

専門家の目から見たカウンターパートの現状能力及び向上目標  
S. 58年9月

カウンターパート名 Dra SRi YUMADIATI

学歴・専門 ガジャマダ大 地理

項 目	現在 (S. 58年9月)			引継時 (S. 60年3月)		
	オペレート	理論	応用	オペレート	理論	応用
ア ナ処 理 ロ 理 グ	カラーバランスの調整	×	×	×	×	×
	プリント縮尺の設定	×	×	×	×	×
	現像液の品質管理	×	×	×	×	×
デ ィ ジ タ ル 処 理	フォーマット変換	×	×	×	△	×
	ノイズ除去	×	×	×	△	×
	幾可補正	×	×	×	○	△
	画像拡大	×	×	×	○	△
	画像強調	×	×	×	△	×
	画像編集	△	△	×	○	○
	クラスタリング	×	×	×	△	×
	最尤判別	×	×	×	○	△
	主成分画像	×	×	×	△	×
	CRTディスプレイ	○	×	×	○	×
	フォトスキャン	×	×	×	○	×
	フォトプロット	△	×	×	○	×
	X-Yプロット	×	×	×	△	×
	デジタイジング	×	×	×	△	△
主 題 図 作 成	カラー合成図	×	×	×	△	△
	ランドカバー図	×	×	×	△	△
	バイオマス分級図	×	×	×	△	△
	土壌区分図	×	×	×	△	△
	土壌色抽出図	×	×	×	△	△
	地質図	△	△	×	○	○
	地形形態図	×	×	×	×	×
	水系図	×	×	×	△	×
	多時期データによる主題図作成	×	×	×	△	△
	既存主題目の画像データ化	×	×	×	○	△
評 価 図 成	適地選定モデル構築	×	×	×	○	△
	評価基準の設定	×	×	×	○	○
	評価図作成	×	×	×	○	○

注)

記号	オペレート	理論	応用
○	習熟	理解	開発改良
△	未習熟なるも可	概要のみ	技能的適用
×	不可	不理解	不可

専門家の目から見たカウンターパートの現状能力及び向上目標  
S. 58年9月

カウンターパート名 Drs. IBNU KATAMSI

学歴・専門 ガジヤマダ大 地理学科

項 目	現在 (S.58年9月)			引継時 (S.60年3月)		
	オペレート	理論	応用	オペレート	理論	応用
ア ナ処 理 グ	カラーバランスの調整	×	×	×	×	×
	プリント縮尺の設定	×	×	×	×	×
	現像液の品質管理	×	×	×	×	×
デ ィ ジ タ ル 処 理	フォーマット変換	×	×	×	×	×
	ノイズ除去	×	×	×	×	×
	幾可補正	×	×	×	×	×
	画像拡大	×	×	×	×	×
	画像強調	×	×	×	×	×
	画像編集	×	×	×	×	×
	クラスタリング	×	×	×	×	×
	最尤判別	×	×	×	×	×
	主成分画像	×	×	×	×	×
	CRTディスプレイ	×	×	×	×	×
	フォトスキャン	×	×	×	×	×
	フォトプロット	×	×	×	×	×
X-Yプロット	×	×	×	×	×	
デジタイジング	×	×	×	×	×	
主 題 図 作 成	カラー合成図	×	×	×	×	×
	ランドカバー図	×	×	×	×	×
	バイオマス分級図	×	×	×	×	×
	土壌区分図	×	×	×	×	×
	土壌色抽出図	×	×	×	×	×
	地質図	△	○	△	△	○
	地形形態図	○	○	△	○	○
	水系図	○	△	△	○	△
	多時期データによる主題図作成	×	×	×	×	×
既存主題目の画像データ化	×	×	×	×	×	
評 価 図 成	適地選定モデル構築	×	×	×	△	×
	評価基準の設定	×	×	×	△	×
	評価図作成	×	×	×	△	×

注)

記号	オペレート	理論	応用
○	習熟	理解	開発改良
△	未習熟なるも可	概要のみ	技能的適用
×	不可	不理解	不可

専門家の目から見たカウンターパートの現状能力及び向上目標

S. 58年9月

カウンターパート名 Mr HERU SASONGKO

学歴・専門 高 卒

項 目	現在 (S.58年9月)			引継時 (S.60年3月)			
	オペレート	理論	応用	オペレート	理論	応用	
ア ナ処 理 ロ 理 グ	カラーバランスの調整	×	×	×	△	×	×
	プリント縮尺の設定	×	×	×	△	×	×
	現像液の品質管理	×	×	×	×	×	×
デ ィ ジ タ ル 処 理	フォーマット変換	×	×	×	○	○	○
	ノイズ除去	×	×	×	△	×	×
	幾可補正	×	×	×	○	△	×
	画像拡大	×	×	×	○	×	×
	画像強調	×	×	×	△	×	×
	画像編集	△	△	×	○	△	×
	クラスタリング	×	×	×	△	×	×
	最尤判別	×	×	×	○	×	×
	主成分画像	×	×	×	△	×	×
	CRTディスプレイ	○	×	×	○	×	×
	フォトスキャン	×	×	×	○	×	×
	フォトプロット	△	×	×	○	×	×
	X-Yプロット	×	×	×	○	×	×
デジタイジング	△	×	×	○	×	×	
主 題 図 作 成	カラー合成図	×	×	×	△	△	×
	ランドカバー図	×	×	×	△	△	×
	バイオマス分級図	×	×	×	×	×	×
	土壌区分図	×	×	×	×	×	×
	土壌色抽出図	×	×	×	×	×	×
	地質図	×	×	×	×	×	×
	地形形態図	×	×	×	×	×	×
	水系図	×	×	×	×	×	×
	多時期データによる主題図作成	×	×	×	×	×	×
	既存主題目の画像データ化	△	×	×	○	△	×
評 価 図 成	適地選定モデル構築	×	×	×	△	△	×
	評価基準の設定	×	×	×	△	△	×
	評価図作成	×	×	×	△	△	×

注)

記号	オペレート	理論	応用
○	習熟	理解	開発改良
△	未習熟なるも可	概要のみ	技能的適用
×	不可	不理解	不可

専門家の目から見たカウンターパートの現状能力及び向上目標  
S. 58年9月

カウンターパート名 Ir NANIK SITI MURDJATI

学歴・専門 ガジヤマ大学 農学

項 目	現在 (S.58年9月)			引継時 (S.60年3月)		
	オペレート	理論	応用	オペレート	理論	応用
ア ナ処 ロ理 グ	カラーバランスの調整	×	×	×	×	×
	プリント縮尺の設定	×	×	×	×	×
	現像液の品質管理	×	×	×	×	×
デ イ ジ タ ル 処 理	フォーマット変換	△	×	×	○	○
	ノイズ除去	×	×	×	○	△
	幾可補正	△	×	×	○	△
	画像拡大	△	×	×	○	△
	画像強調	×	×	×	○	△
	画像編集	△	△	×	○	○
	クラスタリング	△	×	×	○	△
	最尤判別	△	×	×	○	△
	主成分画像	×	×	×	○	×
	CRTディスプレイ	○	×	×	○	×
	フォトスキヤン	△	×	×	○	×
	フォトプロット	○	×	×	○	×
X-Yプロット	×	×	×	△	△	
デジタイジング	×	×	×	△	△	
主 題 図 作 成	カラー合成図	△	△	×	○	△
	ランドカバー図	△	△	×	○	○
	バイオマス分級図	○	△	×	○	○
	土壌区分図	×	×	×	△	△
	土壌色抽出図	△	△	×	△	△
	地質図	×	×	×	×	×
	地形形態図	×	×	×	×	×
	水系図	×	×	×	×	×
	多時期データによる主題図作成	×	×	×	△	△
既存主題目の画像データ化	×	×	×	△	△	
評 価 図 成	適地選定モデル構築	×	×	×	○	△
	評価基準の設定	×	×	×	○	○
	評価図作成	×	×	×	○	○

注)

記号	オペレート	理論	応用
○	習熟	理解	開発改良
△	未習熟なるも可	概要のみ	技能的適用
×	不可	不理解	不可

専門家の目から見たカウンターパートの現状能力及び向上目標  
S. 58年9月

カウンターパート名 Ir HARIATNO SOEMARMAN

学歴・専門 ガジヤマダ大学 土 壌

項 目	現在 (S. 58年9月)			引継時 (S. 60年3月)			
	オペレート	理 論	応 用	オペレート	理 論	応 用	
ア ナ 処 理 グ	カラーバランスの調整	○	△	△	○	△	△
	プリント縮尺の設定	○	○	△	○	○	△
	現像液の品質管理	×	×	×	×	×	×
デ ィ ジ タ ル 処 理	フォーマット変換	△	△	×	○	○	○
	ノイズ除去	×	×	×	○	△	×
	幾可補正	○	△	×	○	○	×
	画像拡大	△	×	×	○	△	×
	画像強調	×	×	×	○	△	×
	画像編集	○	△	×	○	○	○
	クラスタリング	△	×	×	○	△	×
	最尤判別	○	×	×	○	△	×
	主成分画像	×	×	×	○	△	×
	CRTディスプレイ	○	×	×	○	×	×
	ファトスキャン	△	×	×	○	×	×
	フォトプロット	○	×	×	○	×	×
	X-Yプロット	×	×	×	○	△	×
デジタイジング	△	×	×	○	△	×	
主 題 図 作 成	カラー合成図	△	△	×	○	○	×
	ランドカバー図	△	△	×	○	○	×
	バイオマス分級図	△	△	×	○	○	×
	土壌区分図	△	△	×	○	○	×
	土壌色抽出図	△	×	×	○	○	×
	地質図	×	×	×	×	×	×
	地形形態図	×	×	×	×	×	×
	水系図	△	△	×	○	△	×
	多時期データによる主題図作成	×	×	×	○	△	×
既存主題目の画像データ化	△	△	×	○	○	×	
評 価 図 成	適地選定モデル構築	×	×	×	○	△	○
	評価基準の設定	×	×	×	○	○	○
	評価図作成	×	×	×	○	○	○

注)

記 号	オペレート	理 論	応 用
○	習 熟	理 解	開発改良
△	未習熟なるも可	概要のみ	技能的適用
×	不 可	不理解	不 可

専門家の目から見たカウンターパートの現状能力及び向上目標  
S. 58年9月

カウンターパート名 Dra SETYANINGSIH

学歴・専門 バンドン工科大学 教 学

項 目	現在 (S.58年9月)			引継時 (S.60年3月)		
	オペレート	理 論	応 用	オペレート	理 論	応 用
ア ナ 処 理 ロ ジ ク	カラーバランスの調整	×	×	×	×	×
	プリント縮尺の設定	×	×	×	×	×
	現像液の品質管理	×	×	×	×	×
デ ィ ジ タ ル 処 理	フォーマット変換	△	△	×	○	○
	ノイズ除去	×	×	×	○	△
	幾可補正	○	△	×	○	△
	画像拡大	△	×	×	○	△
	画像強調	×	×	×	○	△
	画像編集	○	△	×	○	○
	クラスタリング	△	×	×	○	△
	最尤判別	○	△	×	○	○
	主成分画像	×	×	×	○	△
	CRTディスプレイ	○	×	×	○	×
	フォトスキャン	○	×	×	○	×
	フォトプロット	○	×	×	○	×
	X-Yプロット	×	×	×	△	×
	デジタイジング	×	×	×	△	×
主 題 図 作 成	カラー合成図	△	△	×	○	○
	ランドカバー図	○	△	×	○	○
	バイオマス分級図	△	△	×	○	△
	土壌区分図	×	×	×	×	×
	土壌色抽出図	×	×	×	×	×
	地質図	×	×	×	×	×
	地形形態図	×	×	×	×	×
	水系図	×	×	×	×	×
	多時期データによる主題図作成	×	×	×	△	△
	既存主題目の画像データ化	×	×	×	△	△
評 価 図 成	適地選定モデル構築	×	×	×	○	○
	評価基準の設定	×	×	×	○	○
	評価図作成	×	×	×	○	○

注)

記 号	オペレート	理 論	応 用
○	習 熟	理 解	開発改良
△	未習熟なるも可	概要のみ	技能的適用
×	不 可	不理解	不 可

専門家の目から見たカウンターパートの現状能力及び向上目標  
S. 58年9月

カウンターパート名 Ir ANWAR SOEFI IBRAHIM

学歴・専門 インドネシア大学 光電子工学

項 目	現在 (S.58年9月)			引継時 (S.60年3月)			
	オペレート	理論	応用	オペレート	理論	応用	
ア ナ ロ グ	カラーバランスの調整	○	○	△	○	○	△
	プリント縮尺の設定	○	○	△	○	○	△
	現像液の品質管理	○	△	△	○	△	△
デ ィ ジ タ ル 処 理	フォーマット交換	×	×	×	×	×	×
	ノイズ除去	×	×	×	×	×	×
	幾可補正	×	×	×	×	×	×
	画像拡大	×	×	×	×	×	×
	画像強調	×	×	×	×	×	×
	画像編集	△	△	×	○	△	×
	クラスタリング	×	×	×	×	×	×
	最尤判別	×	×	×	×	×	×
	主成分画像	×	×	×	○	△	×
	CRTディスプレイ	○	×	×	○	×	×
	フォトスキャン	×	×	×	×	×	×
	フォトプロット	×	×	×	×	×	×
X-Yプロット	×	×	×	○	△	×	
デジタイジング	×	×	×	○	△	×	
主 題 図 作 成	カラー合成図	×	×	×	×	×	×
	ランドカバー図	×	×	×	×	×	×
	バイオマス分級図	×	×	×	×	×	×
	土壌区分図	×	×	×	×	×	×
	土壌色抽出図	×	×	×	×	×	×
	地質図	×	×	×	×	×	×
	地形形態図	×	×	×	×	×	×
	水系図	×	×	×	×	×	×
	多時期データによる主題図作成	×	×	×	×	×	×
既存主題目の画像データ化	×	×	×	○	△	×	
評 価 図 成	適地選定モデル構築	×	×	×	×	×	×
	評価基準の設定	×	×	×	×	×	×
	評価図作成	×	×	×	×	×	×

注)

記号	オペレート	理論	応用
○	習熟	理解	開発改良
△	未習熟なるも可	概要のみ	技能的適用
×	不可	不理解	不可

専門家の目から見たカウンターパートの現状能力及び向上目標  
S. 58年9月

カウンターパート名 Dra ADI SASUTJI

学歴・専門 バンドン工科大 物理

項 目	現在 (S. 58年9月)			引継時 (S. 60年3月)		
	オペレート	理論	応用	オペレート	理論	応用
アナログ処理	カラーバランスの調整	×	×	×	×	×
	プリント縮尺の設定	×	×	×	×	×
	現像液の品質管理	×	×	×	×	×
デジタル処理	フォーマット変換	×	×	×	○	○
	ノイズ除去	×	×	×	△	△
	幾何補正	×	×	×	○	△
	画像拡大	△	△	×	○	△
	画像強調	×	×	×	△	△
	画像編集	○	△	×	○	○
	グラスタリング	×	×	×	△	△
	最尤判別	△	×	×	○	△
	主成分画像	×	×	×	△	△
	CRTディスプレイ	○	×	×	○	×
	フォトスキャン	×	×	×	○	×
	フォトプロット	△	×	×	○	×
	X-Yプロット	×	×	×	×	×
	デジタイジング	×	×	×	×	×
主題図作成	カラー合成図	×	×	×	○	○
	ランドカバー図	△	△	×	○	○
	バイオマス分級図	×	×	×	△	△
	土壌区分図	×	×	×	×	×
	土壌色抽出図	×	×	×	×	×
	地質図	×	×	×	×	×
	地形形態図	×	×	×	×	×
	水系図	×	×	×	×	×
	多時期データによる主題図作成	×	×	×	△	△
	既存主題目の画像データ化	×	×	×	×	×
評価図作成	適地選定モデル構築	×	×	×	△	△
	評価基準の設定	×	×	×	△	△
	評価図作成	×	×	×	△	△

注)

記号	オペレート	理論	応用
○	習熟	理解	開発改良
△	未習熟なるも可	概要のみ	技能的適用
×	不可	不理解	不可



専門家の目から見たカウンターパートの現状能力及び向上目標  
S. 58年9月

カウンターパート名 Dra MARCELINA RENNY

学歴・専門 バンドン工科大 物理

項 目	現在 ( S. 58年9月 )			引継時 ( S. 60年3月 )		
	オペレート	理論	応用	オペレート	理論	応用
ア ナ処 理 グ	カラーバランスの調整	×	×	×	×	×
	プリント縮尺の設定	×	×	×	×	×
	現像液の品質管理	×	×	×	×	×
デ ィ ジ タ ル 処 理	フォーマット変換	×	×	×	△	×
	ノイズ除去	×	×	×	△	×
	幾可補正	×	×	×	△	×
	画像拡大	×	×	×	△	×
	画像強調	×	×	×	△	×
	画像編集	△	△	×	○	×
	クラスタリング	×	×	×	△	×
	最尤判別	×	×	×	△	×
	主成分画像	×	×	×	×	×
	CRTディスプレイ	△	×	×	○	×
	フォトスキャン	×	×	×	△	×
	フォトプロット	×	×	×	△	×
	X-Yプロット	×	×	×	×	×
デジタルイジング	×	×	×	×	×	
主 題 図 作 成	カラー合成図	×	×	×	△	×
	ランドカバー図	×	×	×	△	×
	バイオマス分級図	×	×	×	△	×
	土壌区分図	×	×	×	×	×
	土壌色抽出図	×	×	×	×	×
	地質図	×	×	×	×	×
	地形形態図	×	×	×	×	×
	水系図	×	×	×	×	×
	多時期データによる主題図作成	×	×	×	△	×
既存主題目の画像データ化	×	×	×	×	×	
評 価 図 成	適地選定モデル構築	×	×	×	△	×
	評価基準の設定	×	×	×	△	×
	評価図作成	×	×	×	△	×

注)

記号	オペレート	理論	応用
○	習熟	理解	開発改良
△	未習熟なるも可	概要のみ	技能的適用
×	不可	不理解	不可

専門家の目から見たカウンターパートの現状能力及び向上目標  
S. 58年9月

カウンターパート名 Ir PAIDO HASUKUWGAN HUTAPEA

学歴・専門 インドネシア大 光電子工学

項 目	現在 (S. 58年9月)			引継時 (S. 60年3月)			
	オペレート	理 論	応 用	オペレート	理 論	応 用	
ア ナ処 理 グ	カラーバランスの調整	○	○	△	○	○	△
	プリント縮尺の設定	○	○	△	○	○	△
	現像液の品質管理	○	△	△	○	△	△
デ ィ ジ タ ル 処 理	フォーマット変換	×	×	×	×	×	×
	ノイズ除去	×	×	×	×	×	×
	幾可補正	×	×	×	×	×	×
	画像拡大	×	×	×	×	×	×
	画像強調	×	×	×	×	×	×
	画像編集	△	△	×	○	△	×
	クラスタリング	×	×	×	×	×	×
	最尤判別	×	×	×	×	×	×
	主成分画像	×	×	×	○	×	×
	CRTディスプレイ	○	×	×	×	×	×
	フォトスキャン	×	×	×	△	×	×
	フォトプロット	×	×	×	×	×	×
	X-Yプロット	×	×	×	×	×	×
	デジタイジング	×	×	×	×	×	×
主 題 図 作 成	カラー合成図	×	×	×	×	×	×
	ランドカバー図	×	×	×	×	×	×
	バイオマス分級図	×	×	×	×	×	×
	土壌区分図	×	×	×	×	×	×
	土壌色抽出図	×	×	×	×	×	×
	地質図	×	×	×	×	×	×
	地形形態図	×	×	×	×	×	×
	水系図	×	×	×	×	×	×
	多時期データによる主題図作成	×	×	×	×	×	×
	既存主題目の画像データ化	×	×	×	×	×	×
評 価 図 成	適地選定モデル構築	×	×	×	×	×	×
	評価基準の設定	×	×	×	×	×	×
	評価図作成	×	×	×	×	×	×

注)

記号	オペレート	理 論	応 用
○	習 熟	理 解	開発改良
△	未習熟なるも可	概要のみ	技能的適用
×	不 可	不理解	不 可

Questionnaire to Counterparts.

1. How do you think about your own present capability of Remote-Sensing Technic ?
2. How do you consider about the capability and the faculty of - this Project must be by the end of the Project ?
3. What is your object and aim in the Project and what kind of technic do you want to improve by the end of the Project ?
4. What do you aim at for developing your own capability as Remote Sensing Engineer for longterm scheme ( beyond the Project ) ?
5. Concerning to the above item 3 and 4, what effort and activity are you doing now and what will be need more ?
6. What kind of technical transfer and instruction do you expect from Japanese Experts ?
7. (Asking only the counterpart who got the Training in Japan)  
what is the effectiveness and result of training acceptance in Japan ?  
How are you making the practical use of training result in the Project ?
8. What do you expect about the training acceptance in Japan ?

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DEPARTEMEN PEKERJAAN UMUM

PROYEK OTOMATISASI DATA PEMETAAN REGIONAL DAN SPATIAL (REMOTE SENSING)

JALAN PATTIMURA 20, KEBAYORAN BARU - JAKARTA SELATAN TEL. 770219 - 770239

1. I am an agronomist, my present capability of Remote Sensing is very limited, therefore I want to study anymore to increase my capability.
2. This project now is developing the thematic map, there are many problems have not been solved yet. Therefore, a good cooperation between expert and counterpart must be improved especially in the transfer of technology.
3. According to my background I want to develop remote sensing technique apply in the agriculture such as yield prediction, etc.  
By the end of this project I need much transfer of knowledge and experience and also technology from Japanese experts.
4. I want to study and get much training from Japanese experts, in this case both software or field experience.
5. My activity now :  
Processing CJC (Cisadane-Jakarta-Cibeet) area, there are 3 CCT with different date and year : 1973, 1976 and 1978. In this case we try to analysis and then to compare and overlay each other, but many problems must be solved. therefore, I hope the Japanese experts especially Mr. Sakai want to support us.
6. I expect that technical transfer and instruction from Japanese expert to counterpart be continuously on the office time.

Jakarta, August 20, 1983.-

Naniek Siti Murdjiati.-



DEPARTEMEN PEKERJAAN UMUM

**PROYEK OTOMATISASI DATA PEMETAAN REGIONAL DAN SPATIAL (REMOTE SENSING)**

JALAN PATTIMURA 20, KEBAYORAN BARU, JAKARTA SELATAN TEL. 770219 - 770239

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1. As you know, I don't have much experience in Remote Sensing Technic before. So I still need much more time to know and understand in Remote Sensing Technic. In other word, I'm still poor in Remote Sensing Technic.
  
2. In the end of this project, I think this project, I don't know the name will be, should be able to solve any remote sensing job. Especially in supporting of Ministry of Public Works mission.  
And of course the persons who will handling this project should have enough capabilities to optimize the facilities we have.  
And one important thing is, the system maintenance. As long as we expect that "the show must go on", we should give guarantee that all instruments are in 'ready for use' condition. Therefore, I expect that Japanese experts not transferring the remote sensing technic only, but also the technic how to maintain the existing remote sensing instruments.  
Really, this is very important thing.
  
3. In this project I expect to get more knowledges about remote sensing technic by means of Japanese experts and the existing instruments we have.
  
4. Studying remote sensing technic, as much as possible, I believe that the remote sensing technic always improve follow the technology.
  
5. Right now, I'm still studying to know what the LARSYS is, and how to use it as a tool to solve remote sensing problems.  
My activities now are :
  - Processing Asahan area (landcover and drainage pattern) under instruction of Mr. Yamamoto.
  - Learning about D-Scan Plotter (Software).

6. I expect all kind of technical will be transfered from Japanese experts, including the system maintenance.
7. I expect that I can get an opporunity to go to Japan to improve my abilities, according to the training acceptance.

Jakarta, August 20, 1983.-

Heru Sasongko.-



DEPARTEMEN PEKERJAAN UMUM

**PROYEK OTOMATISASI DATA PEMETAAN REGIONAL DAN SPATIAL (REMOTE SENSING)**

JALAN PATTIMURA 20, KEBAYORAN BARU - JAKARTA SELATAN TEL. 770219 - 770239

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1. According to my background Geography especially of Cartographer, my present capability of Remote Sensing is very limited. But I want to try and study to increase my capability especially about mapping by Remote Sensing Technique.
2. This project now is developing the thematic map but there are many problems have not been solved therefore, to get a good cooperation between Japanese expert and counterpart must be improved especially in the transfer of technology such as software system etc.
3. I want to develop Remote Sensing technique, according to my background such as mapping by Remote Sensing technique with multistage technique especially overlay of existing map, landsat data and aerial photographs. By the end of this project I need much transfer of technology from Japanese expert especially processing in map production and study in application of D-Scan.
4. I want to study and get much training from Japanese expert.
5. My activity now is processing CJC area. In this case there are 3 CCT with different year 1973, 1976 and 1978, We want to try to analysis each other and then to compare and overlay. But many problems must be solved. Therefore, we hope the Japanese expert especially Mr. Sakai to support us..
6. The system of technical transfer from Japanese expert to counterpart must be improved and continuously of the office time.

Jakarta, August 20, 1983.-

Sri Sarwoasih.-



DEPARTEMEN PEKERJAAN UMUM

PROYEK OTOMATISASI DATA PEMETAAN REGIONAL DAN SPATIAL (REMOTE SENSING)

JALAN PATTIMURA 20, KEBAYORAN BARU, JAKARTA SELATAN TEL. 770219 - 770239

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1. My present capability of Remote Sensing Technic is very limited. I'll try to study and train more and more.
2. Now this project is going to product of many kind of thematic maps with several method. My opinion to make higher capability of this project we musct try to joint to the DPU needs.  
It's mean we must joint to water resources problem, tidal swampy area, regional development plan, and highway planning by remote sensing technic.
3. By the end of the project I want to improve to make a model for erodibility (sensitivity of the land against erosion). To improve this model I will separate its to two steps :  
first : by using interpretation of aerial photography. The result is an erodibility map with 1 : 50,000 scale.  
second: by using analysis of the landsat image. The result of aerial photography will become base of the landsat image analysis. The result is an erodibility map with 1 : 250,000 or 1 : 100,000 scale.

Of course we need expertice from the Japanese expert in this project, especially in the use of digitizer, D-Scan are also computer processing Cimanuk River Basin will become my study area.

4. To study, training and to develop the Remote Sensing technic for several subject
5. Now, I am doing with the Asahan River Basin and CJC area, especially on the subject of geolgy and geomorphology.
6. Technical transfer from Japanese experts will effective by work together on subject study / subject training,
7. The result of training acceptance in Japan is very effective for manual interpretation of the landsat image.  
We use for geological and geomorphological image interpretation.



8. The training acceptance in Japan in the two years future is better if concern to solve the software for this project. So, the trainer must be prepared before they get a training in Japan.

Jakarta, August 20, 1983.-

Ibnu Katamsi.-



Answer of the Questioner

1. According to my background field in Agriculture, much study is needed to solve many knowledges in Remote Sensing field. Therefore, my present capability is limited, but I want to try to increase my capability especially in software and management of map production.
2. Now, this project is going on and still developing to higher level in thematic map production. According to the project condition, some improvement is needed, such as management problem, technical transfer and counterpart capabilities problem.
3. To develop the Remote Sensing technique is my main object. By the end of this project we need some improvements in :
  - a. Multistage techniques (overlay of aerial photographs, maps and landsat data).
  - b. Processing in map production (compiling / finishing).
  - c. Optimizing in application of D-Scan.
  - d. Transfer of technology.
4. I want to study and get much training in the field of Remote Sensing that can be apply here.
5. My activity now :
  - a. Processing in Asahan area to support Irrigation Master Plan Project.
  - b. Following Mr. Yamamoto's activities.
6. The system of technical transfer must be improved by the Japanese expert.
7. My training in Japan (April 12 - June 17, 1982) as the introduction to Remote Sensing techniques. For the introduction, that kind of training is quite usefull. It was some problem in communication and practices. Main subject in may training were landcover classification, some of theme can't be applied here due to some defferences in the equipments / facilities.

8. We expected that our knowledges and abilities will be improved through the training in Japan. Some of the training result can be applied here according to the condition, especially in basic idea of Remote Sensing Techniques.

Jakarta, August 20, 1983.-

Hariyatno Soemarman.-



DEPARTEMEN PEKERJAAN UMUM

PROYEK OTOMATISASI DATA PEMETAAN REGIONAL DAN SPATIAL (REMOTE SENSING)

JALAN PATTIMURA 20, KEBAYORAN BARU, JAKARTA SELATAN TEL. 770219 - 770239

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1. According to my opinion, to solve many problems can be use remote sensing technic. But if any body want to solve many problem, they must know the purpose of study.

For large area remote sensing technic more effective. I means, effective on time, money and labour. For Indonesia (developing country), remote sensing technic has important meaning. Because remote sensing technic can be use for detect and monitoring natural resources, make regional planning and so on. Usually in the developing country that activities still by tradisional method.

2. This project has been tried and demonstrated how to solve some problems more effective by remote sensing technic. A kind of problems are around development agricultural infrastructure.

3. I want to develop my capability in this project. But my knowledge not enough yet. So I hope I can study more long and detail, nor only course. I believe this project (joint by the Governement of Japan) can give priority to me and my friends in this project.

Because I think by knowledgement any staff can develop this project. Beside knowledgement other equipments are more improtant. For more effective, I think other osftware for specialist purpose necessary for this project.

4. By my knowledgement, together with my friends (all of counterparts) I will develop this project not only for development agricultural infrastructure. Because the final purpose of Indonesia in REPELITA IV are Industrial country, so other purpose, like for management of forestry, water polution and so on, necessary also for developed. Beside that, I think management factor and confinience or salary has correlation with produce on any office.

5. My activities on this month are :

- a. Support Asahan project (North Sumatra) about Remote Sensing technic
- b. Following short term expert (Dr. Matsuo).

6. I hope Japanese Experts more opened to transfer knowledge and give application are usually for Indonesian condition.

And after that, Japanese experts together with counterparts make guide book "How to process and develop about every object". If counterpart is not know about that, Japanese expert must teach to them. So counterparts can know the theory and practically.

8. I expect all of counterparts can study about remote sensing, computer, and other in Japan more long time. I think more good if every counterpart get Master (minimal) in Japan. Because I think Japan very nice for study many equipment very completely.

Jakarta, August 20, 1983.-

Muh.Dinyati.-

1. My background is applied physics and my present capability is Remote Sensing Technic very limited, but I want to improve my knowledge in the field of Remote Sensing.
2. I hope in the end of the project, we have a capability to develop and to modify the Remote Sensing Technic.
3. To improve the knowledge of Remote Sensing Technic by transfer technology of Remote Sensing Technic science from Japanese experts.
4. Study experience, observation and develop of Remote Sensing Technic.
5. My activity are troubleshooting, operation and maintenance of photography equipments. Since January 1983, I can not use a digital processing / computer. I lost an opportunity to use of digital processing / computer, because someone was cancel my user-id.  
I do not know, who and why my user-id was cancel.
6. Seminar, Assistance, advices and discussion.
7. Not so effective, because the training is very short term, especially to troubleshooting and maintenance of Drum Scanner, Photo printer, Color display and photography equipments.
8. The knowledge from their very strongly to support the Remote Sensing Project.

Paido H. Hutapea.

1. My present capability of Remote Sensing Technique is still limited, but is better than the first time I came to this project.
2. I consider about the capability and the faculty of this project like this :
  - a. Must produce many of model for thematic map production. Especially for give good present of land cover map, what is the best system ?
  - b. Must produce many kind of evaluation map that the parameter is already discussed together with others senior agriculture or other expert.
3. My object and aim in this project is in data processing and system maintenance wpecially for the computer software for Remote Sensing. I want to improve the technic for noise reduction and others software for preprocessing and analysis.
4. For developing my own capability as Remote Sensing Engineer for long term scheme, my aim is :
  - a. To becomes a good system engineer in Remote Sensing, especially in digital p'rocessing.
  - b. To make investigation, suđy and then apply many kind of Remote Sensing models in Indonesia.
5. Beside my first job now (analysis & make report for CJC area), I make program for trying many kind of models, and also for item 3, but until now I have not enough time for investigate the result.
6. I expect the technical transfer & instruction from Japanese experts about the mathematical model equation in :
  - a. Bulk processing
  - b. High contrast image (enhancement) for color composite image
  - c. Noise reduction

Also I hope the guidance from the expert for Plotter application fro Remote Sensing.

7. Training acceptance in Japan is very effective in :
  - a. General knowledge of Remote Sensing Technique, especially for image processing using MSS digital data.
  - b. How to make interpretation of the changing detection using landsat digital data.

I use the training knowledge result for make the land cover (thematic map) production.

During this year I want to make analysis for land use changing around CJC area, using trend digital data.

8. I expect the training acceptance in the two years future is better about the practice for digital Remote Sensing Technique.

Jakarta, September 23, 1983,-

Setyaningsih.



1. I've joint with Remote Sensing Project since March 1983, and my educational background is geography, so I need more time to make familiar with the system in this project. Up to now, my capabilities are : geometric correction and land cover classification. Anyhow, I effort to improve my capability day by day.
2. According to my opinion, before this project will be expired, it would better if we make joint cooperation with another agencies, such as Directorate General of Water Resources, Bina Marga, Ministry of Agriculture, etc., in order to promoting Remote Sensing Project's capabilities.
3. My object is related to geography, so my special interest are in terrain analysis, base upon the physical condition, in relation with possibility of a certain area for agricultural improvement. Before the end of this project, I'd like to improve my capability regarding to land cover, soil moisture analysis, elevation analysis for reclamation paddy field.
4. I aim to improve my capability in the practical use, in order to support the project. The practical use in this case in relation with no.3.
5. Begining from September, I'll have an activity to process image of Cimanuk area. The aim of this activity is as follows:
  - Analysis of drainage pattern, geology and geomorphology.
  - Land cover analysis.
  - Soil moisture analysis.
6. As a counterpart, I expected from the Japanese Experts to transfer their knowledge to their counterparts, in a formal communication and more familiar.

7. The effectiveness during my training in Japan, actually can be distinguished into 2 items.

- Group training course, which is lasting 2 months, not so effective, since some of the training materials are the basic of Remote Sensing and these materials are too much. Meanwhile, training materials, which has close relation with activities in this project not so much, and practice duration is very limited, therefore, I can't get much experiences from it.

- Individual training.

My individual training was carried out at Tokyo University, for two months. Training materials are geometric correction and enhancement. There are many kind of geometric correction methods, but not sufficient time to practice all of them, so I only chose the faster method in consideration with training duration.

According to my opinion, it would better if duration of individual training was extended until 4 or 6 months.

I hope result of my training can be used in this project.

8. If possible, we followed individual training without following group training, previously, in order to obtain training effectiveness.

Jakarta, August, 23 1983.

(Joko Setiyono).-

1. My educational background is geography, especially in land cover interpretation with Landsat imagery and aerial photo interpretation using analogue method, so I need more time to use digital image analysis.
2. Considering the project capabilities, according to my opinion, it would better to make such a kind of joint cooperation with the other agencies, such as Directorate General of Water resources, Ministry of Agricultural, etc.
3. My object is related to geography, so my special interest are in terrain analysis, based on the physical condition in relation with possibility of a certain area for agricultural development.  
Before the end of this project, I'd like to improve my capability in image enhancement processing and I interest too in application three dimension display of landsat image.
4. I aim to improve my capability in the practical use in order to support their project.
5. Beginning on September, 1983, I will have an activity to processing image Landsat of Cimanuk area.  
This aim of this activity as follows ,
  - Land cover classification
  - Analysis of geological unit, geomorphological unit and soil moisture,
  - Detection of lava flow from Galunggung vulcano.
6. The technical transfer and instruction from Japanese experts would be better within as like formal method. For example some time we have forum as like class, in this case following of specially for each counterparts.
7. The effectiveness during my training in Japan, actually can be distinguish into two items :
  - Group training course.  
This is lasting two months, and I thought not so effective, since some of the training materials are the introduction of Remote Sensing and these materials are too much.

Mean while, training materials, which has close relation with activities in this project not so much and practice duration is very limited therefore, I can not get much experience from it.

- Individual training.

My individual training was carried out at Chiba University for two months.

Training materials are geometric correction, tone modification, algebraic operation or rationing image, filtering and application in elevation data analysis for reclaiming paddy field, so three dimensional display of Landsat image.

According to my opinion, it would better if duration of individual training was expanded until 4 or 6 months. I hope my result of my training can be use in this project.

8. Regarding to my training in Japan, I have not practice yet in this project, since my training was finished on August 11, 1983. Any way, I will try to apply my result for Cimanuk basin, next month.

Jakarta, August 21, 1983.

(Sri Yumadiati Nindyopawoko)

- (1) **N a m e :** Mr. Anwar Soefi Ibrahim      (2) **Date of birth :**
- (3) **Academic Record (Final) :**      **Date of graduation :**  
Indonesia Univerisy Master Course. Subject of Special study : electronic engineering.
- (4) **Date of Employment (Ministry) :** June 15, 1981.
- (5) **Work record and main service subject :**

(6) **Training concerning the Remote Sensing Technique.**

**(Period, Location, Main Subject).**

- Period : January 10, 1982 - March 9, 1982.

Location : KIMOTO, IBM.

Subject : Maintenance and Operation of Photo Processing System.

(7) **Can you operate or handle the following system or device ?**

a. Digital (Image) Processing System ?      No

b. Analog Processing System.      Yes

c. Color Photo Processing Device.      Yes

(8) **Can you do the following matters ?**

a. Production of thematic maps, in detail (including software) No

b. Scientific explanation of relations between thematic maps and ground truth. Yes

c. Production of evaluation maps, in detail (including software)

No

(9) **Others.**

- (1) Name : Mr. Ibnu Katamsi (2) Date of birth : April 17, 1980.
- (3) Academic Record (Final) : Date of graduation : January, 1970.  
University of Gadjah Mada. Subject of special study : Geography
- (4) Date of Employment (Ministry) : January, 1972.
- (5) Work record and main service subject :  
1972 - 1975 : Planning Bureau, Ministry of Public Works.  
1975 - 1980 : Mapping Division of PUSDATIK, photo interpretation section.  
1980 - : Remote Sensing Project, PUSDATIK, Ministry of Public Works.
- (6) Training concerning the Remote Sensing Technique.  
(Period, Location, Main Subject).  
April - July 1982, TSC (Tokyo Scientific Center) :  
Extraction of Color combination
- (7) Can you operate or handle the following system or device ?  
a. Digital (Image) Processing System ? Yes  
b. Analog Processing System. Yes  
c. Color Photo Processing Device. Yes
- (8) Can you do the following matters ?  
a. Production of thematic maps, in detail (including Software) No  
b. Scientific explanation of relations between thematic maps and ground truth. Yes  
c. Production of evaluation maps, in detail (including software).  
No
- (9) Others.

(1) Name : Mrs. Setyaningsih (2) Date of birth : January 2, 1954

(3) Academic Record (Final) : Date of Graduation : October 30, 1975

ITB. Subject of special study : Mathematics Statistics.

(4) Date of Employment (Ministry) : Mei 1979

(5) Work Record and Main Service Subject :

- Statistical and computer analysis
- Computer System Maintenance
- Digital image processing in land cover and changing detection

(6) Training concerning the Remote Sensing Technique

(Period, Location, Main Subject) :

April 1982 - July 1982 : Tokyo Scientific Center - IBM Japan,  
Urban changing around Jakarta area.

(7) Can you operate or handle the following system or device ?

- |                                      |     |
|--------------------------------------|-----|
| a. Digital (Image) Processing System | Yes |
| b. Analog processing system          | Yes |
| c. Color photo Processing device     | Yes |

(8) Can you do the following matters ?

- |  |     |
|--|-----|
| a. Production of thematic maps, in detail (including software).                  | No  |
| b. Scientific explanation of relations between thematic maps<br>and ground truth | Yes |
| c. Production of evaluation maps, in detail (including software).                | No  |

(9) Others.

(1) Name : Mr. Hariyatno S. (2) Date of birth : November 21, 1955

(3) Academic Record (final) : Date of Graduation : December 1980  
Faculty of Agriculture, UGM Subject of special study : Soil science

(4) Date of Employment (Ministry) : June 1981.

(5) Work Record and Main Service Subject :

- Digital processing: Land cover classification of CJC, North Banten, North  
Sumatra, Central Jawa,

Soil classification

Principal Component analysis of North Banten.

- Analog Processing : Additive color viewer, Photographic Processing.

(6) Training concerning the Remote Sensing Technique

(Period, Location, Main Subject) :

Training in RESTEC Japan April 12 - June 10, 1982 : Introduction course

Training in KIMOTO Japan June 12 - June 17, 1982 : Introduction course

(7) Can you operate or handle the following system or device ?

a. Digital (Image) Processing System Yes

b. Analog processing system Yes

c. Color photo Processing device Yes

(8) Can you do the following matters ?

a. Production of thematic maps, in detail (including software). No

b. Scientific explanation of relations between thematic maps and ground truth Yes (a part)

c. Production of evaluation maps, in detail (including software). No

(9) Others.



- (1) **Name** : Mrs. Naniek SM (2) **Date of birth** : June 1, 1954
- (3) **Academic Record (Final)** : **Date of Graduation** : August 1978.  
Gadjah Mada University. **Subject of special study** : Agriculture/Agronomy.
- (4) **Date of Employment (Ministry)** : March 1981.
- (5) **Work Record and Main Service Subject** :
- Land cover
  - Biomass
  - Soil moisture
  - Soil color
  - Geocorrection
- (6) **Training concerning the Remote Sensing Technique**  
**(Period, Location, Main Subject)** :
- (7) **Can you operate or handle the following system or device ?**
- a. Digital (Image) Processing System Yes
  - b. Analog processing system Yes
  - c. Color photo Processing device Yes
- (8) **Can you do the following matters ?**
- a. Production of thematic maps, in detail (including software). No
  - b. Scientific explanation of relations between thematic maps  
and ground truth Yes
  - c. Production of evaluation maps, in detail (including software). No
- (9) **Others.**

- (1) Name : Mr. Muh Dimiyati (2) Date of birth : December 17, 1959.
- (3) Academic Record (Final) : Date of Graduation : March 1982  
Gadjah Mada University. Subject of special study : Geography (Remote Sensing)
- (4) Date of Employment (Ministry) : Februari 1983.
- (5) Work Record and Main Service Subject :
- Land cover
  - Drainage pattern
  - Soil moisture
  - Geometric correction
  - Soil color
  - Biomass
- (6) Training concerning the Remote Sensing Technique  
(Period, Location, Main Subject) :
- (7) Can you operate or handle the following system or device ?
- a. Digital (Image) Processing System Yes
  - b. Analog processing system Yes
  - c. Color photo Processing device Yes
- (8) Can you do the following matters ?
- a. Production of thematic maps, in detail (including software). *NO*
  - b. Scientific explanation of relations between thematic maps *Yes*  
and ground truth
  - c. Production of evaluation maps, in detail (including software). *NO*
- (9) Others.

- (1) **Name** : Mrs. Sri Sarwoasih      (2) **Date of birth** : July 7, 1957
- (3) **Academic Record (Final)** :                      **Date of Graduation** : July 1982  
 Gadjah Mada Univeristy . Subject of special study : Geography/Kartography
- (4) **Date of Employment (Ministry)** : February 1983.
- (5) **Work Record and Main Service Subject** :
- Land cover
  - Geometric Correction
- (6) **Training concerning the Remote Sensing Technique**  
**(Period, Location, Main Subject)** :
- (7) **Can you operate or handle the following system or device ?**
- |                                       |     |
|---------------------------------------|-----|
| a. Digital (Image) Processing System. | Yes |
| b. Analog processing system           | Yes |
| c. Color photo Processing device      | Yes |
- (8) **Can you do the following matters ?**
- |  |     |
|--|-----|
| a. Production of thematic maps, in detail (including software).                  | No  |
| b. Scientific explanation of relations between thematic maps<br>and ground truth | Yes |
| c. Production of evaluation maps, in detail (including software).                | No  |
- (9) **Others.**

(1) Name : Heru Sasongko (2) Date of Birth : March 28, 1950

(3) Academic Record (Final) : Date of Graduation :

(4) Date of Employment (Ministry) : May 31, 1970

(5) Work record and main service subject :

May 1970 - 1971 Personal Bureau, Ministry of Public Works.

1971 - 1974 Planning Bureau, Ministry of Public Works.

1974 - 1981 Mapping Center, PUSDATIK (Maintenance & Programming).

1981 - 1982 Indonesian Consortium of Construction Industry  
(Data Processing SPEC.

1982 - Now Remote Sensing Project - JICA

(6) Training concerning the Remote Sensing Technique  
(Period, Location, Main Subject) :

(7) Can you operate or handle the following system or devices ?

a. Digital (Image) Processing System. Yes

b. Analog Processing System. Yes

c. Color Photo Processing Device. Yes

(8) Can you do the following matters ?

a. Production of thematic maps, in detail (including software). No

b. Scientific explanation of relation between thematic maps  
and ground truth. No

c. Production of evaluation maps, in detail (including software). no

(9) Others.

調査検討項目	各項目に対するプロジェクトによる事前調査検討内容	調査団としてのコメント
<p>8. その他</p> <p>(1) インドネシアの他の機関との協力体制</p> <p>① 現在までに行われている協力状況</p>	<p>i) バオスタナナル(イシ地理院)ジョイントコミティのメンバー</p> <p>LANDSATデータの相互交換</p> <p>既存空中写真の販売</p> <p>本プロジェクト撮影赤外カラーフィルム現像処理</p> <p>ii) ラバン(イ国航空宇宙局)ジョイントコミティのメンバー</p> <p>LANDSATデータの相互交換</p> <p>NOAA, GMS 衛星データのサンプル提供</p> <p>米EROSデータセンターへのLANDSATデータ発注窓口</p> <p>iii) ガジャマダ大学 ジョイントコミティのメンバー</p> <p>LANDSATデータの相互交換</p> <p>iv) インドネシア大学 ジョイントコミティのメンバー</p> <p>リモセンに関する講義依頼、聴講</p> <p>リモセン技術研究委託</p> <p>v) バンドン工科大学</p> <p>卒業研究のための研究生をプロジェクトへ派遣</p> <p>vi) ボゴール農科大</p> <p>農業適地評価手法に関する討議</p> <p>(参考) プロジェクト外部からの委託業務の実績</p> <p>i) 潮汐湿地帯の農業開発(スマトラ島パレンバン)</p> <p>1982年 水資源総局</p> <p>ii) 地質調査</p> <p>1982年 地質調査所</p> <p>iii) 水資源開発(ジャワ島北バンテン地区、およびスマトラ島アサハン地区、アチエ地区)</p> <p>1982年 1983年</p> <p>iv) 農業開発(北バンテン地区、アサハン地区)</p> <p>1982年 水資源総局 河川局</p>	<p>8. その他</p> <p>LANDSATデータ収集等の協力体制は、少くとも十分確かなものにしておかなければならない。また将来の人材補給の速をつけておくことも大切を考えられる。</p>

調査検討項目	各項目に対するプロジェクトによる事前調査検討内容	調査団としてのコメント
<p>② R/D終了までの協力計画</p> <p>③ 将来(引き継ぎ後にわたる)望まれる協力計画</p>	<p>V) 住宅開発一地区開発一(スンバワ島) 1982年 住宅総局</p> <p>VI) バイオマス(種物分布の把握) 1982年 鉱山エネルギー省</p> <p>VII) 水産(魚場探査 海洋環境) 1982年</p> <p>LANDSAT データ所有機関とのデータ交換体制は今後も維持して行かなければならない。本プロジェクトの他にガジヤマダ大学及びパオスタナルにデジタル処理の機材が導入されているが、いずれも研究用の小型のものであり本プロジェクトのよりな主題図、評価図作成システムを構築するまでの技術導入は困難であろう。インドネシア大学に對するリモセン技術研究委員会の成果として提出された画像拡大に関するプログラムは効率的なもので、委託の意味がない(カウンタースタートがそう言っている)ことを明確にしたただけであった。ポゴール農科大学の代表と職業速地評価手法に関してディスカッションした時も結局彼らはノーアイデアであり、評価手法はプロジェクト内で作成せざるを得ないという認識を持った等、現在本プロジェクトが技術的な問題でイ国の他の機関を多てにすることは望めない状態である。しかしプロジェクトの引継ぎ後は情勢が変わるので、これら関係機関との良いコミュニケーションを保つ必要があり、資料、情報の入手の面からも重要である。</p> <p>i) パオスタナル データ相互交換 写真処理依頼(プロジェクトで出来ないもの)</p> <p>ii) ラバン LANDSATデータ受信配布 その他のデータの相互交換</p> <p>iii) ガジヤマダ大学、バンドン工科大、インドネシア大学 リモセン技術の研究開発 人材の養成</p>	<p>調査団としてのコメント</p>

調査検討項目	各項目に対するプロジェクトによる事前調査検討内容	調査団としてのコメント
<p>④ 問題点</p> <p>II. プロジェクトの運営について</p> <p>I. R/D後了時の最終目標</p> <p>① 現状から判断し達成すべき最終目標と可能性</p> <p>② 当初計画との相違点</p> <p>③ 問題点と対応策</p> <p>2. 最終目標達成のための手順</p> <p>① 上記II. 1.①を達成するための手順と実施計画</p> <p>② 問題点と対応策</p>	<p>現在、本プロジェクトはイ国の中でリモセン技術に関して抜きん出た存在となっており、支援機関と目されているインドネシア大学等にその能力があるかどうかが疑わしい。あるとすれば引継後において、イ側スタッフの資力が極端に低下した場合であろう。もとよりそのような事態に陥らないよう引継までに対策を講じることとしている。</p> <p>i) 現在までに開発された9種の主題図及び降雨分布等、既存データベースも活用し農業開発適地選定をトレンニングエリア、ケーススタディエリアについて取りまとめめる。</p> <p>ii) LANDSATデータのデジタル処理を主にし、空中写真等も活用したマルチメディアデータベース調査手法として体系づける。</p> <p>iii) 開発された技術は極力自動化を図り、オペレーター中心にカウンターパートの訓練を進める。</p> <p>i) 主題図作成、評価図作成については当初の考え方と本質的に変わっていない。</p> <p>ii) マルチメディア調査をマルチメディアデータベース調査に変える。理由はI. 6(3)に記述されている。</p> <p>iii) カウンターパートに自らシステム開発を進め得るまでの能力向上は望めない現状から、オペレーションを間違えずに出来るまでを目標とする。</p> <p>I. 1～7の各問題点の項及び上記②参照。</p> <p>既にI. 1～7において各項目毎に記述されていると思われるので割愛する。</p>	<p>II. プロジェクトの運営について</p> <p>現時点でのプロジェクトの運営は全体としては極めて良好であるが、本プロジェクトで開発された、また開発されつつあるソフトウェアの保護については今後検討することが必要と考えられる。現状ではコンピュータームへの入室には制限がなく、誰でも入れる状況にある。ソフトウェアの保護に関連してこういった施設全体の管理体制についても十分配慮が必要である。</p> <p>またインドネシア政府は沼沢地を対象に農業開発を進める意向を示しており、地上調査が困難な沼沢地の中から農業開発適地選定をリモートセンシングにより実施することを強く望んでいる。本プロジェクトで開発したシステムを応用すればこういった期待に十分答えられるはずであるが、現時点でプロジェクト終了時を予想すればそのような応用がこなせるほどの技術移転は困難と判定され、今後の検討が必要と考えられる。</p>

調査検討項目	各項目に対するプロジェクトによる事前調査検討内容	調査団としてのコメント
<p>3. プロジェクトの引き継ぎ計画</p> <p>① 現状から検討した引き継ぎ計画</p>	<p>引継後のプログラムの継続を確かなものとするためマニュアルを充分整備しておくとする。</p> <p>マニュアルの構成としては成果報告書、オペレーションマニュアル、ソフトウェアドキュメントの3種を考えている(表II-1参照)</p> <p>テクニカルレポートは既に北パンテン地区で作成されたプロジェクトにおける主題図成果報告書あるいは評価図成果報告書の類で、主題図評価図作成における理論、解析手法、モデル、処理流れが記述される。</p> <p>オペレーションマニュアルには成果報告にある主題図、評価図作成の標準化された処理手順が全て記載され、これによってプログラクシヨンプが可能となる。</p> <p>ソフトウェアドキュメントはオペレーションマニュアルにある標準処理によらず他のパラメータを使用する場合などにソフトウェアの機能、制限等を知るために必要となるものである。</p>	

表II-1 主題図、評価図作成マニュアル一覧

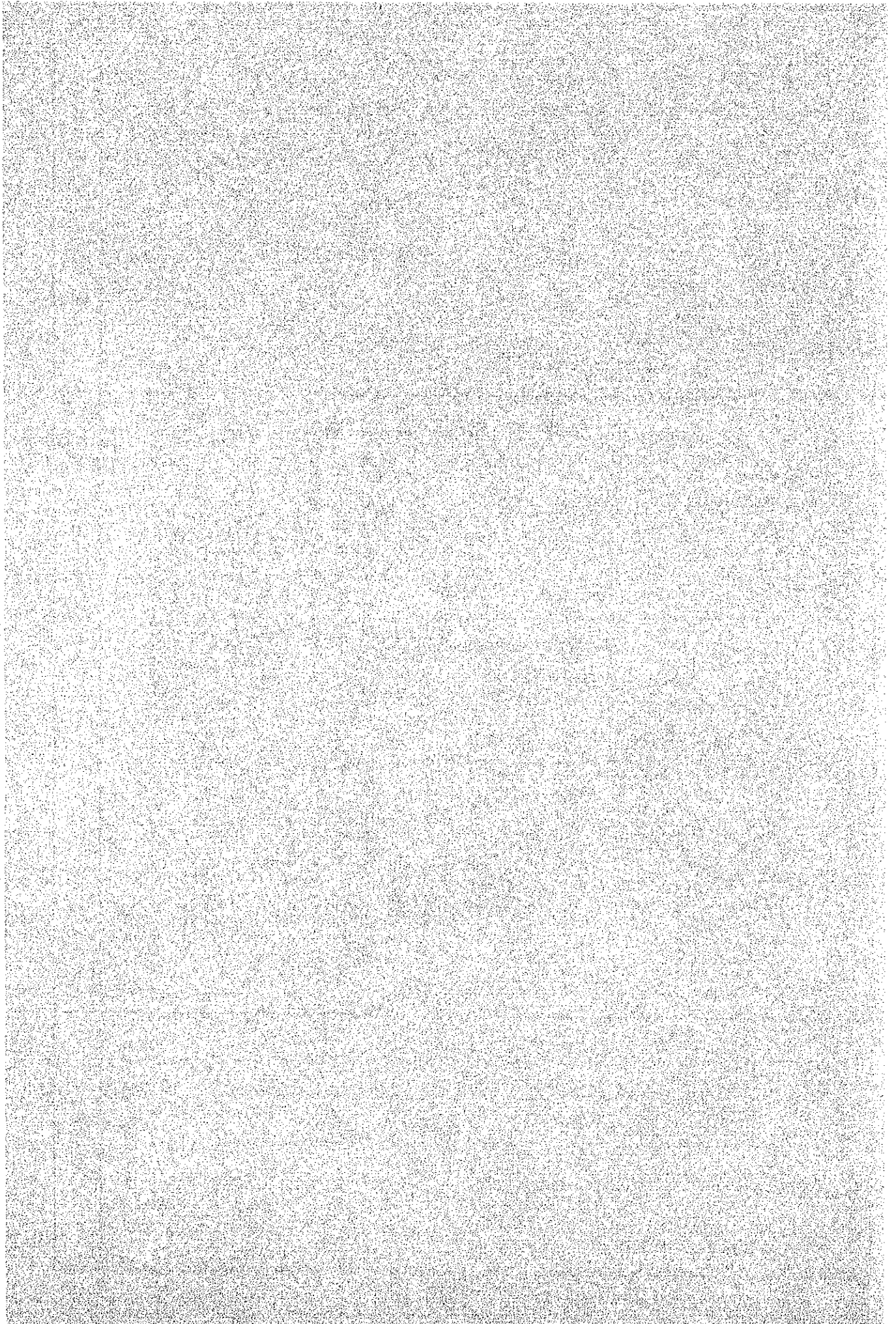
マニュアル名	対象	内容	作成者	備考
成果報告書	主題図及び評価図	理論 解析手法、アルゴリズム 処理流れ、考察等	専門家 カウンタパート	トレーニングエリア及びケーススタディエリア
オペレーションマニュアル	主題図9種及び評価図	処理流れ 入力データ 使用機器とその操作 使用ソフトとパラメータ設定 必要消耗品類 出力成果 所要時間 関連支援ソフト等	カウンタパート	極力標準化された形でまとめる。



調査検討項目	各項目に対するプロジェクトによる事前調査検討内容	調査団としてのコメント										
<p>② イ側の引き継ぎ体制の確立状況</p>	<p>表-Ⅱ-1-1 主題図, 評価図作成マニュアル一覧(続き)</p> <table border="1" data-bbox="319 728 614 1657"> <thead> <tr> <th>マニュアル名</th> <th>対象</th> <th>内容</th> <th>作成者</th> <th>備考</th> </tr> </thead> <tbody> <tr> <td>ソフトウェアドキュメント</td> <td>専門家作成ソフト</td> <td>作成者, 作成日 機能, 目的 使用言語 適用範囲, 制限 処理例 関連ソフト等</td> <td>専門家</td> <td>LARSYS 及びARIS については提 供ドキュメン トがある。</td> </tr> </tbody> </table> <p>i) 施設 庁舎, 備品の類は満足すべき状態が保たれている。</p> <p>ii) 供与機材の保守, 管理 コンピュータ以外の機材についてメンテナンス体制確立に努力している段階。</p> <p>iii) 人事管理 カウンタパートの資質はともかく, 頭数はそろっている。</p> <p>iv) 労務管理 現状の労務管理は非常にルーズである。イ側責任者にレポートシステム導入等改善をうながしているところである。</p> <p>v) 予算 プロジェクトの予算としては毎年所要の額が計上されているが, 実行は不明である。</p>	マニュアル名	対象	内容	作成者	備考	ソフトウェアドキュメント	専門家作成ソフト	作成者, 作成日 機能, 目的 使用言語 適用範囲, 制限 処理例 関連ソフト等	専門家	LARSYS 及びARIS については提 供ドキュメン トがある。	
マニュアル名	対象	内容	作成者	備考								
ソフトウェアドキュメント	専門家作成ソフト	作成者, 作成日 機能, 目的 使用言語 適用範囲, 制限 処理例 関連ソフト等	専門家	LARSYS 及びARIS については提 供ドキュメン トがある。								
<p>③ 引き継ぎ時に考えられる問題点</p>	<p>上記②の各項目が満足すべき状態とならなまま推移した場合重大な問題となる他, 以下のことが考えられる。</p> <p>i) 他部局からのニーズの発掘</p> <p>ii) カウンタパートのソフトウェア開発能力養成の方策</p> <p>iii) 運営費の獲得</p>											

調査検討項目	各項目に対するプロジェクトによる事前調査検討内容	調査団としてのコメント
<p>④ 上記③を解決するための対応策</p>	<p>i) ニーズの開発</p> <ul style="list-style-type: none"> <li>○ 本プロジェクトの存在, 及びリモセン手法の有効性を広く知らしめるべく現時点から配慮する。</li> <li>○ 日本の開発調査案件の中で本プロジェクトを積極的に活用する。</li> <li>○ 本プロジェクトを活用した他のプロジェクトを新規に発足させる。(例, リモートセンシングによるスワンプエリアデータベース化計画)</li> </ul> <p>ii) ソフトウェア開発能力養成</p> <ul style="list-style-type: none"> <li>○ 引き続き後10ケ年ぐらいにわたり, 本プロジェクトのスタッフを優先的に日本のコンピュータ研修(科学技術計算で長期のコース)に受け入れる。</li> <li>○ フォローアップが行なわれるよりな場合, ソフト開発の専門家を派遣し, 長期にわたり訓練する。</li> </ul> <p>iii) 運営費獲得</p> <ul style="list-style-type: none"> <li>○ 外部からの受託を図る。すなわちi) ニーズの開発対策がそのまま当てはまる。</li> <li>○ 日本側のフォローアップによる協力。</li> </ul>	

#### 4. 参 考 资 料



(1) 調査団現地レポート

Jakarta, September 27, 1983.-

Ir. Tubagus Haedar Ali  
Head of Center for Data Processing  
and Statistics,  
Ministry of Public Works.

Dear Sir,

It is my pleasure to submit herewith the field report (Annex I) on the Technical Guidance for the Remote Sensing Engineering Project for the Development of Agricultural Infrastructure.

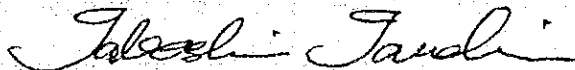
The Japanese Technical Guidance Team (hereinafter referred to as "the Team"), organized by the Japan International Cooperation Agency (JICA), visited Indonesia from September 13 to 28.

The members of the Team are as Annex II.

The activities as Annex III on the schedule were done by the Team.

I would like to take this opportunity to express my sincere appreciation for the warm cooperation rendered to us during our stay in Indonesia.

Very truly yours,



Takashi TAUCHI

Leader,  
The Japanese Technical Guidance Team  
for the Remote Sensing Engineering  
Project for the Development of Agricultural Infrastructure.

&

The Construction Guidance Service  
Center Project.

c.c. :

Mr. Motoo FUJIYOSHI  
First Secretary  
Embassy of Japan

Mr. Hiroshi YAMAMURA  
Resident Representative  
JICA Jakarta Office.

Mr. Minoru MINE  
Leader of  
Experts' Team.

THE JAPANESE TECHNICAL GUIDANCE TEAM  
FOR THE REMOTE SENSING ENGINEERING PROJECT  
FOR THE DEVELOPMENT OF AGRICULTURAL INFRASTRUCTURE

September 27, 1983.-

Contents

- I. Summary
- II. The Development and Management of Remote Sensing System
- III. Acquisition of the data by LANDSAT and airplane
- IV. Development of the methods for both digital and analog processing
- V. Production of thematic and evaluation maps
- VI. Field survey in case study area and training area
- VII. Establishment of Multi Stage Method for selection of suitable area for Agricultural Development
- VIII. Training for Counterparts
- IX. Others

J I C A

THE JAPANESE TECHNICAL GUIDANCE TEAM

## I. Summary.

The Government of Indonesia put high priority on self-sufficiency of food by increasing its production in her economical development plan.

Under this framework the Ministry of Public Works is carrying out the selection suitable land for agricultural development to promote it based on irrigation and transmigration plans to outer territories from Jawa island. But the territories of Indonesia are so big that existing data, staffs, and equipments are not enough for these planning.

The Japanese Government has executed technical cooperation in response to the request by the Indonesian Government on establishment of Remote Sensing technology to select the suitable land for the development of agricultural infrastructure based on analysing LANDSAT satellite data and/or aerial photo image. This co-operation started on April 1980 and will last five (5) years until completion in March 1985.

This time the Team inspected the result which was achieved during the last three (3) and a half years, and judged whether this project would be able to realize the target which was mentioned in the Record of Discussion (hereafter referred to "R/D") and the Minutes of the Joint Committee by the end of this project (March, 1985).

Four (4) long term experts are dispatched for this project and short term experts are also dispatched to necessary fields whenever required.

Training acceptance in Japan is carried out smoothly with the aid of some research institutes and/or universities. Almost all of the equipments necessary for this project have been provided and are performing well.

The start of actual activity of this project was delayed for one (1) year because of the delayed preparations of analysing apparatus and construction of the office. But overall progress of this project seems to be so smooth that it is well accepted in both Indonesian and Japanese side.

Nine (9) kinds of thematic maps have been prepared by Using LANDSAT data and other existing data on North Banten area which was mentioned as training area in R/D. An evaluation map on suitable area for agriculture in North Banten area by applying the ranking method has just been developed.

Regarding the evaluation map, the established evaluation model should be further examined with ground truth data and/or opinions of several specialists such as agriculturalists and then should be applied to the North Sumatera area which is mentioned as case study area in R/D.

There are huge swampy areas in Indonesian territories. These are regarded to be suitable areas for the development of agricultural infrastructure, but the appropriate models to produce evaluation map on swampy area have not yet been established.

On the other hand, the key point is whether the counterparts will master the operation of production system for thematic and evaluation maps developed by experts and moreover, will become capable of making new software by themselves for the prosperity of Remote Sensing Technology in Indonesia.

It is said that Ministry of Public Works will change its administrative organization and Remote Sensing Project will be a one division under the body of research and development. And under the new organization it is expected that the Remote Sensing Project will increase the number of staffs and expand its functions in Ministry of Public Works.



The objective of this project was to establish new technology which nobody has ever experienced before. Therefore, the Indonesian side has put high hopes on the result of this project and has made great efforts to prepare enough budget for the implementation of this project.

Japanese experts spent a lot of time for develop softwares for image analysis and also training of counterparts. Now they have just reach the stage to produce the evaluation map.

Hereafter, training of counterparts, examination of evaluation map production method, application of the established method to other areas beyond the training area and the case study area will become emphasized matters in this project. It should be examined seriously whether experts and counterparts can overcome these matters within the remaining one and a half year.

Following are the present condition of the seven (7) items of activities mentioned in R/D and comments on it from the Team.

The comments were based on reports of experts and results of discussion with Indonesian staffs.

Current progress and point of issue of the Project concerning to the Seven (7) Items of the Master Plan.

## II. The Development and Management of Remote Sensing System.

### (1) Implementation Program.

Original implementation program for Multi-Stage Survey Method was revised from four (4) stages to three (3) stages at the first (1st) Joint Committee meeting in 1981.

But when considering the present progress of the project, it is rather desirable to combine the second and the third stage of the Multi-Stage Survey Method into a new stage as mentioned.

### (2) Equipments and Machineries.

Equipments and machineries that have already been installed in this project until now are shown in other list and now the Indonesian side requested the following additional equipments.

- a. Dot color printer.
- b. Kodak RT-Color Processor.
- c. PRT-5
- d. MSS
- e. Vehicle.

The team opinion about these equipments as follows.

#### a. Dot color printer.

Among the equipments requested by the Indonesian side this one is considered the most necessary. It is considered that the graphic display image which is the intermediate output, can be sufficiently substituted by photo.

#### b. Kodak RT-Color processor.

This equipments is used to process films which at present is done by outside orders taking two or three days. The team considers that even in the future, outside order system will be sufficient, since many problems will occur such as operation maintenance and quality management.

c. PRT-5.

This is an equipment for field survey and is used to measure the ground water contents and peat contents. But it possible to obtain these data by other way, for instance, peat depth can be measured by boring.

d. MSS.

This air-borne equipment is used to measure the intensity of reflectance on several wave length from the air. But it requires skillful operator and also pilots and navigators who master the aerial survey. Beside it is necessary to convert the analogue data obtained by MSS into CCT for computer processing and not only geometric correction but also a lot of other kinds of corrections are needed. Since collected analogue data itself is quite useless and processing of CCT and from analogue data and correction of CCT needs much time and manpower, the outside order system is very expensive. So it is better to substitute this with aerial photo, etc., and it is not necessary to have this equipment.

e. Vehicle.

It is considered that the two cars now available are enough for the purpose of ground survey.

Indonesian side also request software system as follows.

- a. Regional Data Base System.
- b. Three Dimensional Image Display.

But it is considered that these softwares will be needed only after completion of this project.

(2) Current Condition of System Development.

i) Analogue processing system.

It is judged that analogue equipments and softwares to achieve the project target have been already installed.

This analogue system is able to cope with the production of color image output necessary for the first stage of Multi Stage Survey Method. However, it is necessary to prepare an operation manual which can be easily understood even by beginners.

ii) Digital Processing System.

The equipments and machineries to achieve the project target have been already installed, but the consolidation of software system will be required as mentioned later. Operation manual, same as for analogue system, which is systematical and easily understandable, must be prepared. Further more, counterparts training for software development must be continued.

(4) Circumstance of System Management.

For the maintenance system of each equipment, IBM Computer System is now under maintenance contract and is almost ready for use and the D-Scan Data Gathering System and Dark room Equipments are also under maintenance contract. However, Photo Printer, Drum Scanner, Color Display are not yet covered by maintenance contract, and now the Drum Scanner is out of order. It is necessary to speed up contracts for these items. In addition the maintenance condition of some of these equipments can not be said to be satisfactory.

Daily care for the equipments by counterparts and project staff is still insufficient. For instance information system and responsibility is not clear. It is also pointed out that putting the equipments in good order by counterparts themselves after use is not thoroughly executed.

(5) Technical transfer to the counterparts.

All counterparts can practically operate computer system and Image processing system, and some of the counterparts can operate analogue equipments. But X-Y Plotter and Digitizer System is scarcely operated until now.

It is not necessary for every body in counterparts to master the operation of all equipments, but what is necessary is continuous training with special emphasis on learning the management responsibility and maintenance procedure of the system

Considering the situation after the completion of the project, technical transfer to develop new softwares and to apply remote sensing technique to other fields must be done. Therefore, it is necessary to train many techniques such as fundamental programming technique.

### III. Acquisition of the data by LANDSAT and airplane.

#### (1) Implementation program.

In the first plan, the project planned to acquire LANDSAT films of Jawa and Sumatera islands and CCTs of training area and case study area. These plans were almost well achieved. But the Team is afraid whether the necessary data will be continuously collected in future or not. So the Team hopes that Indonesian side make effort to undertake joint co-operation with the other organization concerned.

#### (2) Present condition of data collection.

49 scenes of LANDSAT CCT data and 74 chips data, and aerial color infrared photographs were already obtained. And the budget is prepared for new CCT data collection. But it is difficult to obtain new scene of LANDSAT, because Indonesian LANDSAT ground station can not produce films and CCTs but only HDDT.

In this time the Team hear that LAPAN will produce LANDSAT CCT after next April. It is hoped that the plan will be realized in the expected period.

#### (3) Technical transfer to counterparts.

As regards to the LANDSAT data collection, the team think that it is more important than the technical transfer.

So for the making of plan to take aerial color infrared photograph, technical transfer to one counterpart was realized. Since this project was oriented mainly to Remote Sensing by LANDSAT data, planning for taking aerial photographs is not so important. It is enough to get new photos from aerial survey companies.

The remaining problem which should be solved is to brush up the flexible abilities to convert CCT format of various ground stations into a standard format which is suitable for input data in this project.

#### IV. Development of the methods for both digital and analog processing.

##### (1) Analog processing method.

###### i) Implementation program.

According to the primary program, analog processing of LANDSAT films has a role of giving an overview of target area in the first stage of investigation. But digital processing of CCT can alternate its role and decrease the relative importance of analogue processing in the first stage investigation.

###### ii) Situation of development.

A series of analog processing, quick look at an additive color viewer, an overview of whole area and interpretation of details from its hard copy, and moreover color composites of enlarged negative film, had been developed. As mentioned above, it is not necessary to further a new technology on analog processing, in this project.

###### iii) Technical transfer to counterparts.

All counterparts can manipulate and interpret the additive color viewer. Color composite process can be achieved by some counterparts. Such a situation of technical transfer is evaluated as satisfactory.

##### (2) Digital processing.

###### 1. Implementation program.

The digital processing is supported mainly by LARSYS and ARIS, and partially and supplementarily by the application program, which are developed by experts as was originally planned.

And some of the procedures are simplified and omitted for the purpose of simplification of the multi stage survey method.

## 2. Situation of development.

In addition to LARSYS and ARIS for image processing, the experts have developed 30 implementary programs.

Moreover, special programs are developed by experts on the thematical mapping as follows.

- Land cover map
- Classification map for Biomass
- Soil map
- Soil color map

For the evaluation mapping

- Pattern method and
- Ranking method

are developed as a program.

On the evaluation mapping, until now only one case study is tried at North Banten area. These evaluation mapping programs requires an evaluation model. This model is now a tentative one. Therefore, it is desirable that this model will be checked completely agricultural specialist and also counterparts attending this project, and especially by its application to another area. For example, it is thought that its application on a swampy area can not promise considerably effective results. The evaluation mapping method and models must be checked sufficiently.

## 3. Technical transfer to the counterparts.

Training to learn the operation of various kind of software which has developed in the project until now it is important. And operation manual must be prepared in order to acquire reliable operation of digital equipment.



For this purpose, training for fundamental knowledge of programming and application of the programming is effective and also to make full documentation of the operation process in training area and case study area is necessary.

V. Production of thematic and evaluation maps.

(1) Production of thematic maps.

i) Implementation program.

The method of the site selection for the development of agricultural infrastructure by remote sensing technique was not established, since this was a challenge to new field in the world. The thematic maps suitable for the purpose was not thoroughly clear and it was impossible to compile an execution plan. In the beginning the Indonesian side requested the making of 16 types of thematic maps, however, the thematic maps for the site selection for agricultural development was reduced to 9 types as to be described later and with the existing data were used to produce the evaluation maps.

ii) The condition of the production.

The following 9 types of thematic maps were produced.

- a. Color composite map
- b. Land cover map
- c. Soil classification map
- d. Soil color map
- e. Classification map
- f. Geological map
- g. Topographical map
- h. Drainage pattern map
- i. Seasonal vegetation map

Further the thematic maps for each targeted area can be seen in the enclosed list and after comparison with the statistic data this was found reliable.

For the future production of the thematic map for the training area and case study area it will be done 1 / 250,000 scale and further the available data will be in digital forms and it is necessary to increase data for the production of the evaluation maps.

The problem is how to examine the accuracy of each thematic maps.

iii) Technical transfer to counterparts.

The production of thematic map for the North Banten area which was designated for Japanese experts will be applied to another training area and the case study area for the guidance of the counterparts and technical transfer will be carried out by this.

Thinking about the admitted length of period which produce those thematic maps, it seems that the effort of specialist will need to be strengthened but it is promised that the counterparts will complete the works.

(2) Production of evaluation maps.

i) Execution plan.

In the original plan the method of production the evaluation map was not fixed clearly because of the situation that the necessary thematic maps were not sufficiently compiled. However, the execution plan was compiled now by using the thematic maps based on remote sensing, statistic figures and available thematic maps with the use of the ranking method.

ii) Condition of the production.

Production of the evaluation map was done by using the PATTERN method or principal component analysis method but there was problems in fixing the location of the site selection for the development of agricultural infrastructure. It can be said that the ranking method is expected and apart from the necessity to correct the accuracy of the evaluation map gathered from the North Banten area it is also necessary to make a considerable study with regard to the scale of the evaluation map.

iii) Future plan.

To achieve the final target of this project, the site selection for the development of agricultural infrastructure it is necessary to make a model for the production of evaluation map.

And for this it is necessary to compile half way report and to fix the evaluation standard (model) etc.

Further, it is natural that the evaluation model will be different according to different development target and targeted area.

The evaluation model for the training area and case study area alone can not serve the development of future projects. For instance the development of swampy area strongly requested by the Indonesian side is not included in targeted area in this project. Indonesian side hopes that the next targeted area will be the swampy area and from the development of this project it is expected that there will be some form of contribution.

iv) Technical transfer to counterparts.

At present it is finally reached the stage where the making of the evaluation map by Japanese experts is realized and no technical transfer is done yet.

However, the time when the evaluation model is completed, the making of the evaluation map itself will be very simple and the technical transfer will not create a problem. So the problem lies in the production of the evaluation model and the technical transfer in this field, if considered from the specialities of counterparts, will not always be easy. Joint work agricultural specialist is indispensable and knowledge supassing the special field is required.

VI. Field Survey in Case Study Area and Training Area.

(1) Implementation program and survey results.

i) Execution plan in the training area.

The North Banten area was added to the CJC area in the first Joint Committee and for the purpose of making of the thematic map the collection of field survey data is being executed in the second and third stage.

ii) Survey results in training area.

Beside the survey made in CJC and North Banten area for several times, geological survey was conducted in Central Jawa and Land cover survey was in Sumbawa island by the request of the Director General of Housing and Statistactory results were achieved.

iii) Execution plan in case study area.

In the original plan North Sumatera was selected for the case study area and the Asahan River Basin Development project are planning by JICA, so the project have narrowed down case study area to this area.

If this project will carry out, mutual co-operation will be realised and the field survey for all area of North Sumatera will be considered to be difficult but rather necessary.

iv) Survey result in case study area.

This was realised twice.

(2) Establishment of survey method.

i) Established survey method.

Beside of using available data (1/50,000 scale topographic map) and survey data collected up to the present 1/50,000 scale color composite from Landsat data was made and used as preliminary data. Taking pictures at the location, confirmation of land use at the location, biomass amount and soil nature confirmation was done. Measurement of spectral reflectance characteristic by photometer planned in the original plan was considered not necessary.

ii) Transfer of technology to counterparts.

The survey method itself is not considered to be a highly specialised item the technical transfer no so difficult matter.

VII. Establishment of Multi Stage Survey Method for Selection of Suitable Area for Agricultural Development.

(1) Implementation plan.

Already mentioned at item I, therefore omit here.

(2) Methodology for selection of suitable area for agricultural development.

Non cultivated area with favorable situation and cultivated area with effective condition for the development of agricultural infrastructure are considered to give a definition of suitable area for agricultural development.

In this project suitable area will be selected according to nine (9) kinds of thematic maps and some additional existing data which are almost limited as natural condition.

As the process of selection following trial is carried out now. At first, sample the real suitable area for agriculture by ground survey, then count up each category of the thematic maps in sample area and get certain tendency between sample area and thematic maps.

According to that tendency with some logical consideration, one model for evaluation which is called "evaluation criterion" can be established and apply that criterion to whole objective area.

The criterion on this method can not be a standard one which is able to apply to whole Indonesia, but need to be changed a little bit according to local differences of some characters.

(3) Establishment of Multi Stage Survey Method.

i) Methodology.

At first, four (4) stage of Multi Stage Survey was considered, but later it was changed to three (3) stage survey by Joint Committee decision. Now it is scheduled to produce 1 : 250,000 scale thematic and evaluation maps on the 2nd stage and 1 : 50,000 scale maps on the 3rd stage, but LANDSAT digital data and almost same process will be applied to both stage. Therefore, there is not so particular reason to divide the 2nd and the 3rd stage and rather good to mix the 2nd and the 3rd stage into one stage (now 2nd stage).

ii) Establishment of survey method.

It is considered that survey method will be able to establish firmly by application of production process of evaluation map to training area (CJC area) and/or case study area (Northern Sumatera) which is already carried out on training area (North Banten area).

iii) Technology transfer to counterparts.

Almost all of counterparts seems to understand a conception of Multi Stage Survey method. But regarding to evaluation map, only one (1) example by Ranking Method has just shown by experts applied on North Baten area, and it seems to be necessary to put much effort by counterparts skillful production of evaluation map by end for getting the way of period of this project.

VII. Training for counterparts.

Although it is mentioned by Indonesian side, that the abilities of counterparts are satisfactory in almost all fields of remote sensing technique. It needs much efforts to transfer the technology both by Japanese experts and Indonesian counterparts. Special efforts are requested on making change of CCT format, various thematic maps and evaluation models. Detailed training plans and present situation evaluated by the Team are already mentioned.

VIII. Others.

- (1) It is the pending matters that how the softwares which were produced by experts and counterparts are maintained as a secret documents and protected as a kind of copyright, because the programmes are developed with the machines and equipments supplied from Government of Japan and the data acquired by Government of Indonesia which are based on R/D.

Already, PUSDATIK is issued the regulation on management of products of Remote Sensing Project. It's content is not sufficient, so it is necessary to revise more in detail. Especially, the procedure on the inspection of the data and softwares and the permission of the entrance to computer room have to decided as soon as possible based on full discussion with both experts and counterparts.

- (2) 1984 fiscal year is the last year of this technical cooperation term, so that it is seriously recommended to submit A1, A2-3, A4 form in early time to promote the progress of this project smoothly and to meet to target of R/D.

Annex II.

MEMBER LIST  
 OF  
 THE JAPANESE TECHNICAL GUIDANCE TEAM  
 FOR THE REMOTE SENSING ENGINEERING PROJECT  
 FOR THE DEVELOPMENT OF AGRICULTURAL INFRASTRUCTURE  
 &  
 THE CONSTRUCTION GUIDANCE SERVICE CENTER PROJECT

ASSIGNMENT	NAME	PRESENT POSITION
1. Team Leader	Mr. Takashi TAUCHI	Director, Agricultural Development Cooperation Department, JICA
2. Software Development	Dr. Taketoshi UDAGAWA	Chief, Laboratory of Agricultural Survey Methodology, Division of Statistical Research, Department of Physics and Statistics, National Institute of Agricultural Sciences, MAFF
3. Agricultural Development	Mr. Yasuo SASAKI	Chief, System Development Division, Land Improvement Engineering Service Center, Kantoh Regional Agricultural Administration Office, MAFF
4. Irrigation & Drainage	Mr. Noriaki SAKAI	Section Chief, Land Development Division, Construction Department, Agricultural Structure Improvement Bureau, MAFF
5. Coordination	Mr. Keiichi TSUJI	Technical Cooperation Division, Agricultural Development Cooperation Department, JICA

MAFF = Ministry of Agriculture, Forestry and Fisheries

## Annex III

The detailed Remote Sensing Engineering Project  
activities of the Japanese Technical Guidance Team

D A T E			SCHEDULE
September			
1	13	Tue.	Tokyo --- Jakarta (JL-711)
2	14	Wed.	Visit to JICA Office, Japanese Embassy Secretary General of M.P.W., C.D.P.S. D.G.W.R.D. Meeting with Japanese experts
3	15	Thu.	Investigation of Project Discussion with Japanese experts
4	16	Fri	Meeting with Head of Center for Data Pro- cessing and Statistics (C.D.P.S.), Leader of Project and Japanese experts.
5	17	Sat.	Hearing of Japanese experts.
6	18	Sun.	Arrangement of materials
7	19	Mon.	Discussion with Head of C.D.P.S., Leader Project Hearing from counterparts
8	20	Tue.	Team member meeting
9	21	Wed.	Jakarta --- Yogyakarta (GA 430) Yogyakarta --- Surakarta Observation of Bengawan Solo River Basin Development Project
10	22	Thu.	Observation of Bengawan Solo River Basin Area Surakarta --- Yogyakarta Yogyakarta --- Jakarta (GA 439)
11	23	Fri.	Report an outline of survey results to Head of C.D.P.S. Report making



12	24	Sat.	Field survey to the North Banten Report making
13	25	Sun.	Report making
14	26	Mon.	- ditto -
15	27	Tue.	Report to the related offices
16	28	Wed.	Jakarta --- Tokyo (CX710, CX500)

