) Mangosteen																																			
NS(MN)-1 Tapanuli Selatan	8	7.95	51	2	1	2	3	1	2	1	1	2	1	3	3	2	2	1	2	3	2	2	1	2	1	3	2	1	1	1	1	1	1		
NS(MN)-2 Tapanuli Utara	7	8.15	55	3	1	2	3	2	1	3	1	2	2	3	3	2	1	1	1	3	1	2	1	1	1	3	2	1	1	1	1	1	1		
(3) Marquisa																																			
NS(MA)-1 Karo	2	10.48	65	2	2	2	3	3	2	3	1	2	2	2	1	3	2	3	3	3	3	2	3	2	3	1	2	2	2	2	2	3	3		
(4) Rambutan																																			
NS(RB)-1 Langkat	1	10.93	69	3	3	2	3	2	3	1	2	2	3	3	1	3	1	1	3	3	3	3	3	3	2	3	3	2	2	2	2	2	2	2	
(5) Salak																																			
NS(SK)-1 Tapanuli Selatan	6	8.81	55	2	2	2	3	1	2	1	1	1	1	3	2	2	2	2	2	2	3	2	2	2	2	1	1	2	3	2	3	2	3	3	

Notes: SCORING (1) Very Good (2) Good (3) Not Good (4) None

POINTS 3 2 1 0

NS = North Sumatra DR = Durian MN = Mangosteen MA = Marquisa RB = Rambutan SK = Salak

WEIGHT RATIO* (1) Natural Condition 0.20 (5) Social Acceptability 0.15 (2) Seeding Production 0.05 (6) Crop Marketability 0.17 (3) Institutional Capability 0.10 (7) Crop Profitability 0.15 (4) Development Needs 0.18 TOTAL 1.00

Source: JICA Study Team

Table AT-6-12 Ranking Evaluation Matrix for Prioritization of the Potential Orchard Development Sites and Projects in West Java

Project Code/ Development Districts	Ranking		(1) Natural Condition							(2) Seeding Production			(3) Institutional Capability			(4) Development Needs				(5) Social Acceptability			(6) Crop Marketability			(7) Crop Profitability						
	Final Rank	Weighted Total Points*	Accumulated Scores	Agro-climatic suitability	Physiography	Soils	Land availability and development potentials	Present land use condition and land preparation	Available farmland for fruit orchard development	Availability of water resources	Availability of recommended variety	Reliability of recommended mother plant variety	Seeding quality	Extension service system	Service capacity of extension workers	Possibility of organizing fruit growers	Alleviation of poverty	Opportunity of employment generation	Contribution to reduction of the regional disparities	Enhancement of agro-industry	Environmentally friendly development	Farmer's intention to promote orchard development	Farmer's familiarity with fruit growing	Contribution to improvement of the gender issue	Transportation and quality conservation	Local market size	Accessibility to regional markets	Supply and demand situation	Relationship between production and price	Crop budget analyzing production cost and returns	Initial working capital requirement	Increase of farm income
(1) Avocado WJ(AV)-1 Bandung	5	7.75	51	2	1	2	2	1	1	2	2	2	1	2	3	2	2	1	1	1	1	2	2	3	3	1	2	1	2	1	1	
(2) Duku WJ(DK)-1 Ciamis	6	7.60	49	2	1	2	2	1	1	1	1	2	2	2	3	2	3	1	1	2	2	2	2	2	2	2	1	2	1	1	1	
(3) Durian WJ(DR)-1 Bogor	2	9.50	63	3	1	2	2	1	2	3	3	2	1	3	3	2	2	1	2	2	2	2	2	3	3	3	2	2	2	2	2	
(4) Mango WJ(MO)-1 Sumedang	1	9.50	63	2	3	2	2	3	1	1	2	3	2	1	2	3	1	2	3	2	1	2	3	2	3	3	2	2	2	2	2	2
(5) Mangosteen WJ(MN)-1 Purwakarta	4	9.01	57	3	1	2	2	1	2	1	1	2	2	2	3	2	2	2	1	3	3	2	2	2	3	3	2	1	1	1	1	1
(6) Salak WJ(SK)-1 Tasikmalaya	3	9.21	58	3	1	2	2	2	1	1	1	1	1	1	2	3	2	2	2	2	3	3	3	2	2	2	1	2	3	2	3	3

Notes : SCORING (1) Very Good (2) Good (3) Not Good (4) None

POINTS 3 2 1 0

WJ = West Java AV = Avocado DK = Duku DR = Durian MO = Mango MN = Mangosteen

WEIGHT RATIO* (1) Natural Condition 0.20 (5) Social Acceptability 0.15 (2) Seeding Production 0.05 (6) Crop Marketability 0.17 (3) Institutional Capability 0.10 (7) Crop Profitability 0.15 (4) Development Needs 0.18 TOTAL 1.00

Source: JICA Study Team

Table AT-6-14 Ranking Evaluation Matrix for Prioritization of the Potential Orchard Development Sites and Projects in South Sulawesi

Project Code/ Development Districts	Ranking			(1) Natural Condition			(2) Seedling Production		(3) Institutional Capability			(4) Development Needs				(5) Social Acceptability			(6) Crop Marketability			(7) Crop Profitability									
	Final Rank	Weighted Total Points*	Accumulated Scores	Soils	Physiography	and availability and development potentials	Present land use condition and land preparation	Available farmland for fruit orchard development	Availability of water resources	Availability of recommended variety	Reliability of recommended mother plant variety	Seedling quality	Extension service system	Service capacity of extension workers	Possibility of organizing fruit growers	Alleviation of poverty	Opportunity of employment generation	Contribution to reduction of the regional disparities	Enhancement of agro-industry	Environmentally friendly development	Farmer's intention to promote orchard development	Farmer's familiarity with fruit growing	Contribution to improvement of the gender issue	Transportation and quality conservation	Local market size	Accessibility to regional markets	Supply and demand situation	Relationship between production and price	Crop budget analyzing production cost and returns	Initial working capital requirement	Increase of farm income
(1) Avocado																															
SS(AV)-1 Gowa	15	7,59	50	2	1	1	1	1	1	1	2	1	3	2	3	2	1	1	1	3	3	2	3	2	2	1	2	1	2	1	
SS(AV)-2 Soppeng	12	7,96	51	3	2	2	1	2	2	1	2	2	3	2	1	2	2	1	1	2	1	2	2	3	1	2	1	2	1	2	
(2) Mango																															
SS(MO)-1 Sideteng Rappang	7	7,72	51	2	1	2	1	1	1	1	3	2	2	2	1	3	2	2	1	1	1	2	1	2	3	1	2	2	2	2	
SS(MO)-2 Majene	7	8,44	55	2	2	1	2	1	1	1	3	2	2	3	3	3	2	2	1	1	2	2	2	2	2	1	2	2	2	2	
SS(MO)-3 Bone	11	8,18	55	1	1	2	1	2	1	1	3	2	3	2	3	2	2	1	3	2	2	2	2	2	2	1	2	2	2	2	
SS(MO)-4 Maros	5	8,76	57	2	2	2	1	1	1	1	3	2	1	3	2	3	2	2	2	2	2	2	2	2	2	2	1	2	2	2	
SS(MO)-5 Wajo	3	9,11	59	2	2	2	1	2	1	1	3	2	2	3	1	3	2	2	2	3	2	2	2	2	2	1	2	2	2	2	
(3) Mangosteen																															
SS(MN)-1 Tana Toraja	13	7,78	51	3	1	1	1	1	1	1	2	2	3	2	3	2	3	1	2	3	1	2	2	1	2	3	2	1	1	1	
SS(MN)-2 Polewali Mamasa	10	8,19	54	3	1	1	1	1	1	1	2	2	3	3	3	2	2	1	2	3	2	2	2	3	2	3	2	1	1	1	
(4) Marquis																															
SS(MA)-1 Gowa	4	8,97	57	2	1	2	2	1	1	1	1	1	1	3	3	3	2	3	2	3	3	2	3	2	2	1	1	2	2	3	
SS(MA)-2 Tana Toraja	9	8,41	54	2	1	2	1	1	0	1	1	1	3	2	3	3	3	2	3	3	2	2	2	2	1	2	1	2	2	3	
(5) Rambutan																															
SS(RB)-1 Mamuju	1	9,52	63	2	3	2	2	2	1	1	3	2	2	3	2	3	3	1	3	3	2	2	2	1	1	3	2	2	2	2	
SS(RB)-2 Brekang	8	8,42	54	3	1	1	2	1	1	1	3	2	0	2	1	2	3	2	1	2	2	3	2	2	1	3	2	2	2	2	
SS(RB)-3 Pinrang	6	8,61	58	2	2	1	2	1	1	1	2	3	3	3	2	2	3	2	1	1	2	2	2	2	2	2	3	2	2	2	
SS(RB)-4 Barru	2	9,16	60	2	2	2	2	1	2	1	2	3	2	3	1	2	3	3	1	1	2	2	3	2	3	2	3	2	2	2	

Notes: SCORING (1) Very Good (2) Good (3) Not Good (4) None

POINTS 3 2 1 0

SS = South Sulawesi

AV = Avocado MA = Marquisa

MO = Mango RA = Rambutan

MN = Mangosteen

Source: JICA Study Team

WEIGHT RATIO* (1) Natural Condition 0.20 (5) Social Acceptability 0.15 (2) Seedling Production 0.05 (6) Crop Marketability 0.17 (3) Institutional Capability 0.10 (7) Crop Profitability 0.15 (4) Development Needs 0.18 TOTAL 1.00

Table AT-6-15 Ranking Evaluation Matrix for Prioritization of the Potential Orchard Development Sites and Projects in the Study Provinces

Key Assessment Factor	Ranking	(1) Natural Condition		(2) Seedling Production		(3) Institutional Capabilities		(4) Development Needs		(5) Social Appropriability		(6) Crop Appropriability		(7) Crop Profitability																		
		Agro-ecological suitability	Agro-ecology	Soil	and suitability and development potentials	Proven land use condition and land preparation	Available land for fruit orchard development	Availability of water resources	Subtotal	Availability of recommended variety	Ability of recommended mother plant variety	Seedling quality	Subtotal		Extension service system	Service capacity of extension workers	Possibility of organizing fruit growers	Subtotal	Availability of poverty	Opportunity of employment generation	Contribution to reduction of the regional disparities	Environmentally friendly development	Government incentive to promote orchard development	Government's priority with fruit growing	Contribution to improvement of the gender issue	Subtotal	Transportation and quality control system	Local market size	Accessibility to regional markets	Supply and demand situation	Relationship between production and price	Subtotal
Project Code/ Development District	Final Rank	Weighted Total Points*	Accumulated Scores																													
NS(RB)-1 Langkat	1	1001	691																													
SS(QA)-1 Karo	2	1048	693																													
EJ(BA)-1 Jombang	3	1040	690																													
EJ(BA)-2 Lumajang	4	1018	681																													
NS(DR)-2 Tapanuli Tengah	5	1013	683																													
EJ(SK)-1 Malang	6	1000	673																													
EJ(DR)-1 Jombang	7	975	683																													
EJ(DK)-1 Tulungagung	8	962	683																													
WJ(MO)-1 Sumedang	9	959	673																													
SS(RB)-1 Madiun	10	955	673																													
WJ(DR)-1 Bogor	11	958	673																													
WJ(SK)-1 Tasmalaya	12	921	686																													
EJ(AV)-1 Lumajang	13	917	690																													
SS(RB)-1 Baru	14	916	690																													
NS(DR)-1 Dairi	15	912	694																													
NS(DR)-3 Tapanuli Utara	16	912	691																													
SS(MO)-5 Way	17	911	696																													
EJ(MO)-1 Paseran	18	910	686																													
WJ(MN)-1 Purwokarta	19	901	671																													
SS(MA)-1 Gowa	20	897	673																													
EJ(DR)-2 Trenggali	21	898	686																													
NS(SK)-1 Tapanuli Selatan	22	881	679																													
SS(MO)-4 Maros	23	876	671																													
SS(RB)-3 Pinrang	24	861	680																													
SS(MO)-2 Majene	25	844	673																													
SS(RB)-2 Enrekang	26	842	684																													
SS(MA)-2 Tana Toraja	27	841	680																													
SS(MN)-2 Pulwadi Mamasa	28	819	684																													
SS(MO)-3 Bunc	29	818	685																													
NS(MN)-2 Tapanuli Utara	30	815	671																													
NS(MN)-1 Tapanuli Selatan	31	795	671																													
SS(AV)-2 Soppeng	32	786	671																													
SS(MN)-1 Tana Toraja	33	778	671																													
WJ(AV)-1 Bandung	34	775	671																													
SS(MO)-1 Sukorejo Kupang	35	772	671																													
WJ(DK)-1 Ciamis	36	760	680																													
SS(AV)-1 Gowa	37	758	686																													

Source: JICA Study Team

Table AT-6-16 Evaluation Results of the Prioritized Orchard Development Projects (ODPs)

Project Code Development Districts	Accumulated Scores	Weighted Points	Priority Ranking (Weighted Points)		Proposed Implementation		
			Each Province	Study Area	Phase I*	Phase II**	Phase III
1. North Sumatra							
<i>(1) Durian</i>							
NS(DR)-1 Dairi	59	9.12	4	15		○	
NS(DR)-2 Tapanuli Tengah	65	10.13	3	5	○		
NS(DR)-3 Tapanuli Utara	59	9.12	5	16		○	
<i>(2) Mangosteen</i>							
NS(MN)-1 Tapanuli Selatan	51	7.95	8	31			○
NS(MN)-2 Tapanuli Utara	52	8.15	7	30			○
<i>(3) Marquise</i>							
NS(MA)-1 Karo	65	10.43	2	2	○		
<i>(4) Rambutan</i>							
NS(RB)-1 Langkat	69	10.93	1	1	○		
<i>(5) Salak</i>							
NS(SK)-1 Tapanuli Selatan	55	8.81	6	22		○	
2. West Java							
<i>(1) Avocado</i>							
WJ(AV)-1 Bandung	51	7.75	5	34			○
<i>(2) Duku</i>							
WJ(DK)-1 Ciomis	49	7.60	6	36			○
<i>(3) Durian</i>							
WJ(DR)-1 Bogor	63	9.50	2	11	○		
<i>(4) Mango</i>							
WJ(MO)-1 Sumedang	62	9.59	1	9	○		
<i>(5) Mangosteen</i>							
WJ(MN)-1 Purwakarta	57	9.01	4	19		○	
<i>(6) Salak</i>							
WJ(SK)-1 Tasikmalaya	58	9.21	3	12	○		
3. East Java							
<i>(1) Avocado</i>							
EJ(AV)-1 Lumajang	58	9.17	6	13		○*	
<i>(2) Banana</i>							
EJ(BA)-1 Jombang	66	10.40	1	3	○		
EJ(BA)-2 Lumajang	65	10.18	2	4	○		
<i>(3) Duku</i>							
EJ(DK)-1 Tulungagung	60	9.67	5	8		○*	
<i>(4) Durian</i>							
EJ(DR)-1 Jombang	62	9.72	4	7	○		
EJ(DR)-2 Trenggalek	56	8.89	8	21		○	
<i>(5) Mango</i>							
EJ(MO)-1 Pasuruan	58	9.03	7	18		○	
<i>(6) Salak</i>							
EJ(SK)-1 Malang	63	10.09	3	6	○		
4. South Sulawesi							
<i>(1) Avocado</i>							
SS(AV)-1 Gowa	50	7.59	15	37			○
SS(AV)-2 Soppeng	51	7.86	12	32			○
<i>(2) Mango</i>							
SS(MO)-1 Sidreng Rappang	51	7.72	14	35			○
SS(MO)-2 Majene	55	8.44	7	25			○
SS(MO)-3 Bone	55	8.18	11	29			○
SS(MO)-4 Maros	57	8.76	5	23		○	
SS(MO)-5 Wajo	59	9.11	3	17		○	
<i>(3) Mangosteen</i>							
SS(MN)-1 Tana Toraja	51	7.78	13	33			○
SS(MN)-2 Polewali Mamasa	54	8.19	10	28			○
<i>(4) Marquise</i>							
SS(MA)-1 Gowa	57	8.97	4	20		○	
SS(MA)-2 Tana Toraja	54	8.41	9	27			○
<i>(5) Rambutan</i>							
SS(RB)-1 Mamuju	63	9.52	1	10	○		
SS(RB)-2 Enrekang	54	8.42	8	26			○
SS(RB)-3 Pinrang	58	8.61	6	24		○	
SS(RB)-4 Barru	60	9.16	2	14	○		
Total ODPs : 37					12	12	13

Notes : * The first priority ODPs proposed to be implemented in Phase I (Short-term Action Plan period) will be developed in stages even in Phase II and Phase III by expanding their schemes.

** The secondary group of ODPs will be implemented in Phase II (medium-term period) and also expanded in Phase III.

○* This ODP for Avocado, Duku or Mangosteen Production was firstly ranked as first priority group, but its implementation was postponed in Phase II in view of their present difficulties in procuring a good deal of high quality seedlings.

Source : JICA Study Team

Table AT-6-17 Orchard Development Scenarios by Orchard Development Site and Project (1/2)

Project Code/ Development Districts	Phase I Up to 2003 (Repelita VII)	Phase II 2004 - 2008 (Repelita VIII)	Phase III 2009 - 2018 (Repelita IX & X)
1 North Sumatra			
<i>(1) Durian</i>			
NS(DR)-1 Dairi	-	A-II	A-II / A-III(E&P)
NS(DR)-2 Tapanuli Tengah	A-II	A-II / A-III(E)	A-II / A-III(E&P)
NS(DR)-3 Tapanuli Utara	-	A-II	A-II / A-III(E&P)
<i>(2) Mangosteen</i>			
NS(MN)-1 Tapanuli Selatan	-	-	A-I
NS(MN)-2 Tapanuli Utara	-	-	A-I
<i>(3) Marquisa</i>			
NS(MA)-1 Karo	A-III(P)	A-III(P&E)	A-III(P&E)
<i>(4) Rambutan</i>			
NS(RB)-1 Langkat	A-II	A-II / A-III(E)	A-III(E&P)
<i>(5) Salak</i>			
NS(SK)-1 Tapanuli Selatan	-	A-II	A-II / A-III(E&P)
2. West Java			
<i>(1) Avocado</i>			
WJ(AV)-1 Bandung	-	-	A-II
<i>(2) Duku</i>			
WJ(DK)-1 Ciamis	-	-	A-I / A-II
<i>(3) Durian</i>			
WJ(DR)-1 Bogor	A-I / A-II	A-II	A-II
<i>(4) Mango</i>			
WJ(MO)-1 Sumedang	A-II	A-II / A-III(E&P)	A-III(E&P)
<i>(5) Mangosteen</i>			
WJ(MN)-1 Purwakarta	-	A-I / A-II	A-II / A-III(E)
<i>(6) Salak</i>			
WJ(SK)-1 Tasikmalaya	A-II	A-II	A-II
3. East Java			
<i>(1) Avocado</i>			
EJ(AV)-1 Lumajang	-	A-I / A-II	A-II
<i>(2) Banana</i>			
EJ(BA)-1 Jombang	A-III(P)	A-III(P&E)	A-III(P&E)
EJ(BA)-2 Lumajang	A-II	A-II	A-III(P&E)
<i>(3) Duku</i>			
EJ(DK)-1 Tulungagung	-	A-I	A-I / A-II
<i>(4) Durian</i>			
EJ(DR)-1 Jombang	A-I	A-I / A-II	A-II
EJ(DR)-2 Trenggalek	-	A-I	A-I / A-II
<i>(5) Mango</i>			
EJ(MO)-1 Pasuruan	-	A-II / A-III(E)	A-III(E&P)
<i>(6) Salak</i>			
EJ(SK)-1 Malang	A-I / A-II	A-II	A-III(E&P)

Table AT-6-17 Orchard Development Scenarios by Orchard Development Site and Project (2/2)

Project Code/ Development Districts	Phase I Up to 2003 (Repelita VII)	Phase II 2004 - 2008 (Repelita VIII)	Phase III 2009 - 2018 (Repelita IX & X)
4. South Sulawesi			
<i>(1) Avocado</i>			
SS(AV)-1 Gowa	-	-	A-I / A-II
SS(AV)-2 Soppeng	-	-	A-I / A-II
<i>(2) Mango</i>			
SS(MO)-1 Sidenreng Rappang	-	-	A-I / A-II
SS(MO)-2 Majene	-	-	A-I / A-II
SS(MO)-3 Bone	-	-	A-II
SS(MO)-4 Maros	-	A-I / A-II	A-II
SS(MO)-5 Wajo	-	A-I / A-II	A-II
<i>(3) Mangosteen</i>			
SS(MN)-1 Tana Toraja	-	-	A-I / A-II
SS(MN)-2 Polewali Mamasa	-	-	A-I / A-II
<i>(4) Marquisa</i>			
SS(MA)-1 Gowa	-	A-I / A-II	A-II / A-III(P&E)
SS(MA)-2 Tana Toraja	-	-	A-I / A-II
<i>(5) Rambutan</i>			
SS(RB)-1 Mamuju	A-I / A-II	A-II / A-III(E)	A-III(E&P)
SS(RB)-2 Enrekang	-	-	A-I / A-II
SS(RB)-3 Pinrang	-	A-I / A-II	A-III(E&P)
SS(RB)-4 Barru	A-I / A-II	A-II	A-III(E&P)

Notes : A-I (Alternative I) = Local market based development
A-II (Alternative II) = Regional & Urban Oriented Development
A-III (Alternative III) = Export & Agro-industry Driven Development
• A-III(E) = Alternative mainly aiming at "Export" promotion
• A-III(P) = Alternative primarily aiming at "Processing" development

Source: JICA Study Team

Table AT-7-1 List of the Programs Proposed in Master Plan Study

Code No.	Description	Primary Objectives
I. Programs at Central Level		
NP-1	Formation of Institutional Linkage for Horticulture Agribusiness Development	- To establish a closer linkage connecting the MOA and other relevant ministries and agencies as well as private sector focusing upon promotion of downstream activities of horticulture agribusiness development
NP-2	Strengthening of Intra-ministerial Coordination System for Orchard Development	- To extend the ongoing efforts to upgrade coordination activities among DGFCH and other Directorate Generals including Agencies under MOA as well as Directorates within DGFCH in respect to technical and administrative aspects
NP-3	Rationalization of Supporting Services for Credit Facilities and Marketing Promotion	- To strengthen financial and marketing mechanism for the benefit of small and holding fruit growers
NP-4	Strengthening of Research and Development Activities for Introduction and Breeding of High Quality New Fruit Varieties	- To upgrade the institutional and technical capacities for introduction and development of new varieties as the basic material to support horticulture agribusiness development
NP-5	Strengthening of New Technology Adaptability Trial Operation System	- To strengthen the new technology assessment system for tropical fruits
NP-6	Rationalization of Fruit Seedling Inspection System	- To rationalize the seed certification and control service system with a view to guarantee the variety and quality of fruit seedlings
NP-7	Strengthening of Plant Quarantine System	- To continue and extend the ongoing strengthening efforts of the plant quarantine system in Indonesia
II. Programs at Provincial Level		
PP-1	Strengthening of Project Planning Capacity at Provincial Level	- To upgrade capability and skills of Provincial Government staff on horticulture agribusiness development planning
PP-2	Strengthening of Management Capability Building of Provincial staff	- To provide Provincial Government staff with management training programs to improve their monitoring and management capacity
PP-3	Improvement of High Quality Seedling Propagation and Distribution System	- To set up large scale foundation blocks to maintain mother plants of the target fruits, and multiplication blocks of scions to maintain and multiply the recommended varieties and species as material supply sources to private nurseries
PP-4	Institutional and Technical Capability Building of Private Nurseries	- To organize private seed growers into cooperatives and to upgrade the propagation capacity of quality fruit seedlings in private nurseries
PP-5	Enhancement of Extension Staff's Knowledge on Horticulture Agribusiness Development	- To provide a series of training opportunities to subject matter specialists (PPS) and food crop extension workers (PPL)
PP-6	Upgrading of Market Information System	- To enhance contents of the existing services and to extend service areas
PP-7	Institutional Development for Association of Fruit Growers' Groups	- To generate the better bargaining power to fresh fruit markets and processing industry
III. Programs at District Level		
DP-1	Establishment of Orchard as Core of Target Fruit Growing Area	- To establish a core of high profitable horticulture agribusiness development areas
DP-2	Introduction and Practice of Market-oriented Quality Fruit Growing Techniques	- To train participatory farmers to produce and market quality fruits with provision of a series of training programs covering farm management, post-harvest handling & marketing aspects
DP-3	Establishment of On-farm Level Extension Service System	- To establish new on-farm level extension service system taking into account the limitation of PPLs.
DP-4	Development of Post-harvest Handling System	- To introduce post-harvest handling practices as a prerequisite of fruit growers' groups to market their products with consumers' preferable quality
DP-5	Improvement of Access Facilities to Markets	- To link newly developed fruit growing areas with local markets for ensuring timely delivery of planting materials and carrying out of harvested fruits under all-weathered condition
DP-6	Improvement of Local Market Facilities	- To reduce handling losses in local markets of fresh fruit collection, storage and distribution system is improved in capacity and function of facilities
DP-7	Institutional Strengthening of Small Landholding Fruit Growers	- To assure the better bargaining position through recognition of the brand name of fruits in the market

Source: JICA Study Team

Table AT-7-2 Orchard Development Scale by Phase

Province	District	Target Fruit	Target Area (ha)			
			Phase I	Phase II	Phase III	Total
North Sumatra	Dairi	Durian		300		300
	Tapanuli Tengah	Durian	500			500
	Tapanuli Utara	Durian		500		500
	Tapanuli Utara	Mangosteen			500	500
	Tapanuli Selatan	Mangosteen			500	500
	Karo	Marquisa	500			500
	Langkat	Rambutan	500			500
	Tapanuli Selatan	Salak		500		500
Total			1,500	1,300	1,000	3,800

Province	District	Target Fruit	Target Area (ha)			
			Phase I	Phase II	Phase III	Total
West Java	Bandung	Avocado			500	500
	Ciamis	Duku			500	500
	Bogor	Durian	500			500
	Sumedang	Mango	500			500
	Purwakarta	Mangosteen		500		500
	Tasikmalaya	Salak	500			500
Sub-total			1,500	500	1,000	3,000

Province	District	Target Fruit	Target Area (ha)			
			Phase I	Phase II	Phase III	Total
East Java	Lumajang	Avocado		500		500
	Jombang	Banana	500			500
	Lumajang	Banana	500			500
	Tulungagung	Duku		500		500
	Jombang	Durian	500			500
	Trenggalek	Durian		500		500
	Pasuruan	Mango		500		500
	Malang	Salak	500			500
Total			2,000	2,000	0	4,000

Province	District	Target Fruit	Target Area (ha)			
			Phase I	Phase II	Phase III	Total
South Sulawesi	Gowa	Avocado			500	500
	Soppeng	Avocado			500	500
	Sidenreng Rappang	Mango			500	500
	Majene	Mango			500	500
	Bone	Mango			500	500
	Maros	Mango		500		500
	Wajo	Mango		500		500
	Tana Toraja	Mangosteen			500	500
	Polewali Mamasa	Mangosteen			500	500
	Gowa	Marquisa		500		500
	Tana Toraja	Marquisa			500	500
	Mamuju	Rambutan	500			500
	Enrekang	Rambutan			500	500
	Pinrang	Rambutan		500		500
	Baru	Rambutan	500			500
	Total			1,000	2,000	4,500
Grand Total			6,000	5,800	6,500	18,300

Source: JICA Study Team

Table AT-7-3 Major Working Items for Orchard Development Projects

Project Code	District	Target Fruit	Land Preparation	Watering Facilities	Drainage System	Road Facilities	Protection Fence	Post-harvest Facilities
NORTH SUMATRA								
NS(DR)-1	Dairi	Durian	0	0	-	0	-	0
NS(DR)-2	Tapanuli Tengah	Durian	0	-	0	0	-	0
NS(DR)-3	Tapanuli Utara	Durian	0	0	-	0	-	0
NS(MN)-1	Tapanuli Selatan	Mangosteen	0	0	-	0	-	0
NS(MN)-2	Tapanuli Utara	Mangosteen	0	0	-	0	-	0
NS(MA)-1	Karo	Marquisa	0	0	-	0	-	0
NS(RB)-1	Langkat	Rambutan	0	0	0	0	-	0
NS(SK)-1	Tapanuli Selatan	Salak	0	0	-	0	-	0
WEST JAVA								
WJ(AV)-1	Bandung	Avocado	0	0	-	0	-	0
WJ(DK)-1	Ciamis	Duku	0	0	-	0	-	0
WJ(DR)-1	Bogor	Durian	0	0	-	0	-	0
WJ(MO)-1	Sumedang	Mango	0	0	-	0	-	0
WJ(MN)-1	Purwakarta	Mangosteen	0	0	-	0	-	0
WJ(SK)-1	Tasikmalaya	Salak	0	0	-	0	-	0
EAST JAVA								
EJ(AV)-1	Lumajang	Avocado	0	0	-	0	-	0
EJ(BA)-1	Jombang	Banana	-	0	-	0	-	0
EJ(BA)-2	Lumajang	Banana	-	0	-	0	-	0
EJ(DK)-1	Tulungagung	Duku	-	0	-	0	-	0
EJ(DR)-1	Jombang	Durian	0	0	-	0	-	0
EJ(DR)-2	Trenggalek	Durian	0	0	-	0	-	0
EJ(MO)-1	Pasuruan	Mango	-	0	-	0	-	0
EJ(SK)-1	Malang	Salak	-	0	-	0	-	0
SOUTH SULAWESI								
SS(AV)-1	Gowa	Avocado	0	0	-	0	-	0
SS(AV)-2	Soppeng	Avocado	0	0	-	0	0	0
SS(MO)-1	Sidenreng Rappang	Mango	0	0	-	0	-	0
SS(MO)-2	Majene	Mango	0	0	-	0	-	0
SS(MO)-3	Bone	Mango	0	0	-	0	-	0
SS(MO)-4	Maros	Mango	0	0	-	0	-	0
SS(MO)-5	Wajo	Mango	0	0	-	0	-	0
SS(MN)-1	Tana Toraja	Mangosteen	0	0	-	0	-	0
SS(MN)-2	Polewali Mamasa	Mangosteen	0	0	-	0	0	0
SS(MA)-1	Gowa	Marquisa	0	0	-	0	-	0
SS(MA)-2	Tana Toraja	Marquisa	0	-	-	0	-	0
SS(RB)-1	Mamuju	Rambutan	0	0	0	0	-	0
SS(RB)-2	Enrekang	Rambutan	0	0	-	0	0	0
SS(RB)-3	Pinrang	Rambutan	0	0	-	0	-	0
SS(RB)-4	Barru	Rambutan	0	0	-	0	0	0

Source: JICA Study Team

Table AT-7.4 Cost Estimate

Unit : thousand US\$

Code No.	Description	Cost											
		Phase - I			Phase - II			Phase - III					
		Preparation	Construction	Activity	Total	Preparation	Activity	Operation	Total	Preparation	Construction	Activity	Total
		3,478	7,729	1,194	12,401	0	0	2,328	2,328	0	0	0	3,749
NP-1	Formation of Institutional Linkage for Horticulture Agribusiness Development	0	0	556	556	0	0	1,083	1,083	0	0	0	1,744
NP-2	Strengthening of Inter-ministerial Coordination System for Orchard Development	0	0	556	556	0	0	1,083	1,083	0	0	0	1,744
NP-3	Rationalization of Supporting Services for Credit Facilities and Marketing Promotion	1,667	0	0	1,667	0	0	0	0	0	0	0	0
NP-4	Strengthening of Research and Development Activities for Introduction and Breeding of High Quality New Fruit Varieties	444	3,556	56	4,056	0	0	108	108	0	0	174	174
NP-5	Strengthening of New Technology Adaptability Trial Operation System	444	284	28	757	0	0	54	54	0	0	87	87
NP-6	Rationalization of Fruit Seedling Inspection System	33	333	0	367	0	0	0	0	0	0	0	0
NP-7	Strengthening of Plant Quarantine System	889	3,556	0	4,444	0	0	0	0	0	0	0	0
		956	1,778	548	3,281	0	0	1,005	1,005	0	0	1,660	1,660
PP-1	Strengthening of Project Planning Capacity at Provincial Level	0	0	167	167	0	0	325	325	0	0	523	523
PP-2	Strengthening of Management Capability Building of Provincial staff	0	0	167	167	0	0	325	325	0	0	523	523
PP-3	Improvement of High Quality Seedling Propagation and Distribution System	178	1,778	0	1,956	0	0	0	0	0	0	0	0
PP-4	Institutional and Technical Capability Building of Private Nurseries	444	0	13	458	0	0	0	0	0	0	0	0
PP-5	Enhancement of Extension Staff's Knowledge on Horticulture Agribusiness Development	0	0	86	86	0	0	139	139	0	0	223	223
PP-6	Upgrading of Market Information System	333	0	0	333	0	0	0	0	0	0	0	0
PP-7	Institutional Development for Association of Fruit Growers' Groups	0	0	115	115	0	0	217	217	0	0	391	391
		3,445	14,135	2,630	20,210	3,677	18,639	4,542	26,858	5,291	34,630	7,712	47,633
DP-1	Establishment of Orchard as Core of Target Fruit Growing Area	2,831	11,648	767	15,246	3,477	18,102	1,444	23,023	5,030	33,633	2,607	41,270
DP-2	Introduction and Practice of Market-oriented Quality Fruit Growing Techniques	0	0	250	250	0	0	471	471	0	0	850	850
DP-3	Establishment of On-farm Level Extension Service System	0	0	1,537	1,537	0	0	2,476	2,476	0	0	3,987	3,987
DP-4	Development of Post-harvest Handling System	35	354	0	389	54	537	0	590	100	997	0	1,097
DP-5	Improvement of Access Facilities to Markets	133	0	0	133	147	0	0	147	161	0	0	161
DP-6	Improvement of Local Market Facilities	444	2,133	0	2,578	0	0	7	7	0	0	8	8
DP-7	Institutional Strengthening of Smallholding Fruit Growers	0	0	77	77	0	0	144	144	0	0	261	261
	Grand Total	7,878	23,641	4,373	35,892	3,677	18,639	7,874	30,190	5,291	34,630	13,121	53,042

Source: JICA Study Team

Table AT-7-5 Anticipated Job Creation for Farming Practices of the Proposed Orchards*

(1) North Sumatra Province

(Unit : man-days)

Project Code No.	District	Target Fruit	Labor Requirements			Total Average
			Phase I	Phase II	Phase III	
1. NS(DR)-1	Dairi *	Durian	-	91,590	1,026,000	1,117,590
2. NS(DR)-2	Tapanuli Tengah	Durian	152,500	610,000	2,200,000	2,962,500
3. NS(DR)-3	Tapanuli Utara	Durian	-	152,650	1,522,500	1,675,150
4. NS(MN)-1	Tapanuli Utara	Mangosteen	-	-	875,000	875,000
5. NS(MN)-2	Tapanuli Selatan	Mangosteen	-	-	875,000	875,000
6. NS(MA)-1	Karo	Marquisa	556,600	1,006,600	900,000	2,463,200
7. NS(RB)-1	Langkat	Rambutan	108,450	212,000	1,000,000	1,320,450
8. NS(SK)-1	Tapanuli Selatan	Salak	-	543,000	1,830,000	2,373,000
Total	-	-	817,550	2,615,840	10,228,500	13,661,890
Average Per-day Labor Requirements			448	1,433	2,802	1,871

(2) West Java Province

(Unit : man-days)

Project Code No.	District	Target Fruit	Labor Requirements			Total Average
			Phase I	Phase II	Phase III	
1. WJ(AV)-1	Bandung	Avocado	-	-	907,650	907,650
2. WJ(DK)-1	Ciamis	Duku	-	-	620,000	620,000
3. WJ(DR)-1	Bogor	Durian	152,650	610,000	2,200,000	2,962,650
4. WJ(MO)-1	Sumedang	Mango	125,000	645,000	2,250,000	3,020,000
5. WJ(MN)-1	Purwakarta	Mangosteen	-	132,500	2,655,000	2,787,500
6. WJ(SK)-1	Tasikmalaya	Salak	543,000	830,000	2,000,000	3,373,000
Total	-	-	820,650	2,217,500	10,632,650	13,670,800
Average Per-day Labor Requirements			450	1,215	2,913	1,873

(3) East Java Province

(Unit : man-days)

Project Code No.	District	Target Fruit	Labor Requirements			Total Average
			Phase I	Phase II	Phase III	
1. EJ(AV)-1	Lumajang	Avocado	-	152,650	2,217,500	2,370,150
2. EJ(BA)-1	Jombang	Banana	1,334,500	1,272,250	2,625,750	5,232,500
3. EJ(BA)-2	Lumajang	Banana	1,334,500	1,272,250	2,625,750	5,232,500
4. EJ(DK)-1	Tulungagung	Duku	-	125,000	1,770,000	1,895,000
5. EJ(DR)-1	Jombang	Durian	152,650	610,000	2,200,000	2,962,650
6. EJ(DR)-2	Trenggalek	Durian	-	152,650	1,710,000	1,862,650
7. EJ(MO)-1	Pasuruan	Mango	-	125,000	1,770,000	1,895,000
8. EJ(SK)-1	Malang	Salak	543,000	830,000	2,000,000	3,373,000
Total	-	-	3,364,650	4,539,800	16,919,000	24,823,450
Average Per-day Labor Requirements			1,844	2,488	4,635	3,400

(4) South Sulawesi Province

(Unit : man-days)

Project Code No.	District	Target Fruit	Labor Requirements			Total Average
			Phase I	Phase II	Phase III	
1. SS(AV)-1	Gowa	Avocado	-	-	907,650	907,650
2. SS(AV)-2	Soppeng	Avocado	-	-	907,650	907,650
3. SS(MO)-1	Sidereng Rappang	Mango	-	-	770,000	770,000
4. SS(MO)-2	Majene	Mango	-	-	770,000	770,000
5. SS(MO)-3	Bone	Mango	-	-	770,000	770,000
6. SS(MO)-4	Maros	Mango	-	125,000	1,745,000	1,870,000
7. SS(MO)-5	Wajo	Mango	-	125,000	1,745,000	1,870,000
8. SS(MN)-1	Tana Toraja	Mangosteen	-	-	875,000	875,000
9. SS(MN)-2	Polewali Mamasa	Mangosteen	-	-	875,000	875,000
10. SS(MA)-1	Gowa	Marquisa	-	556,600	67,875,000	68,431,600
11. SS(MA)-2	Tana Toraja	Marquisa	-	-	1,006,600	1,006,600
12. SS(RB)-1	Mamuju	Rambutan	108,450	212,000	1,000,000	1,320,450
13. SS(RB)-2	Enrekang	Rambutan	-	-	320,450	320,450
14. SS(RB)-3	Pinrang	Rambutan	-	108,450	712,000	820,450
15. SS(RB)-4	Barro	Rambutan	108,450	212,000	1,000,000	1,320,450
Total	-	-	216,900	1,339,050	81,279,350	82,835,300
Average Per-day Labor Requirements			119	734	22,268	11,347
Grand Total			5,219,750	10,712,190	119,059,500	134,991,440
Average Per-day Labor Requirements			2,860	5,870	32,619	18,492

Note : * The development scale is set at 500 ha for each development site, except 300 ha in Dairi (North Sumatra).

Source : Tables B-4-14 (1/9) to B-4-14 (9/9) in Appendix B : Annual Labor Requirements by Farming Practice.

**THE STUDY ON THE IMPROVEMENT
IN QUALITY OF THE TROPICAL FRUITS**

Figures

Figure AT-2-1 ORGANIZATION STRUCTURE OF MINISTRY OF AGRICULTURE

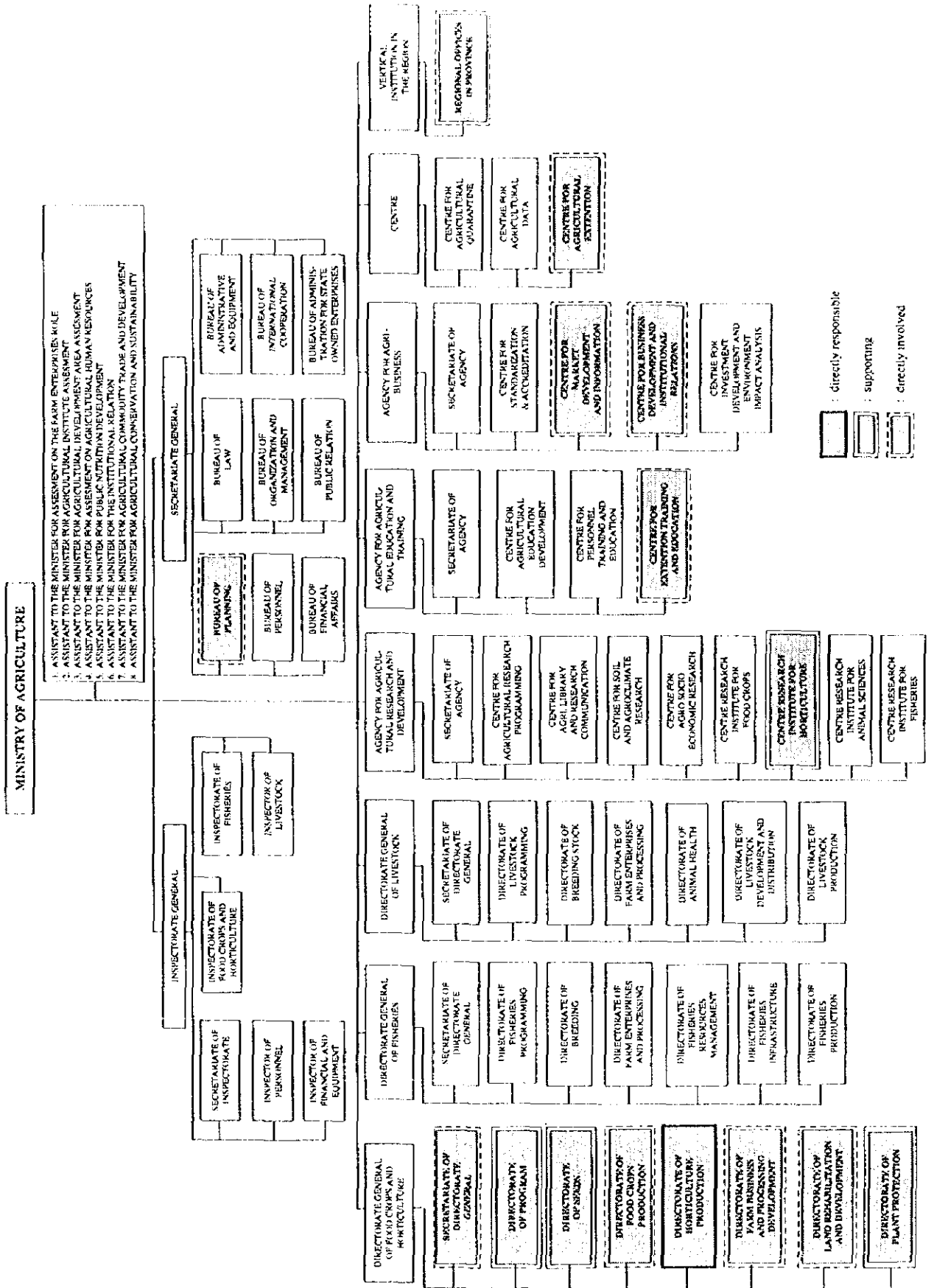
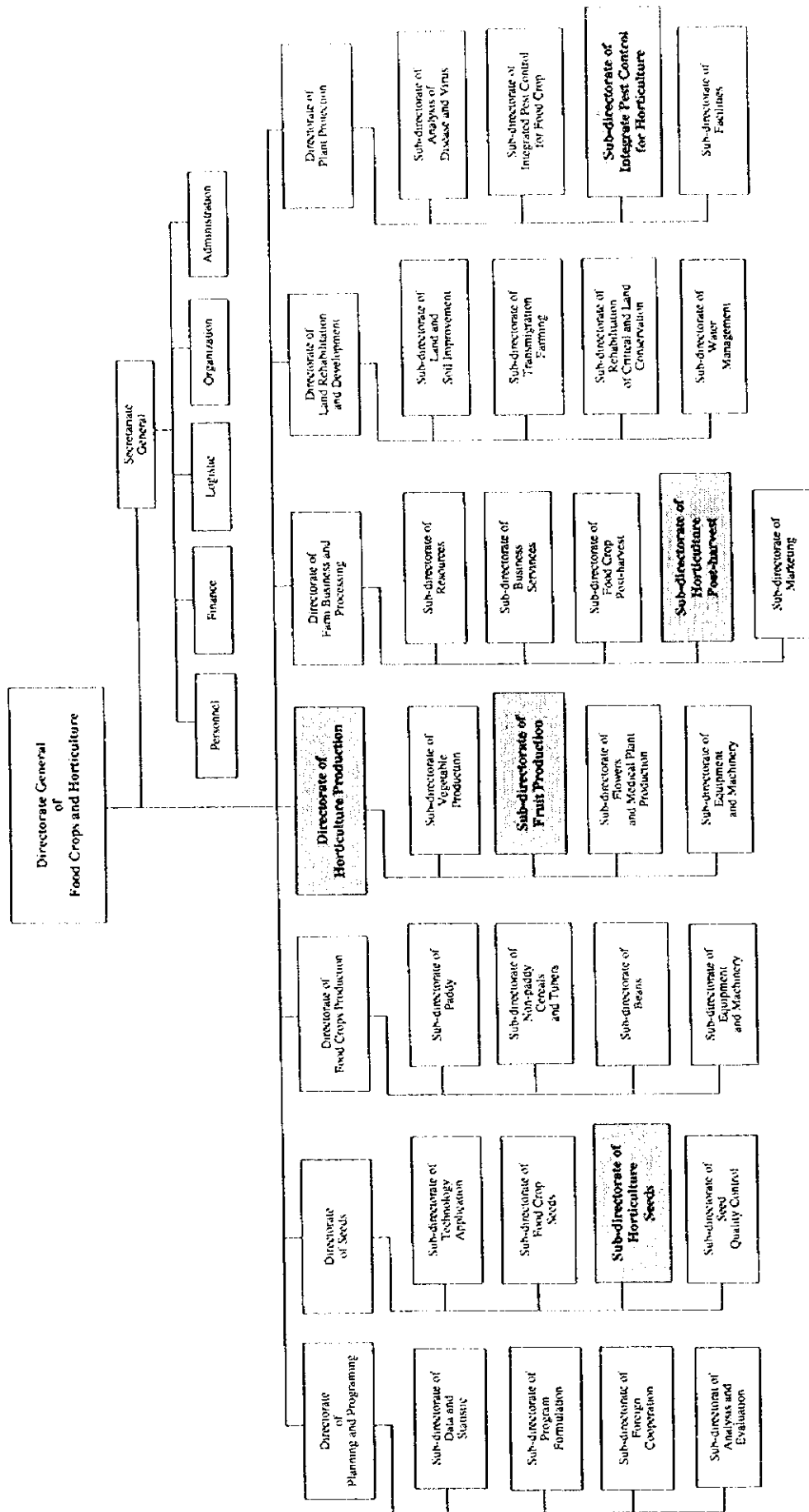
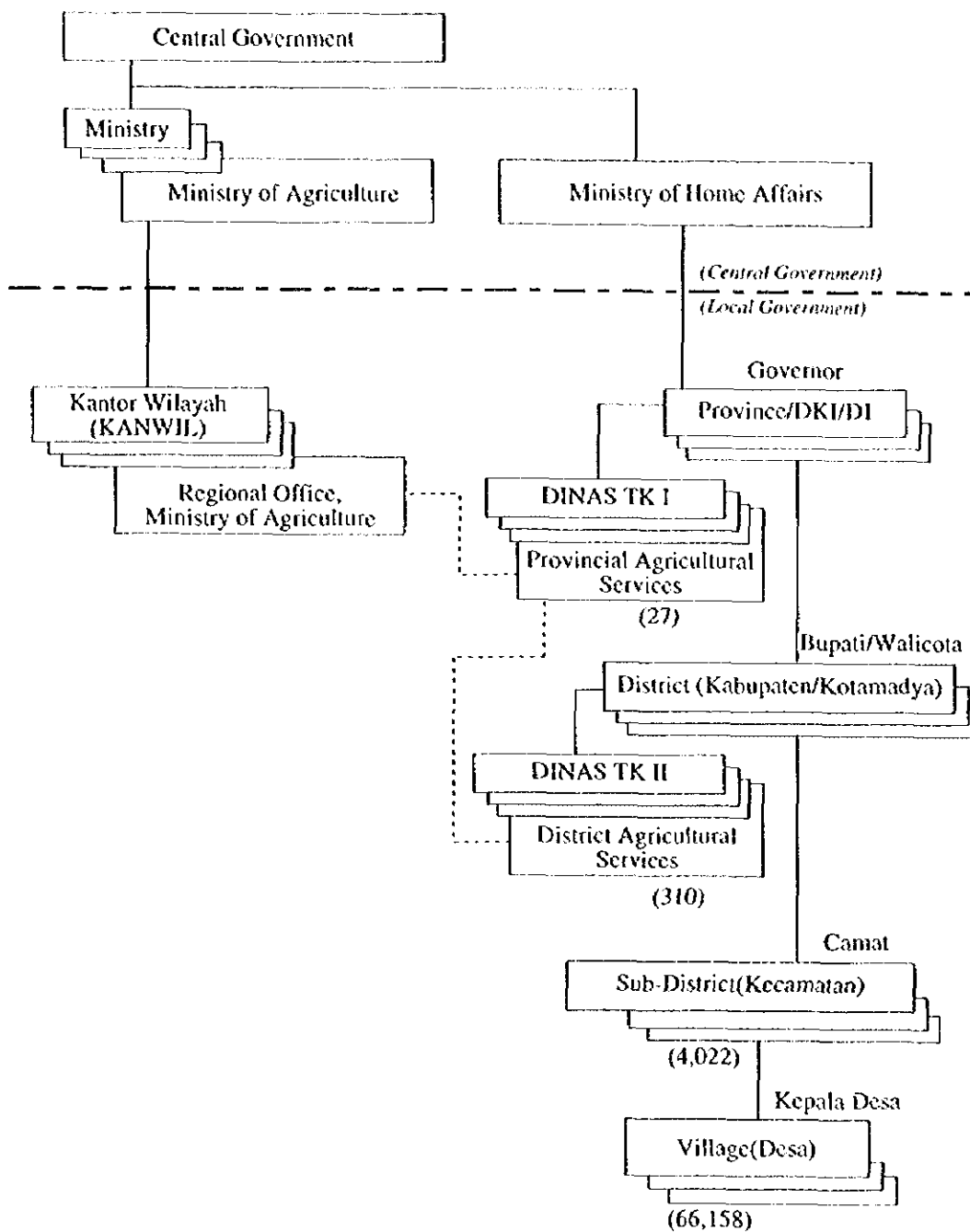


Figure AT-2-2 ORGANIZATION OF DGFC, MOA



Source: DGFC, MOA

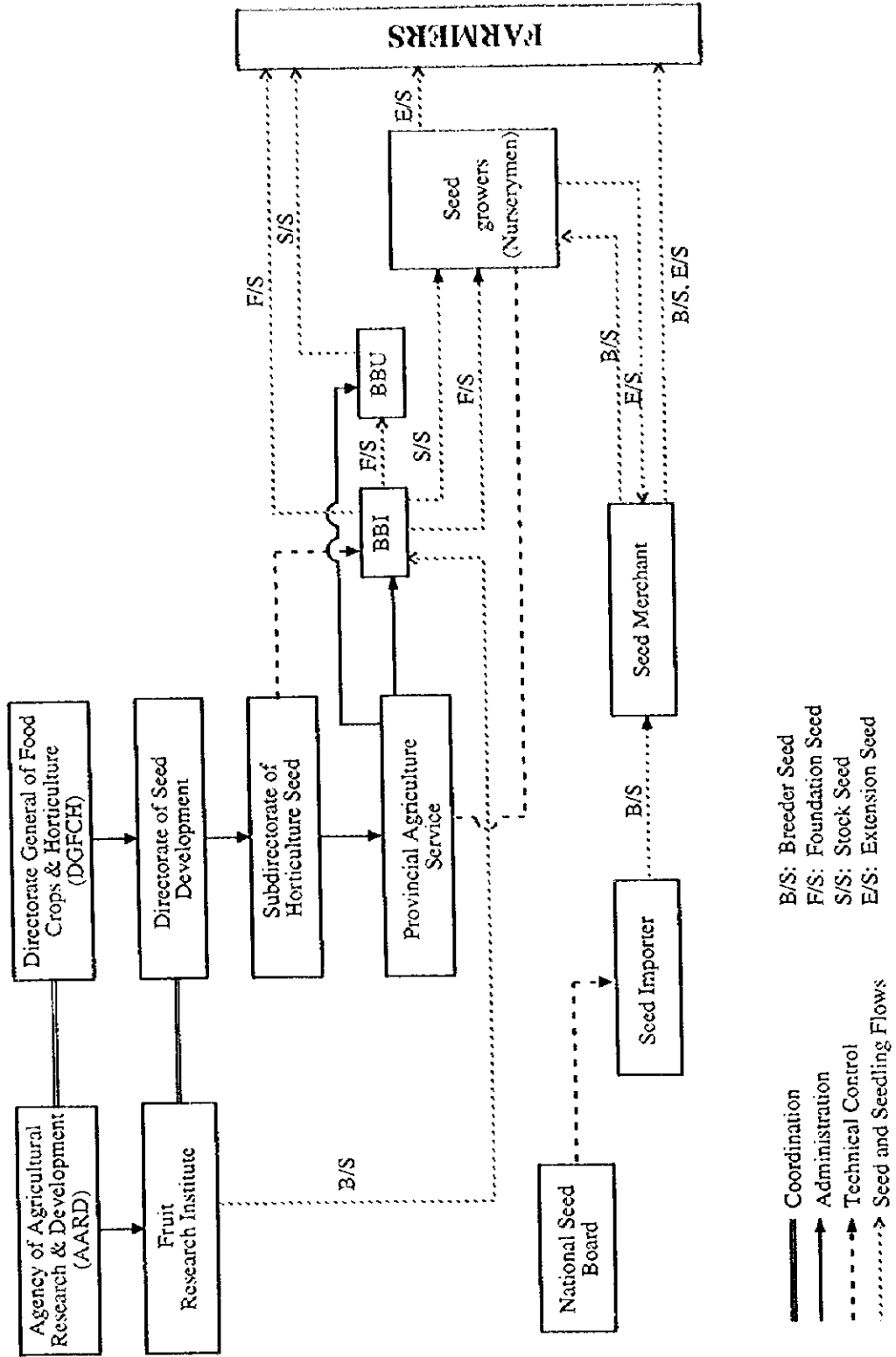
Figure AT-2-3 ADMINISTRATIVE STRUCTURE IN INDONESIA



————— Command
 - - - - - Coordination
 *() is the total number of institutions in the country.

Source: DGFCH, MOA

Figure AT-3-1 ORGANIZATION OF MULTIPLICATION AND DISTRIBUTION OF FRUIT SEEDLINGS



Source: DGFCH

Figure AT-3-2 MAJOR PRODUCING AREA OF FRUITS

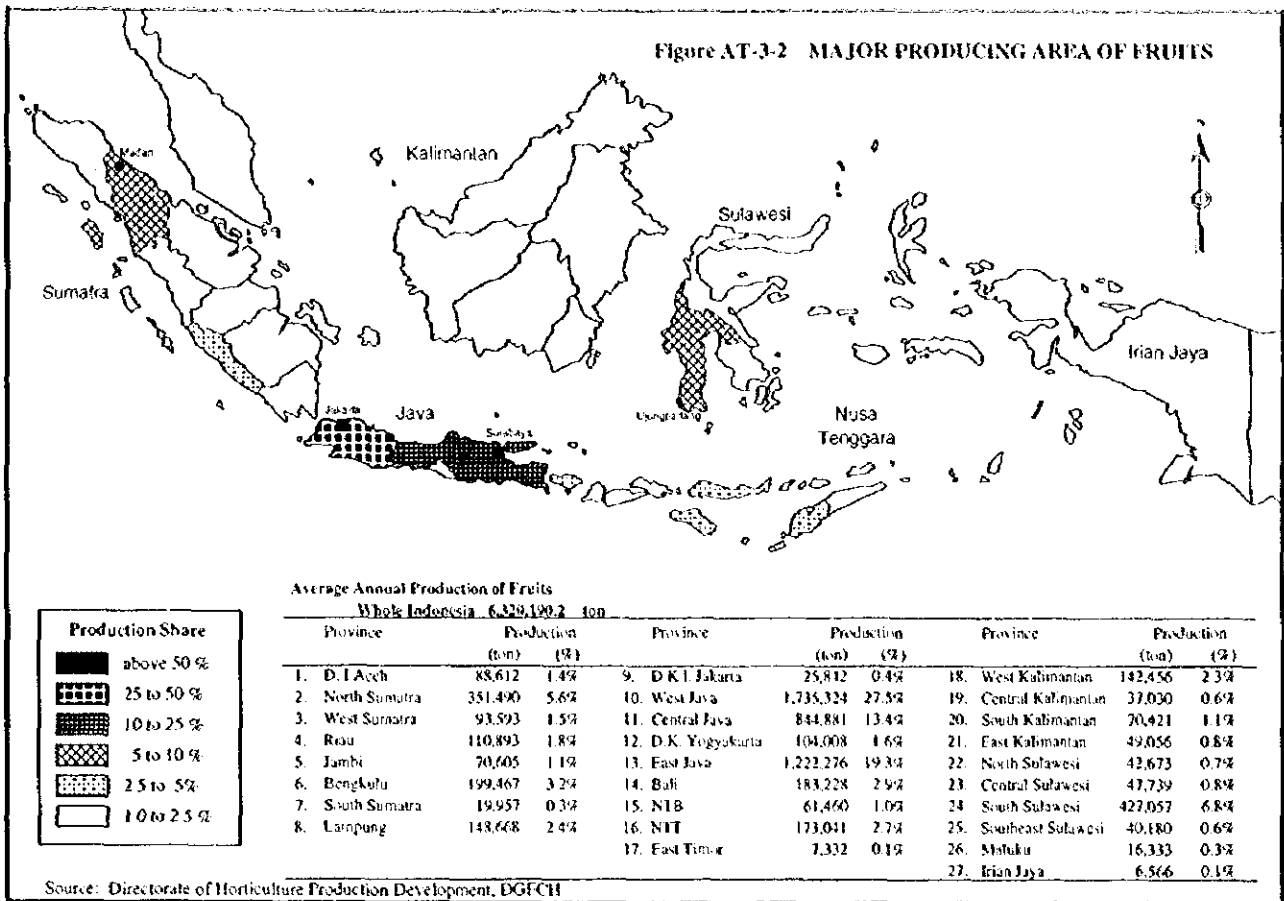


Figure AT-3-3 MAJOR PRODUCING AREA OF AVOCADO

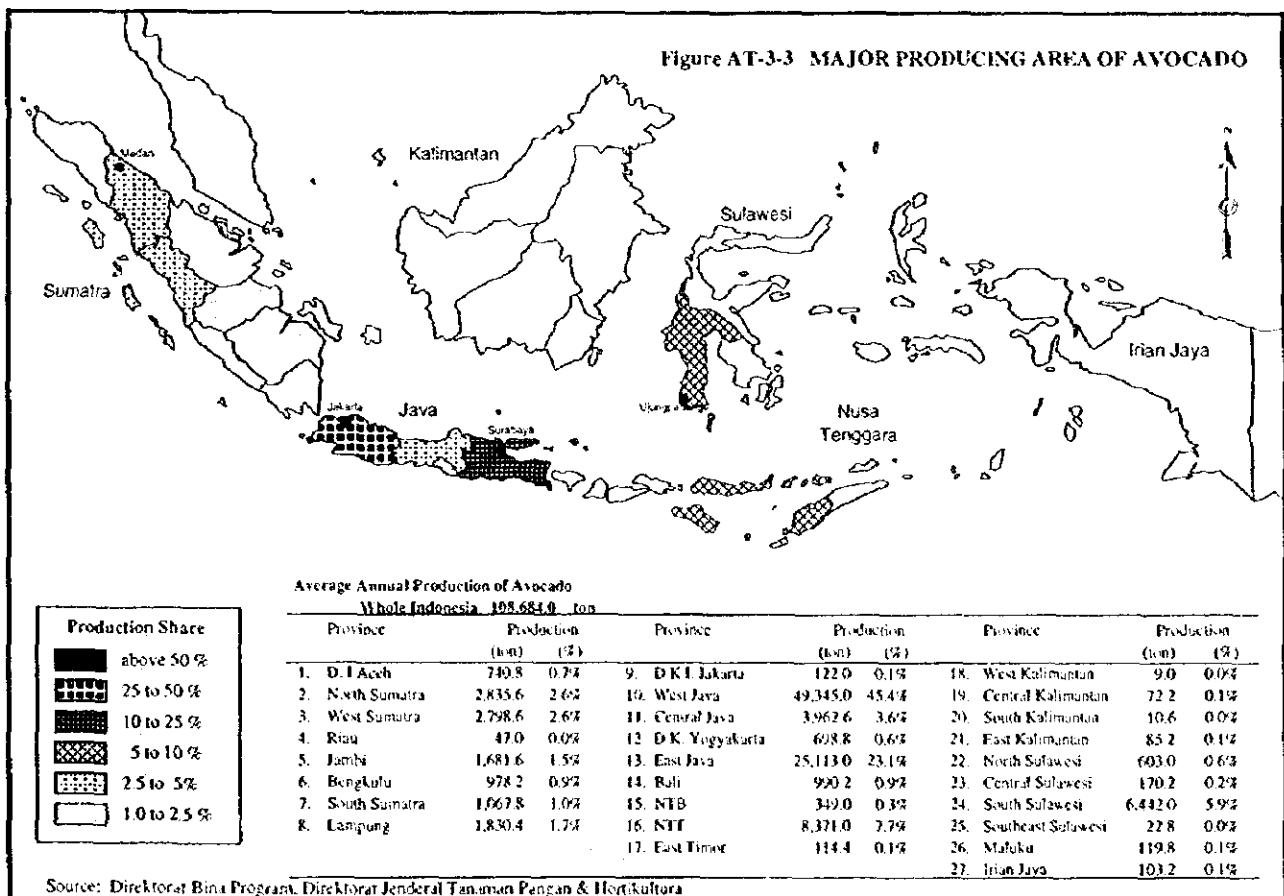


Figure AT-3-4 MAJOR PRODUCING AREA OF BANANA

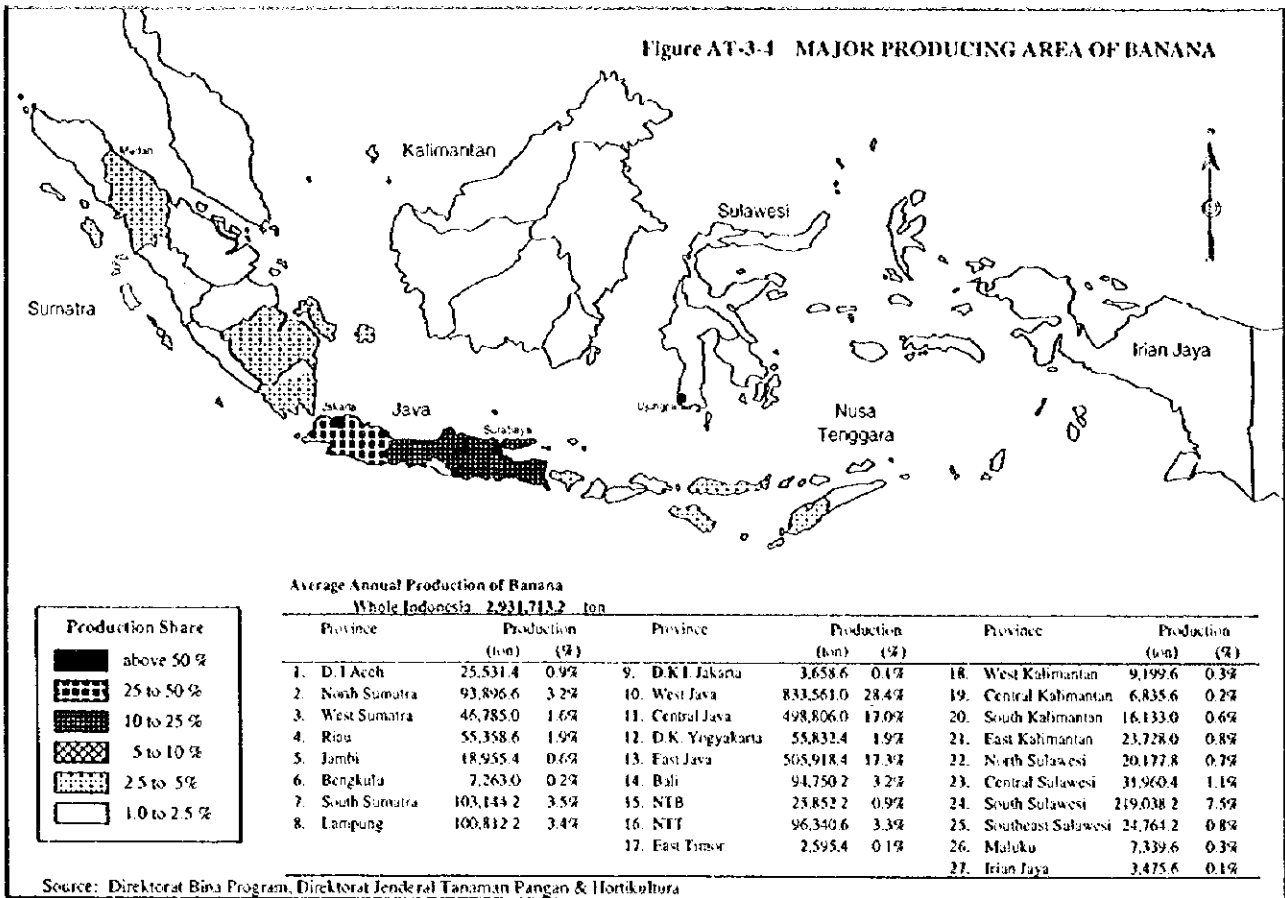


Figure AT-3-5 MAJOR PRODUCING AREA OF DUKU

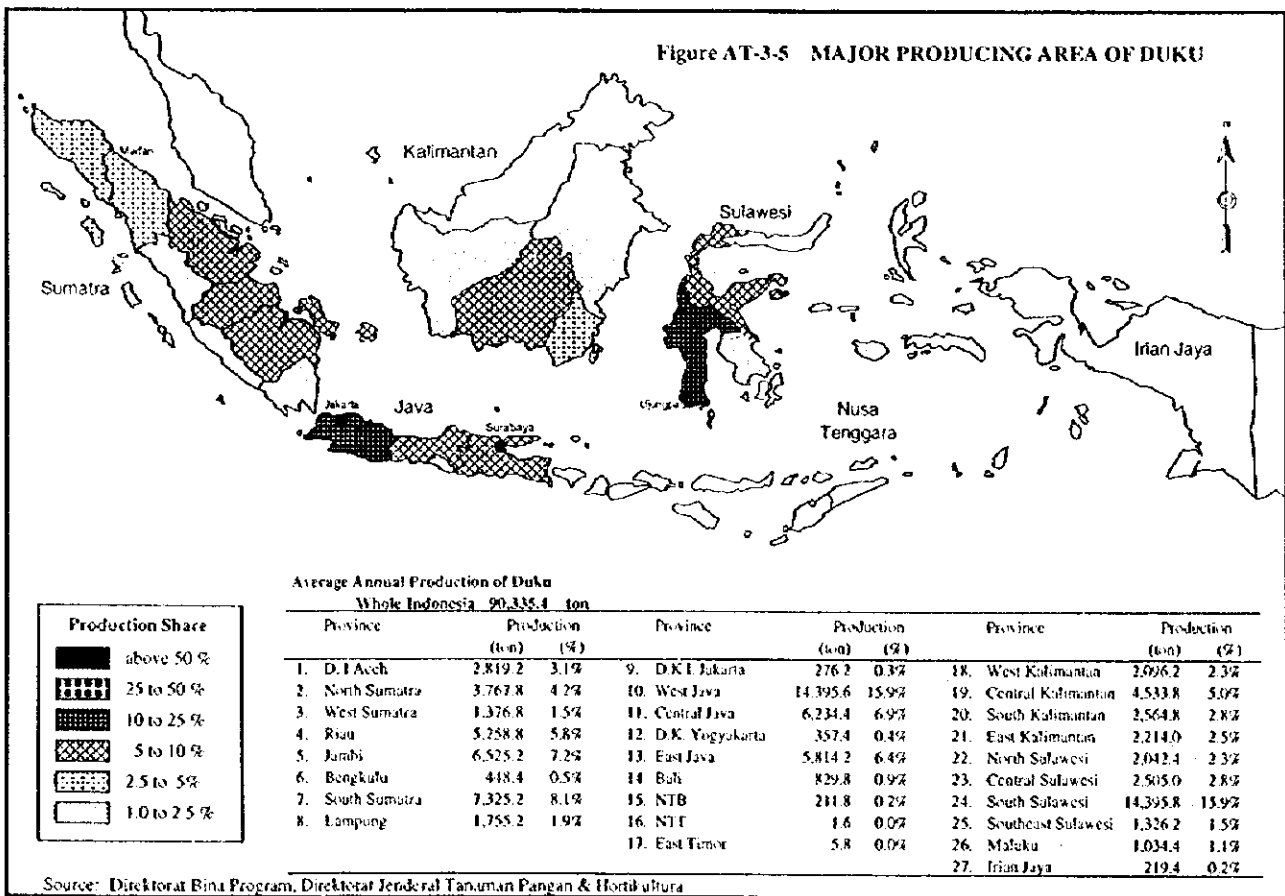
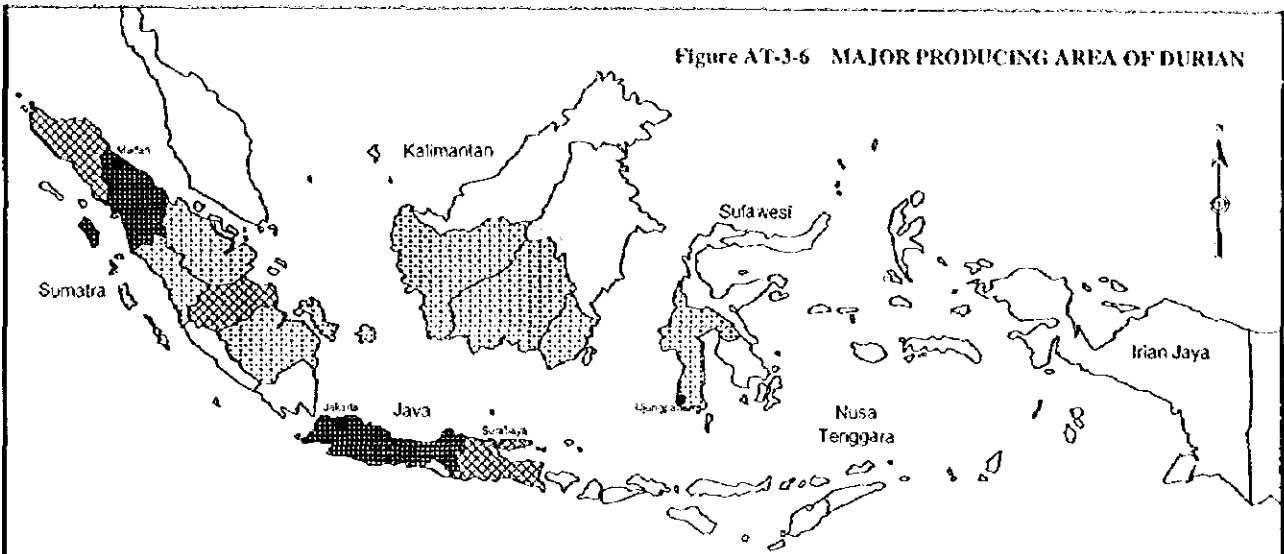
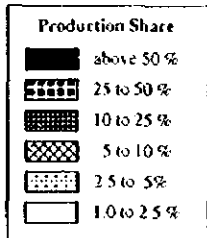


Figure AT-3-6 MAJOR PRODUCING AREA OF DURIAN



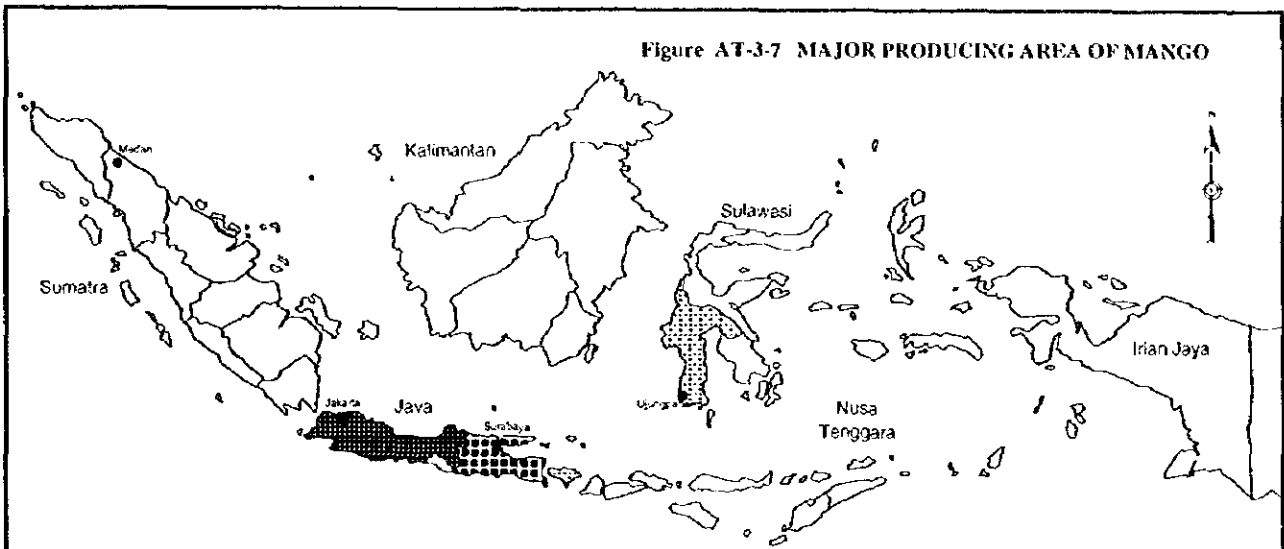
Average Annual Production of Durian
Whole Indonesia 317,381.6 ton



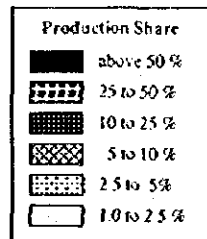
Province	Production (ton)	(%)	Province	Production (ton)	(%)	Province	Production (ton)	(%)
1. D. I. Aceh	17,457.8	8.0%	9. D.K.I. Jakarta	609.8	0.3%	18. West Kalimantan	7,083.6	3.3%
2. North Sumatra	31,274.2	14.4%	10. West Java	37,639.6	17.3%	19. Central Kalimantan	5,847.8	2.7%
3. West Sumatra	7,293.8	3.4%	11. Central Java	24,415.8	11.2%	20. South Kalimantan	5,514.6	2.5%
4. Riau	8,338.0	3.8%	12. D.K. Yogyakarta	1,589.4	0.7%	21. East Kalimantan	3,001.4	1.4%
5. Jambi	10,973.4	5.0%	13. East Java	18,238.4	8.4%	22. North Sulawesi	2,134.2	1.0%
6. Bengkulu	2,164.6	1.0%	14. Bali	4,389.0	2.0%	23. Central Sulawesi	2,650.2	1.2%
7. South Sumatra	9,917.8	4.6%	15. NTB	1,061.6	0.5%	24. South Sulawesi	7,479.2	3.4%
8. Lampung	4,352.4	2.0%	16. NTT	3.6	0.0%	25. Southeast Sulawesi	751.0	0.3%
			17. East Timor	0.0	0.0%	26. Maluku	3,067.0	1.4%
						27. Irian Jaya	136.4	0.1%

Source: Direktorat Bina Program, Direktorat Jenderal Tanaman Pangan & Hortikultura

Figure AT-3-7 MAJOR PRODUCING AREA OF MANGO



Average Annual Production of Mango
Whole Indonesia 628,520.8 ton



Province	Production (ton)	(%)	Province	Production (ton)	(%)	Province	Production (ton)	(%)
1. D. I. Aceh	9,501.8	1.5%	9. D.K.I. Jakarta	973.2	0.2%	18. West Kalimantan	432.8	0.1%
2. North Sumatra	4,216.2	0.7%	10. West Java	137,869.8	21.9%	19. Central Kalimantan	1,800.8	0.3%
3. West Sumatra	2,008.4	0.3%	11. Central Java	96,611.4	15.4%	20. South Kalimantan	2,541.8	0.4%
4. Riau	1,855.4	0.3%	12. D.K. Yogyakarta	9,674.4	1.5%	21. East Kalimantan	1,992.4	0.3%
5. Jambi	2,513.2	0.4%	13. East Java	257,332.0	80.9%	22. North Sulawesi	4,462.6	0.7%
6. Bengkulu	3,240.6	0.5%	14. Bali	20,314.2	3.2%	23. Central Sulawesi	2,770.2	0.4%
7. South Sumatra	1,260.8	0.2%	15. NTB	10,324.2	1.6%	24. South Sulawesi	30,220.2	4.8%
8. Lampung	3,925.6	0.6%	16. NTT	15,635.2	2.5%	25. Southeast Sulawesi	4,385.8	0.7%
			17. East Timor	1,128.0	0.2%	26. Maluku	1,202.4	0.2%
						27. Irian Jaya	327.4	0.1%

Source: Direktorat Bina Program, Direktorat Jenderal Tanaman Pangan & Hortikultura

Figure AT-3-8 MAJOR PRODUCING AREA OF MANGOSTEEN

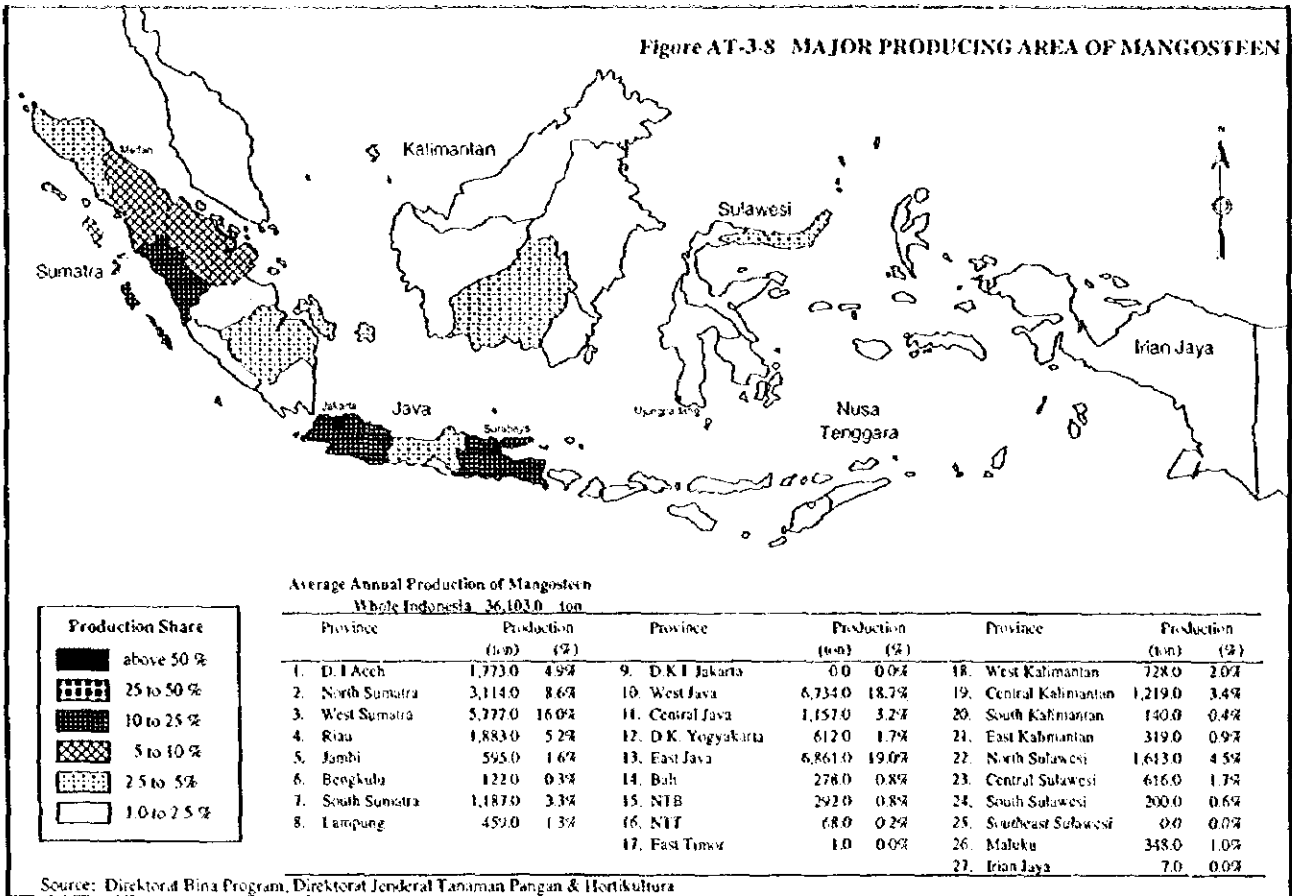


Figure AT-3-9 MAJOR PRODUCING AREA OF MARQUISA

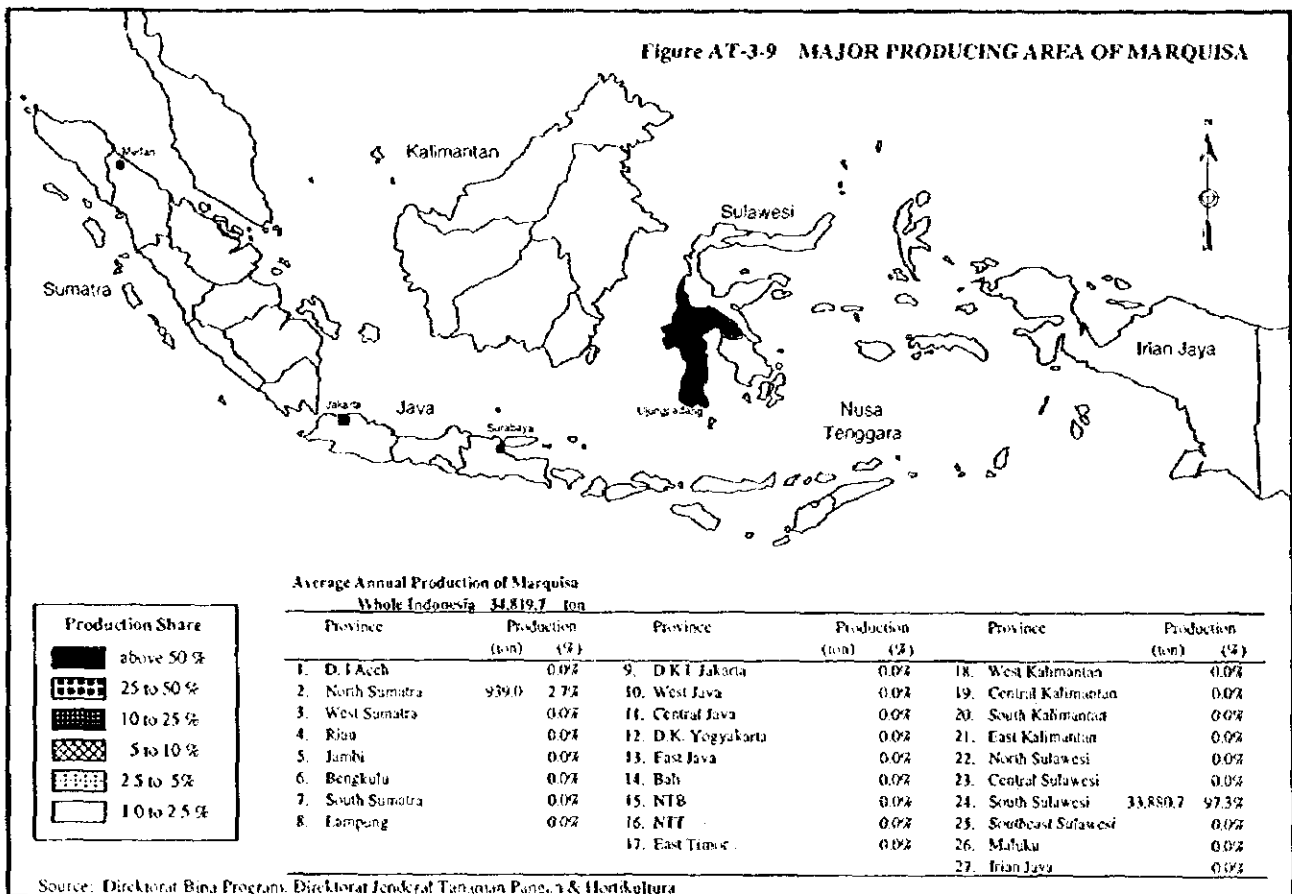


Figure AT3-10 MAJOR PRODUCING AREA OF RAMBUTAN

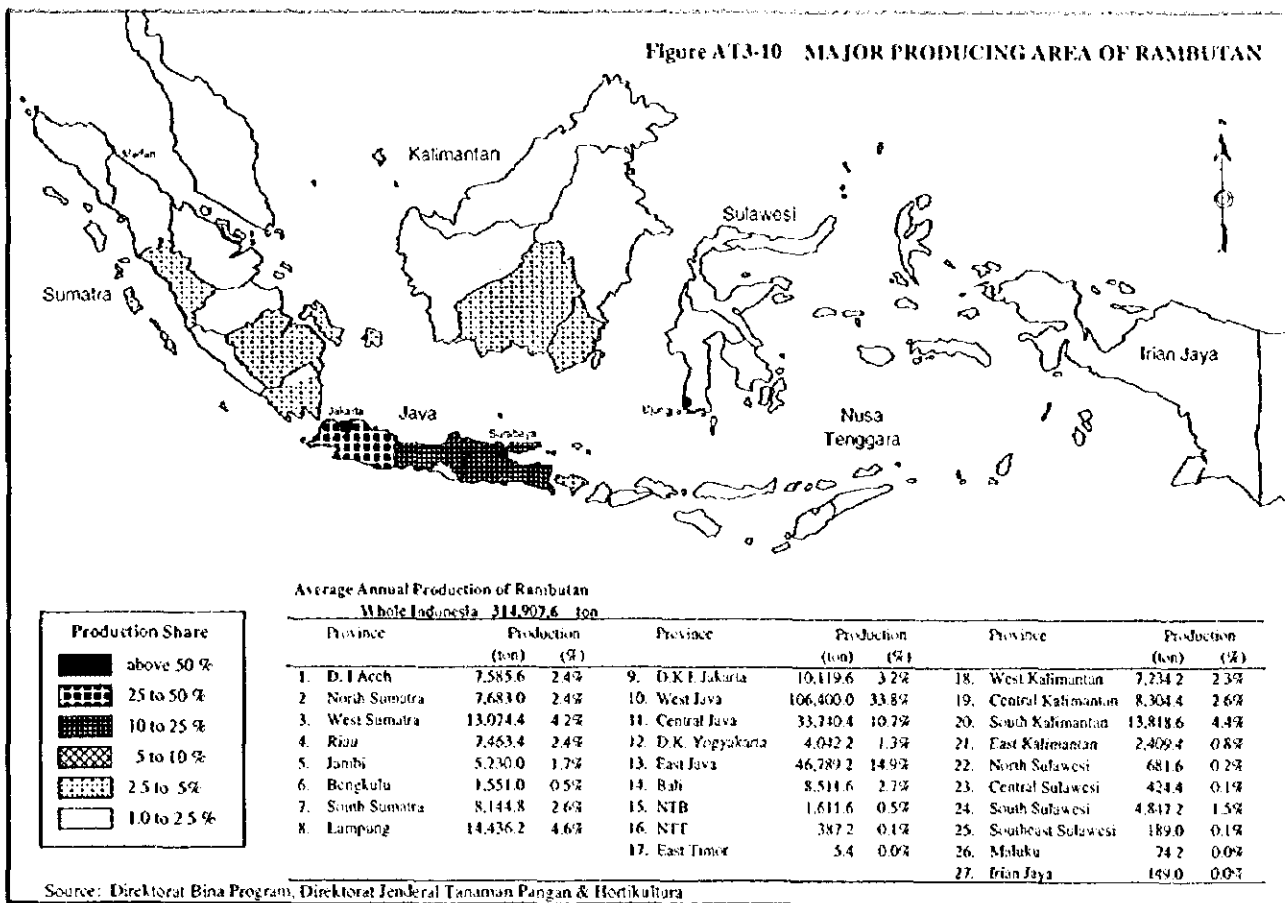


Figure AT-3-11 MAJOR PRODUCING AREA OF SALAK

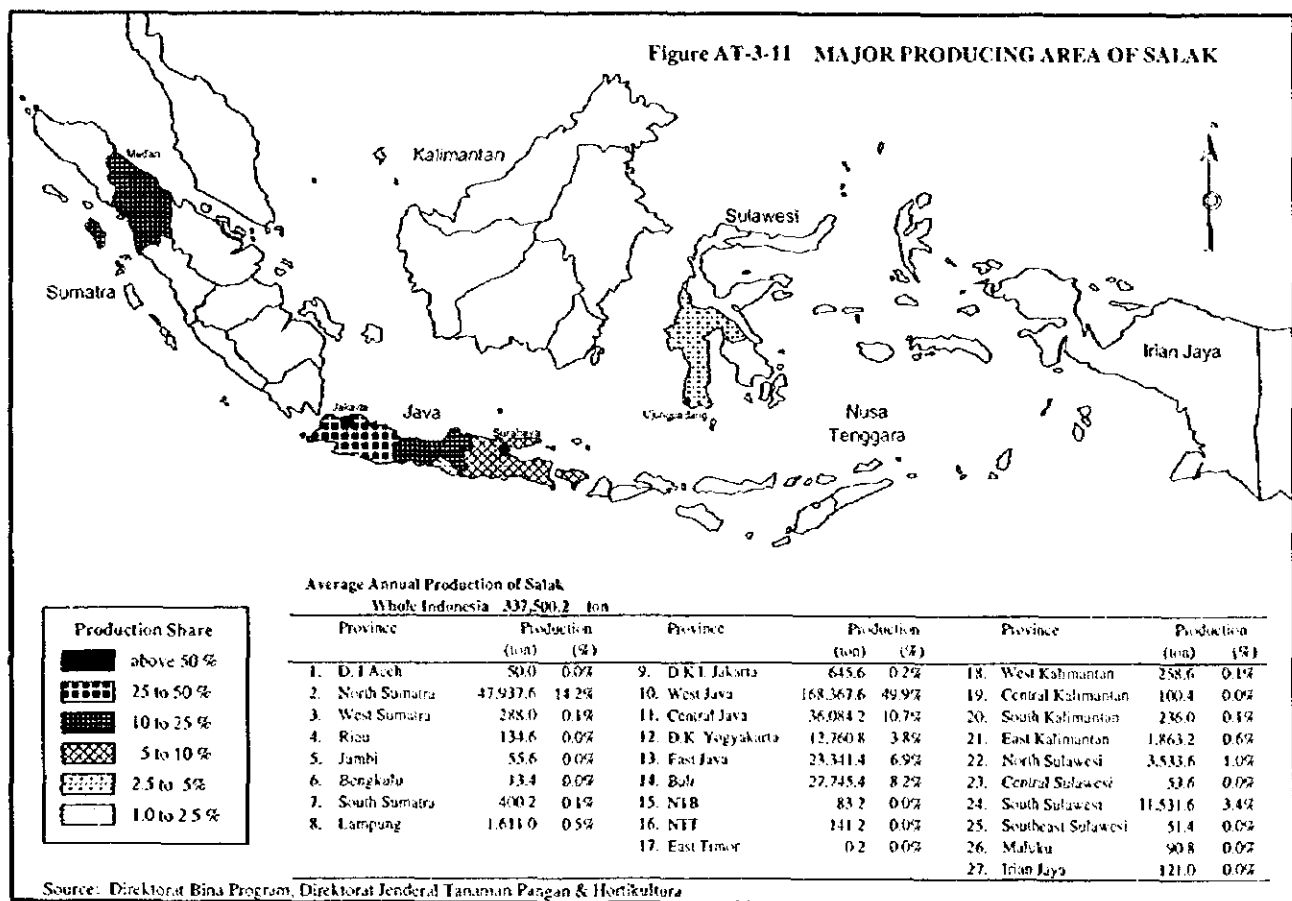
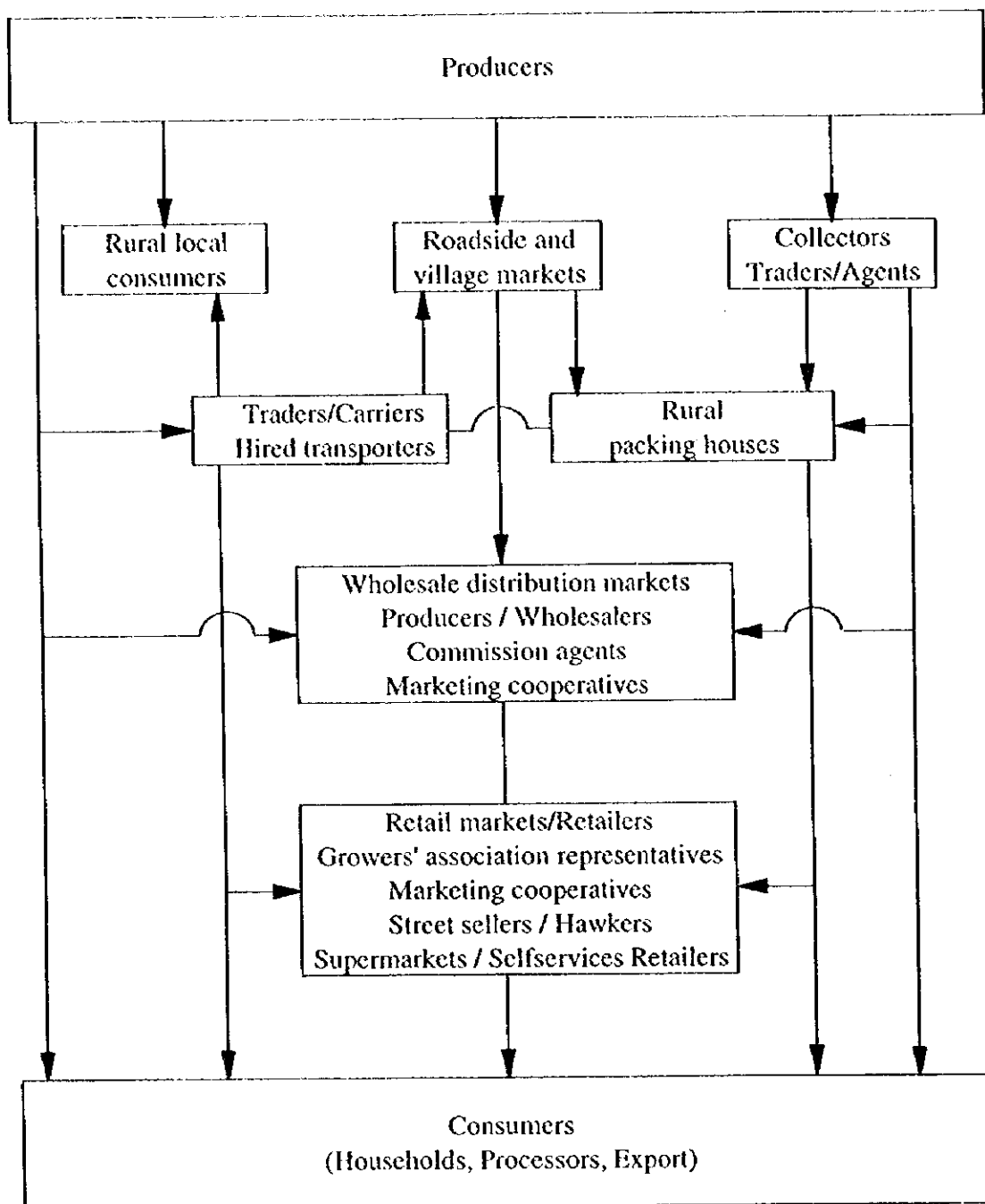


Figure AT-3-12 PRINCIPAL DISTRIBUTION CHANNEL OF FRESH FRUITS



Source: JICA Study Team

Figure AT-4-1 PEAK FRUIT SEASON IN THE STUDY AREA

Province	Fruit	M O N T II											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
North Sumatra	Durian						■	■	■				
	Marquisa	■	■	■	■								
	Mango				■	■							
	Avocado						■	■	■	■			
	Lanzon									■	■	■	■
	Mangosteen												
	Salak		■	■	■	■							
	Rambutan						■	■	■				
	Banana	■	■	■	■	■							
West Java	Durian	■	■										■
	Mango									■	■	■	■
	Avocado	■											■
	Lanzon		■	■	■	■							
	Mangosteen												
	Salak	■	■								■	■	■
	Rambutan	■	■	■	■						■	■	■
	Banana	■	■	■	■	■						■	■
East Java	Durian	■	■										
	Mango									■	■	■	■
	Avocado		■	■	■								
	Lanzon		■	■	■	■							
	Mangosteen												
	Salak	■	■									■	■
	Rambutan	■	■	■	■	■						■	■
	Banana	■	■	■	■	■						■	■
South Sulawesi	Marquisa	■	■										■
	Mango	■	■								■	■	■
	Avocado	■	■										■
	Lanzon		■	■	■								
	Mangosteen												
	Salak	■	■	■	■								
	Rambutan	■	■	■	■								
Banana	■	■	■	■	■						■	■	

Source: JICA Study Team

Figure AT-S-1 PROBLEM STRUCTURE IN THE STUDY AREA AND ORCHARD DEVELOPMENT

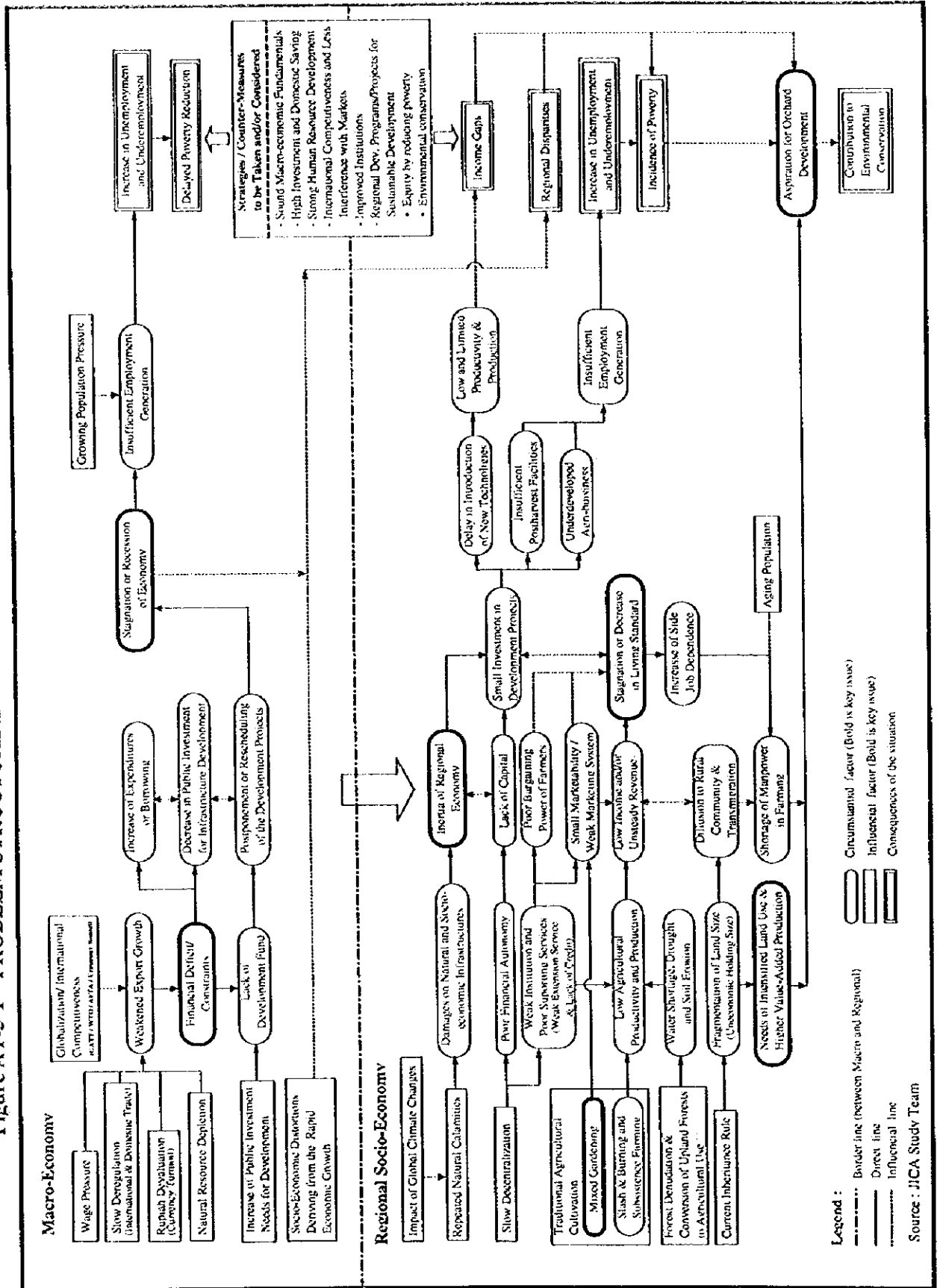
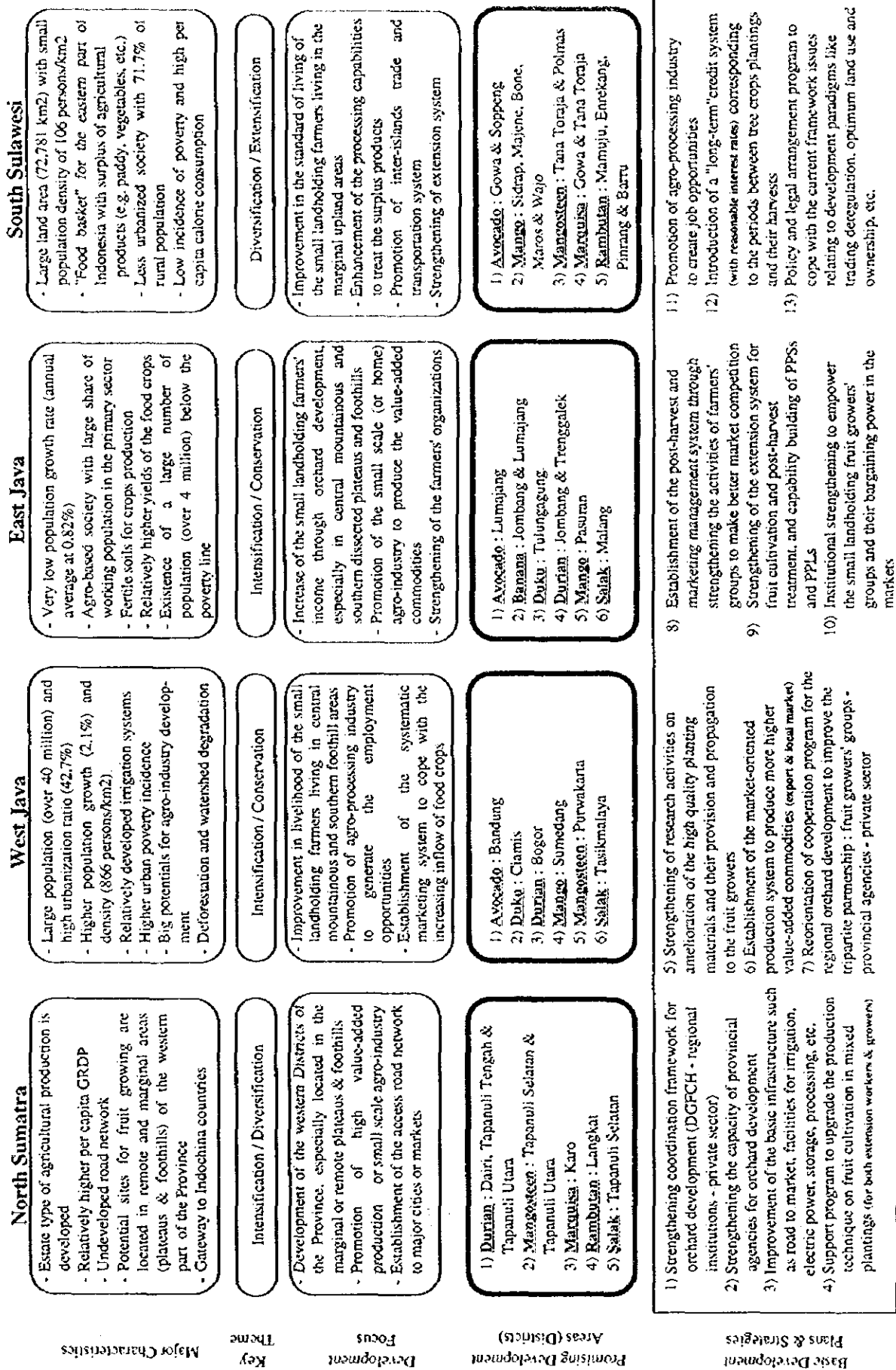


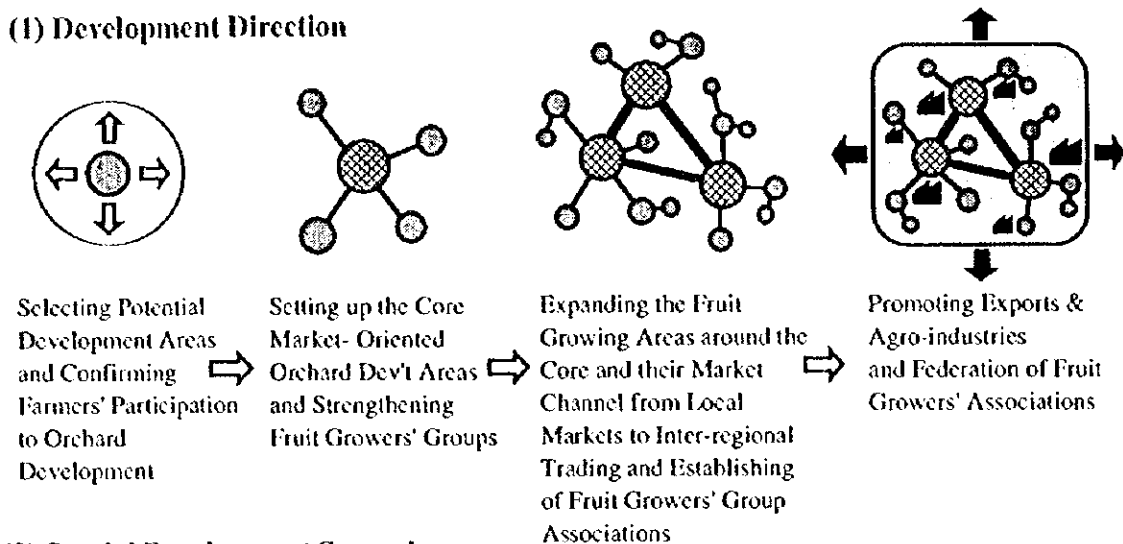
Figure AT-6-1 CONCEPTUAL FRAMEWORK FOR ORCHARD DEVELOPMENT BY STUDY PROVINCES



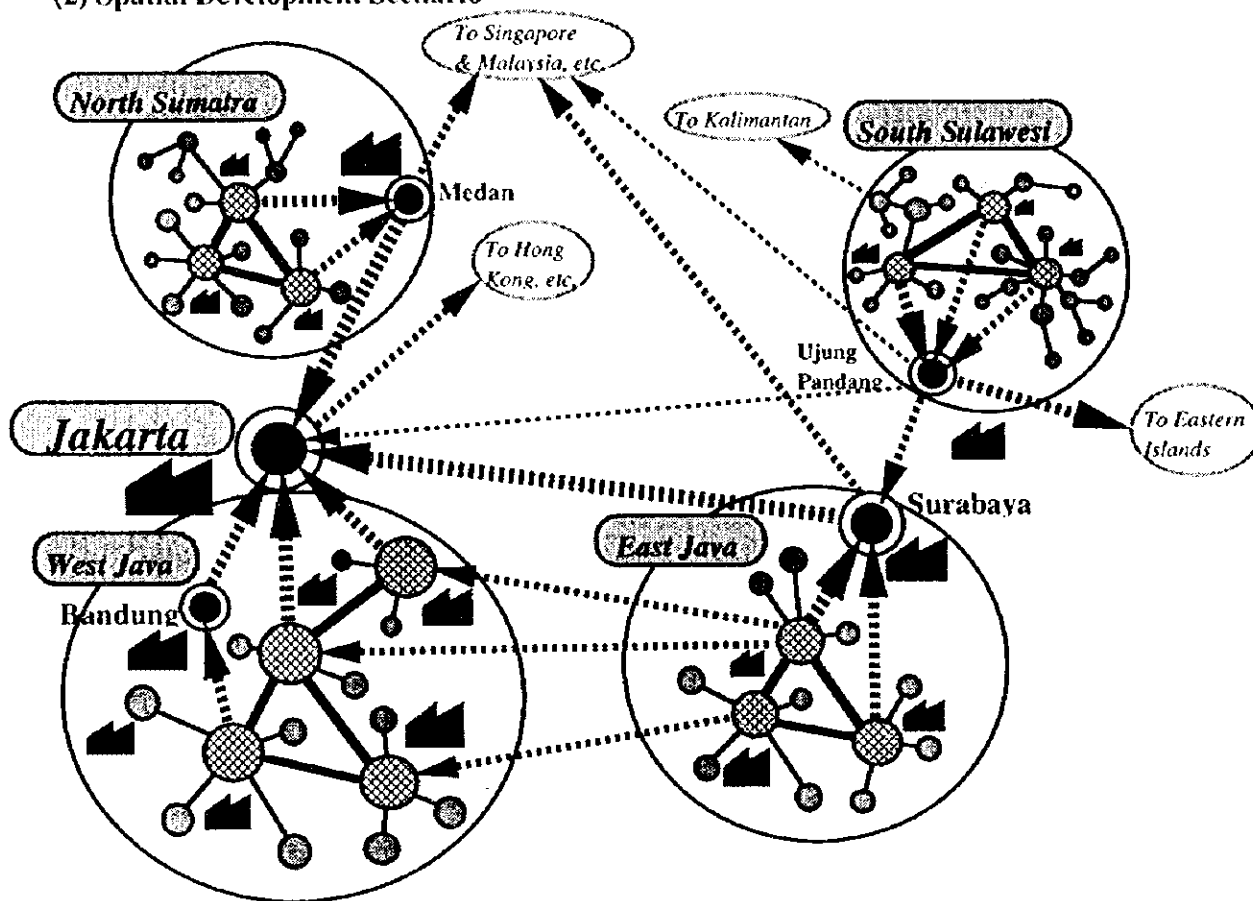
Source : JICA Study Team

Figure AT-6-2 CONCEPT OF ORCHARD DEVELOPMENT SCENARIO

(1) Development Direction



(2) Spatial Development Scenario



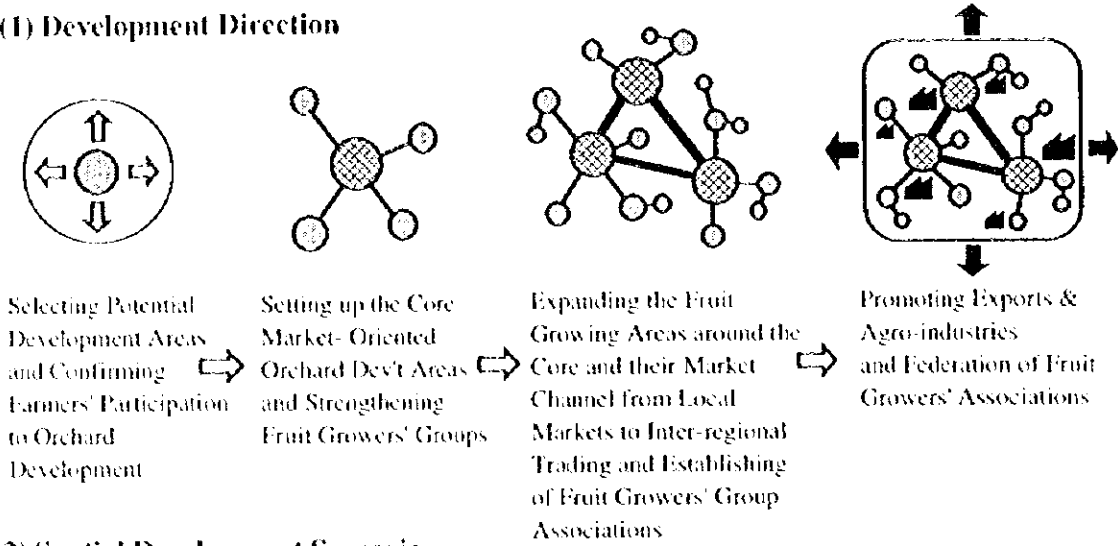
Legend :

Local & Provincial Market	Processing & Agro-Industry
Mega-Cities/ Mega-Markets	Flow of Products or Cooperation (Vice Versa)
Orchards run by the Fruit Growers' Groups & Associations	Inter-Regional Trades or Exports
	Inter-Islands and/or Exports

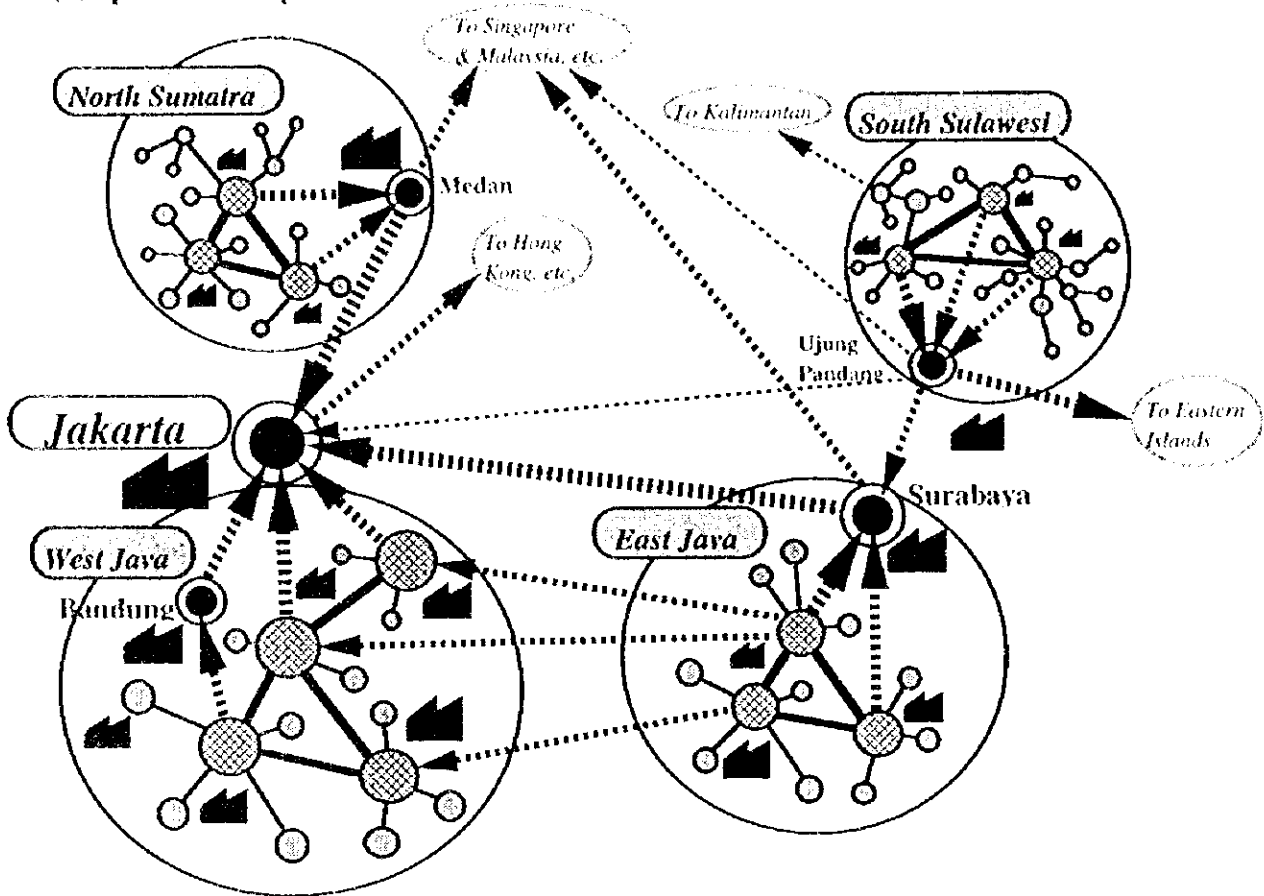
Source: JICA Study Team

Figure AT-6-2 CONCEPT OF ORCHARD DEVELOPMENT SCENARIO

(1) Development Direction



(2) Spatial Development Scenario



Legend :

- Local & Provincial Market
- Mega-Cities/ Mega-Markets
- Orchards run by the Fruit Growers' Groups & Associations
- Processing & Agro-Industry
- Flow of Products or Cooperation (Vice Versa)
- Inter-Regional Trades or Exports
- Inter-Islands and/or Exports

Figure AT-6-3 GENERAL FLOW FOR EVALUATION OF THE FRUIT POTENTIALS AND MASTER PLANNING

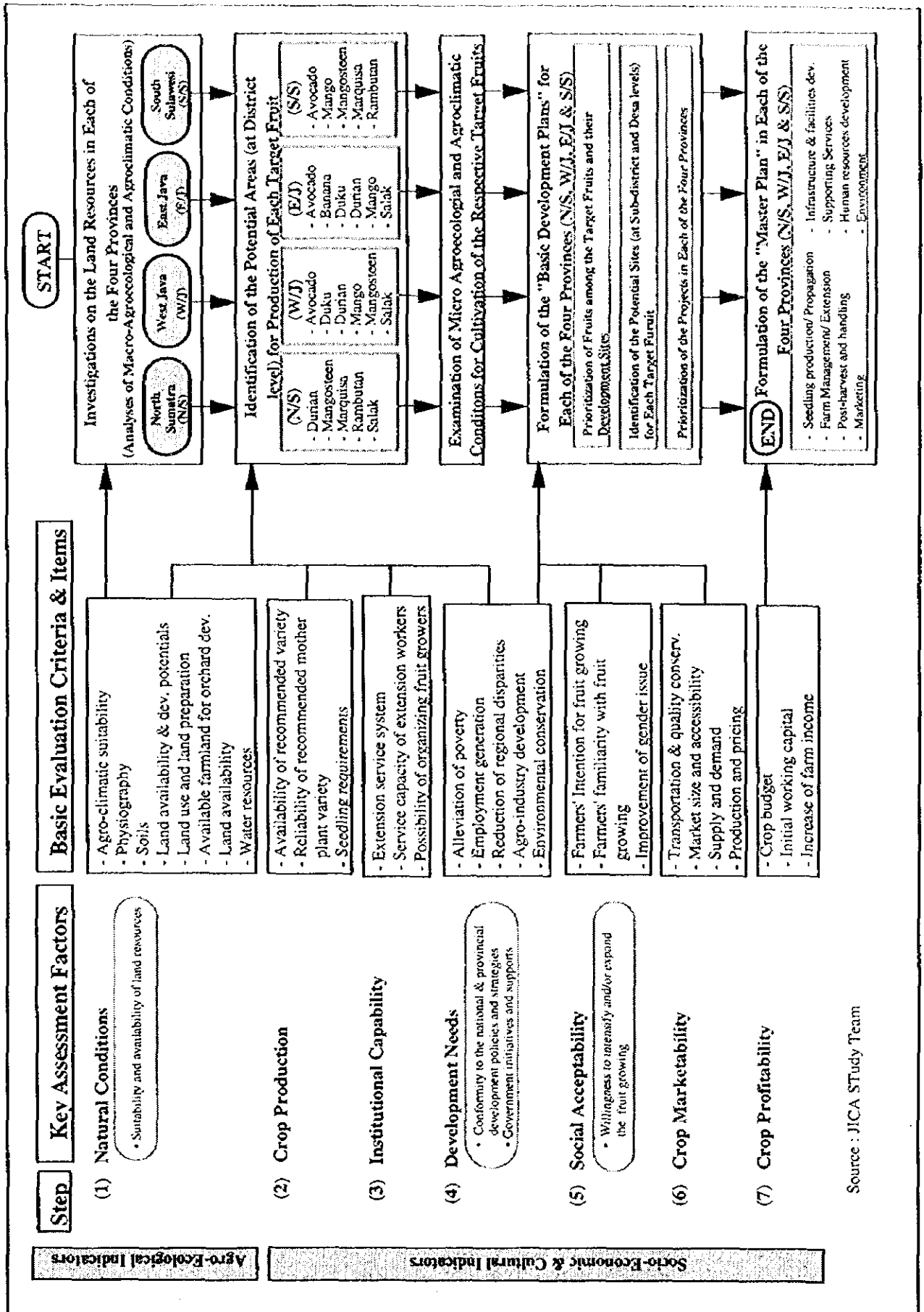
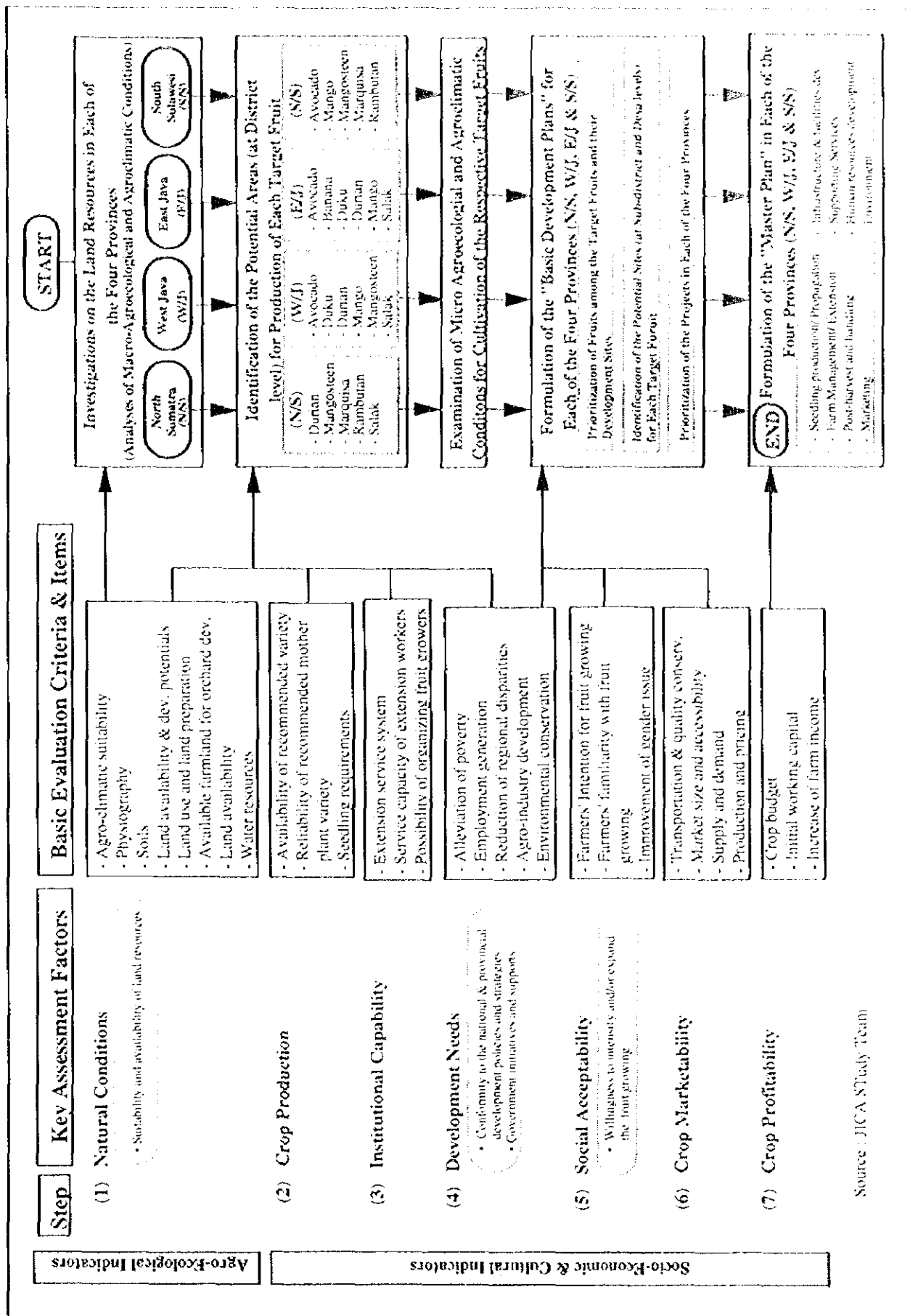
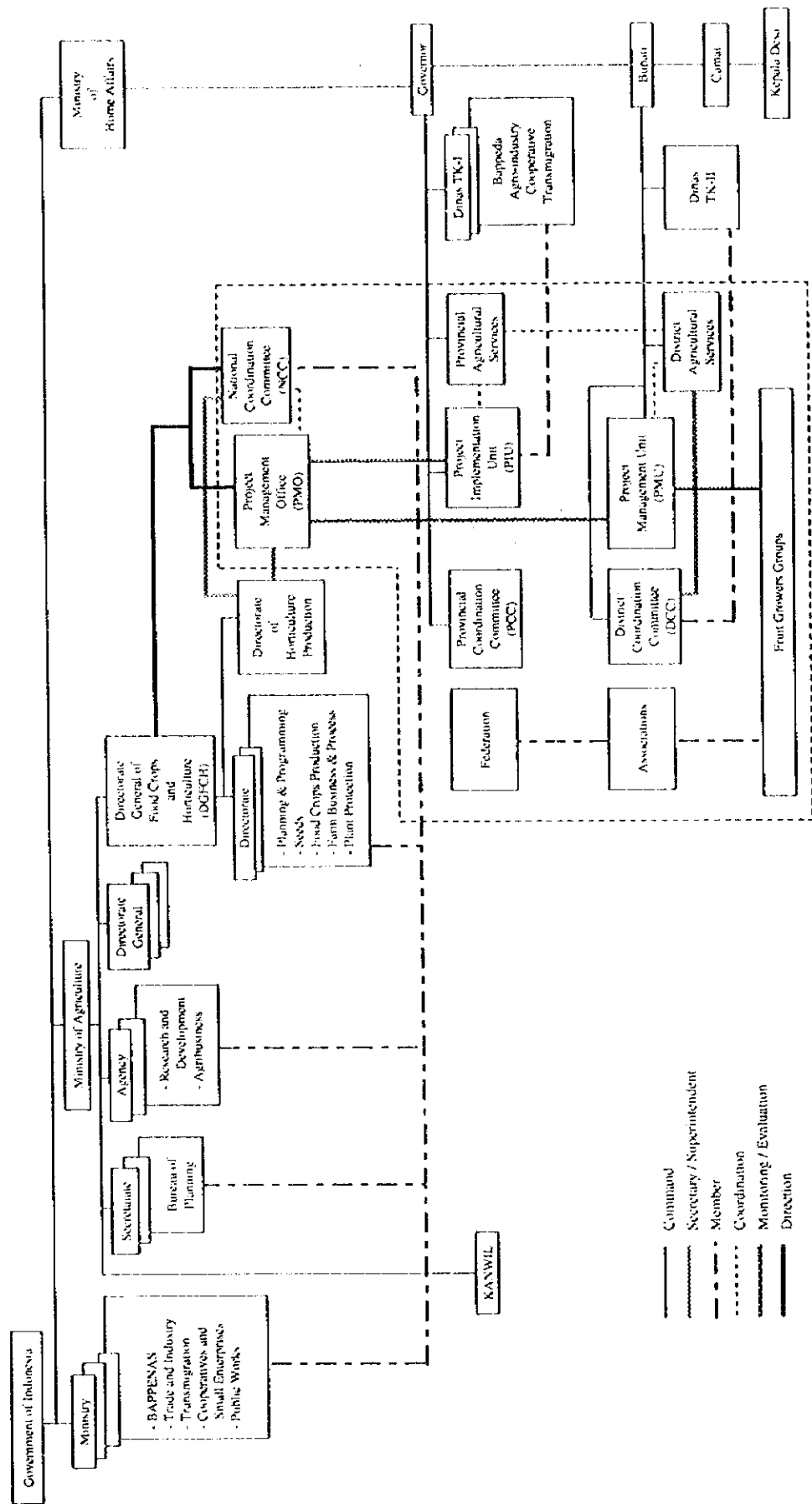


Figure AT-6-3 GENERAL FLOW FOR EVALUATION OF THE FRUIT POTENTIALS AND MASTER PLANNING



Source: JICA Study Team

Figure A-T-7-1 IMPLEMENTATION ORGANIZATION



- Command
- Secretary / Superintendent
- Member
- - - - - Coordination
- · · · · Monitoring / Evaluation
- Direction

Source: JICA Study Team

Figure AT-7-2 IMPLEMENTATION SCHEDULE

Code No.	Description	Phase-I							Phase-II							Phase-III									
		Up to 2003 (Repelita VII)	2004 to 2008 (Repelita VIII)	2009 to 2013 (Repelita VIX)	2014 to 2018 (Repelita XX)	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18
Programs at Central Level																									
NP-1	Formation of Institutional Linkage for Horticulture Agribusiness Development																								
NP-2	Strengthening of Inter-ministerial Coordination System for Orchard Development																								
NP-3	Rationalization of Supporting Services for Credit Facilities and Marketing Promotion																								
NP-4	Strengthening of Research and Development Activities for Introduction and Breeding of High Quality New Fruit Varieties																								
NP-5	Strengthening of New Technology Adaptability Trial Operation System																								
NP-6	Rationalization of Fruit Seedling Inspection System																								
NP-7	Strengthening of Plant Quarantine System																								
Programs at Provincial Level																									
PP-1	Strengthening of Project Planning Capacity at Provincial Level																								
PP-2	Strengthening of Management Capability Building of Provincial Staff																								
PP-3	Improvement of High Quality Seedling Propagation and Distribution System																								
PP-4	Institutional and Technical Capability Building of Private Nurseries																								
PP-5	Enhancement of Extension Staff's Knowledge on Horticulture Agribusiness Development																								
PP-6	Upgrading of Market Information System																								
PP-7	Institutional Development for Association of Fruit Growers' Group																								
Programs at District Level																									
DP-1	Establishment of Orchard as Core of Target Fruit Growing Area																								
DP-2	Introduction and Practice of Market-oriented Quality Fruit Growing Techniques																								
DP-3	Establishment of On-farm Level Extension Service System																								
DP-4	Development of Post-harvest Handling System																								
DP-5	Improvement of Access Facilities to Markets																								
DP-6	Improvement of Local Market Facilities																								
DP-7	Institutional Strengthening of Smallholding Fruit Growers																								

Note: : Feasibility Study & Detailed Design or Preparation of Program
 : Provision of Facilities and Equipment
 : Project Activity
Source: JICA Study Team

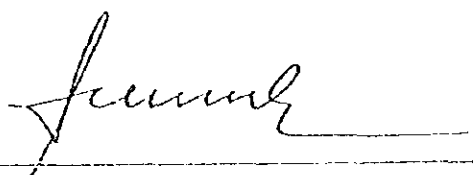
THE STUDY ON THE IMPROVEMENT
IN QUALITY OF THE TROPICAL FRUITS

Attachments

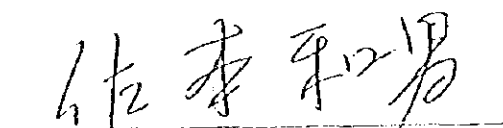
SCOPE OF WORK
FOR
THE STUDY
ON
THE IMPROVEMENT IN QUALITY OF THE TROPICAL FRUITS
IN
INDONESIA

AGREED UPON
BETWEEN
THE DIRECTORATE GENERAL OF FOOD CROPS AND HORTICULTURE
MINISTRY OF AGRICULTURE
THE REPUBLIC OF INDONESIA
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

Jakarta, March 20, 1997



for Mr. Amrin Kahar
Director General of Food Crops and Horticulture,
Ministry of Agriculture



Mr. Kazuo SAMOTO
Leader of Preparatory Study Team,
Japan International Cooperation Agency

I. INTRODUCTION

In response to the request of the Government of the Republic of Indonesia (hereinafter referred to as "GOI"), the Government of Japan (hereinafter referred to as "GOJ") has decided to conduct the Study on the improvement in quality of the tropical fruits in the Republic of Indonesia (hereinafter referred to as "the Study"), in accordance with the relevant laws and regulations in force in Japan.

Accordingly, Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programs of the GOJ, will undertake the Study in close cooperation with the authorities concerned of the GOI.

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;

1. to prepare a Master Plan for each four provinces to increase in small scale farmers' income through improvement in quality of the target tropical fruits correspond to need for supply for domestic and international market, and
2. to carry out, in the course of the Study, technology transfer to the Indonesian counterpart personnel concerned.

III. STUDY AREA and TARGET TROPICAL FRUITS

The Study covers some 238,000km² located in four provinces and nine target tropical fruits as follows (See location map attached as ANNEX I, and list of the relation between each target tropical fruits and provinces as ANNEX II);

- North Sumatera province : Durian, Marquisa, Mangosteen, Salak, Rambutan
- West Java province : Durian, Mango, Avocado, Duku, Mangosteen, Salak
- East Java province : Durian, Mango, Avocado, Duku, Salak, Banana
- South Sulawesi province : Marquisa, Mango, Avocado, Mangosteen, Rambutan

IV. SCOPE OF THE STUDY

In order to achieve the above objectives, the Study will consist of field work in Indonesia and home work in Japan.

1. Field work in Indonesia.

1-1. To collect and review ;

- relevant data and information on the past activities of the Directorate General of Food Crops and Horticulture (hereinafter referred as to DGFCH) and other relevant organizations.
- relevant plan and projects including OECF project (Integrate Horticulture Development in Upland Areas, IHDUP).

1-2. To conduct field survey and investigation on following items,

(1) natural condition including,

- location, area and topography
- meteorology and hydrology
- geology
- soils
- vegetation
- others

(2) socio-economic condition including,

- economic indices
- social infrastructure
- demographic condition
- national and regional development plan
- gender
- others

(3) agricultural condition including,

- seedling preparation and distribution system
- present land use
- farming practices
- research activities
- supporting services
- agricultural economy
- post-harvest and processing system
- marketing system and analysis
- agro-infrastructure and maintenance
- farmers' organization
- others including agro-industry (home-industry)

(4) rural infrastructure (farm road, etc.)

(5) environmental condition

1-3. To assess and analyze collected data and information.

1-4. To identify major constraints and development potential.

1-5. To prepare a Master Plan on the improvement in quality of the tropical fruits for each four provinces considering the DGFCH and other related organizations' activities in future. The plan shall include the results of selection and prioritization of potential area(s) with following items,

(1) improvement plan for preparation, production technology and distribution system of seedling,

(2) improvement plan for farming practices,

(3) improvement plan for post harvest and marketing system.

2. Home work in Japan

To make the Draft Final Reports and Final Reports considering some comments from Indonesia side.

V. STUDY SCHEDULE

The Study will be carried out in accordance with the attached tentative schedule. (See ANNEX III)

VI. REPORTS

JICA shall prepare and submit the following reports in English to the Government of Indonesia.

1. Inception Report

Forty (40) copies at the commencement of the field study in Indonesia.

2. Interim Report

Forty (40) copies at the halfway of the field study in Indonesia.

3. Progress Report

Forty (40) copies at the end of the field study in Indonesia.

4. Draft Final Report

Forty (40) copies after the end of the home office work in Japan. The Government of Indonesia will provide JICA with its comments on the Draft Final Report within one (1) month after receipt of the Draft Final Report.

5. Final Report

Sixty (60) copies within two (2) months after receipt of the Government of Indonesia's comments on the Draft Final Report.

VII. UNDERTAKING OF THE GOVERNMENT OF INDONESIA

1. To facilitate smooth conduct of the study, the Government of Indonesia shall take necessary measures ;
 - 1-1. to secure the safety of the Japanese study team,
 - 1-2. to permit the members of the Japanese study team to enter, leave and sojourn in the Republic of Indonesia for the duration of their assignment therein, and exempt them from foreign registration requirements and consular fees,
 - 1-3. to exempt the members of the Japanese study team from taxes, duties, fees and any other charges on equipment, machinery and other materials brought into the Republic of Indonesia for the conduct of the Study,
 - 1-4. to exempt the members of the Japanese study team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Japanese study team for their services in connection with the implementation of the Study,
 - 1-5. to provide necessary facilities to the Japanese study team for the remittance as well as utilization of the funds introduced into the Republic of Indonesia from Japan in connection with the implementation of the Study,
 - 1-6. to secure permission for entry into private properties or restricted areas for the implementation of the Study,
 - 1-7. to secure permission for the Japanese study team to take all data and documents (including photographs and maps) related to the Study out of the Republic of Indonesia to Japan and
 - 1-8. to provide medical services as needed. Its expense will be chargeable on the members of the Japanese study team.

2. The Government of Indonesia shall bear claims, if any arises, against the members of the Japanese study 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 Japanese study team.

3. DGFCH, Ministry of Agriculture (MOA) shall act as counterpart agencies to the Japanese Study Team and also as the coordinating body in relation with other governmental organizations and non-governmental organizations concerned for smooth implementation of the Study.
4. DGFCH shall, at its own expenses, provide the Japanese study team with the following, in cooperation with other organizations concerned ;
 - 4-1. available data and information related to the Study,
 - 4-2. counterpart personnel,
 - 4-3. suitable office spaces with necessary equipment and furniture in Jakarta and study sites,
 - 4-4. credentials or identification cards, and

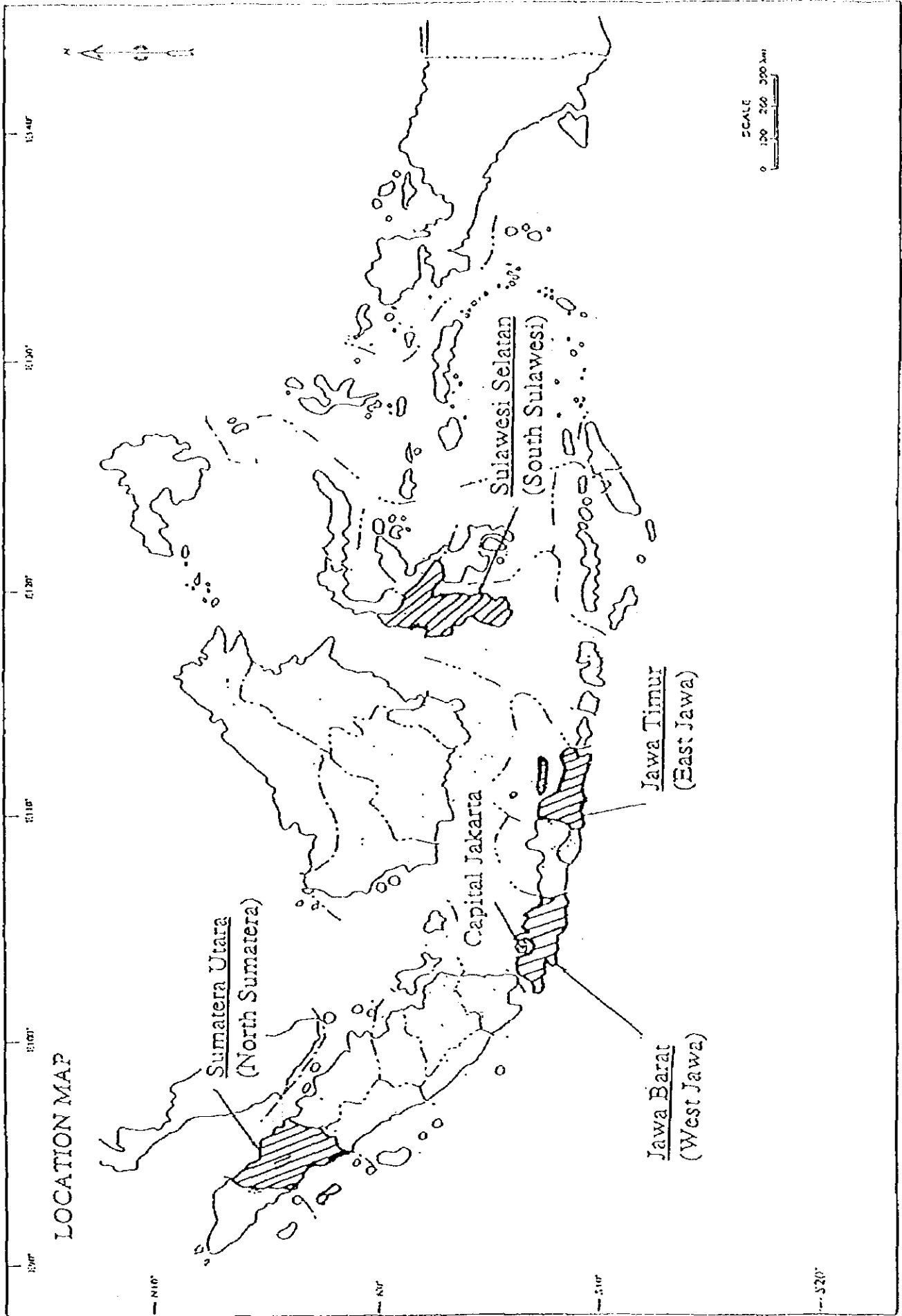
VIII. UNDERTAKING OF JICA

For the implementation of the Study, JICA shall take the following measures ;

1. to dispatch, at its own expense, study team to the Republic of Indonesia, and
2. to pursue technology transfer to the Indonesian counterpart personnel in the course of the Study.

IX. CONSULTATION

JICA and DGFCH shall consult with each other in respect of any matter that may arise from or in connection with the Study.



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4/2/24

ANNEX II

THE RELATION BETWEEN EACH TARGET FRUITS AND PROVINCE

Fruits	Province			
	North Sumatera	West Java	East Java	South Sulawesi
Durian	○	○	○	
Marquisa	○			○
Mango		○	○	○
Avocado		○	○	○
Duku		○	○	
Mangosteen	○	○		○
Salak	○	○	○	
Rambutan	○			○
Banana			○	

TENTATIVE SCHEDULE

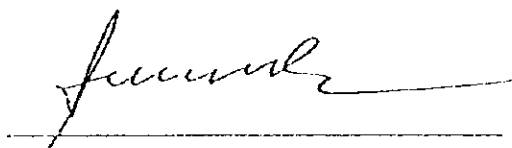
Month	1	2	3	4	5	6	7	8	9	10	11	12
Item												
Work in Indonesia												
Work in Japan												
Reports	△ Ic/R				△ Iu/R		△ P/R	△ Df/R				△ F/R

Ic/R : Inception Report, Iu/R : Interim Report, P/R : Progress Report,
Df/R : Draft Final Report, F/R : Final Report

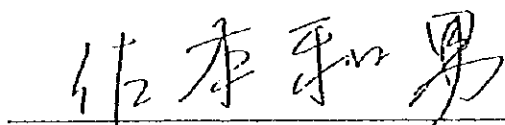
MINUTES OF MEETING
ON
SCOPE OF WORK
FOR
THE STUDY
ON
THE IMPROVEMENT IN QUALITY OF THE TROPICAL FRUITS
IN
INDONESIA

AGREED UPON
BETWEEN
THE DIRECTORATE GENERAL OF FOOD CROPS AND HORTICULTURE
MINISTRY OF AGRICULTURE
THE REPUBLIC OF INDONESIA
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

Jakarta, March 20, 1997



for Mr. Amrin Kahar
Director General of Food Crops and Horticulture,
Ministry of Agriculture



Mr. Kazuo SAMOTO
Leader of Preparatory Study Team,
Japan International Cooperation Agency

The preparatory study team (hereinafter referred to as "the Team") organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA"), and headed by Mr. Kazuo SAMOTO, visited the Republic of Indonesia March 9 to 26, 1997 for the purpose of discussing and confirming the Scope of Work for the Study on Improvement in quality of the tropical fruits in the Republic of Indonesia (hereinafter referred to as "the Study")

The Team had a series of discussions with the officials concerned at Directorate General of Food Crops and Horticulture (hereinafter referred to as "DGFCH") and other organizations on the Scope of Work. The list of participants in the meetings is attached in the ANNEX I.

As the result of the discussions, the Team and DGFCH agreed on the Scope of Work.

The following are main issues discussed and agreed upon by both sides in relation to the Scope of Work for the Study.

1. Both sides agreed that the Study would cover the following target tropical fruits in each four provinces.
 - North Sumatera : Durian, Marquisa, Mangosteen, Salak, Rambutan
 - West Java : Durian, Mango, Avocado, Duku, Mangosteen, Salak
 - East Java : Durian, Mango, Avocado, Duku, Salak, Banana
 - South Sulawesi : Marquisa, Mango, Avocado, Mangosteen, Rambutan
2. The Team requested that counterpart personnel to the Japanese study team, necessary for smooth and effective implementation of the Study, be assigned in Jakarta and each four provinces. DGFCH agreed with the idea and promised to be responsible for the request.
3. The Team suggested that a Steering Committee (hereinafter referred to as "the Committee") for the smooth and effective implementation of the Study, be organized by relevant departments and organizations of the GOI, and be held at least three times on Inception Report, Interim Report, Draft Final Report. DGFCH agreed with the idea and promised to organize the Committee as ANNEX II.
4. DGFCH requested counterpart training in Japan. The Team promised to convey its request to the JICA headquarters in Tokyo.
5. DGFCH requested to hold the workshop which explains the results of the Study.
6. DGFCH shall provide offices for the Japanese study team equipped with telephone(s) of communication facilities, electricity, water supply and necessary number of desks and chairs will be provided in Jakarta and four provinces.
7. DGFCH requested that the following equipment necessary for the Study be arranged by JICA. The Team promised to convey its request to the JICA headquarters in Tokyo.
 - vehicle(s) with driver(s)
8. The Team agreed forty copies of the Inception Report, Interim Report, Progress Report, Draft Final Report will be submitted to DGFCH.
9. DGFCH agreed that the Final Report would be available to any person who is interested in the Study.

LIST OF PARTICIPANTS

[Directorate General of Food Crops and Horticulture (DGFCH), MOA (HDQ in Jakarta)]

1. Mr. Amrin Kahar Director General of Food Crops and Horticulture
2. Ir. Soemitro Arintadisastra, Ph.D. Director of Planning and Programming, DGFCH
3. Mr. Muhamad Sidik M.Sc. Secretary to the DGFCH
4. Dr. Ir. Edward Napitupulu Head of Sub-Directorate of Foreign Cooperation
5. Dr. Nyoman Oka Tridjaja Head of Sub-Directorate of Farm Business & Processing for Horticulture
6. Mr. Suroto Head of Sub-Directorate of Horticulture Seed, DGFCH
7. Mr. Achmad Fuadi Head of Section of Preparation for Foreign Cooperation, DGFCH
8. Mr. Muhammad Staff, Directorate of Seed Development
9. Mr. Rusli Hukum Staff, Directorate of Horticulture Production Development
10. Mrs. Ari Staff, Directorate of Horticulture Production Development
11. Mr. Widjatmiko Staff, Directorate of Planning and Programming, DGFCH
12. Mrs. Wijayanti Staff, Directorate of Planning and Programming, DGFCH
13. Mr. Naotoshi Kakiya Senior Advisor of the DGFCH, JICA Expert
14. Mr. Hajime Nakahigashi Advisor to the DGFCH, JICA Expert
15. Mr. Y. Sugii JICA Expert to the DGFCH

[The Preparatory Study Team, Japan International Cooperation Agency (JICA)]

1. Mr. Kazuo Sanoto Team Leader
2. Mr. Kazuyuki Abe Fruit Cropping
3. Mr. Katsuhisa Suzuki Post-harvesting & Marketing
4. Mr. Tetsuya Kihira Marketing Analysis
5. Mr. Makoto Takahashi Coordinator

[JICA Jakarta Office]

1. Mr. Masahiro Tawa Assistant Resident Representative

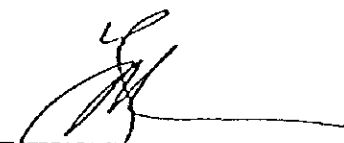
MINUTES OF DISCUSSION
ON
INCEPTION REPORT
FOR
STUDY
ON
THE IMPROVEMENT IN QUALITY OF THE TROPICAL FRUITS
IN
INDONESIA

AGREED UPON
BETWEEN
THE DIRECTORATE GENERAL OF FOOD CROPS AND HORTICULTURE
MINISTRY OF AGRICULTURE
THE REPUBLIC OF INDONESIA
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

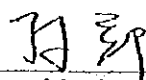
Jakarta, July 28, 1997



Mr. Amrin Kahar
Director General of Food Crops and Horticulture,
Ministry of Agriculture



Mr. Yutaka Matsumoto
Leader of Study Team
Japan International Cooperation Agency



Dr. Kazuyuki Abe
Leader of Advisory Team
Japan International Cooperation Agency

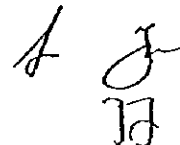
The advisory team headed by Dr. Kazuyuki Abe and the study team (hereinafter referred to as "the Team") headed by Mr. Yutaka Matsumoto, both organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA"), visited the Republic of Indonesia on July 21 to 29, 1997 for the purpose of making presentation and discussion about the contents of the Inception Report on "Improvement in Quality of the Tropical Fruits in the Republic of Indonesia" (hereinafter referred to as "the Study").

The Team had a series of discussions with the officials concerned at Directorate General of Food Crops and Horticulture (hereinafter to as "DGFCH") of the Ministry of Agriculture and other organizations on the plan of operation presented in the Inception Report. The list of participants in the meetings is attached in the ANNEX-1.

As the result of the discussions, the Team and DGFCH agreed on the basic approach, plan of operation and work schedule of the Study.

The following are main issues discussed and agreed upon by both sides in relation to the focal points of the Study.

1. The Team will pay its special attention to the following points, as mentioned in the Inception Report, in the course of the Study on order to formulate practical action programs :
 - BAPPENAS's mainconcern about how to establish fruit industry from upstream of downstream in line with the Government's concepts of agri-business development;
 - Prevailing condition of fruit nurseries operated by both public and private sectors;
 - Registration and maintenance system of mother plants;
 - Current seedling production system of BBI and BBU;
 - Selection of potential and priority locations in each Province;
 - Establishment of fruit orchard (fruit producing area) coupled with small land ownership and farmer's willingness to participation into market-oriented fruit commodity development activities;
 - Organization of participatory farmers;
 - Transfer of technology in the field of processing and post-harvest; and
 - Quality standard in relation to preference of markets and consumers.
2. The Team will prepare questionnaire form for data an information collection matching with the capacity of local government's staff.



LIST OF PARTICIPANTS

Directorate General of Food Crops and Horticulture (DGFCH), MOA

- | | | |
|-----|---------------------------|---|
| 1. | Mr. Muhammad Sidik M. Sc. | Secretary to the DGFCH |
| 2. | Mr. M. Munawir | Director of Seed Production |
| 3. | Dr. Ir. Edward Napitupulu | Head of Sub-Directorate of Foreign Cooperation |
| 4. | Mr. Winny D. Wibawa | Head of Sub-Directorate of Fruit Production, DGFCH |
| 5. | Mr. Achmad Fuadi | Head of Section of Preparation for Foreign Cooperation, DGFCH |
| 6. | Mr. Samad Siam | Sub-Directorate of Farm Business and Processing |
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| 8. | Mr. Bambang Budhianto | Staff, Directorate of Seed Production |
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| 10. | Mr. Naotoshi Kakiya | JICA Expert Senior Advisor for Integrated Agriculture and Rural Development, Bureau of Foreign Cooperation, MOA |
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| 12. | Mr. Y. Sugii | JICA Expert to the DGFCH |

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| 1. | Dr. Kazuyuki Abe | Team Leader |
| 2. | Mr. Shinjiro Amameishi | Coordinator |

JICA Indonesia Office

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| 1. | Mr. Eiji Inui | Assistant Resident Representative |
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| 1. | Mr. Yutaka Matsumoto | Team Leader |
| 2. | Mr. Fumihiko Furuichi | Co-Team Leader, Farm Economy |
| 3. | Dr. Hiroshi Daito | Seedling Production |
| 4. | Mr. Takeshi Saito | Post-harvest and Marketing |



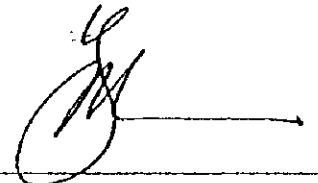
MINUTES OF DISCUSSION
ON
INTERIM REPORT
FOR
THE STUDY
ON
THE IMPROVEMENT IN QUALITY OF THE TROPICAL FRUITS

AGREED UPON
BETWEEN
THE DIRECTORATE GENERAL OF FOOD CROPS AND HORTICULTURE
MINISTRY OF AGRICULTURE
THE REPUBLIC OF INDONESIA
AND
JAPAN INTERNATIONAL COOPERATION AGENCY


Jakarta, November 26, 1997



Dr. Ir. Chairil A. Rasahan, MSc
Director General of Food Crops and Horticulture
Ministry of Agriculture



Mr. Yutaka Matsumoto
Team Leader
Japan International Cooperation Agency



Mr. Jun Shimada
Leader of Advisory Team
Japan International Cooperation Agency



The Advisory Team headed by Mr. Jun Shimada and the Study Team (hereinafter referred to as "the Team") headed by Mr. Yutaka Matsumoto, both organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA"), visited the Republic of Indonesia on November 19, 1997 for the purpose of making presentation and discussion about the contents of the Interim Report on "Improvement in Quality of the Tropical Fruits" (hereinafter referred to as "the Study").

In the meeting held at the Directorate General of Food Crops and Horticulture (hereinafter referred to as "DGFCH") of the Ministry of Agriculture on November 25, 1997, the Team had a series of discussions with the officials concerned of the DGFCH and other organizations about the basic plan of horticulture development in four Provinces; namely, North Sumatra, West Java, East Java and South Sulawesi, presented in the Interim Report. This meeting was chaired by Dr. Ir. Tom Edward M. Napitupulu, Director of Programming and Planning of the DGFCH. The list of participants in the meeting is attached as ANNEX-1.

As the result of the discussions, the Team and the DGFCH agreed on the basic plan of horticulture development in four Provinces and work schedule of the Phase-II of the Study.

The followings are focal points discussed and agreed upon by both sides :

1. The Team will pay its further attention to comments and suggestions given by Indonesian side and itemized below, in formulating a comprehensive horticulture development plan in the course of the Phase-II of the Study :
 - a. Seedlings : For introduction of new fruit varieties from abroad, attention needs to be paid to Indonesia's plant quarantine system, legal regulation and plant genetic resources. The on-going mother plant inventory by the Directorate of Seed Production is to be referred to the Study. Special consideration is required for strengthening the existing seed production and certification systems;
 - b. Farm Management : Because of importance of water supply to orchard, practical system of watering is to be examined in the Study . Shifting from fruit gardening to orchard is indispensable for horticulture development, but application of an effective method to consolidate small land pieces into one large lot is very difficult especially in Java. Taking such prevailing land resources situation into account, therefore, practical land consolidation need to be considered;
 - c. Post-harvest Handling : Attractiveness of packaging system needs to be considered;
 - d. Marketing : Special consideration is taken into account for developing market channel of quality fruits to fulfill the downstream demand including five stars hotels, restaurants, fruit shops, and so on;
 - e. Farmers Organization and Human Resources Development : As establishment of fruit growers association is the key for orchard development in Indonesia, details of its process

and function need to be included into the final development plan. Attention is paid to capability building of extension workers coupled with utilization of NGO due to lack of resource persons with overall knowledge of fruit growing to marketing; and

f. Orchard Development and Quality improvement Plan : Formulation of the future development programs need to focus upon prioritization of target fruits and potential areas in four Provinces. In this regard, inter-ministry coordination and on-going agri-business development projects have to be taken into consideration.

2. The Team will make the next presentation concerning an outline of comprehensive development plan at the end of January 1998 to invite your comments before starting preparation of the Draft Final Report in Japan.

ANNEX - 1

LIST OF PARTICIPANTS

Indonesian Side

1. Dr. Ir. Tom Edward M. Napitupulu Director, Directorate of Planning and Programming, Directorate General of Food Crops and Horticulture (DGFCH), Ministry of Agriculture (MOA)
2. Dr. Gellwynn Yusuf Bureau of Agriculture and Forestry, National Development Planning Board (BAPPENAS)
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22. Sri Wijayanti Directorate of Planning and Programming, DGFCH
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24. Agus Solihin Directorate of Planning and Programming, DGFCH
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| 31. | Jun Shinada | Team Leader |
| 32. | Kazumi Yoshihara | Coordinator |

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| 31. | Yutaka Matsumoto | Team Leader |
| 32. | Fumihiko Furuichi | Co-Team Leader/Farm Economy |
| 33. | Hiroshi Daito | Seedling Production Expert |
| 34. | Moehd. Baga Kalie | Cultivation/Extension Expert |
| 35. | Takeshi Saito | Post-harvest Handling and Marketing Expert |
| 36. | Ridhwan D. Marwy | Rural Society/Gender Expert |
| 37. | Dr. Irlan Soejono, MSc | Market Analysis Expert |
| 38. | Kenji Kyouizumi | Infrastructure and Facilities Expert |

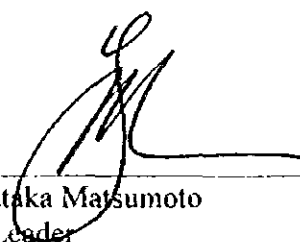
MINUTES OF DISCUSSION
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DRAFT FINAL REPORT
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THE IMPROVEMENT IN QUALITY OF THE TROPICAL FRUITS

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BETWEEN
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MINISTRY OF AGRICULTURE
THE REPUBLIC OF INDONESIA
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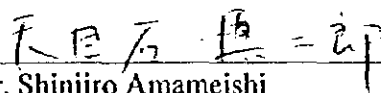
Jakarta, April 9, 1998



 Dr. Ir. Chairil A. Rasahan, MSc.
Director General of Food Crops and Horticulture
Ministry of Agriculture



Mr. Yutaka Matsumoto
Team Leader
Japan International Cooperation Agency



Mr. Shinjiro Amameishi
Leader of Advisory Team
Japan International Cooperation Agency

The Advisory Team headed by Mr. Shinjiro Amameishi and the Study Team (hereinafter referred to as "the Team") headed by Mr. Yutaka Matsumoto, both organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA"), visited the Republic of Indonesia on March 29, 1998 for the purpose of making presentation and discussion about the contents of the Draft Report on Improvement in Quality of the Tropical Fruits (hereinafter referred to as "the Study").

In the meeting held at the Directorate General of Food Crops and Horticulture (hereinafter referred to as "DGFCH") of the Ministry of Agriculture on March 31, 1998, the Team had a series of discussions with the officials concerned of the DGFCH and relevant agencies about the results of the Study covering four Provinces; namely North Sumatra, West Java, East Java and South Sulawesi. This meeting was chaired by Dr. Ir. Tom Edward M. Napitupulu, Director of Programming and Planning of the DGFCH. The list of participants in the meeting is attached as ANNEX-1.

As the result of the discussions, the Team and the DGFCH agreed on the master plan focusing upon quality improvement and production development of the nine target fruits presented in the Draft Final Report as well as how to utilize the final outputs of the Study.

The followings are focal points discussed and agreed upon by both sides.

1. The Team will pay its further attention to comments and suggestions given by the Indonesian side and itemized below in preparing the Final Report :

a. Programs at Central Level

- To make an additional recommendation on how to substantialize five programs for quality seedling production and distribution through accelerating research and development works as well as strengthening private nurseries activities including establishment of foundation block (FB) to select and maintain mother plants; and
- To consider the current enlargement of organization and function of the Assessment Institutes for Agricultural Technology (BPTP).

b. Programs at Provincial Level

- To pay attention to the project monitoring aspects in formulating the programs for "Strengthening of Project Planning Capacity at Provincial and District Levels" and "Strengthening of Management Capability Building of Provincial and District Staffs"; and
- To include post-harvest handling, processing (home industry) and transportation aspects in the training program for "Enhancement of Extension Staff's Knowledge on Horticulture Agribusiness Development".

c. Programs at District Level

- To consider the possibilities of increasing varieties for effective market promotion of target fruits;
- To indicate a realistic approach to promotion of partnership between farmers' groups and private sector;
- To give more detailed explanation on the program of "Introduction and Practice of Market Oriented Quality Fruit Growing Techniques" in connection with improvement of fruit quality;
- To consider quality improvement measures in processing fresh fruits in the program of "Development of Post-harvest Handling System"; and
- To review how to improve the present fruit trading system for enabling farmers to enter into fruit marketing and trading activities.

d. Implementation Schedule

- To reconsider implementation plans from the viewpoint of accelerating target realization and packaging of the whole orchard development programs at 37 sites.
2. The Team will prepare the Final Report in May after receiving additional comments from the Government of Indonesia by the end of April 1998. In preparing the Final Report, the Study Team will pay its special attention to the discussion results obtained through a series of meeting in Jakarta and seminars in the four Provinces. The Final Report will be submitted to the Indonesian side through JICA by the end of May 1998.

In the meeting, the DGFCH stressed that the pressing needs to tackle the current economic crisis in rural areas are to increase farmers income and to create new job opportunities. Agribusiness horticulture development can be largely expected to contribute as most effective countermeasures to meet such requirements, especially in critical areas depending those economy on upland crop cultivation. In this connection, the DGFCH expressed the necessity of urgent implementation of recommended programs in the master plan and its plan for taking necessary action to enter into the next stage directing towards program implementation as soon as possible.

LIST OF PARTICIPANTS

Indonesia Side

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| 1. | U.K. Anggro | Biro Perencanaan |
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| 5. | Nasrun Hasibuan | Direktur Bimus |
| 6. | Achmad Faudi | Bigram |
| 7. | Agus Wediyanto | Bigram |
| 8. | Suhatril | Setditjen TPH |
| 9. | Hari Priyono | Dit. Bigram |
| 10. | Muhammad | Dit. Benih |
| 11. | Sidik Rosyadi | Dit Bigram |
| 12. | Martha S. | Dit Bigram |
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| 16. | Hilman | Dit. Bigram |
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| 18. | Kismosatmoro | Dit. Binus TPH |
| 19. | Nyoman Oka Tridjaja | Rancapanen, Dit Benih |
| 20. | Endang Kunwidayadi | Badan Letbung |
| 21. | Zahron Helmy | Bappenas |
| 22. | Edward Napitupulu | Direktur, Bigram |
| 23. | Yandri | KLN |
| 24. | Adhi Santika | Pusat Hortikultura |
| 25. | Oerni. K. | Pusat Hortikultura |
| 26. | Winarny | Dit. Hortikultura |

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| 27. | Yutaka Sugii | JICA Expert/Advisor for Third Umbrella Cooperation |
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| 29. | Yasue Yoshinari | JICA Indonesia Office |
| 30. | Shinjiro Amameishi | JICA Advisory Team |

JICA Study Team

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| 31. | Yutaka Matsumoto | Team Leader |
| 32. | Fumihiko Furuichi | Co-Team Leader/Farm Economy |
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