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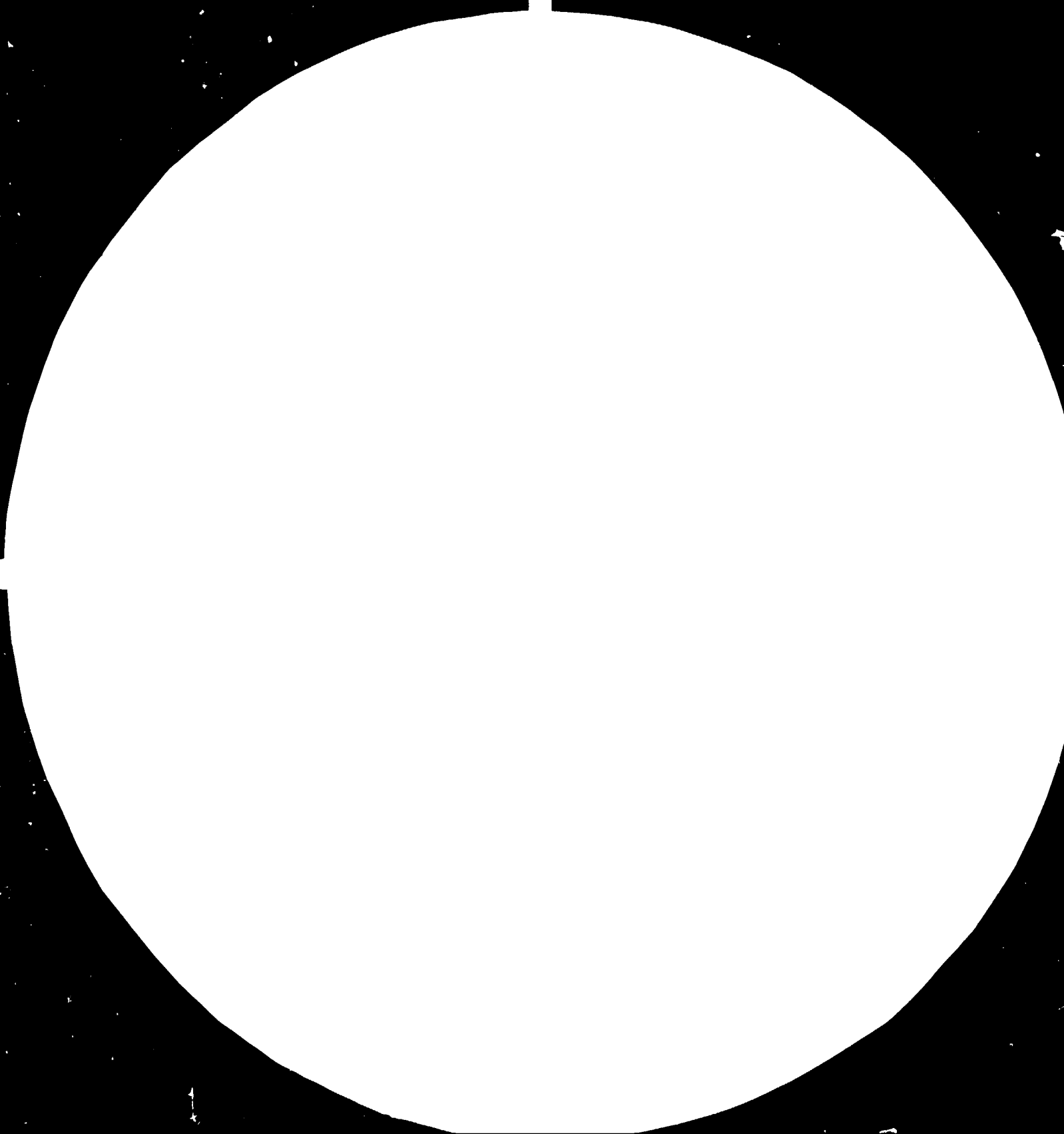
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Indonesia

SOUTH KALIMANTAN

A COMPREHENSIVE INVESTMENT PROFILES

Final report

G. Sarbinu

**UNIVERSITAS LAMBUNG MANGKURAT
IN CORPORATION WITH
BADAN KOORDINASI PENANAMAN MODAL (BKPM) /
UNITED NATION INDUSTRIAL DEVELOPMENT ORGANIZATION
(U N I D O)
BANJARMASIN
1984**

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PREFACE

This report represents the results of the investigation providing an overall picture about the possibilities of investments in the province of South Kalimantan for the period 1984 - 1990, especially with a view of finding ways and means to develop the private sector in the province.

The investigation is a realization of the agreement between The United Nation Industrial Organization and Lambung Mangkurat University at Banjarmasin, based on the contract signed by both sides on January 1984.

The first Draft of the report has been completed by the Team on April 1984. On July 1984 the draft had been discussed with the UNIDO representatives at Jakarta with a conclusion that some correction has to be made. After making the corrections suggested here with we present the final report.

We want to express our sincere gratitude to all of those who have given valuable assistance for the completion of this investigation.

Banjarmasin, Desember 1984

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CONTENTS

	PAGE
TEAM MEMBER	i
FOREWORD	ii
CONTENTS	iii
LIST OF TABLES	v
CHAPTER I INTRODUCTION	1
1. The Background	1
2. Special Emphasis	2
CHAPTER II MACRO COMPONENT : Planning, Growth and Population	7
1. Review of South Kalimantan Five Year Development Plan	7
2. Assessment of The Trend of Economic Growth	35
3. Population Trend	46
4. Analysis of Manpower Resource and Supply	56
CHAPTER III SECTORAL COMPONENT : Agro Industrial and Manufacturing	71
1. Assessment and Identification of Agro Industrial Projects: Food Crops Based Industries.	71
2. Assessment and Identification of Agro Industrial Projects: Plantation Crops Based Industries.	90
3. Assessment and Identification of Agro Industrial Project : Forestry Based Industries.	115
4. Assessment and Identification of Agro Industrial Project : Livestock and Poultry Based Industries.	119
5. Assessment and Identification of Agro Industrial Project : Fishery Based Industries.	133
6. A Study on Manufacturing Sector Industrial-Development.	142
7. A Study on Mineral Resources.	163
8. Transportation.	192

		PAGE	
CHAPTER	IV	BASIC NEEDS, COMPONENT NEED AND REQUIREMENT	210
		1. Assessment of Food Supply and Demand,	210
		2. Assessment of Housing and Facilities.	213
		3. Assessment of Clothing Needs.	214
		4. Assessment on Availability of Potable Water and Health Care	215
		5. Assessment of Educational and Training Facilities.	223
CHAPTER	V	INVESTMENT COMPONENT :	234
		1. Government Investment	234
		2. Private Investment	245
CHAPTER	VI	RECOMMENDATION.	260
APPENDIX			

LIST OF TABLES

	PAGE
II.1. Realization of Sectoral Projects financed by the national budget during the First Five-Year Development in South Kalimantan Province	8
II.2. Estimated Budget and Realization of the Regional Projects in South Kalimantan Province	9
II.3. Situation of Crumb Rubber Factories by the end of the First Five-Year Development in South Kalimantan Province	10
II.4. National Project in Sub-Sector of Irrigation during the First Five-Year Development in South Kalimantan	12
II.5. Regional Projects in Sub-Sector of Irrigation during the First Five-Year Development in South Kalimantan	12
II.6. Length of State Roads and Bridges repaired during the First Five-Year Development and the Budget in South Kalimantan Province	14
II.7. The Length of Provincial Roads and Bridges repaired during the First Five-Year Development and their budget in South Kalimantan Province	15
II.8. Realization of Sectoral Projects financed by the National Budget during the Second Five-Year Development in South Kalimantan Province.	17
II.9. The estimated budget and the realization of regional project during the Second Five-Year Development in South Kalimantan Province.	18
II.10. Estimated Budget and Realization of National Projects in South Kalimantan Province during the Third Five-Year Development	24

	PAGE
II.11. Estimated Budget and Realization of Regional Projects in South Kalimantan Province during the Third Five - Year Development	24
II.12. Percentage of the available budget from the National-Budget and the most important sectoral projects in - South Kalimantan Province during the Third Five-Year-Development	25
II.13. Percentage of the amount of the available budget and-the most important sectoral projects: in South Kali - mantan Province during the Third Five-Year Development	26
II.14. The Increase in Income per capita in South Kalimantan in 1969, 1973, 1978 and 1981	33
II.15. Percentage contribution of the Primary, Secondary, Ter- tiary Sector to the Gross Regional Domestic Product at the end of the First, Second, and Third Five-Year Deve- lopment	36
II.16. Gross Regional Domestic Product in South Kalimantan -- Province from 1975 - 1982	37
II.17. Percentage Contribution of each sector to the Gross - Regional Domestic Product of South Kalimantan Province based on the constant price of 1975 during 1975 till - 1981	38
II.18. The Export and Import Growth in South Kalimantan Pro - vince from 1972 till 1983	40
II.19. Estimated Gross Regional Domestic Product of South Ka- limantan Province during 1982 - 1990, Based on Constant Price 1975	42
II.20. Projection of the annual growth per sector from 1984 - 1990	44

	PAGE
II.21. The Growth of Regional Economic Structure in South-Kalimantan Province from 1984 - 1989	45
II.22. The Population Trend in South Kalimantan according to Age and National 1972 - 1982	47
II.23. Rating of Children to Adults	48
II.24. The Number of Population in South Kalimantan according to Sex 1972 - 1982	49
II.25. Sex Ratio between the Total Number of man against every 100 women in South Kalimantan 1972 - 1982	50
II.26. The Total Population of South Kalimantan based on Education 1980 - 1982	51
II.27. Number of Population and Density of South Kalimantan per regent / city 1982	52
II.28. Population Projection Trend of South Kalimantan 1983 - 1990	56
II.29. Manpower Development in South Kalimantan 1978 up to 1982	57
II.30. Manpower Development in South Kalimantan according to the Age Group 1978 - 1982	58
II.31. Manpower Development in South Kalimantan according to Sex : male and age group 1978 - 1982	59
II.32. Manpower Development in South Kalimantan according to Sex : female and age group from 1978 - 1982	60
II.33. Labor Force Development in South Kalimantan from 1978 till 1982	61
II.34. The Labor Force Development in South Kalimantan according to age group from 1978 to 1982	62
II.35. The Labor Force Development in South Kalimantan according to Sex : Male and Age group from 1978 till 1982	63

	PAGE
II.36. The Labor Force Development in South Kalimantan according to Sex : Female and age group from 1978 till 1983	64
II.37. The Labor Participation Rate Development in South Kalimantan according to Age Group from 1978 - 1982 (percentage)	66
II.38. Labor Force Development according to Field of work in South Kalimantan from 1978 till 1982	67
II.39. The Labor Force Distribution Based on Rural and Urban Areas in South Kalimantan from 1979 till 1982	68
II.40. Manpower Distribution at the Regions for Development Kalimantan Selatan from 1980 till 1982	68
II.41. Labor Force Projection Based on Sex : Male and Female from 1983 till 1990 (person)	69
II.42. Labor Force Projection Based on sex Type Kalimantan - Selatan from 1983 till 1990	70
III. 1. Production and Area of Planting of Food Crops in South Kalimantan in 1982	71
III. 2. The Development of Rice Production in South Kalimantan in 1977 - 1982	72
III. 3. The Development of Rice Consumption in South Kalimantan in 1972 - 1982	73
III. 4. Projection of Rice Production in South Kalimantan in 1982 - 1990	74
III. 5. Type of Rice Mill in South Kalimantan	75
III. 6. Possibility of Rice Mill Establishment in South Kalimantan	75

	PAGE
III. 7. Production and Area Cassava in South Kalimantan - 1973 - 1982	76
III. 8. Projection of Cassava Production in South Kalimantan 1982 - 1990	77
III. 9. Cassava Industries in South Kalimantan	78
III. 10. Possibilities to establish cassava industries in - South Kalimantan	79
III. 11. Production and Area of Maize in South Kalimantan- 1973 - 1982	80
III. 12. Projection of Maize Production in South Kalimantan 1982 - 1990	81
III. 13. Production and Area of Peanuts in South Kalimantan 1973 - 1982	82
III. 14. Projection of Peanut Production in South Kalimantan 1982 - 1990	83
III. 15. Production and Area of Soybean in South Kalimantan 1973 - 1982	84
III. 16. Projection of Soybean Production in South Kalimantan 1982 - 1990	85
III. 17. Soybean Industries in South Kalimantan	86
III. 18. Production and Area of Vegetables in South Kalimantan 1973 - 1982	87
III. 19. Projection of Vegetable crops production in South- Kalimantan 1982 - 1990	88
III. 20. Composition of the area based on the Type of crops and owners	91
III. 21. Production and area of Rubber Plantation in South- Kalimantan 1973 - 1982	93

	PAGE
III. 22. The Area of Smallholder Rubber Estate based on the stages of Production	94
III. 23. The Volume and Value of Rubber exported from - South Kalimantan in 1982	96
III. 24. Projection of Rubber Production in South Kalimantan 1982 - 1990	97
III. 25. Description of Crumb Rubber Industry	98
III. 26. Possibilities to establish Rubber Industri in - South Kalimantan	99
III. 27. Production and Area of coconut Plantation in - South Kalimantan 1974 - 1982	100
III. 28. Projection of coconut Production in South Kalimantan 1982 - 1990	101
III. 29. Description of Coconut Industries	102
III. 30. Possibilities to Develop coconut industries in - South Kalimantan 1983 - 1990	103
III. 31. Production and Area of Glove Plantation in South Kalimantan 1973 - 1982	104
III. 32. Projection of Glove Production in South Kalimantan 1982 - 1990	105
III. 33. Coffee Production in South Kalimantan 1973 - 1982	107
III. 34. Projection of Coffee Production in South Kalimantan 1982 - 1990	108
III. 35. Description of Ground Coffee Industries in South-Kalimantan	109
III. 36. Production and Area of Rosella Plantation in South Kalimantan 1973 - 1982	110

	PAGE
III. 31. Projection of Rosella Production in South Kalimantan 1981 - 1990	111
III. 38. Total and Forested Area of Lowland, Highland, Swamp, and Peat and Mangrove Forests	116
III. 39. Kinds, Unit number, and Capacity of Timber Industries owned by HPH and non HPH in South Kalimantan	116
III. 40. Projection of Timber Need for People of South Kalimantan 1983 - 1990	118
III. 41. The Situation of Cattle Ranches in South Kalimantan in 1982	119
III. 42. The Development of Cattle 1974 - 1982	120
III. 43. Imported of Cows in South Kalimantan	120
III. 44. The Development of Buffalo Population from 1974 - 1982	121
III. 45. The Development of Chicken enterprises and Chicken Population from 1974 up to 1982	122
III. 46. The Number of chicken imported 1974 - 1982	122
III. 47. The Development of Duck Enterprises, Duck Population and Number Exported to other regions from 1974 until 1982	123
III. 48. The Projection of Cattle Population from 1983 up - to 1990	124
III. 49. The projection of Buffalo Population from 1983 to 1990	125
III. 50. The Projection of Chicken Population from 1983 up - to 1990	126
III. 51. Projection of Duck Population from 1983 until 1990	127

	PAGE
III. 52. The Projection of Population Growth of Meat and Egg Consumption from 1983 untill 1990	128
III. 53. The Projection of Meat Supply from 1983 untill-1990	129
III. 54. The Balance of Meat from 1983 up to 1990	130
III. 55. The Development of Egg Production from 1973 untill 1982	131
III. 56. The Projection of Egg Production and Need from 1983 till 1990	131
III. 57. The Projection on the needs of concentrate food for Poultry and its components	132
III. 58. The Development of Number of Fishermen and Dried - Salted Fish Production from 1973 untill 1982	133
III. 59. The Development of Number of fishermen using Motor boat and those using motor boat with Better Catching Technology from 1973 untill 1982	135
III. 60. The Development of the Fisherman's Income from 1973 till 1982	136
III. 61. The Development of Fishery Production, Numbers of - Fishermen and their Productivity level from 1973 - till 1982	137
III. 62. The Development of Income of Fishermen in Public - Territorial Waters from 1973 untill 1982	138
III. 63. The Potensial Capacity, Real Product and the numbers of Marketing of the Enterprises in Fishery in South Kalimantan	139
III. 64. The Projection of Sea and Inland Fishery Production from 1983 untill 1990.	

	PAGE
III. 65. The Projection of Fish Consumption from 1983 until 1990	140
III. 66. Public Dockyard in South Kalimantan	140
III. 67. The Trend of the Development of Industry in South Kalimantan 1972 - 1982	142
III. 68. An Estimation of the Graduation till 1990	143
III. 69. Trend Development in Industrial Sector in South Kalimantan 1972 - 1982	144
III. 70. The Employment Development in the industrial sector according to the Kind of Industry	147
III. 71. Productivity in Industrial sector from 1972-1982	148
III. 72. The Productivity of Food, Drink and Tobacco in 1972 1982	149
III. 73. The Productivity of Textile, Confection and Leather 1972 - 1982	150
III. 74. The Productivity of Lumbering and Wooden Industries 1972 - 1982	151
III. 75. The Productivity of Papers and Printing in 1972-1982	152
III. 76. The Productivity of Chemical, Rubber, and Plastic - Industry in 1972 - 1982	153
III. 77. The Productivity of Mineral out of Metal Industry 1972 - 1982	154
III. 78. The Productivity of Metal and Machinery Industry - 1972 - 1982	155
III. 79. The Productivity of Another Industries 1972-1982	156
III. 80. Projection of the Number of Enterprises Industry in South Kalimantan up to 1990	157

	PAGE
III. 81. The Projection Employment in Industrial Sector in South Kalimantan up to 1990	158
III. 82. The Development of the value of Production in South Kalimantan during 1972 - 1982	159
III. 83. The Projection of the value of Production in Industrial sector in the South Kalimantan up to 1990 (in million rupiah)	160
III. 84. The Projection of Productivity in the Industrial sector in South Kalimantan till 1990(in Million Rp)	161
III. 85. Capacity of Coal Deposit	166
III. 86. Capacity of Quartz Deposit	172
III. 87. Capacity of Caoline Deposit	174
III. 88. The Capacity of Limestone Deposit	176
III. 89. Capacity of Iron Ore Deposit	181
III. 90. The Condition of the State Road in South Kali- mantan up to September 30 th , 1983	193
III. 91. The Condition of the Province Road in South Kali- mantan up to September 30 th , 1983	194
III. 92. Number of Motor Vehicles and Passanger Transporta- tion service in the area of KODAK XIII from 1975 - 1980	196
III. 93. The Most Important River in South Kalimantan Decem- ber 1983	199
III. 94. Numbers of Mean of River Transportation in South - Kalimantan in 1980	200

	PAGE
IV. 1. The Demand for the addition of housing till 1990 - in South Kalimantan Province	213
IV. 2. The Needs for textiles in South Kalimantan Provin- ce up to 1990	214
IV. 3. Home Water Consumption, Public Tap, and Water Debit, in accordance with towns in 1979 - 1981	216
IV. 4. Number of Hospital according to the provinsion of- beds in each regency during the period of 1979 till 1981 in South Kalimantan Province	218
IV. 5. Number of Health Facilities in South Kalimantan - Province during 1979 - 1981	221
IV. 6. Number of Lambung Mangkurat University Graduated - from 1970 - 1982	226
IV. 7. Number of Trainees during the third Five-Year Deve- lopment	227
IV. 8. Number of Trainees during the Third Five-Year Deve- lopment trained in BLK for Electric Installation,- business administration and bricklayer	228
IV. 9. Number of Students who were annually trained in BLK by the Mobile Training Units for Craftmanship and Blacksmith, in 1979 - 1982	229
IV.10. Number of Student who were annually trained in the- B L K throught the Mobile Training Unit (M T U)- for Repairing Sewing, and Agriculture during 1979 - till 1982	230
IV.11. Number of Student who were annually trained in the B L K throught the mobile training Unit (MTU) for Breeding, Fishing, and Carving during 1979 - 1982	230

	PAGE
IV. 12. Number of Students who were trained in the B L K- throughout the Mobile Training unit (M T U) for- electric installation, Weaving purun and rattan - during 1979 - 1982	231
IV. 13. Kinds of Favourite training which have ever been held by the B L K ' P	232
V. 1. Total of the sectoral Development Project in South Kalimantan in the year of 1969 / 1970 - 1983 / 1984	235
V. 2. Value and Amount of Projects by Sector Financed by the National Budget during Pelita III in Kal-Sel.	237
V. 3. Presidential Instruction Projects during the fiscal years of 1969 / 1970 - 1983 / 1984	240
V. 4. Projects which are financed by the APBD of South - Kalimantan during the fiscal year of 1969 / 1970 - till 1983 / 1984	242
V. 5. Subaudied rural investment Projects and their So - ciety's Supporting Funds in South Kalimantan accord- ing to Regencies / Municipality during Pelita III.	244
V. 6. Value and Amount of Projects by the Regional Budget during Hepelita III in South Kalimantan Province	246
V. 7. Value of Foreign Capital Investment (P M A) already approved during Pelita I till Pelita III in South - Kalimantan	249
V. 8. The Situation of Foreign Investment Enterprises by- The end of 1983 in South Kalimantan	251
V. 9. Value of Domestic Capital Investment (P M D N) which have been approved during Pelita I till Pelita III in South Kalimantan	252

	PAGE
V. 10. Situation of the Domestic Investment Enterprises by the end of 1983 in South Kalimantan	255
V. 11. Value on Non - Facilities Private Investment - during Pelita I till Pelita III in South Kalimantan.	259

CHAPTER I
I N T R O D U C T I O N

1. The Background.

Since the introduction of the First Five-Year Development Plan in 1969, the planning system has been gradually improved through the Second and the Third Plans. However, private investment played only a minor role in the process of development over these periods. In the Third Plan, estimated contribution of private investment was 46% which was lower compared with the other ASEAN countries. The Third Malaysian Plan expected the private investment to participate around 60% of the total investment, while the Philippines and Thailand Plans estimated about 81% and 72.3% respectively.

The problems of private investment in Indonesia became more acute due to the unequal regional distribution of the investment. Over the period of 1968-1983, about 59% of the private domestic investment were located in Java and 18% in Sumatera. In the mean time, the private foreign investors preferred also to invest in Java rather than in the other islands.

South Kalimantan Province is one of the provinces which has been lagged behind in attracting either the private domestic investment or the private foreign investment. Over the period of 1968-1982 the amount of private foreign investment in Indonesia reached US\$ 5,762,300,000 and the private

domestic investment in the amount of Rp. 4,066,935,000.-

The private foreign investment in South Kalimantan Province during the period of 1967-1979 was around US\$ 110,232,850. which was spreaded in 9 projects. In the same time, the private domestic investment was around - Rp. 256,963,000.- which covered 54 projects. In other - words, the private foreign investment was only 1.91% - whereas the private domestic investment was 6.32%.

2. Special Emphasis.

2.1. Agriculture.

The study will be primarily focused on the plantation crops such as rubber, coconut, coffee, sugarcane, and rose-lla without neglecting those of food crops. The situation of rubber and coconut plantations in South Kalimantan Province is actually in the critical stage in terms of yield per acreage. Most of rubber and coconut stands which are - still productive are more than 30 years old; and even most of the coffee stands are more than 40 years old. This - situation should be remedied through the replantation as well as the extensification programs. Other crops such as cloves and sugarcane are still relatively new in South Ka- limantan Province.

There are still more suitable lands which are available for the development of those crops. Development of agricul- tural sector will by no means have impact on other sectors as well such as labor supplies, accessability, etc which - are worth to study in relation to the investment on those

sectors.

2.2. Fisheries.

Inland as well as sea fisheries also have an important role to the economy of South Kalimantan Province. The level of exploitation for inland fisheries is altogether 73.5% - whereas sea fisheries only 22% from the potentials.

This under exploitation situation is due to several - reasons, among others:

- sea catchment areas are usually limited to coastal area.
- inland fishing is limited to fishermen settlement.
- fish culture managements are still traditional.

Thus, there are still possibilities to increase the production through improvements in culture and catching - technology. These will, of course, need investments especially in fisheries related industries to develop.

2.3. Livestock.

From the potential cattle grazing areas (600,000-900,000 ha) less than 25,000 ha is now being used for cattle grazing in South Kalimantan Province. Now, South Kalimantan Province is still importing cattle from outside to meet the local consumption. Considering the standard of meat consumption per capita per day which is 5 grams, then the people of South Kalimantan Province is still below this standard.

Investments in this sector and its related industries will be directed not only to meet the local need but also for exports.

2.4. Transportation.

Transportation has an important role in the economy of South Kalimantan Province. The transportation system consists of roads, rivers, and by air.

At present, there are two main roads. The first one is on west side of Maratus Mountain connecting South Kalimantan Province with East Kalimantan Province. This road with the approximate length of 287 km goes through the cities of Banjarmasin, Mertapura, Rantau, Kandangan, Barabai, and Tanjung. This road is very important for the transportation of food product from South Kalimantan Province to East Kalimantan Province and of rattan from East Kalimantan Province to South Kalimantan Province. Eventhough the road is sufficient enough to support the economy but it will need some improvements to suit the economic development of the region. The second road lays from the south to the east of the mountain Banjarmasin development region and Kotabaru development region. The east side of the road is still developmental stage. The condition of the road is about 26% damaged. To support the economic development in this area, the two roads should be connected.

River transport is usually done through the Barito River and its branches. It is important for the transportation of food product from South Kalimantan Province to Central Kalimantan Province and also of forest product from Central Kalimantan Province to South Kalimantan Province or to other islands as well. Some of the problems in river transport is

that some parts of the rivers can not be used because of the shallowness in dry season and also weeds in rainy season.

2.5. Trade Centers

Banjarmasin as a trade center is developing. It serves as a gate both to South and Central Kalimantan Province.

With the increase in economic activities as well as the population growth that it can no longer accomodate, it should need a real extention. Besides, there must be a highway that connects Banjarmasin and the hinterland.

2.6. Labor Supply and Transmigration

The population density of South Kalimantan Province is about 56 people per km². It seems that the population in South Kalimantan Province is still sparse.

According to 1980 data, there are about 1,000,393 labor force out of 2,064,649 inhabitants. This labor force is tend to increase within the next ten years. It is assumed that the increase rate in South Kalimantan Province is about 2.5% per year. That does not mean that all of the labor force are employed; some of them are unemployed because they do not have required skills to fit the jobs available. Besides, that the people mobility factor is low which makes certain parts of the area are more populated than the others. To overcome this situation, transmigration programs are needed especially to fill some of the labor force. There are already 25,508 transmigrant families spread out in both tidal and upland

areas in South Kalimantan Province and some others will -
arrive in the coming years.

The problems faced by the transmigrants are the -
difficulties in marketing their farm products. Thus, there
are possibilities for investment in food crop related in-
dustries to accomodate the area.

CHAPTER II

MACRO COMPONENTS: PLANNING, GROWTH, AND POPULATION

1. Review of the Five-Year Development in South Kalimantan Province.

During the First, the Second, and the Third Five-Year Development, there had been many projects planned and accomplished every year which were financed with the developing budgets provided both by Central Government and Regional Government. In every fiscal year, many new projects were carried out and many continued ones belonged to the previous years were accomplished. The projects which had been completed in every fiscal year can be categorized into the economic as well as the social sector including physical and non physical projects.

The illustration about those developing activities accomplished during the First, the Second, and the Third Five-Year Development based on the available data can be seen in the following description :

a. The First Five-Year Development or Pelita I.

The essential objectives of the development being done in South Kalimantan Province are parallel to the national ones. Based on the physical condition of the region, the development being carried out in this period was mainly emphasized to the sector of agriculture and irrigation, the sector of electric power, and the sector of communication.

During this period, the sectoral projects which had

been financed by the national budget covering the investment of about Rp. 12,897,974.519. The detail of this case can be seen on Table II below.

Table II.1.

Realization of sectoral projects financed by the national budget during the First Five-Year Development in South Kalimantan Province

Fiscal Year	:	Realization
1969/1970	:	Rp. 2,287,096,680.-
1970/1971	:	Rp. 2,589,313,486.-
1971/1972	:	Rp. 2,739,176,228.-
1972/1973	:	Rp. 2,932,950,115.-
1973/1974	:	Rp. 2,349,438,010.-
Total	:	Rp. 12,897,974,519.-

Source : Bappeda of South Kalimantan Province.

It is not the same things with the sectoral projects-financed by the national budget in which the making of the estimation for them is rather difficult compared with the ones belong to regional sectoral projects in which the estimation can be easily made every year. The estimation - as well as the realization of those regional projects - during the First Five-Year Development can be seen on Table II.2 below :

Table II.2.

. Estimated Budget and Realization of the Regional Projects in South Kalimantan Province

Fiscal Year	Estimated Budget	Realization	Remark
1969/1970	: Rp. 400,000,000	: Rp. 280,032,238	: x) Budget
1970/1971	: Rp. 630,000,000	: Rp. 439,205,961	: modifica-
1971/1972	: Rp. 702,000,000	: Rp. 582,191,235	: tion.
1972/1973	: Rp. 810,000,000	: Rp. 983,237,604 ^{x)}	
1973/1974	: Rp. 765,642,000	: Rp. 469,644,630	
Total	: Rp. 3.307.642.000	: Rp. 2.754.311.712	

Source : Bappeda of South Kalimantan Province.

The important sectors planned and accomplished during the First Five-Year Development were the sector of agriculture and irrigation, the sector of electric power, and the sector of communication.

The Sector of Agriculture and Irrigation.

Rice production during the First Five-Year Development stated the bright figures where South Kalimantan Province - always had a surplus and could help the neighbouring provinces like East Kalimantan and Central Kalimantan.

The activities in the sub-sector of plantation was - solely aimed at the efforts of replacing the older plants with the superior seeds and especially of increasing the quality of rubber production. Here, the rubber crumb system was used. During the First Five-Year Development, some -

crumb rubber factories which were ready to produce had been built as can be seen in the following table.

Table II.3.

Situation of Crumb Rubber Factories by the end of the First Five-Year Development in South Kalimantan Province.

No:	Name	:Production: : Capacity :	Location	: Remark
1.	P.T. Polymers Indonesia	: 6000 tons:	Banjarmasin:	Producing
2.	PNP. Danau Salak	: 2400 tons:	Danau Salak:	Producing
3.	P.T. Karet Mantap	: 6000 tons:	Banjarmasin:	Producing
4.	PP. Batu Agung Mulia	: 3600 tons:	Banjarmasin:	Being built
5.	C.V. Karias Tabing	: 3600 tons:	Amuntai	: Being built
6.	Fa. Darma Djaja	: 3600 tons:	Haruyan	: Being built

Source : Bappeda of South Kalimantan Province.

Other commercial stem seeds which had been distributed during the First Five-Year Development were :

- rubber with the amount of 644,620 stems
- coconut with the amount of 243,494 stems
- clover with the amount of 193,951 stems

In the sub.sector of fishery, the efforts which had been done by the fishermen in order to increase their production were among others : motorization and modernization of fish catch devices. Furthermore, other effort such as - to change the way to catch fish by making use of the - domestic capital investment had resulted the establishment a new company, P.T. Misaya Mitra which endeavours to process

the shrimp and the fish meal in Kotabaru.

In the sub-sector of livestock, the progress which had been achieved was mainly in poultry breeding where the farmers bred a kind of famous duck called Alabio Duck. In such a way, the effort to increase the cattle breeding had also been done where many sedge grass fields used as farming areas.

In the sub-sector of forestry, a lot of progress had been made where some private companies as well as state companies were in operation both making use of foreign capital investment and domestic capital investment. Those companies are P.N.Perhutani, Kodeco, Valgosons, Pamukan - Jaya, P.T.Yayang, and P.T.Aya Timber.

In the sub-sector of irrigation, many projects had been completed, and they are :

- Barambai Tidal Rice-Field Project.
- Jelapat Tidal Rice-Field Project.
- Jaro Technical Irrigation Project (816 ha).
- Intangan Technical Irrigation Project (1507 ha).
- Polder Alabio.

The Regional and National Projects in the sub-sector of irrigation which had been completed during the First Five-Year Development can be seen on the following table.

Table II.4.

National Projects in Sub-sector of Irrigation during
the First Five-Year Development in South Kalimantan.

NO.:	Project	: Fiscal Year / Budgets (in Rp.1.000,-)				
		1969/70	1970/71	1971/72	1972/73	1973/74
1.:	Small-Medium Irrigation:	40,000	40,000	40,000	26,000	26,000
2.:	Repairment & Pacifica - tion of Rivers	5,000	3,000	3,000	4,000	4,000
3.:	Swampy Area Development:	14,000	15,000	15,000	18,000	13,000
4.:	Tidal Irrigation	:174,900	:158,748	:160,000	:200,792	:191,423
5.:	Alabio Swampy Area Development	: 70,000	: 70,000	: 64,000	: 50,000	: 86,000
6.:	Binuang Irrigation	: -	: -	: -	: -	:130,000
T o t a l		:303,900	:286,748	:302,000	:298,792	:450,423

Source : Bappeda of South Kalimantan Province.

Table II.5.

Regional Projects in Sub-sector of Irrigation during
the First Five-Year Development in South Kalimantan

No.:	Project	: Fiscal Year / Budgets (in Rp.1.000.-)				
		1969/70	1970/71	1971/72	1972/73	1973/74
1.:	Technical Irrigation	: 16,450	: 1,000	: 46,311	: 30,000	: 53,000
2.:	Public/Rural Irrigation:	25,140	31,000	50,000	70,000	20,000
T o t a l		: 41,590	: 32,000	: 96,311	: 100,000	: 73,000

Source : Bappeda of South Kalimantan Province.

The Sector of Electric Power.

During the First Five-Year Development, the Government had completed the development of PLTA Riam Kanan with the capacity of 20 MW, so that it can overcome the electrical problem in Banjarmasin, Banjarbaru, and Martapura. The ex-used diesel engines of The State Electric Enterprise, after the completion of PLTA Riam Kanan, were transferred to some regencies in South Kalimantan Province and with the additional budget provided by the local government that all regencies in South Kalimantan Province would be estimated to get more electric power by the end of the First Five - Year Development.

The Sector of Communication.

The communication in South Kalimantan Province really plays a very important role in the effort to support the target of development especially in the economic sector. As the growing progress in this sector becomes better, the traffic of goods, service, and people as well also becomes smoother and this situation could motivate and support the growth of goods and service production and could distribute the development as well as its results equally to people .

The progress in this sector during the First Five-Year Development was mainly felt in the sub-sector of land and air communication as well as telecommunication.

In the Sub-Sector of Land Communication, we can see that the condition of the state roads became 85 per cent

good and sufficient, whereas the regional and the local ones just reached 51 per cent and 59 per cent. By the end of the First Five-Year Development, the condition and the percentage of roads and bridges which had become good and sufficient would be estimated increased.

Relating to the length of state roads and bridges as well as provincial ones repaired during the First Five-Year Development and the amount of their budget can be seen on the following tables.

Table II.6.

Length of State Roads and Bridges repaired during the First Five-Year Development and the budget in South Kalimantan -
Province

No.	Fiscal Year	Road				Bridge		Budget in Rp.1000.
		New (km)	up Grade (km)	Rehabilitati on.(km)	Mainte nance (km)	up Grade (km)	Rehabi litati on.(km)	
1.	1969/1970	-	-	45	-	-	140	88,450
2.	1970/1971	-	10	10	538	38	210	124,000
3.	1971/1972	-	6	12	787	9	40	180,000
4.	1972/1973	8	55	17	606	55	260	443,500
5.	1973/1974	-	31	30	584	21	-	300,880
T o t a l		8	102	114	-	123	650	1,236,880

Source : Bappeda of South Kalimantan Province.

Table II.7.

The Length of Provincial Roads and bridges repaired during the First Five-Year Development and their budget in South Kalimantan Province

No.	Fiscal Year	Road			Bridge		Budget in Rp.1.000
		up Grade (km)	Rehabili- tation (km)	Light Rehabili- tation (km)	up Grade (km)	Rehabili- tation (km)	
1.	1969/1970	-	-	196	-	-	47,037
2.	1970/1971	-	38.7	24.5	-	220	60,455
3.	1971/1972	74.4	32.5	-	82	24	209,090
4.	1972/1973	44	75	-	128	702	295,000
5.	1973-1974	-	27.15	-	122	136	46,680
Total		118.4	173.35	220.5	332	1132	658,262

Source : Bappeda of South Kalimantan Province.

The progress in the sub-sector of air communication during the First Five-Year Development had been achieved in the run way and the terminal facilities of Syamsuddin Noor - Airport. Besides, in order to overcome the local need, the government had built a new airport in Stagen, Kotabaru so that there is a permanent air strip between Banjarmasin - and Kotabaru which can be only landed by small aircrafts . Beside that, in order to support their activities in log business, two more airports were built in Pagatan and Batu-licin by the Private Logging Company.

In the sub-sector of telecommunication during the -

First Five-Year Development, the government had accomplished the development of 3.000 units of automatic telephone. In the mean time, the government had also completed a part of the Tropo Scatter Project which is meant to enlarge the communication networks with Java Island, East Kalimantan Province and other places when it is fully operated. Some government agencies had already got their own direct telecommunications with their central offices in Jakarta by making use of transmitting radios. Likewise, the Regional Government also had a telecommunication network with all its regencies and Jakarta. Finally, the government had got a lot of progress in the Telephone, Telegraph, and Post Service.

b. The Second Five-Year Development.

The results achieved in the First Five-Year Development is used as the base for the Second Five-Year Development. The Second Five-Year Planned Development which had been made was meant as a General Pattern of Development in South Kalimantan Province during the period of 1974 - 1975 till 1979 - 1980 so that it can show its rather total manner. Basically, according to the outline plan, the region of South Kalimantan Province would be developed as :

1. Cattle Belt in the thatch grass areas.
2. Rice Bowl in the swampy areas especially in the tidal and the alluvial lowland plain.
3. Forestry in the mountaineous forest areas.

Connecting to those cases mentioned above, the development programs which would be done in the Second Five-Year

Development still orientated in the sector of economic development. The emphasized sector are among others :

- Agriculture and Irrigation
- Communication
- Industry

The total investment in the sectoral projects financed by the national budget during the Second Five-Year Development was about 54.8 billion rupiahs. The detail of this matter can be seen on the following table.

Table II.8

Realization of Sectoral Projects financed by the National Budget during the Second Five-Year Development in South Kalimantan Province

Fiscal Year :	Realization	Remark
1974 / 1975 :	3,390,179.	: in Rp.1,000
1975 / 1976 :	9,582,475.	:
1976 / 1977 :	11,493,913.	:
1977 / 1978 :	13,833,888.	:
1978 / 1979 :	16,469,479.	:
Total :	54,769,934.	:

Source: The Plan of The Third Five-Year Development in South Kalimantan Province, Book I.

The detail of the estimated budget and the realization of sectoral projects financed by the regional budget during the Second Five-Year Development can be seen on Table II.9

Table II.9.

The estimated budget and the realization of regional projects during the Second Five-Year Development in South Kalimantan - Province

Fiscal Year :	Estimated Budget :	Realization :	Remark
1974 / 1975 :	960,000.	390,000.	in
1975 / 1976 :	1,056,000.	606,120.	Rp.1000
1976 / 1977 :	1,162,000.	721,500.	
1977 / 1978 :	1,278,000.	1,164,500.	
1978 / 1979 :	1,406,000.	2,250,000.	

Source : The Plan of The Second and The Third Five-Year Development in South Kalimantan Province.

Physically, the growth of the emphasized sectors during the Second Five-Year Development can be illustrated as follows :

The Sector of Agriculture and Irrigation.

The Sub-Sector of Food Agriculture.

By the end of the First Five-Year Development, rice - production reached about 413,682 tons within the area of - 228,104 ha. In the end of the Second Five-Year Development, the rice production reached about 531,131 tons within the - area of 273,237 ha. So that, there is an increase of about 28,39% compared with the one of 1973. The same things also happened to the rice production in 1973 which was only noted 1814 kilograms per ha but it became 1944 kilograms in 1978. The detail of the growth in the rice production can be seen

on Table III.2. in Chapter III of this report.

The Sub-Sector of Plantation.

The activities held in this sub-sector during the Second Five-Year Development were aimed at :

- Regeneration and repairment in the quality of public rubber.
- Diversification in the economic plants such as coconut, pepper and clove.

The regeneration and the repairment in the quality of public rubber were done through the Group Coalating Centre Project . Rubber production in the end of the First Five-Year Development was 23,031 tons within the area of 67,133 ha. In the end of the Second Five-Year Development noted 31,018 tons within the area of 62,285 ha. Based on this illustration, there has been an increase of the rubber production about 34.68% whereas the area of plantation got decreased about 7.19% compared with the one existing in 1973. The decrease was mainly caused by the older age of rubber trees in some areas which reached - 30 years old or more. Detail of the growth in the rubber production as mentioned above can be seen on Table III.21 in this chapter.

The growth in the planting area as well as the production of coconut during the Second Five-Year Development was - achieved through the Coconut Working Centre Project. In 1974 the coconut production noted 13,179 tons and the planting area noted 25,001 ha. Furthermore, by the end of the Second Five-Year Development, the production noted about 19,034 tons within the area of about 36,289 ha. When it is compared with

its situation existing in the First Five-Year Development, the coconut production noted an increase of about 44.43% - and of about 45.15% in the planting area. The detail about this growth can be seen on Table III.23 in Chapter III of this report.

During the Second Five-Year Development, the government had built some Center Gardens in order to enlarge the pepper plantation. In the Third Five-Year Planned Development, pepper would be seriously expanded in order to make South Kalimantan Province a pepper production area. The development target was 2,000 ha.

The growth in clover plantation during the Second Five-Year Development did not get much progress but the area of plantation noted an increase every year because of new planting system. The area of clover plantation in 1973 was 1,016 ha, whereas it became 5,808 ha in 1978 so that there was an increase of about 472% during the Second Five-Year Development. The detail about this growth can be seen on Table III.24 in Chapter III.

The Sub-Sector of Irrigation.

During the Second Five-Year Development, the Government had repaired and perfected the irrigated agricultural areas and had prepared new planting areas in connection with the settlement of transmigrants in the tidal areas. During the Second Five-Year Development, the government had completed the development of Jelapat Tidal Rice-Field Project which had been started in the First Five-Year

Development with the area of about 5,000 ha. Beside that, other important irrigation project, namely Binuang Irrigation Project which had been developed in the Second Five - Year Development, was also completed.

Riam Kanan Multi-purpose Reservoir project which had officially been used as generating electric power in 1974 was surveyed to make feasibility study for developing the technical irrigation network which was estimated to be - able to irrigate the agricultural area of about 30,000 ha.

Furthermore, the government had also rehabilitated - and maintained the available irrigated infra structures - and had also built some simple irrigation as well as the tertiary waterworks during the Second Five-Year Development.

The Sector of Communication.

During the Second Five-Year Development, the activities in developing the land communication was only to rehabilitate and to upgrade the available roads and bridges. Moreover, in order to support the transmigrant settlement, the government had built a new road from Pleihari to Batulicin which connected the production center - with its marketing area.

In the sub-sector of sea communication, the government had dredged the mouth of Barito River so that the 6,000 dwt ships could sail till Trisakti Harbour. Besides, the perfection on the sailing safety facilities such as - lighthouses and so on was also done. The harbours in Kota-

baru and Pagatan were also rehabilitated.

In the sub-sector of air communication, the government had upgraded Syamsuddin Noor Airport so that it can be landed by DC-9 . The Pioneer Airports in Stagen and Kotabaru were also upgraded so that those airports can be landed by Dakota. -

The Sector of Industry.

The progress in this sector during the Second Five - Year Development was very slow and so obvious. It was due to the lack of supporting condition in South Kalimantan - Province.

The constitution of this slow progress, of course , can be seen in the Gross Regional Domestic Product. The amount of its constitution in 1975 was 2.69% and in 1978 it got increased and became 2.68% from the Gross Regional Domestic Product. The clarification of this growth can be seen on Table II.4 in Chapter II of this report.

The growth in the amount of industry during the - Second Five-Year Development noted that there were 1,553 industries in 1973 and 2,095 industries in 1978. The detail of this growth can be seen on Table III.70 in Chapter III.

The amount of people who worked in this sector during the Second Five-Year Development was 10,596 persons in - 1974 and 14,606 persons in 1978, so that the average productivity per person in 1974 was Rp.635,000 and Rp.2,046,000 in 1978. The Detail of this case can be seen on Table III.74, Chapter III.

C. The Third Five-Year Development.

The Third Five-Year Development was based on the result achieved in the Second Five-Year Development. Based on the condition and the regional potentiality of South Kalimantan Province, like the First and the Second Five-Year Planned Developments, the main objective determined in the Third Five-Year Planned Development was orientated on the development of economic field with special stress put on the development of other sectors such as :

- Agriculture and Irrigation/Waterworks
- Communication
- Industry and Electric Power/Energy
- Transmigration.

The estimation and the realization of budget used in the development during the Third Five-Year Development are as follows :

National	: Estimation	Rp. 251,162,282.
	Realization	Rp. 262,947,700.10
Regional	: Estimation	Rp. 33,500,000.
	Realization	Rp. 51,273,421.50

The detail of the estimation and realization of budget which came from the central government used in the development can be seen on Table II.10 below :

Table II.10
 Estimated Budget and Realization of National Projects in
 South Kalimantan Province during the Third Five-Year
 Development

Fiscal Year:	Estimated Budget:	Realization	Remark
1979/1980 :	33,612,614. :	33,612,614.50 :	in
1980/1981 :	40,527,136. :	47,476,880.05 :	Rp.1,000.-
1981/1982 :	48,632,564. :	63,515,348.85 :	
1982/1983 :	58,359,076. :	73,765,318.60 :	
1983/1984 :	70,030,892. :	44,577,538.15 :	
T o t a l :	251,162,282. :	262,947,700.10 :	

Source : Bappeda of South Kalimantan Province.

Then the estimation and the realization of budget - which came from the regional government used in the development can be seen on Table II.11 below :

Table II.11
 Estimated Budget and Realization of Regional Projects in
 South Kalimantan Province during the Third Five-Year
 Development

Fiscal Year:	Estimated Budget:	Realization	Remark
1979/1980 :	4,500,000. :	4,500,000. :	in
1980/1981 :	5,300,000. :	8,300,000. :	Rp.1,000.-
1981/1982 :	6,500,000. :	11,500,000. :	
1982/1983 :	7,800,000. :	12,150,000. :	
1983/1984 :	9,400,000. :	14,823,421.50 :	
T o t a l :	33,500,000. :	51,273,421.50 :	

Source : Bappeda of South Kalimantan Province.

The detail of the most urgent sectors planned and done during the Third Five-Year Development and financed by the national budget, the percentage of amount and allocation of the available budget used for sectoral projects can be seen on Table II.12 below :

Table II.12

Percentage of the available budget from the National Budget and the most important sectoral projects in South Kaliman - Province during the Third Five-Year Development

No	Sector	:1979/1980:		:1980/1981:		:1981/1982:		:1982/1983:		:1983/1984	
		: %	:Pro:	: %	:Pro:	: %	:Pro:	: %	:Pro:	: %	:Pro:
:	:	:	:ject	:	:ject	:	:ject	:	:ject	:	:ject
1	:Agriculture	: 7.32:	16:	6.51:	20:	7.38:	23:	8.58:	25:	13,19:	23
2	:Irrigation	:18.37:	6:	14.60:	7:	14.29:	6:	10.99:	6:	14.57:	8
3	:Communication	:14.75:	13:	12.28:	17:	13.42:	18:	13.69:	18:	17.33:	18
4	:Transmigration	:21.70:	7:	11.23:	7:	8.33:	10:	13.42:	6:	9.79:	5
5	:Energy	: - :	-:	4.62:	1:	17.02:	1:	6.46:	1:	8.21:	1
6	:Industry	: 0.23:	2:	0.40:	4:	0.48:	4:	0.54:	4:	0.95:	4

Source : Bappeda of South Kalimantan Province.

The more detailed sectoral projects which were financed by the national budget and based on those sectors can be seen on Table V.2, Chapter V.

The detail of the percentage of the amount of projects and the allocation of available budget for sectoral projects of the most important sectors which had been planned and done and which had been financed by the regional budget can be seen on Table II.13 below :

Table II.13
 Percentage of the amount of the available budget and of the most important sectoral projects in South Kalimantan Province during the Third Five-Year Development

		=====										
		:1979/1980:		:1980/1981:		:1981/1982:		:1982/1983:		:1983/1984		
No:	Sector	:	5	:Pro:	%	:Pro:	%	:Pro:	%	:Pro:	%	
		:	:	:ject	:	:ject	:	:ject	:	:ject	:	

1	:Agriculture	:	4.69:	9:	3.35:	8:	4.49:	6:	2.55:	5:	3.34:	17
2	:Irrigation	:	4.13:	2:	6.27:	3:	16.09:	3:	11.16:	4:	8.58:	19
3	:Communication	:	32.17:	5:	30.99:	5:	25.17:	4:	21.06:	3:	23.30:	25
4	:Transmigration:	-	:	-:	0.18:	1:	0.21:	1:	0.20:	1:	0.15:	1
5	:Energy	:	-	:	-:	-:	-:	-:	0.20:	1:	0.15:	1
6	:Industry	:	0.54:	2:	0.48:	2:	0.50:	1:	0.20:	1:	0.29:	3

Source : Bappeda of South Kalimantan Province.

From the above table, it is obviously seen that the regional projects financed by the regional budget just acted as complement to those of sectoral projects financed by the national budget.

In addition, it is important to state that the biggest regional projects were realized in the sector of religious and government employees. The detail of regional projects based on these two sectors can be seen on Table V.6, Chapter V.

Physically, the growth of developmental sectors which were urgently developed during the Third Five-Year Development can be illustrated as follows :

The Sector of Agriculture and Irrigation/Waterworks.

- The Sub-sector of Food Agriculture.

Concerning the production and the area of rice crops by the end of the Second Five-Year Development (1978) was 531,131 tons and 273,337 ha. The production in 1982 was 634,129 tons in the area of 286,139 ha, if we compare these figures, there was an increase in the rice production in 1978 by 28.8%. Likewise, the productivity per ha in 1978 was 1,944 kilograms and in 1982 it became 2,391 kilograms. The detail concerning this growth can be seen on Table III.2, Chapter III.

- The Sub-sector of Plantation.

The most important plants in this sub-sector are among others : rubber, coconut, clove and coffee.

During the Second Five-Year Development, rubber estates were carried out through the Group Co-lating Centre Project (G.C.C). The production of rubber in the end of the Second Five-Year Development was 31,018 tons with the area of 62,285 ha. In 1982, the production became 25,772 tons while the area noted 72,168 ha. If it is compared with the one existed in 1978, we find a decrease in the production of about 16.91%, whereas the planting area got an increase by 15.90%. The decreased production was possibly due to the world recession at that time. The detail concerning this growth can be seen on Table III.21, Chapter III.

The growth of production and area of coconut plantation during the Second Five-Year Development was carried

out and achieved through the Coconut Working Centre Project. The production and the area of coconut plantation in the end of the Second Five-Year Development (1978) was 19,034 tons and 36,289 ha. Then in 1982, the production became 28,360 tons whereas the area became 43,921 ha. Based on this illustration there is an increase by 49% in the production and 21.03% in the area. The detail concerning this growth can be seen on Table III.23, Chapter III.

The growth of production and area of clove plantation by the end of the Second Five-Year Development was 70 tons and 5,808 ha. In 1982, the production became 312 tons and the area noted 8,354 ha. Based on this illustration, there is an increase both in the production and the planting area which severally notes 345.71% and 43.84%. The detail about the growth can be seen on Table III.24, Chapter III.

The growth of production and area of coffee plantation by the end of the Second Five-Year Development was severally noted 936 tons and 3,180 ha. In 1982, the production became 945 tons whereas the planting area became 5,672 ha. These figures note an increase by 0.96% in the production and 78.36% in the area. The increased area was due to the new effort in planting system which, of course, did not make any good result yet. The detail about this growth can be seen on Table III.25, Chapter III.

The Sector of Irrigation/Waterworks.

As found in the First and the Second Five-Year Developments, the sector of irrigation/waterworks during the Third Five-Year Development was meant to support the development

in the sector of agriculture that is to assist the increase in the crop production, especially rice. The most important irrigation projects which were done during the Third Five-Year Development through out the region are among others :

- Binuang Irrigation Project, directing to support the effort in increasing the food production.
- Riam Kanan Irrigation Project, directing to open new rice-fields and agricultural intensification.

During the Third Five-Year Development, the government had made a Tertiary Pilot Scheme as large as 500 ha in Sungai Tabuk Sub.District in Banjar Regency which was mainly meant to support the effort in increasing the intensity of rice plant from once to twice a year.

- To develop the swampy area by perfecting the Alabio Polder in Hulu Sungai Regency in order to support the increasing effort in food production.

The Sector of Communication.

- The Sub-sector of Land Communication.

The development in this sub-sector during the Third Five-Year Development was concentrated to increase the condition of the available roads. Whereas, the effort to build new roads was mainly meant to connect the production centre with its marketing area as well as to support the communication with the locations of transmigrant. The most important land communication projects which were completed during the Third Five-Year Development are :

- Banjarmasin-Pantai Hambawang Road Upgrading Project as long as 148 kilometres.

- Pantai Hambawang-Paringin-Batu Babi Road Upgrading Project as long as 166 kilometres.
- Pleihari-Kintab-Sebamban-Batu Licin Road Upgrading Project as long as 180 kilometres.

The Sub-sector of Sea Communication.

The dredge of the mouth of Barito River which had been started in the Second Five-Year Development opens any possibilities for the 6,000 dwt ships entering Trisakti Oceanic Harbour in Banjarmasin. Therefore, the development in the sea communication during the Third Five-Year Development was mainly directed to increase any facilities in Trisakti Oceanic Harbour such as a 6,000 squaremetre storehouse, a 8,500 squaremetre dumping yard, a 3,000 squaremetre cement pier, and a 6,554 squaremetreyard.

The Sub-sector of Air Communication.

During the Third Five-Year Development, the government had made some progress and the most important ones are :

- Syamsuddin Noor Airport which can be landed by DC-9 had been upgraded by repairing and enlarging the terminal and adding some other new facilities like conveyor belt, security equipment, and AC split. In the field of safety aviation, some other things like an an approach control office, a flight information system, and some fire-engines.
- In order to support the Transmigration Project, a new airport was built in Batu Licin.
- The Pionee Airport in Stagen had been upgraded to be the Third Class Airport.

The Sector of Transmigration.

Transmigration program in the Third Five-Year Development was centered in Kota Baru and in some tidal areas in Barito Kuala Ragency like : Sebampan, Sungai Puntik, Sungai Muhur, Sungai Seluang, Tabunganen, Sakalagun, Batu Licin , Kintab, and Pamukan. In those villages were resided 17,492 family-men or 73,669 persons who came from West Java Province, the Special Area of Jakarta, Central Java Province, the Special Area of Jogjakarta, East Java Province, Bali Province, and West Nusa Tenggara Province.

The Sector of Industry.

Like in the Second Five-Year Development, the growth of industry in this region during the Third Five-Year Development was running slowly. The types of industry growing in this region can be classified into light industry such as handcraft industry, food and drink industry, wood industry, rubber industry, and rattan plaiting industry . Concerning to this slow progress, the available data about the contribution of this sector in Gross Regional Domestic Product in 1978 noted 2.76% and it became 4.40% in 1981.

The growth of industry during the Third Five-Year Development had noted that there were 2,095 industries in 1978 and 2,520 industries in 1982. The detail about this progress can be seen on Table III.70, Chapter III.

The amount of workers employed in this sector during the Third Five-Year Development was noted 14,606 persons in 1978 and 35,203 persons in 1982, whereas the average -

productivity per person in 1978 is Rp 2,046,000 and became Rp. 2,901,000 in 1982. The detail of this progress can be seen on Table III.74, Chapter III.

The Sector of Energy.

In the Third Five-Year Development, the capacity of PLTA Riam Kanan had been increased from 20 megawatts to 30 megawatts. Besides, other effort to increase the production had been continued by building PLTD Trisakti which has the capacity of 2 X 2.1 megawatts in Banjarmasin. Since some cities in some regencies can not still be reached by PLTA Riam Kanan, the government has made use of diesel power to generate the electricity, and those diesel engines are located in :

- Tanjung with the capacity of 723 kilowatts
- Rantau with the capacity of 336 kilowatts
- Kandangan with the capacity of 672 kilowatts
- Kotabaru with the capacity of 611 kilowatts
- Barabai with the capacity of 992 kilowatts
- Amuntai with the capacity of 947 kilowatts
- Pleihari with the capacity of 200 kilowatts

T o t a l 4,482 kilowatts

The effort to increase the network and to build the rural electric station which is popularly called "Listrik masuk desa" had been continued in order to equal the results of development, to support the rural industry and to increase the working opportunity.

The result of the development activities done during

the First, the Second, and the Third Five-Year Developments have created a change in income per capita. The change in income per capita shows an increase which is in accordance with the aim of the development.

The increase in income per capita can be seen in the following table :

Table II.14

The Increase in Income per capita in South Kalimantan in 1969, 1973, 1978 and 1981

Five-Year Development Period :	In Current Prices Rp	In Constant Prices Rp
- The beginning of the First Five-Year Development, 1969 :	19,435.-	19,435.-
- The end of the First Five-Year Development, 1973 :	61,071.-	28,329.-
- The end of the Second Five-Year Development, 1978 :	108,062.-	69,946.-
- The end of the Third Five-Year Development, 1981 :	219,174.-	84,037.-

Source : Regional Income Group : Regional Income of South-Kalimantan Province in 1969, 1973-1975, and 1975-1981.

From the above table it could be seen that the regional income per capita in South Kalimantan Province is not only from the point of view of current price but also from the point of view of constant price from the First Five-Year Development to the next one, etc, which shows a continual

increase.

Directions of development in the Fourth Five-Year Development.

In the next five years period, the economy in South Kalimantan Province is still directed to the development - in the sector of agriculture by giving **any opportunity** to the sector of industry and the sector of mining to develop themselves more rapidly than the ones existing in the last five year period. With **this** strategy in mind, it is hoped that there will be any changes in the economic structure - which is reflected by the reducing role of the sector of agriculture and by the increasing role of the sector of mining and the sector of industry as well as their contribution to PDRB.

In the Fourth Five-Year Development, the second - regional development area which covers the east region with Kotabaru as its central development area will be more rapidly developed. This region will be developed by making new road ending in the border line of East Kalimantan Province and Sungai Kupang, developing Batu Licin Airport, mining - coal and enlarging the export commodity plants which is - carried out through the system of Public Nucleus Estate - which involves the transmigrants. Furthermore, the First - Regional Development Area with Banjarmasin as its centre - will be divided into two regional development areas, and they are the First Regional Development Area with Banjar - masin as **its** centre and the Third Regional Development Area with Kandangan as its centre. The Third Regional Develop-

ment Area will be the prominent supplying and exporting - basis of food stuff for South Kalimantan Province. Besides, it is also hoped that the Third Regional Development Area - can become the service centre which is able to serve both South Kalimantan Province and East Kalimantan Province.

2. Assesment of the trends of economic growth.

Then, another cause resulted from the development - activities is the structural economic change in South Kalimantan Province.

This economic structure can be devided into eleven - sectors which all show the Cross Regional Domestic Product of South Kalimantan Province. The eleven sectors can be re-grouped into three major sectors, and they are :

a. Primary Sector covering :

- Agriculture (in the broader sense)
- Mining

b. Secondary Sector covering :

- Industry
- Buildings

c. Tertiary Sector covering :

- Transport and Communication
- Others, such as :
 - Electricity and Drinking Water
 - Trade
 - Banking and Financial Institution
 - House Rent
 - Government and Security
 - Service

The components of the sectors mentioned above can be seen on the following table.

Table II.15

Percentage Contribution of the Primary, Secondary, Tertiary Sector to the Gross Regional Domestic Product at the end of the First, Second, and Third Five-Year Development

Period	Primary Sector	Secondary Sector	Tertiary Sector
The First Five-Year Development (1974)	45.71	5.69	48.60
The Second Five-Year Development (1978)	40.41	4.60	54.99
The Third Five-Year Development (1981)	35.80	7.15	57.05

Source : Processed from the Regional Income Group Data :

Regional Income of South Kalimantan Province 1969, 1973-1975, and 1975-1981.

From the table above it can be seen that during the First Five-Year Development till the end of the Third Five-Year Development (1981) there exists a change in economic structure of South Kalimantan Province where the Primary Sector's development activities show a decline while the Secondary's and the Tertiary's development show an increase. The change is in accordance with the National Development Design that is the efforts to free oneself from being dependent on the primary sector which, in this case, is agriculture

and to attempt step by step to develop the other sectors - especially the secondary sector which is closely related - with industry.

Basically the development activities carried out by - the region are meant to increase the income (welfare) - level of people.

The regional income figures seriously presented from year to year can give a general picture about the economic growth and income as the result of development. In that - case, the regional income figures can become a yardstick - for the production level, income level, economic growth - level and others found in the province concerned.

Regarding to the development of the Gross Regional - Domestic Product in South Kalimantan Province from 1975 - till 1982 can be seen on the next table.

Table II.16

Gross Regional Domestic Product in South Kalimantan Province
from 1975-1982

(thousand)

Year : based on current prices		: based on constant prices	
1975 :	119,529	:	119,529
1976 :	147,325	:	126,504
1977 :	202,053	:	144,093
1978 :	241,253	:	157,575
1979 :	316,413	:	161,964
1980 :	401,479	:	176,230
1981 :	515,991	:	197,918

Source : Published by the Regional Income of South Kalimantan
Province 1975-1981.

This table shows the development of the Gross Regional Domestic Product from 1975 till 1981 only. The reason why it started in 1975 was due to the fact that the Regional Income Group **made** the 1975 as the basic year because of the lowest inflation rate occurred this year and its scope is nearer to the current situation.

The table also shows that the Bruto Regional Domestic Product in South Kalimantan Province from 1975 till 1981, an irregularity in raise and a rather high in fluctuation with the average 8.7% a year based on a constant price of 1975.

The role of the sectors and sub-sectors towards the establishment of the Regional Domestic Product of South - Kalimantan Province based on the constant price of 1975 - from 1975 till 1981 can be seen on the following table :

Table II.17

Percentage Contribution of each sector to the Gross Regional Domestic Product of South Kalimantan Province based on the constant price of 1975 during 1975 till 1981

Sector	1975	1976	1977	1978	1979	1980	1981
1. Agriculture	44.22	43.39	43.98	40.11	40.78	37.95	35.02
2. Mining	0.34	0.33	0.30	0.30	0.37	0.46	0.78
3. Industry	2.69	2.55	2.70	2.76	3.26	4.80	4.40
4. Electricity, Gas, Drinking Water	0.39	0.45	0.49	0.57	0.67	0.69	0.66
5. Buildings	1.03	0.99	1.35	1.34	2.47	2.12	2.75
6. Trade, Restaurant & Hotels	22.03	21.17	19.79	20.94	19.46	22.46	22.84
7. Transport & Communication	8.29	8.85	9.42	10.57	11.37	12.44	12.50
8. Bank & Finance Institution	2.05	1.69	2.20	2.30	2.69	2.40	2.35
9. Rent	4.42	4.29	3.66	3.62	3.62	3.49	3.12
10. Government	7.25	6.51	7.54	8.78	7.07	7.33	8.13
11. Service	9.29	9.23	8.37	8.21	8.24	8.22	7.45
Total	100.	100.	100.	100.	100.	100.	100.

Source : The Regional Income Data of South Kalimantan Province

The table shows that in the establishment of the Regional Domestic Product of South Kalimantan Province the sector of agriculture played, in the broadest sense, the biggest role in the world, the second one is the sector of trade while the sector of industry only takes the sixth place from the existing eleven sectors.

It needs to be put forward that the sector of trade in the Regional Domestic Product of South Kalimantan Province only covers domestic trade yet this does not mean that the foreign

trade like exporting and importing trade does not exist in South Kalimantan Province.

The Export and Import Growth in South Kalimantan Province from 1972 till 1983 can be seen on the following table.

Table II.18

The Export and Import Growth in South Kalimantan Province -
from 1972 till 1983

		in US\$	
Year :	Export	:	Import
1972 :	26,684,506.57	:	206,384.18
1973 :	66,782,372.	:	1,007,823.57
1974 :	34,180,217.96	:	1,020,997.35
1975 :	61,600,386.57	:	1,331,397.35
1976 :	92,832,853.86	:	5,521,956.98
1977 :	127,901,235.79	:	29,267,687.63
1978 :	149,163,167.72	:	19,016,333.26
1979 :	276,346,566.10	:	24,677,453.86
1980 :	275,321,846.70	:	- *)
1981 :	171,928,754.30	:	36,988,120.57
1982 :	121,113,226,24	:	28,625,429,99
1983 :	102,175,474.39	:	- *)

Source: Trade & Commerce Regional Office of South Kalimantan Province.

*) no data

The table shows that the product which shows the highest export figure is Crumb Rubber (CR) and Ribbed Smoked Sheet (RSS) and logs, sawn timber and plywood. The highest import goods is the capital goods and then standard goods and finally the consumption goods.

The growth of the Gross Regional Domestic Product of South Kalimantan Province for each sector or sub-sector from 1975 till 1981 can be calculated from the available data taken from the Gross Regional Domestic Product of South Kalimantan Province during the period from 1975 till 1981 and which is based on the formula $P_t = P_o (1+r)^t$

Based on the result of the above mentioned growth calculation of each sector or sub-sector of the Gross Regional Domestic Product during the period from 1975 till 1981 the Gross Regional Domestic Product Projection up to 1990 is presented in the following table :

Table II.191
 Estimates of Regional Domestic Product of
 South Kalimantan Province during 1962 - 1990
 Based on Constant Price 1975

No.	FIELD OF WORK	Rate of Growth 1975 - 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
I.	Agriculture										
	1. Foodstuff plants	7.74	15,463.5	48,659.2	59,429.4	54,831.1	60,854.9	65,565.7	70,739.8	76,207.4	82,998.1
	2. People's plantation	3.74	5,319.4	2,821.7	5,534.3	2,771.3	2,987.2	6,511.1	6,443.4	6,754.4	6,534.4
	3. Cattle and their products	0.07	4,714.7	4,714.4	4,722.0	4,785.7	4,789.4	4,793.1	4,796.6	4,800.5	4,804.2
	4. Forestry	3.68	5,134.2	5,323.2	5,519.1	5,722.2	5,938.7	6,151.1	6,377.4	6,591.4	6,805.4
	5. Fishery and Saltine	2.51	12,516.2	13,322.4	13,756.8	14,099.6	14,351.0	14,711.2	15,080.4	15,459.0	15,847.0
II.	Mining and Excavation	24.89	1,571.4	3,323.6	2,587.8	3,724.6	4,655.7	5,611.7	7,244.8	9,056.1	11,374.6
III.	Industry										
	1. High and medium sized	21.49	5,674.0	10,542.9	12,808.6	15,512.2	18,424.3	22,028.0	27,923.9	33,934.4	41,155.8
	2. Small	7.88	1,629.1	1,617.9	1,961.1	2,115.6	2,282.4	2,462.2	2,556.2	2,650.2	2,744.2
IV.	Electricity and Gas and Drink										
	1. Electricity	15.92	1,373.5	1,642.3	1,969.4	2,311.7	2,632.3	3,064.4	4,072.9	4,854.3	5,917.2
	2. Drinking water	13.86	193.6	220.4	250.9	285.7	325.3	370.4	421.7	480.2	547.2
V.	Buildings	28.19	695.1	8,554.2	13,478.3	14,714.1	15,862.0	21,179.2	37,995.3	39,732.9	50,533.4
VI.	Trade, Restaurants and Hotels										
	1. Trade, wholesale and retail	15.87	2,739.6	2,645.2	3,089.8	3,471.6	4,042.8	4,794.6	6,063.6	5,502.2	6,947.2
	2. Restaurants	7.73	29,245.4	23,568.2	25,609.9	27,318.9	29,971.1	32,263.6	34,779.1	37,431.6	40,331.8
	3. Hotels	21.39	424.4	1,356.6	772.7	945.0	1,198.7	1,352.2	1,677.9	2,034.8	2,472.5
VII.	Transport and Communication										
	1. Land	17.68	11,453.8	13,678.8	15,861.9	18,666.1	21,946.4	25,850.1	30,420.4	35,798.8	42,128.0
	2. Sea	43.45	337.3	4,751.4	6,415	7,777.5	9,029.8	10,820.0	12,822.1	15,402.7	18,352.1
	3. Air	46.90	5,736.6	6,179.9	7,142.5	8,349.5	9,763.6	11,410.2	13,335.5	15,592.7	18,271.8
	4. River	8.61	6,742.3	7,320.7	7,821.0	8,233.6	8,570.1	8,934.6	9,263.7	9,576.3	9,884.2
	5. Additional Service	2.35	1,471.3	1,449.8	1,432.0	1,414.8	1,395.3	1,376.1	1,357.4	1,338.5	1,319.6
	6. Communication	28.84	1,437.3	1,856.2	2,423.1	3,164.2	4,084.0	5,233.9	6,806.6	8,941.6	11,749.2
VIII.	Bank and Finance Institution										
	1. Bank	12.47	4,282.8	4,845.9	5,417.6	6,093.3	6,853.0	7,707.6	8,668.7	9,749.7	10,961.1
	2. Other Finance Institution	6.76	904.2	963.4	1,030.6	1,100.3	1,174.7	1,254.1	1,338.9	1,428.4	1,517.2
IX.	House rent	2.65	6,343.8	6,511.9	6,684.4	6,861.6	7,043.4	7,230.1	7,421.7	7,618.3	7,820.7
X.	Government										
	1. Central	12.16	10,607.0	11,896.8	13,243.4	14,646.0	16,109.0	17,627.0	19,204.4	20,844.1	22,544.1
	2. Regional	9.22	7,258.8	7,520.0	7,799.0	8,077.3	8,362.3	8,653.7	8,951.7	9,255.9	9,566.7
XI.	Service										
	1. Social and Public	4.23	2,999.7	3,126.6	3,258.9	3,396.7	3,540.4	3,690.2	3,846.3	4,009.0	4,178.5
	2. Entertainment and culture	12.18	661.9	624.5	622.9	611.4	604.2	595.8	589.0	582.7	576.9
	3. Individual and household	4.73	11,471.4	12,222.2	12,558.8	12,881.2	13,207.9	13,526.1	13,845.0	14,155.3	14,461.6
	4. Industry / enterprises	3.49	322.9	334.2	345.0	357.9	370.7	384.3	398.7	413.5	428.8
	Total		217,755.2	240,597.4	267,007.9	292,971.8	323,301.7	377,658.2	427,375.6	492,503.0	563,256.2

Source : From the Regional Indikes Data of
 South Kalimantan

For the sake of comparing purposes, the following - description shows the projection of the economic growth - in the Fourth Five-Year Development in South Kalimantan - Province. And it can be seen as follows :

Based on the Concept of Capital Outline Ratio (COR) of Harrod-Domar Model, then the economic growth in South - Kalimantan Province up to 1989 will be estimated with the average speed of 6.2% each year. This is, of course, made through a moderat calculation for the investment carried - out by the government as well as the private side. The - government investment covers the regional as well as the national one whereas the private investment covers the foreign and the domestic one as well. The total investment will be estimated about 18.5% every year according to the PDRB and the stage of effeciency which is about 3 (COR) - through which the speed growth above is decided.

The figures will be probably be higher if the grand from the central government and the private investment - get higher, too. In other side, the process of production will be much more efficient. Predictably, the regional - income source itself won't get much progress. The speed growth of 6.2% will be placed upon the same sectors which don't have the same stage of growth.

The projection of the growth per sector can be seen on Table II.20 below :

Table II.20

Projection of the annual growth per sector from 1984-1990.

Sector	Growth/Year	Remark
Agriculture	4.6	
Food Plants	4.6	
Plantation	5.8	
Farming	6.0	
Fishery	4.8	
Forestry	4.5	
Mining	12.0	
Industry/Manufacture	12.5	
Buildings	10.0	
Transport/Communication	7.5	
Trade/Commerce	5.5	
Miscellaneous	5.5	
The average total	6.2	

Source: The Fourth Five-Year Planned Development, Book I

Based on the estimated growth in the sector of economy illustrated on Table II.20 above, therefore the change of structural economy in South Kalimantan Province by the end of the Fourth Five-Year Development will have been estimated like the one illustrated on Table II.21 below :

Table II.21

The Growth of Regional Economic Structure in South Kalimantan Province from 1984 - 1989

Economic activity	: Percentage to PDRB	
	: 1984 *	: 1989 **
Agriculture	:	:
- food plants	: 18.39	: 16.99
- plantation	: 2.97	: 2.92
- farming	: 1.47	: 1.46
- fishery	: 4.82	: 4.50
- forestry	: 3.64	: 3.33
Mining	: 1.26	: 1.64
Industry/Manufacture	: 5.90	: 7.87
buildings	: 3.75	: 4.47
Transport/Communication	: 15.97	: 16.97
Trade/Commerce	: 21.98	: 21.27
Miscellaneous	: 19.85	: 18.58

Source : The Fourth Five-Year Planned Development of South-Kalimantan Province, Book I.

* The estimation based on the 1981 data and the development attaining during 1975 - 1981 period.

**The calculation based on the target growth in the sector-of economy.

3. Population trend

3.1. Trend :

The number of population in Malimantan increases from year to year. This can be seen from the population trend from 1972 to 1982. The population trend according to age, sex and education can be seen on the next table.

3.1.1. The population trend according to age

The population trend in South Malimantan according to age from 1972 till 1982 can be seen on the following table

Table II. 22

47

The Population Trend in South Kalimantan
according to Age and Nationality 1972-1982

Year	Adult			Children			Total	Increase	
	Indonesian	Foreigner	Total	Indonesian	Foreigner	Total		Total	%
1972	936,941	3,438	940,379	751,121	3,487	754,608	1,724,987	-	-
1973	969,550	3,091	972,641	796,021	1,775	797,796	1,770,437	45,450	2.63
1974	981,243	3,350	984,593	818,501	2,481	820,982	1,805,575	30,138	2.15
1975	989,813	3,554	993,367	846,741	2,542	849,283	1,842,650	37,075	1.98
1976	1,000,425	2,900	1,003,325	854,729	2,635	857,364	1,860,689	18,039	0.98
1977	1,009,067	2,415	1,011,482	886,364	2,138	888,502	1,900,584	39,895	2.14
1978	1,028,920	2,822	1,031,742	888,375	2,228	890,603	1,922,345	21,761	1.14
1979	1,036,597	2,712	1,039,309	907,436	2,274	909,710	1,949,489	27,144	1.41
1980	1,153,183	2,463	1,155,646	972,939	1,818	974,757	2,040,403	90,914	4.66
1981	1,213,878	2,493	1,216,371	970,663	1,625	972,288	2,128,659	88,256	4.33
1982	1,250,792	2,730	1,253,522	927,684	2,118	929,802	2,183,324	54,725	2.57
Total	-	-	-	-	-	-	-	-	23.89
Average	-	-	-	-	-	-	-	-	2.389

Source: Statistic Office Kal-Sel

The table above shows that the population growth in South Kalimantan has increased at an average of 2,389 or conversed geometrically $P_t = P_0 (1 + i)^n$, used from 1972 on for the duration of ten years (till 1982) yearly, there is an increase of population by 2.385%.

By comparing it with the age group (children and adults) it appears that there are more adults than children which can be seen in the following table.

TABLE II,23

Rating of Children to Adults

Year	Rating of children to 100 adults
1972	53.44
1973	52.62
1974	53.69
1975	55.49
1976	55.45
1977	87.90
1978	66.32
1979	67.58
1980	75.64
1981	75.98
1982	71.17
Total	900.10
Average	82.37

Source : Statistic Office of South Kalimantan
(reprocessed)

3.1.2. Population Trend According to Sex

The population trend in South Kalimantan according to sex from 1972 to 1982 can be seen on the following table.

TABLE II,24

The Number of Population in South Kalimantan
According to Sex 1972 - 1982

Year	S E X		Total
	Man	Woman	
1972	859,324	867,610	1,724,934
1973	873,173	877,569	1,770,457
1974	892,451	899,124	1,809,575
1975	910,333	931,510	1,842,843
1976	921,494	959,209	1,860,693
1977	928,111	927,473	1,900,584
1978	937,630	934,634	1,922,372
1979	954,410	955,371	1,949,489
1980	1,009,400	1,050,337	2,060,403
1981	1,051,994	1,077,667	2,129,661
1982	1,070,311	1,105,073	2,185,384

Source : Statistic Office of South Kalimantan

From the table above it appears that there are more women among the people of South Kalimantan from 1972 till 1982 of which the average ratio between man and woman is 96.79 as can be seen on the next table

TABLE II . 25

Sex Ratio between the Total Number of man
against every 100 women in South Kalimantan

1972 - 1982

=====

Year	Sex ratio
1972	98.36
1973	97.31
1974	97.71
1975	97.64
1976	98.98
1977	98.44
1978	98.22
1979	98.91
1980	97.92
1981	97.65
1982	97.96
Total	1,004.73
Average	96.79

=====

Source : Statistic Office of South Kalimantan

3.1.3. Population Trend according to Education

The population trend in South Kalimantan according to education from 1980 till 1982 can be seen on the next Table.

TABLE III, 26

The total population of South Kalimantan based on Education 1980 - 1982

(1000)

YEAR	E D U C A T I O N							Total
	drop outs (SD)	Elementary (SL)	Junior High School (SMP)	Senior High School (SMK)	Diploma (D)	SI (S1)	Graduate	
1980	667	251	88	98	-	2	2	1,101
1981	729	309	93	82	-	3	2	1,200
1982	747	317	99	69	-	3	2	1,229

Source : Statistic Office South Kalimantan

From the table above it is obvious that the majority of the population of South Kalimantan is drop outs SD/Elementary (60.77 %) the rest 29.73 % elementary graduates.

(7.00 %) Junior High School graduates 9.19 % Senior High School graduates 0.26 % Bachelor graduates 0.18 % Master graduates and 0 % Diploma graduates.

3.2. The Unevenly Spreaded Population

The population data 1982 of South Kalimantan shows that the population's spread is not evenly among the ten Kabupaten/ Kota/kabupaten (regent/city) as can be seen in the following Table.

TABLE II . 27

Number of Population and Density of
South Kalimantan per regent / city 1982

Regent/city	Total number of population	Percentage (%)	Density
Tanah Laut	135,107	6.33	58.47
Kotabaru	236,455	10.97	91.27
Banjarnegara	333,370	15.23	94.36
Banimo Kuala	104,463	4.85	56.07
T a p i n	111,423	5.12	42.43
Hulu Sungai Sel.	175,370	8.11	103.77
Hulu Sungai Tengah	234,029	9.35	138.61
Hulu Sungai Ut.	245,377	11.26	80.92
Tabalong	127,354	5.81	32.28
Banjarmasin	400,140	18.33	2,335.62
Total	2,133,304	100	Average 64.62

Source : Statistic Office Prop. and Sel

In South Kalimantan although several regions have a high population density like Banjarmasin, Hulu Sungai Selatan, Hulu Sungai Tengah and Hulu Sungai Utara, is caused by a different in natural resources from the area concerned compared with the other area of which the population's density is very low. The population's density, especially in Banjarmasin is high because Banjarmasin appears to be the center of trading and industry in South Kalimantan. As a result there is rather a lot of vacancy and this attracts many people from other places looking for work so they settle in Banjarmasin.

While the region of Hulu Sungai Selatan, Tengah and Utara have a relatively higher population density than the other regions because these areas are land along the river which are fertile enabling suitable plants to grow well. The result is the growth of the industries which process the result of the plants like palm, rubber, coconut and others asking a lot of manpower.

This is one of the right answer to this unbalance situation of the population density. Areas with a low population density are :

1. Tanah Laut
2. Kabupaten Kutabaru
3. Barito Kuala
4. Tapin
5. Murung Raya

which are transmigration's sites, while Kabupaten Banjar of which the population density is very low is decided as sites **for** foreign tribes.

Transmigration and Culture

The social characteristic is specifically Indonesians as are the transmigrants in South Kalimantan, which is proven time by the existence of Gotong Royong (solidarity cooperation) in any undertaking problems or work, not only individual problems or work (family) but also public problems or group ones.

What this kind of problem all settlement's problems with their newly open area shows clearly this particularly characteristic known as gotong royong. As an example in clearing their land, the pay system is very rare in the transmigrant's community or does not exist at all. This kind of system is also force in carrying out other work i.e. in helping out, taking care of the harvest in the rice field and improving/ repairing the waterdams or cleaning and repairing the public road.

Another kind of gotong royong is also reflected in carrying out individual party ceremony's or National ones like wedding ceremony, circumcision, funeral and also on National Days.

The education of the children of the transmigrant's community, health and the family prove satisfying. There is a drawback though, i.e. lack of teachers, health and family planning officers. In the matter of religion, the majority of the transmigration's community in South Kalimantan are Moslems, then respectively Protestants, Catholics and Hindus.

The cultural assimilation seems to be rather slow this is due to the fact that each tribe wants to hold its own culture. So it is not surprising that in the meantime the tribe in transmigration's area and the new comers don't intermingle with the local people as then reject each other's culture.

This is obviously a matter of being ignorant of other people's culture while knowing only their own as the old saying says "unknown unloved" but starting from this proverb after meeting other tribes and know their culture then gradually begin to accept the other culture

This also holds true for the transmigrants at settlement in South Kalimantan, where up to the present the art of the transmigrant's community had undergone cultural assimilation i.e., the existence of Reog Gaya Baru (the new style Reog) i.e., a mixture Reog from East and Central Java. As for the language, it seems that the Banjarese living in the surrounding of transmigrant's settlement understand Javanese and vice versa.

As in the case of the language, intermarriage also occurs between the local people and those living in various location of the settlement project.

3.3. Population Projection up to 1990

Based on the population trend of South Kalimantan from 1972 up to 1982 based on growth 2.385 %, the population projection up to 1990 can be seen on the next table.

TABLE II, 28

Population Projection Trend of
South Kalimantan Selatan 1983 -1990

Year	Projection (person)
1983	2,255,556
1984	2,266,874
1985	2,278,404
1986	2,290,000
1987	2,301,660
1988	2,313,196
1989	2,324,156
1990	2,336,074

This projection is based on geometric $P_t = P_0 (1+i)^n$ with basic year 1972 (available data) discussed on the former page.

4. Analysis of Manpower Resources and Supply

4.1. The existing labor force

The potential of manpower will become an important factor of regional development. As for the development of manpower in the meaning of the total of population of over 10 years old in South Kalimantan in

accordance with the existing data i.e. 1978 till 1982 can be seen in the following data :

TABLE II , 29
Manpower Development in South Kalimantan
1978 up to 1982

Year	Number of person	Increase
1978	1,413,513	-
1979	1,437,339	3.11
1980	1,504,277	4.21
1981	1,542,339	2.54
1982	1,582,027	2.57

Source : Processed from Statistic Office Data
of South Kalimantan

The table above shows that during 1979 till 1982 there is a manpower increase with an average of 2.86 %.

The manpower increase in South Kalimantan from the point of view of age from 1978 up to 1982 can be seen in the following table.

TABLE II , 30
 Manpower Development in South Kalimantan
 according to the Age group 1978- 1982

Age group	1978	1979	1980	1981	1982
10-14	252,382	255,955	259,987	261,809	264,051
15-19	212,505	214,124	215,737	223,765	232,000
20-24	167,663	173,269	180,533	194,151	198,925
25-29	136,133	146,323	157,307	162,816	168,539
30-34	124,910	128,289	131,668	136,176	140,491
35-39	122,733	124,640	126,626	127,075	127,532
40-44	111,003	111,865	112,735	114,705	116,717
45-49	88,549	89,494	90,455	93,790	97,252
50-54	68,523	70,427	72,396	74,859	77,411
55-59	47,056	48,094	50,761	53,630	56,661
60-64	30,051	33,245	35,792	37,473	39,232
65	50,925	55,764	61,200	62,125	63,154
Total	1,413,313	1,457,295	1,504,097	1,542,355	1,582,022

Source : Processed from data of Statistic office of
 South Kalimantan.

The manpower of South Kalimantan according to
 sex ; male based on age group from 1978 till
 1982 is shown on the next Table .

TABLE II, 31
 Manpower Development in South Kalimantan
 according to sex : male and age group
 1978 - 1982

Age Group	1978	1979	1980	1981	1982
10- 14	128,175	131,130	133,633	134,414	135,198
15- 19	106,274	105,765	105,258	110,366	115,722
20- 24	80,755	84,590	88,606	91,540	94,572
25- 29	64,247	70,078	76,438	78,494	80,607
30- 34	58,665	62,072	65,678	67,452	69,260
35- 39	58,560	60,021	62,099	62,462	62,868
40- 44	53,998	54,555	55,118	56,067	57,032
45- 49	44,655	44,833	45,012	46,445	47,924
50- 54	39,965	36,509	37,062	38,034	39,031
55- 59	24,102	25,170	26,286	27,634	29,052
60- 64	14,940	16,399	18,000	18,899	19,824
65 +	23,484	25,745	28,343	28,795	29,312
Total	693,730	716,865	741,493	760,601	780,402

Source : Processed from data statistic office South Kalimantan.

During 1978 till 1982 there is a manpower increase based on sex : male in South Kalimantan by 2.99 % on the average.

Finally the Manpower Development in South Kalimantan according to sex : female and age group from 1978 till 1982 can be seen in the following Table.

TABLE II, 32

Manpower Development in South Kalimantan according to sex : female and age group from 1978 - 1982

Age Group	1978	1979	1980	1981	1982
10-14	123,707	124,335	125,954	127,395	128,853
15-19	106,231	108,359	110,529	113,399	116,344
20-24	86,908	93,679	100,977	102,651	104,353
25-29	71,886	76,245	80,869	84,322	87,923
30-34	66,245	66,217	66,190	68,664	71,231
35-39	64,683	64,625	64,567	64,616	64,664
40-44	57,005	57,310	57,617	58,642	59,685
45-49	43,894	44,661	45,441	47,345	49,328
50-54	32,558	33,918	35,334	36,825	38,330
55-59	22,994	23,724	24,477	25,996	27,609
60-64	15,951	16,846	17,792	18,583	19,408
65 +	27,471	30,021	32,857	33,328	33,842
Total	719,533	740,430	762,604	781,766	801,620

Source : Statistic Office of South Kalimantan

During 1978 till 1982 the increase of manpower based on sex : female in South Kalimantan is 2.74 % average.

The development of labor force in South Kalimantan in accordance with the available data 1978 till 1982 can be seen in the following Table.

TABLE II, 33
Labor Force Development in South Kalimantan
from 1978 till 1982

Year	Total (person)	Increase %
1978	716,604	-
1979	740,754	3.37
1980	769,012	3.81
1981	792,679	3.08
1982	809,092	2.07

Source : Statistic Office of South Kalimantan

As can be seen in the table above, there is an increase of labor force in South Kalimantan from 1978 till 1982 by 3.08 % on the average.

The labor force development in South Kalimantan from 1978 till 1982 can be seen in the next Table.

TABLE II, 34

The Labor Force Development in South Kalimantan
according to age group from 1978 to 1982

Age Group	1978	1979	1980	1981	1982
10 - 14	25,335	25,121	25,455	24,387	23,300
15 - 19	33,646	33,481	34,744	37,183	39,693
20 - 24	93,510	99,174	105,300	107,625	112,000
25 - 29	86,259	93,395	101,151	104,663	108,316
30 - 34	82,229	85,573	89,140	92,113	95,185
35 - 39	84,828	87,133	89,448	90,156	90,875
40 - 44	80,223	81,257	82,254	83,999	85,779
45 - 49	63,007	64,503	65,201	67,760	70,423
50 - 54	48,595	49,595	50,755	52,363	54,034
55 - 59	29,800	30,745	31,651	33,114	34,649
60 - 64	17,796	19,186	20,695	21,429	22,196
65 +	20,016	21,521	23,158	22,887	22,640
Total	716,604	740,754	769,012	792,679	809,092

Source : Statistic Office of South Kalimantan

The labor force development in South Kalimantan according to sex : male and age group from 1978 till 1982 can be seen in the next Table .

TABLE II, 35

The Labor Force Development in South Kalimantan
according to Sex : Male and Age Group from
1973 till 1982

Age Group	1978	1979	1980	1981	1982
10 - 14	13,897	13,113	13,363	12,769	12,168
15 - 19	51,458	49,868	49,629	51,519	53,475
20 - 24	64,596	67,520	70,725	73,067	75,487
25 - 29	59,827	65,116	70,366	72,772	74,731
30 - 34	55,433	58,490	61,731	63,398	65,097
35 - 39	55,397	57,129	58,888	59,270	59,655
40 - 44	50,877	51,238	51,579	52,467	53,371
45 - 49	41,632	41,654	41,672	42,999	44,368
50 - 54	32,397	32,767	33,130	33,995	34,890
55 - 59	19,993	20,710	21,449	22,323	23,233
60 - 64	11,589	12,611	13,727	14,232	14,755
65 +	13,591	14,565	15,611	15,385	15,178
Total	470,687	484,780	502,370	524,196	526,408

Source : Statistic office in South Kalimantan

During 1978 till 1982 the labor force increase according to sex : male and age group in South Kalimantan by 2.84 % on the average.

The labor force development in South Kalimantan according to sex : female and age group from 1978 till 1982 can be seen in the following Table

TABLE II , 36

The Labor Force Development in South Kalimantan
according to sex : female and age group
from 1978 till 1983

Age Group	1978	1979	1980	1981	1982
10 - 14	11,938	12,008	12,092	11,618	11,132
15 - 19	32,188	33,613	35,115	35,664	36,218
20 - 24	28,914	31,654	34,635	35,558	36,513
25 - 29	26,432	28,279	30,287	31,891	33,587
30 - 34	26,796	27,683	27,409	28,715	30,088
35 - 39	29,431	30,005	30,560	30,886	31,220
40 - 44	29,346	30,019	30,675	31,532	32,408
45 - 49	22,175	22,849	24,761	24,761	26,055
50 - 54	16,198	16,898	17,625	18,368	19,144
55 - 59	9,867	10,035	10,202	10,791	11,416
60 - 64	6,207	6,575	6,968	7,197	7,441
65 +	6,425	6,956	7,547	7,502	7,462
Total	245,917	255,974	266,642	274,483	282,684

Source : Statistic Office South Kalimantan

During 1978 till 1982 , there is a labor force increase based on sex : female in South Kalimantan with an average of 3.45 %.

Volume employment can be seen in the labor participation rate i.e., a ratio between the labor force and manpower expressed in percentage

Based on the meaning above, from manpower table and labor force the labor participation rate can be seen in the following Table, by calculate according to age group from 1978 till 1982.

TABLE II, 37
 The Labor Participation Rate Development in South
 Kalimantan according to Age Group from 1978 - 1982
 (percentage)

Age Group	1978	1979	1980	1981	1982
10 - 14	10.24	9.81	9.79	9.31	8.32
15 - 19	39.36	38.27	39.27	38.96	38.65
20 - 24	52.77	55.07	55.57	55.94	56.30
25 - 29	63.36	63.83	64.30	64.28	64.27
30 - 34	65.83	66.70	67.60	67.67	67.75
35 - 39	69.12	69.90	70.64	70.94	71.26
40 - 44	72.27	72.64	72.96	73.23	73.49
45 - 49	72.06	72.08	72.08	72.25	72.41
50 - 54	70.92	70.22	70.11	69.95	69.80
55 - 59	63.40	62.83	62.35	61.74	61.15
60 - 64	57.61	57.71	57.82	57.18	56.58
65 *	39.30	38.59	37.84	36.84	35.85
Total	50.70	50.83	51.13	51.39	51.14

Source : Statistic Office of South Kalimantan

Besides what has been forward, it needs to be mentioned again that the labor force distribution in South Kalimantan based on the field of work from 1978 till 1982 can be seen in the next Table .

TABLE II ,38

Labor Force Development according to Field of
work in South Kalimantan from 1978 till 1982.

No ; Field of work	1978	1979	1980	1981	1982
01 : Agriculture, fo- restry, Labor, Fi- shery	447,018	454,304	464,022	471,565	474,613
02 Mining and Exca- vation	10,749	12,074	13,304	14,030	14,725
03. Managerial Industry	44,429	48,298	52,524	55,250	57,446
04. Electricity, gas, and drink-water	573	519	578	555	566
05. Buildings	13,400	14,741	15,995	17,173	17,860
06. Whole trade, retail er and restaurants	84,918	90,224	96,434	101,620	105,910
07. Freight, warehousing and communication	18,417	19,037	19,764	20,610	21,198
08. Finance, insurance, Rental building, en- terprise, land, com- pany service	3,941	4,519	4,845	5,232	5,502
09. Public Service	88,716	94,594	101,355	106,536	110,927
10. Other activities	4,443	2,444	231	238	243
T o t a l	716,604	740,754	769,012	792,679	809,092

Source : Statistic Office South Kalimantan.

Labor force distribution at Rural and Urban areas

in accordance with the available data in South Ka-
l imantan from 1979 till 1982 can be seen in the
next Table .

TABLE II, 39

The Labour Force Distribution Based on Rural and Urban Areas in South Kalimantan from 1979 till 1982

Year	Rural	Urban	Total
1979	445,361	295,393	740,754
1980	473,390	295,122	768,512
1981	524,327	260,352	792,679
1982	544,428	264,564	809,092

Source : Processed data from Statistic Office and Kanwil Ditjen Binaguna Kalimantan Selatan

In accordance with what had been put forward, Pelita IV in South Kalimantan is divided into three regions for development with Growth Centers in Banjarmasin, Kotabaru and Kandangan..

As far the labor force distribution at the three growth centers without any available but the data about manpower at the three regions for development from 1980 till 1982 can be seen on the next Table.

TABLE II, 40

Manpower Distribution at the regions for Development Kalimantan Selatan from 1980 till 1982

No :	Region	1980	1981	1982
01	Banjarmasin	241,386	247,421	253,606
02	Kotabaru	122,379	125,194	128,073
03	Kandangan	127,552	128,955	130,374

Source : Kanwil Ditjen Binaguna Prop.Kalsel

4.2. Projection of the Labor Force

Based on available data as have been explained make labor force in South Kalimantan can be projected till 1990.

Projection on labor force according to sex based on the degree of development (by 2.84 % male and 3.45 % female per year) from 1983 from 1990 can be seen in the following Table.

TABLE IV, 41

Labor Force Projection Base on Sex : Male and
Female from 1983 till 1990

			(person)
Year	Male	Female	Total
1983	541,358	292,436	833,794
1984	556,732	302,526	854,258
1985	572,544	312,963	885,507
1986	588,804	323,760	912,564
1987	605,536	334,930	940,456
1988	622,723	346,485	969,208
1989	640,408	358,438	998,846
1990	658,596	370,805	1,029,401

As for the projection of labor force according to sex but the following is presented the projection made by the Statistic Head Bureau in Jakarta, from 1983 till 1990.

TABLE II, 42
 Labor Force Projection Based on Sex Type
 Kalimantan Selatan from 1983 till 1990

(1,000 persons)

Year	Man	Woman	Total
1983	565.0	328.3	893.3
1984	578.1	334.4	912.5
1985	591.6	340.6	932.2
1986	605.3	347.1	952.4
1987	619.1	353.1	972.2
1988	633.3	359.2	992.5
1989	647.8	365.7	1,013.5
1990	662.6	372.2	1,034.8

Source : Work Generation Projection Statistic Central Bureau Indonesia 1983 - 2001 page 29, 33 and 37.

From the two projection figures it is obvious that the projection figure from the Statistic Central Bureau in Jakarta from 1983 till 1990 is higher than the projection figure which has been calculated.

CHAPTER III

SECTORAL COMPONENT OF AGRO INDUSTRY AND MANUFACTURING

1. Assessment and Identification of Agro-Industry Projects :
Food Crops - Based Industries

Food crops grown in South Kalimantan area are still dominated by rice. In 1982 the composition of the area of planting of food crops in this area is 89.98 % rice, 5.51 % second crops, 3.33 % fruit trees, and 1.19 % vegetables and the yield of each crop mentioned above is 89.49 % rice (dry unhulled rice) , 5.30 % second crops, 4.11 % fruits and 1.10 % vegetables. (Table III.1.)

Table III.1. Production and Area of Planting of Food-crops in South Kalimantan in 1982

Kind of food crops	Production		Area of Planting	
	: Ton	: %	: Ton	: %
Rice	: 684,129	: 89.49	: 286,139	: 89.98
<u>Second crops</u> *	40,544	: 5.30	: 17,506	: 5.51
-cassave	: 30,856	:	: 5,261	
-maize	: 4,027	:	: 5,050	
- peanuts	: 5,049	:	: 6,264	
- soybeans	: 572	:	: 933	
- fruits	: 31,449	: 4.11	: 10,974	: 3.33
- vegetables	: 8,287	: 1.10	: 3,767	: 1.19
T o t a l	: 764,509	: 100.00	: 317,938	: 100.00

Source : Dinas Pertanian Tanaman Pangan Prop.Kal.Sel.

* : In terminology of the Ministry of Agriculture are called "Palawija" which is consist of : cassave, maize, peanuts, soybeans, greenpea and sweet potatoes.

All foodcrops in the area are grown by famers individually In this area there are neither private nor government enterprise engaged in food crops production.

To increase the production of rice and other food crops, the intensification program (SIMAS, INMAS, INSUS) should be included. To develop the second crops (and vegetables) the farm management should be oriented to market demand. The industries relate to food crops aren't fully developed yet.

1.1. Rice Crop

1.1.1. The Development of Rice Production in 1973-1982

As we have explained above that there are not-private or government enterprises in rice production. The average area of rice planting are 0.75 ha each farmer with the range of 0.5 to 3 ha.

Rice production in this region come from 'sawah barat' (irrigated or unirrigated rice field), "sawah-timur" (swamp land), "sawah pasang surut" (tidal swamp land) and "ladang" (upland). The development of rice production from 1973 to 1982 is shown in Table III.2

Table III.2
The Development of Rice Production in South Kalimantan
in 1973 - 1982

Year	The area of planting (ha)	The production in dry unhulled rice (ton)
1973	: 228.104	: 413.682
1974	: 243.052	: 461.516
1975	: 253.829	: 442.594
1976	: 253.505	: 463.052
1977	: 258.481	: 454.864
1978	: 273.237	: 531.131
1979	: 274.495	: 541.720
1980	: 287.904	: 609.507
1981	: 293.202	: 670.325
1982	: 286.139	: 684.129

Source : Dinas Pertanian Tancunan Bangun Prop.Kal-Sgl

1.1.2 : Available Area for Rice Crop

Rice production can be increased by intensification of the existing rice area and by extensification. In South Kalimantan the intensification shows successfully only in the "Sawah Barat" due to the fact that the water can be controlled. The extensification will be done in the limited area for sawah barat, and in the tidal swamp or upland transmigration location. The estimate area for extensification is 5,000 ha in the tidal swamp land, and 15,000 ha in upland. (See map 2)

1.1.3 . Consumption of Rice 1972 - 1982

South Kalimantan is one of the rice surplus province in Indonesia, before PERUDA I (Five Years Development Planning). The consumption of rice (unhulled rice) per capita about 233 kg per year. The amount of rice consumed in South Kalimantan can be seen in Table III.3.

TABLE III.3

The Development of Rice Consumption In South Kalimantan
in 1972 - 1982

Y e a r	Consumption (ton unhulled rice/ year)
1972	401,910
1973	412,524
1974	420,699
1975	429,339
1976	433,541
1977	442,836
1978	447,906
1979	454,231
1980	475,414
1981	495,978
1982	508,729

Source : Dinas Pertanian Tanaman Pangan Prop. Kal-Sel

1.1.4. Trade/Demand

It seemed that rice production in South Kalimantan exceed local demands. In 1982 we can see the surplus in the following calculation :

- Rice production in 1982	684,129 tons
- Need for :		
a. Consumption *	508,729 tons
b. Seed for plantings**		8,584 tons
c. Buffer stock ***		34,207 tons
		<u>631,520 tons</u>
Surplus	32,609 tons

* Population of South Kalimantan is 2,183,384 and the consumption per capita is 233 kg per year.

** The rice field is 286,139 ha and 30 kg seeds are needed per ha

*** The buffer stock calculated is 5 % from total production.

This province so far has supported other region, particularly Central and East Kalimantan and also for the national stock.

1.1.5. Projection of Rice Production in 1982 - 1990

Projection of rice production in South Kalimantan is shown in Table III.4. This projection based on the national program in developing of the foodstuff self sufficient and income.

TABLE III.4
Projection of Rice Production in South Kalimantan
in 1982 - 1990

Year	:	Production (ton)
1982	:	684,129
1983	:	718,336
1984	:	754,252
1985	:	791,965
1986	:	831,563
1987	:	873,111
1988	:	916,730
1989	:	962,638
1990	:	1,010,770

1.1.6. Existing Commercial Rice Industries

The farmers bring their grains to rice mill factory. In 1982, the situation of rice mill factory in South Kalimantan can be seen in Table III.5.

TABLE III.5
Type of Rice Mill in South Kalimantan

Type of rice mill	Total	Potential capacity (ton/hour)
- Big rice mill factory	11	9.20
- Small rice mill factory	1,017	336.63
- Rice mill unit	34	9.65
- Rice mill type Engelberg	17	4.62

Source : Dinas Pertanian Tanaman Pangan Prop.Kalsel

1.1.7. Possibilities to Develop Rice Industries up to 1990

The possibilities of developing in rice industries in shown in Table III.6. With the assumption that there is no addition of new rice mills and their activities 200 work days per year for 8 hours a day, there will be a surplus 49,837 tons of unhulled rice by 1990. It means there is a possibility to build new rice mills in South Kalimantan.

TABLE III.6
Possibility of Rice Mill Establishment in South Kalimantan

Year	Projection of production (ton)	Potential capacity of existing industry: (ton)	Situation of raw material (ton)
1983	718,336	360,435 tons of rice/ hour	-242,597
1984	754,252	or	-202,681
1985	791,965	or	-168,968
1986	831,963	576,56 tons of rice/ year	-129,370
1987	873,141	or	- 87,792
1988	916,798	or	- 44,135
1989	962,638	960.933 tons of un- hulled rice/year	+ 1,705
1990	1,010,770	hulled rice/year	+ 49,837

1.2. Cassave

1.2.1. The Development of Cassava Production 1973 -1982

Cassave occupies the second largest of food crops after rice. The development of cassava from 1973 up to 1982 is shown in Table III.7

TABLE III.7
Production and Area of Cassava in South Kalimantan
1973 - 1982

Year	Production (ton in fresh cassava)	Area (ha)
1973	21,584	3,264
1974	23,747	2,754
1975	23,616	2,624
1976	21,475	3,039
1977	21,560	3,238
1978	20,197	4,075
1979	32,341	5,260
1980	32,317	5,142
1981	43,935	7,050
1982	30,896	5,261

Source : Dinas Pertanian Tanaman Pangan Prop.KalSel

In 1982 the cassava production more lower than in 1981 due to the long dry season. Mostly cassava in South Kalimantan are grown by Jvaneese transmigrants.

1.2.2. Available Area for Cassava Crop

The potential area for cassava crop can be seen on Map 1., especially in the upland transmigration area. Usually each transmigrant family got 2 ha land consist of 0.25 ha backyard and 1.75 ha for food and plantation crops. Commonly they grow cassava in the backyard or in the field crops. In the attractive price situation there is not any difficulties to develop the cassava for industries. For about 5,000 ha of land in Sebanban transmigration area are very potential for planting cassava.

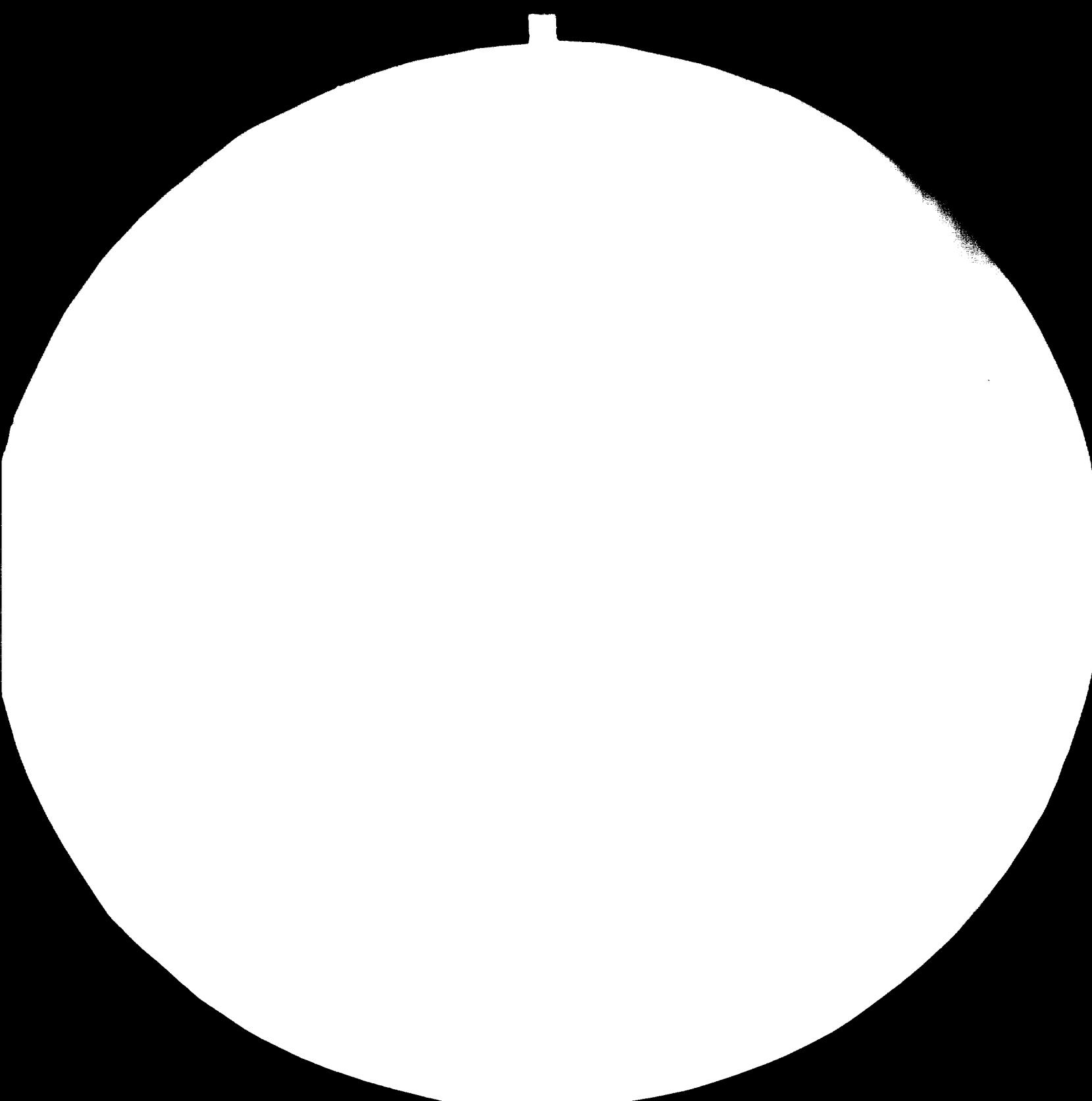
1.2.3. Consumption of Cassava 1973 - 1982

Data on cassava consumption are not available officially.

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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS
STANDARD REFERENCE MATERIAL 1010a
(ANSI and ISO TEST CHART No. 2)

1.2.4. Trade / Demand

Mostly cassava are produced by transmigrant farmers and are used for their consumption or sold locally. Recently the demand for this product is rather low.

The Javanese farmers use this cassava to make "goplek" (sundried cassava) as their staple food. There is a tapioca factory at Tanah Laut but has not functioned yet.

1.2.5. Projection of Cassava Production 1983 - 1990

Projection of cassava production in South Kalimantan will be increased from 1983 up to 1990. This projection based on the national program in developing the non petroleum commodity export, farmers income and diversification of food crops. Projection of cassava production in South Kalimantan from 1982 up to 1990 is shown in Table III.8.

TABLE III.8

Projection of Cassava Production in South Kalimantan
1982 - 1990

Year	Production (ton)
1982	30,896
1983	32,024
1984	33,193
1985	34,404
1986	35,660
1987	36,961
1988	38,311
1989	39,709
1990	41,158

1.2.6. Existing Commercial Cassava Industries

In general there are no industries involved in the processing of cassava. In South Kalimantan there are in fact already a cattle feed industry which use cassava as raw material but has not functioned yet. Several industries that use cassava as raw materials is shown in Table III.9

TABLE III.9

Cassava Industries in South Kalimantan

Kind of industry	Founded (in year)	Capacity (ton/year)	: Remark
-Cattle feed/ cassava pellet	1978	9.60 ton pellet per hour, or 11,52 ton pellet per year	: Not run very well
- Tapioca	1983	960 ton per year	: Not operation yet.

Source : Dinas Petanian Tanaman Pangan Prop.Kalsel

There are two units of cassava industries which are located in Tanah Laut. the cassava pellet and the Tapioka factories. The cassava pellet factory founded in 1978 are not run very well because of the management problem, and the Tapioka factory founded in 1983 are not in operation yet.

1.2.7. Possibilities to Develop the Cassava Industries up to 1990

With the assumption that there are no additional new cassava industries built and the existing industries run at this full capacity, it seems that the projection of cassava production has not fulfilled the need of the cassava industry by 1990. Possibility of the cassava industry in South Kalimantan is shown in Table III.10.

TABLE III.10
Possibilities to Establish Cassava Industries
in South Kalimantan

Year	Projection of production (ton)	Existing of poten- tial industry (ton)	Situation of raw material (ton)
1983	: 32,024	: 12,480 tons/year	: - 9,576
1984	: 32,083	: or	: - 8,407
1985	: 33,493	: 41,600 tons/year	: - 7,196
1986	: 35,660	: in fresh cassava	: - 5,940
1987	: 35,961	:	: - 4,639
1988	: 38,341	:	: - 3,289
1989	: 39,701	:	: - 1,891
1990	: 41,158	:	: - 442

The total potential capacity of the present cassava industries in full capacity is about 12,480 tons which need 41,600 tons fresh cassava per year. It means that in 1990 the existing cassava industries are still lack of 442 tons raw material.

But if we look at the available potential area, as mentioned above, it is possible to build the new cassava industry in South Kalimantan.

1.3. Maize

1.3.1. The Development of Maize Production in 1973-1982

There are not private nor government enterprise that undertakes the production of maize. Maize crops in this area are produced by individual farmer spreading throughout South Kalimantan. The biggest harvest comes from "lebak" (swamp area) during the long dry season and in upland transmigration's area. The production and area of maize in South Kalimantan is shown in Table III,11

TABLE III,11
Production and Area of Maize in South Kalimantan
1973 - 1982

Year	Production (ton dry kernel)	Area (ha)
1973	1,914	2,412
1974	1,345	2,126
1975	1,205	1,253
1976	1,109	2,516
1977	1,316	3,458
1978	3,109	6,674
1979	5,110	7,270
1980	3,819	5,571
1981	4,098	6,352
1982	4,027	5,050

Source : Dinas Pertanian Tanaman Pangan Prop.Kalsel

1.3.2. Available Area for Maize Crop

The potential area for maize crop spreading in the upland transmigration's area throughout South Kalimantan. It is feasible to develop maize in an estate due to the poor of soil nutrients.

1.3.3. Consumption of Maize 1973-1982

Data on maize consumption are not available officially.

1.3.4. Trade / Demand

The maize is used for local consumption or to be sold locally. The maize production in South Kalimantan is far from sufficient. For cattle feed is still imported from Java.

1.3.5. Projection of Maize Production in 1982 - 1990

Projection of maize production in South Kalimantan from 1982 up to 1990 is shown in Table III.12. This projection based on the national program in developing the diversification of food crops, farmers income and cattle feed.

TABLE III.12

Projection of Maize Production in South Kalimantan
1982 - 1990

Year	Production (ton)
1982	4,027
1983	4,309
1984	4,611
1985	4,933
1986	5,279
1987	5,643
1988	6,043
1989	6,467
1990	6,919

1.3.6. Existing Commercial Maize Industries

In general maize is only used for daily consumption. There are no industries in South Kalimantan dealing with the maize product.

1.3.7. Possibilities to Develop Maize Industries up to 1990

The projection of maize production by 1990 would be just absorbed by local needs.

1.4. Peanuts

1.4.1. The Development of Peanut Production in 1973-1982

There are no private nor government enterprise that undertakes the production of peanuts. Peanuts in this area are produced by individual farmer spreading throughout South Kalimantan. Mostly the peanuts developed by transmigrants in the upland area. The production and area of peanuts in South Kalimantan is shown in Table III.13 below

TABLE III.13
Production and Area of Peanuts in South Kalimantan
1973 - 1982

Year	Production (ton dry seed)	Area (ha)
1973	1,338	1,718
1974	946	1,302
1975	1,835	2,005
1976	3,224	3,710
1977	3,854	5,126
1978	5,536	6,464
1979	3,123	4,274
1980	3,039	4,081
1981	5,046	5,855
1982	5,049	6,264

Source : Dinas Pertanian Tanaman Pangan Prop.KalSel

1.4.2. Available Area for Peanuts

The same problem with maize crop development. The potential are for peanuts spreading in the upland transmigration area. It's not feasible to develop peanuts in an estate due to the poor of soil nutrients.

1.4.3. Consumption of Peanuts 1973 - 1982

Data on peanuts consumption are not available officially.

1.4.4. Trade / Demand

The peanuts is used for local consumption or to be sold locally. The peanut production in South Kalimantan is far from sufficient. To fullfill the demand of peanuts, this province is still imported from Java.

1.4.5. Projection of Peanuts Production 1982 - 1990

Projection of peanut production in South Kalimantan from 1982 up to 1990 is shown in Table III.14. This projection based on the national program in developing the diversification of food crops and farmers income.

TABLE III.14

Projection of Peanut Production in South Kalimantan
1982 - 1990

Year	Production (ton)
1982	5,049
1983	5,756
1984	6,562
1985	7,480
1986	8,528
1987	9,721
1988	11,084
1989	12,634
1990	14,403

1.4.6. Existing Commercial Peanut Industries

Peanuts are used mainly for daily local consumption. There is no peanut industry in this region

1.4.7. Possibilities to Develop Peanut Industries up 1990

The peanut production in South Kalimantan would be only absorbed by local needs.

1.5. Soybeans

1.5.1. The Development of Soybean Production 1973-1982

There are no private nor government enterprise involved in the production of soybeans. Soybeans in this area are produced by individual farmer, especially on upland transmigration areas. The production and area of soybean in South Kalimantan is shown in Table III.15

TABLE III.15

Production and Area of Soybean in South Kalimantan
1973 - 1982

Year	Production (ton dry seed)	Area (ha)
1973	306	489
1974	321	486
1975	259	362
1976	302	483
1977	246	423
1978	388	662
1979	454	704
1980	444	700
1981	491	827
1982	572	983

Source : Dinas Pertanian Tanaman Pangan Prop.KalSel

1.5.2. Available Area for Soybeans

The same problem as maize and peanuts. The potential area for soybeans spreading in the upland transmigration area. It is not feasible to develop soybeans in an estate due to the poor of soil nutrients.

1.5.3. Consumption of soybeans are not available officially.

1.5.4. Trade / Demand

Soybeans are just for local consumption or to be sold locally. The soybean production in South Kalimantan is no sufficient for local consumption and so it has to be imported from outside (Java)

There are home industries processed soybeans to make "Tahu" (beancurd) , "tempe" (soybean permentation cake) , and " kecap " (soybean sauce)

1.5.6. Projection of Soybean Production 1982 - 1990

Projection of soybean in South Kalimantan from 1982 - 1990 is shown in Table III.16. This projection based on the national program in developing the diversification of food crops, farmers income and home industries.

TABLE III.16

Projection of Soybean Production in South Kalimantan
1982 - 1990

Year	Production (ton)
1982	572
1983	609
1984	648
1985	691
1986	736
1987	784
1988	835
1989	889
1990	947

1.5.6. Existing Commercial Soybean Industries

Soybean is generally used in home industry processed into tahu (beancurd) , tempe (soybean fermentation cake) and kecap (soybean sauce). The soybean industry is shown in Table III.17

Table III.17
Soybean Industries in South Kalimantan

Description	Kecap	Tahu
1. Registered	33	22
2. Operating	31	21
3. Production	253,512 litres	4,895,802 pieces
4. Value	41,829 million rupiahs	73,437 million rupiahs
5. Marketing	l o c a l	l o c a l

Source : Dinas Pertanian Tanaman Pangan Prop.KalSel

1.5.7. Possibilities to Develop Soybean Industries up to 1990

The soybean production by 1990 would be only absorbed by soybean industries already exist in South Kalimantan.

1.6. Vegetables

1.6.1. The Development of Vegetables Production 1973-1982

There are no private nor government companies involved in the production of vegetables. The area of cultivation of vegetables grows steadily overtime on agricultural land, the alluvial plain and upland transmigration area. The production and area of vegetables in South Kalimantan is shown in Table III.18

Table III.18

Production and Area of Vegetables in South Kalimantan
1973 - 1982

Year	Production (ton fresh vegetable)	A r e a (ha)
1973	3,987	2,200
1974	4,999	2,480
1975	5,022	3,322
1976	6,687	2,672
1977	6,383	3,817
1978	18,701	4,556
1979	22,884	6,148
1980	18,422	4,964
1981	18,584	4,551
1982	8,387	3,767

Source : Dinas Pertanian Tanaman Pangan Prop.Kalsel

In South Kalimantan there is a marketing problem, due to the limited consumption, bad transportation, and in fact that vegetables are perishable. In 1982, the production was decline due to long dry season (unirrigated, unwater well)

1.6.2. Available Area for Vegetable Crops

In the agronomic view, it is not difficult to develop the vegetable crops in South Kalimantan. But the problem, as have mentioned above is the marketing. It is not feasible to develop the vegetable crops in an estate due to the poor of soil nutrients. The alluvial plains and upland area are very potential for vegetable crops.

1.6.3. Consumption of Vegetables 1973 - 1982

Data consumption of vegetable are not available officially. With the assumption that all the vegetable production in South Kalimantan in 1982 consume by the people of this province, the average consumption per capita are 3.84 kg per year, far more lower than normal need. For Indonesian 54.75 kg to get good health.

1.6.4. Trade/ Demand

Vegetables are used for local consumption or to be sold locally. The vegetables that is produced in South Kalimantan is far from sufficient and some of vegetables such as cabbage, tomato, garlic, etc was imported from Java.

1.6.5. Projection of Vegetable Crops Production 1982-1990

Projection of vegetable crops production in South Kalimantan is shown in Table III.19. This projection based on the national program in developing the diversification of food crops, farmers income and non petroleum commodities export.

TABLE III.19

Projection of Vegetable Crops Production
in South Kalimantan
1982 - 1990

Year	Production (ton)
1982	8,327
1983	9,033
1984	9,728
1985	10,477
1986	11,224
1987	12,153
1988	13,089
1989	14,057
1990	15,182

1.6.6. Existing Commercial Vegetable Industries

Vegetable are mainly used for daily consumption. There are no industries using vegetable as their raw materials.

1.6.7. Possibilities to Develop Vegetable Industries up to 1990

The vegetable crops production in South Kalimantan by 1990 would be absorbed by local needs.

2. Assessment and Identification of Agro-Industrial Projects: Plantation Crops - Based Industries

The area of plantation crops in 1982 in South Kalimantan is 143,591 ha. The composition of the area based on the status of the owners are as follows :

	A r e a (ha)	%
- Small holder estate	130,660	91.00
- State estate	8,977	6.25
- Private estate	3,954	2.75
	143,591	100.00

The composition of the area based on the type of crops are as follows :

	A r e a (ha)	%
- Rubber	89,948	59.20
- coconut	43,991	30.64
- Clove	8,430	5.83
- Coffee	5,697	3.97
- Rosellas	336	0.23
- Cocoa	161	0.11
- Sugarcane	28	0.02
T o t a l	143,591	100.00

The composition of the area based on the type of crops and owners is shown in Table III.20.

In order to fulfill the local and the national consumption, and especially to encourage the sector of non petroleum income, the development on the subsector of plantation crops integrated programs has been planned. These, include the system of complete credit package, the integrated executing in the products such as the product processing and even the marketing.

Table III.20 : Composition of The area based on the type of
crops and owners

91

No:	Status of the owner	Rubber (ha)	Coconut (ha)	Clove (ha)	Coffee (ha)	Rosella (ha)	Cocoa (ha)	Sugar cane (ha)	Total	
									ha	%
1.	Private Estate	3,783 (4.45%)	70 (0.16 %)	76 (0.90 %)	25 (0.44 %)	-	-	-	3,954	2.75
2.	State Estate	8,977 (10.57 %)	-	-	-	-	-	*)	8,977	6.25
3.	Smallholder	72,188 (84.98%)	43,921 (99.84%)	8,354 (99.105)	5,672 (99.56%)	336 (100.00%)	161 (100 %)	28 (100%)	130,660	91.00
		ha 84,948	43,991	8,430	5,697	336	161	28	143,591	-
		% 59.20	30.64	783	3.97	0.23	0.11	0.02	-	100.00

Source : Dinas Perkebunan Prop.Kalsel

*) Seeding phase done by PTP XXIV - XXV in Tanah Laut

Most of the plantation crops in South Kalimantan which are being developed now belong to the smallholders. Therefore, the heart of the program is done focusing on smallholders plantation, whereas the state estate act as supporting partner and the private estate as complement partner.

The operational patterns which are aimed in the important plantation crops are UPP (Project Implementation Unit) and PIR (Nucleus Estate), whose sources of fund are obtained from outside and domestic based on the long term credit. The development of the strategy has been started since PELITA II and will be stressed again in PELITA IV. Beside that, the partial program, that is limited system of development of the plantation crops which are not included in the integrated patterns (UPP and PIR) will be also increased.

To Private Estates, the program will be directed to, the development of management and technical skills, in order to enable them to develop themselves in the direction of more reasonable way, so that the participation of the bank credit could be expected.

2.1. Rubber

2.1.1. The Development of Rubber Production 1973-1982

Rubber crop was firstly introduced in 1904 in South Kalimantan. In 1950 the total area was about 100,000 ha. In that time farmers were only interested in planting rubber because of the high productivity of latex (young trees) and good price. But from 1973 to 1979 the area and the production of latex were decreased due to the trees became unproductive (old trees), lack of extensification, and unattractive price.

Many of the unproductive old trees were cut down for firewood and the land was modified for food crops or for others. Farmers had little motivation to renew the old trees. But since 1980 there has been an increase in the area of smallholder estate due to the high price of latex and the national program on plantation crops. Production and area of rubber crop in South Kalimantan from 1973 up to 1982 is shown in Table III.21.

TABLE III.21

Production and Area of Rubber Plantation
in South Kalimantan
1973-1982

Year	Production (ton)	Area (ha)
1973	23,031.46	67,113.22
1974	24,312.79	66,806.64
1975	23,820.69	62,367.09
1976	22,997.53	62,102.47
1977	22,760.82	62,206.71
1978	31,018.46	62,285.32
1979	33,020.55	62,881.59
1980	33,525.82	64,902.19
1981	25,325.95	69,589.00
1982	25,772.00	72,188.00

Source : Dinas Perkebunan Prop.KalSel

In 1982, the area of smallholder rubber estate was 84.98 % of the total area in South Kalimantan and in the meantime the area of the state estate and the private estate was 10.57 % and 4.45 % respectively. The increase in the area of rubber plantation was primarily due to the existing of PRPTE (Rehabilitation and Development of the Export Crops Program) which had developed 12 UPP and PIR.

Some years before the existing of the integrated on aid program up to 1979, the increase of the area of the new plant was only 0.16 % per year. But after the development of plant being executed on the pattern of UPP and PIR, the average increase was 2.75 % per year. The total area of smallholder estate based on the stages of production can be seen in Table III.22. below.

TABLE III.22
The Area of Smallholder Rubber Estate
based on the Stages of Production

Year	Non-productive plant (%)	Productive plant (%)	Old/damaged plant (%)	Area (ha)	Production (ton)
1973	9	74	17	67,113	23,031
1979	10	75	15	62,882	33,020
1981	17	70	13	69,589	25,345
1982	21	68	11	72,188	25,772

Source : Dinas Perkebunan Prop.KalSel

2.1.2. Available Area for Rubber Plantation

The potential area for rubber plantation in South Kalimantan can be seen in Map 2. The reserve area for rubber plantation is about 182,680 ha, which will be developed, based on the patterns of PIR, UPP, the private estate, and transmigration.

The area of land, location and kind of program are as follows :

<u>Program</u>	<u>Area (ha)</u>	<u>Realization (ha)</u>	<u>Location</u>
- PIR	30,000	13,250	Danau Salak
- Special PIR	23,250	2,500	Batu Licin
- Special PIR	60,000	-	Pamukan
- Special PIR	50,000	-	Paringin
- Special PIR	12,000	-	Muara Uya
- UPP, 12 units	7,430	-	-
T o t a l	182,680 ha	4,492 ha	-

2.1.3 . Trade / Demand

The whole rubber commodities in South Kalimantan are for export. The volume of rubber export from Banjarmasin in 1982 was 29,881 tons with the value of USD \$ 20,207,984 (see Table III.23 above)

TABLE III. 23

The Volume and Value of Rubber Exported
from South Kalimantan in 1982

Kinds of commodities	Volume of export (ton)	Value of export (USD \$)
RSS I	1,332	1,063,019
RSS II	102	75,589
RSS III	5,885	3,678,977
RSS IV	905	610,001
Cutting A	15	9,916
Cutting B	46	29,518
SIR 5	50	35,000
SIR 10	260	188,500
SIR 20	16,466	11,230,955
SIR 50	4,820	3,236,509
T o t a l	29,881	20,207,984

Source : Kanwil Perdagangan Prop.Kalsel

2.1.4. Projection of Rubber Production 1983-1990

Projection of rubber production in South Kalimantan will be increased from 1983 up to 1990, This projection based on the national program in developing the non-petroleum commodity export. (See Table III.24)

TABLE III.24

Projection of Rubber Production in South Kalimantan
1982 - 1990

Year	Production (ton)
1982	25,772
1983	26,056
1984	26,342
1985	26,632
1986	26,925
1987	27,221
1988	27,520
1989	27,823
1990	28,129

As we have explained in the point of 2.a. that the operational patterns in developing the industrial crops including rubber plant, will be used UPP and PIR program,

2.1.5. Existing Commercial Rubber Industries

Rubber is the only commodity of crop plantation which plays an important role in the development of industries in South Kalimantan, while the other commodities have only little role. The rubber industry in South Kalimantan can be seen in Table III.25.

TABLE III.25
Description of Crumb Rubber Industry

Description	Remark
1. Kind of industry	: Crumb rubber
2. Total number of registered industries	: 10
3. Total number of industries in operation	: 9
4. Source of fund	: PMA = 1 and PMDN = 9
5. The owner	: 9 private and 1 government estate
6. Kind of products	: SIR 5, SIR 20, SIR 35, SIR 50
7. Potential capacity	: 40,800 tons
8. Real products	: 27,407 tons (67.17 %)
9. Year of establishment (number)	: 1970 (2) , 1973 (5) , 1974 (1), 1975 (1) and 1976 (1)
10. Value	: 15,073,929 million rupiah
11. Raw material	
a. Kinds	: skimming, slab, earth rubber.
b. total	: 50,593 tons
c. Value	: 14,271,70 million rupiah
12. Total value of the factories (the value of the establishment)	: 5,987,832 million rupiah
13. Marketing	: Export
14. Workers	: 2,036 Indonesians 12 non Indonesians

The real production is still far under the potential capacity due to lack of raw material. The lack of raw material in turn is caused of the decrease of latex production (old trees). Besides it, there are another rubber processing industries like smoke houses that need latex as raw material. Raw material for crumb rubber is partly imported from Central and East Kalimantan

2.1.6. Possibilities to Develop Rubber Industries up to 1990

As we have seen in Table III.25, the crumb rubber industries in South Kalimantan have 40,800 tons of potential production capacity, whereas the real product is only 27,407 tons. It means that the real product has been able to use only 66.77 % of the full production capacity. The raw material for crumbrubber is partly imported from Central and East Kalimantan.

With the assumption that no more new crumbrubber industries established by 1990, the projection of production in 1990 is still able to accomodate the full capacity of those crumbrubber industries already exist. It is also an assumption, if the projection of rubber product as stated on Table III.26 below, is completely consumed by the present crumbrubber industries. Besides crumbrubber there are still many smoked-house rubber industries that need raw materials.

TABLE III.26
Possibilities to Establish Rubber Industries
in South Kalimantan

Year	Projection of production (ton)	Existing poten- : tial industry (ton)	Situation of raw : material (ton)
1983	: 26,056	40,000 tons	48,944
1984	: 26,342	or	: 48,658
1985	: 26,632	75,000 tons	: 48,368
1986	: 26,925	raw material	: 48,075
1987	: 27,221		: 47,779
1988	: 27,520		: 47,480
1989	: 27,823		: 47,177
1990	: 28,129		: 46,871

The total capacity of the present crumbrubber industries is 40,800 tons. It means that they will need about 75,000 tons of raw material.

2.2. Coconut

2.2.1. The Development of Coconut Production in 1973-1982

Coconut occupies the second largest of plantation crops after rubber. In 1982, 99.84 % of the area of coconut plantation belonged to the smallholder estate, 0.16 % was cultivated by the private estate and none owned by the state estate. Production and area of coconut plantation in South Kalimantan is shown in Table III.27.

TABLE III.27

Production and Area of Coconut Plantation
in South Kalimantan 1974-1982

Year	Production (ton)	Area (ha)
1974	13,179	25,001
1975	17,970	28,162
1976	18,294	34,247
1977	18,049	35,244
1978	19,034	36,289
1979	20,665	38,826
1980	25,481	42,070
1981	27,106	43,304
1982	28,360	43,921

Source : Dinas Perkebunan Prop.Kalsel

In general the development of coconut is done by smallholders. In the tidal swamp land coconut is successfully cultivated with the expansion of new rice fields. Since 1979 the development of coconut plantation has also been carried out according to the UPP program.

2.2.2. Available Area for Coconut Plantation

The potential area for coconut plantation can be seen on Map 2. The reserve area for coconut plantation in South Kalimantan is 3,313 ha, spreading to the three units of UPP in which 3,223 ha of it, was realized up to 1982.

2.2.3. Trade / Demand

Coconut product in South Kalimantan is used for the local needs. The production is still not enough to supply the local needs. For local consumption, coconut is usually sold in fresh. It can also be processed into cooking oil, and only in small amount of them are processed into copra.

In order to fulfill the demand of cooking oil in South Kalimantan is still import copra from Sampit (Central Kalimantan) to be processed, and cooking oil from Java. In 1982 alone, the need of cooking oil in South Kalimantan was 12,231 tons per year, in which 3,552 tons of them were imported from Java.

2.2.4. Projection of Coconut Production 1983-1990

Projection of coconut production in South Kalimantan will be increased from 1983 up to 1990. As in rubber, this projection based on the national program in developing the non petroleum commodity export. Projection of coconut production in South Kalimantan from 1982 up to 1990 is shown in Table III.28

TABLE III.28
Projection of Coconut Production in South Kalimantan
1982 - 1990

Year	Production (ton)
1982	25,772
1983	26,056
1984	26,342
1985	26,632
1986	26,925
1987	27,221
1988	27,520

As we have explained in point of 2.a. that the operational pattern in developing the coconut plantation, the government has developed the UPP program. Due to the limited suitable area, the coconut plantation will be developed only in the three units of UPP (3,223 ha). Most of the potential area for coconut plantation located in the tidal swamp land near the seashore and the alluvial plain. At present both this type of land as a concentration of coconut plantation in South Kalimantan.

2.2.5. Existing Commercial Coconut Industries

The coconut industries existed in South Kalimantan are consist of small cooking oil factory and the spreading household coconut cooking oil. Description of coconut industries in South Kalimantan is shown in Table III.29

TABLE III.29
Description of Coconut Industries

Description	R e m a r k	
	1	2
1. Kind of industry	: Factory	: household
2. Total number of registered industry	: 9	: 53
3. Total number of industrial in operation:	8	: 53
4. Owner	: Private	: Private
5. Kind of product	: Cooking oil	: Cooking oil
6. Potential capacity	: 3,456 tons	: 1,752 tons
7. Real products	: 824.8 tons (23.86 %)	: 128.8 tons (7.3 %)
8. Value	: 490.855 million rupiah	: 108.836 million rupiah
9. <u>Raw material</u>		
a. Coconut	: 1,254 tons	: 214.6 tons
b. Copra .	: 904 tons	-
c. Value a	: 137.94 million rp:	53.65 million rph
d. Value b	: 226.00 million rp:	-
10. Marketing	: L o c a l	local
11. Workers	: 97 Indonesians	: 77 Indonesians

The real product is smaller than the potential capacity due to lack of raw material. Almost all coconut product is consumed for household consumption (fresh coconut). The raw material from Central Kalimantan sometimes cannot supply the existing cooking oil factories.

2.2.6. Possibilities to Develop Coconut Industries up to 1990

As we have seen in Table III.29, the coconut industries in South Kalimantan have 3,456 tons of potential capacity for 8 factories and 1,752 tons for 53 households, whereas the real product are only 824.8 tons and 128.8 tons respectively. It means that the product has been able to use only 23.86 % of full production capacity for factories and 7.3 % for households.

Possibilities to develop the coconut industries in South Kalimantan is shown in Table III.30 below.

TABLE III.30
Possibilities to Develop Coconut Industries in
South Kalimantan 1983 - 1990

Year	Projection of production (ton)	Existing of potential industries (ton)	Situation of raw material (ton)
1983	30,884	5,208 tons of	: 4,844
1984	33,633	cooking oil	: 7,593
1985	36,626	Or	: 10,586
1986	39,886	26,040 tons of	: 13,846
1987	43,436	coconut	: 17,396
1988	47,301		: 21,261
1989	51,511		: 25,471
1990	56,096		: 30,056

It was estimated that the need of cooking oil for South Kalimantan in 1982 was around 12,231 tons or about 61,155 tons of coconut. With the assumption that all coconut product is used for making cooking oil, South Kalimantan will not have been able to supply its own need by 1990. Besides it the fresh coconut is partly used for daily household consumption.

2.3. Clove

2.3.1. The Development of Clove Production 1973-1982

In South Kalimantan, clove plantation is developed by smallholders. In 1982 almost 99.10 % of the total area of clove plantation belonged to the smallholder estate, 0.90 % belonged to the private estate and nothing was done by the state estate. The production and area of clove plantation in South Kalimantan is shown in Table III.31

TABLE III.31
Production and Area of Clove Plantation
in South Kalimantan 1973 - 1982

Year	Production (Ton)	Area (ha)
1973	89	1,016
1974	38	1,294
1975	37	2,430
1976	29	3,659
1977	51	4,476
1978	70	5,808
1979	157	6,496
1980	241	8,155
1981	414	8,655
1982	312	8,354

Source : Dinas Perkebunan Prop.KalSel

Actually clove was first cultivated in 1955 by the Javaneese transmigrants. Since 1970 the government has been trying to grow a new variety "Zanzibar" which got a good response from the farmers. In 1970 the area of clove plantation in South Kalimantan was only 100 ha and then had reached 8,154 ha in 1982. The rapid development was due to the high price of clove which could motivate the farmers to grow more.

2.3.2. Available Area for Clove Plantation

The clove trees are developed spontaneously by farmers. The motivation of farmers to grow more clove, as mentioned above, was due to the high price which can reach 8,000 rupiah (equal to USD 8) per kg.

The farmers developed the clove **spreddingly** in the *alang-alang* (*Imperata cylindrica*) area together with the other crops. More or less than 0.9 million ha of *alang-alang* area around the foothill of the Meratus Mountains are very potential for clove development.

2.3.3. Trade / Demand

Clove is seldom used for local consumption, but it is sold to the clove cigarette industries in Java. In 1982 alone, the volume of clove export to Surabaya (Java) was 19,791 tons.

2.3.4. Projection of Clove Production 1983 - 1990

Projection of clove production in South Kalimantan will be increased from 1983 up to 1990. This projection based on the national program in developing the crops diversification. Projection of clove production in South Kalimantan is shown in Table III.32

Table III.32
Projection of Clove Production in South Kalimantan
1982 - 1990

Year	Production (ton)
1982	312
1983	354
1984	401
1985	455
1986	516
1987	585
1988	664
1989	752
1990	853

2.3.5. Existing Commercial Clove Industries

There is no clove industry in South Kalimantan.

2.3.6. Possibilities to Develop Clove Industries up to 1990

There is still impossible to develop the clove industry up to 1990, because of the production is not enough yet for it. The clove product will be sold to the clove cigarette industries in Java.

2.4. Coffee

2.4.1. The Development of Coffee Production 1973-1982

In South Kalimantan, coffee plantation is developed by smallholders. In 1982 almost 99.56 % of the total area of coffee belonged to the smallholders, 0.44 % the private estate, and nothing belonged to the state estate. Production and area of coffee plantation is shown in Table III.33

TABLE III. 33

Coffe Production in South Kalimantan 1973-1982

Year	Production (ton)	A r e a (ha)
1973	730	2,301
1974	771	2,365
1975	786	2,647.
1976	698	2,906
1977	895	3,060
1978	936	3,180
1979	716	2,756
1980	926	3,635
1981	958	4,507
1982	945	5,672

Source : Dinas Perkebunan Prop.KalSel

The coffee crop is not popular yet for the Banjareese (local citizen) farmers. They drink tea more than coffee. In the present time the coffee plantation were mostly developed by the Javaneese transmigrants. The government also develop the UPP program for this crop.

2.4.2. Available Area for Coffee Plantation

As is clove the coffee plantation developed spreadingly in the alang-alang (*Imperata cylindrica*) area together with the other crops. The reserve area for coffee plantation in South Kalimantan is 3,200 ha spreading to the two units of UPP, in which 1,908 ha of this was realized up to 1982

2.4.3. Trade / Demand

Coffee beans produced in South Kalimantan are used for local consumption. But the production is still not enough to supply the local needs. South Kalimantan is still importing coffee beans from Java.

2.4.4. Projection of Coffee Production 1983 -1990

Projection of coffee production in South Kalimantan will be increased from 1983 up to 1990. The projection based on the national program in developing the non petroleum commodity export. Projection of coffee production in South Kalimantan from 1982 up to 1990 is shown in Table III.34

TABLE III.34
Projection of Coffee Production in South Kalimantan
1982 - 1990

Year	Production (ton)
1982	730
1983	742
1984	769
1985	788
1986	809
1987	830
1988	852
1989	874
1990	896

2.4.5. Existing Commercial Coffee Industries

Either coffee produced in South Kalimantan or imported from outside is processed by home industries. There are also some industries of ground coffee in South Kalimantan as is shown in Table III.35.

TABLE III.35

Description of Ground Coffee Industries in South Kalimantan

Description	Remark
1. Kind of industry	: Ground coffee
2. Total number of registered industries	: 16
3. Total number of industries in operation	: 13
4. Owner	: Private
5. Kind of products	: Ground coffee
6. Potential capacity	: tons
7. Real products	: 38.750 tons
8. Value	: 96.875 million rupiah
9. Raw materials	
a. Kinds	: Coffee, corn
b. Total	: 45.908 tons, 16.650 tons
c. Value	: 68.68 million rupiah, 4.16 million rupiah
10. Marketing	: Local
11. Workers	: 44 Indonesians

2.4.6. Possibilities to Develop Coffee Industries up to 1990

The projection of coffee production by 1990 will be consumed by present industries.

2.5. Rosella

2.5.1. The Development of Rosella Production 1973-1982

In South Kalimantan rosella plantation originally developed by the private estate in 1973. But its development was hampered by marketing difficulties. Production and area of rosella plantation in South Kalimantan is shown in Table III.36.

TABLE III.36
Production and Area of Rosella Plantation
in South Kalimantan 1973-1982

Year	: Production (ton)	Area (ha)
1974	-	7
1975	98	80
1976	98	89
1977	98	95
1978	107	97
1979	-	179
1980	163	605
1981	346	579
1982	-	336

Source : Dinas Perkebunan Prop.Kalsel

In 1976 a program called "intensifikasi Serat Karung Rakyat/ISKARA" (Intensification of Public Sack Fibre) was developed as an aid rosella program with PTP XVIII (state estate) acting as the nucleus. At present most of rosella plantation in South Kalimantan is owned by smallholders.

2.5.2. Available Area for Rosella Plantation

The potential area for rosella plantation can be seen on Map 2. The reserve area for rosella plantation in South Kalimantan is 1,550 ha spreading to the UPP program in which 1,090 ha of this was realized up to 1982. Rosella can be developed, also, in the unsuitable food crops land (for instance along-alang area).

2.5.3. Trade / Demand

Farmers cultivate rosella on upland as an extra work. One of the handicap is the lack of water for processing. Farmers, member of ISKARA, are responsible to sell their dried fibre to PEP on the price fixed by the Ministry of Agriculture annually.

Beside the water handicap, also the price is not so attractive for farmers to develop this crop. At present the rosella sack can't be competitive with plastic sack.

2.5.4. Projection of Rosella Production 1983- 1990

Projection of rosella production in South Kalimantan increased from 1983 - 1990. This projection based on the national program in developing the rosella plantation, in order that we can self sufficient for national consumption on rosella sack. Projection of rosella production in shown in Table III.3

TABLE III.37

Projection of Rosella Production in South Kalimantan
1981 - 1990

Year	Production (ton)
1981	346
1982	427
1983	527
1984	650
1985	802
1986	990
1987	1,221
1988	1,508
1989	1,860
1990	2,296

2.5.6. Existing Commercial Rosella Industries

There is no industry in South Kalimantan which use rosella to make gunny sacks

2.5.6. Possibilities to Develop Rosella Industry up to 1990

The projection of rosella production by 1990 cannot fullfill the volume of raw material which is needed by gunny sack industries, therefore the product will be only sent to Java.

2.6. Cocoa

2.6.1. The Development of Cocoa Production in 1973-1982

Since PELITA I, cocoa plants have been being tried to be developed by the on aid seed supplied, but the result was not encouraging due to lack of farmers interest. Since 1982 the cocoa development program has been done according to the pattern of UPP in Tanah Laut, but unfortunately the result was also not satisfactory.

2.6.2. Available Area for Cocoa Plantation

It is not easy to get the suitable land for cocoa plantation, especially in the large size area in South Kalimantan. Beside this, the result of the cocoa development program in South Kalimantan, as mentioned above, was not encouraging due to lack of farmers' interest.

2.6.3. Trade / Demand

Cocoa plants is relatively new to South Kalimantan. The planting area is still small and the plants are still young. The farmers' interest in developing this crop is very low.

2.6.4. Projection of Cocoa Production 1983-1990

No data here.

2.6.5. Existing Commercial Cocoa Industries

There is no cocoa industry in South Kalimantan

2.6.6. Possibilities to Develop Cocoa Industries up to 1990

There is still impossible to develop the cocoa industries, because of no cocoa is being produced up to 1990.

2.7. Sugarcane

2.7.1. The Development of Sugarcane Production 1973 - 1982

The development program of sugarcane plantation by smallholders is handled according to the pattern of PIR in which PTP XXIV-XXV in Tanah Laut will act as a nucleus estate. In 1983 for about 1,500 ha of smallholders as well as 4,500 ha of nucleus estate were started to be planted with sugarcane.

2.7.2. Available Area for Sugarcane Plantation

The potential area for sugarcane plantation in South Kalimantan can be seen in the Map 2. The reserve area for sugarcane plantation in South Kalimantan is 15,000 ha in Pleihari and 20,000 ha in Sebuher. The both area will be developed based on the pattern of PIR Sugar I and PIR Sugar II respectively.

2.7.3. Trade / Demand

Sugarcane is now being developed by PTP XXIV- XXV in Tanah Laut Regency. The sugar industry is still in planning phase. Sugar is used for daily consumption as well as other uses such as for food and beverage industries. In order to meet a demand of sugar, it's still imported from Java.

In 1982, for example, the estimate of the need of sugar was about 34,786.7 tons. But the realization of sugar import in South Kalimantan was 42,592 tons.

2.7.4. Projection of Sugarcane Production 1983 - 1990

The sugarcane production is depend on the production capacity of the factory

2.7.5. Existing Commercial Sugarcane Industries

The sugarcane factory is still in the developing phase.

2.7.6. Possibilities to Develop Sugarcane Industries up to 1990

The sugarcane factory will be expected to full operation before 1990.

3. Assesment and Identification of Agro Industrial Project : Forestry Based Industries

3.1. Present Situation

3.1.1. Forest area

Forest in South Kalimantan comprises of mangrove forest, swamp forest, peat forest and hilly forest. Mangrove forest can be found in the southern and eastern parts of South Kalimantan around the mouth of the Barito river. This type of forest comprises species of *Sonneratia*, *Rhizophora*, *Avicenia*, and *Braghiera*.

Swamp forest is found on alluvial soils along river banks. In this type of forest we can find species of *Oncosperma*, *Nipa*, *Palacium*, *Cannasperma*, *Koompassia*, *Fistiana* and *Shorea*. The largest area of swamp forest in South Kalimantan is located in the western part around Barito river, Paminggir river, and Negara river.

Peat forest is found on peat soils on deltas of the Barito river and other rivers which are influence by tides. Species found are *Gonystylus*, *Shorea* and *Dyera*.

Lowland forest are mostly found in the eastern part of Meratus mountain range, while hilly forest are found in Moratus as well as Pulau Laut mountain ranges. Species of trees dominate these area belong to the family of *Dipterocarpaceae*. Besides that there are also *Koompassia*, *Eusideroxylon*, *Agathis*, *Palacium*, *Sindur* and species of *Myrtaceae* family.

Except for mangrove forests, the other types of forest do not entirely covered the area. In table III.38 we can see the total area of each type of forest and the area covered by forest.

TABLE III.38
Total and Forested Area of Lowland, Highland,
Swamp and Peat and Mangrove Forests

Type of forest	Area (ha)	
	Total	Forested.
Lowland and highland	2,100,000	1,836,000
Swamp and peat	931,000	43,000
Mangrove	20,000	20,000

Timber exploitation is only permitted on forest area on the limited productive forests and the definite productive forest.

3.1.2. Timber Industry

The timber industries in South Kalimantan are owned either by H.P.H. or non H.P.H. Table III.39 shows the kind of industries, number units and the production capacity.

TABLE III.39
Kinds, Unit numbers, and Capacity of Timber
Industries Owned by H.P.H and Non H.P.H. in
South Kalimantan

Kinds of Industry	Owner	Unit	Production capacity (m ³ /shift/year)
Plywood and block board	H.P.H.	11	900,000
Saw mill	H.P.H.	14	550,000
	non H.P.H.	65	273,500

H.P.H. timber industries are found in the region of Banjarmasin (Jelapat, Alalak and Tinggiran), Barito Kuala (Muara Tamban), and Kota Baru. Non H.P.H. saw mill industries are located in Banjarmasin and Barito Kuala. These industries do not get raw materials only from South Kalimantan but also from other provinces such as Central Kalimantan, East Kalimantan and the Moluccas.

They import the raw materials because in South Kalimantan itself the raw materials cannot support the production capacity of the existing timber industries. Another problem faced by the timber industries are insufficient transportation facility as well as the pattern of exploitation of the forests which are not in good harmony with the transportation network. These situation make the cost of production become higher.

3.2. Projection of Timber Production

Based on the national management planning, forests area in South Kalimantan is divided into :

- Protection forest which covers about 432,370 ha used for land and water conservation
- Wildlife and forest conservation which covers about 66,000 ha used for conserving various kinds of flora and fauna germ plasm.
- Limited protection forest which covers about 200,620 ha.
- Definite forest which covers about 1,330,420 ha
- Conversion forest which covers about 234,670 ha.

From those kinds of forests only limited protection forest and definite forest area are exploitable to full-fill the local and export needs. Thus, the exploitable area is 200,620 ha plus 1,330,420 ha equals 1,530,040 ha. From this area the annual allowable cut (AAC) is about 1,000,000 m³

The need of timber per capita per year is 0.13 m³ (data on Balai Planologi Kehutanan of South Kalimantan). Thus, the projection of the timber need based on the population increase from 1983 up to 1990 can be seen in Table III.40

TABLE III.40
 Projection of Timber Need for People of
 South Kalimantan 1983 - 1990

Year	Population	Need* (m ³)	A.A.C. ** (m ³)
1983	2,235,556	290,622	1,000,000
1984	2,288,874	297,554	1,000,000
1985	2,343,464	304,650	1,000,000
1986	2,399,355	311,916	1,000,000
1987	2,456,580	319,355	1,000,000
1988	2,515,170	326,972	1,000,000
1989	2,575,156	334,770	1,000,000
1990	2,636,574	342,755	1,000,000

* 0.13 m³/capita/year

** Annual Allowable Cut

From the above data it seems that the need of the people of South Kalimantan can be fulfilled. But if we considered the need of the existing H.P.H. and non H.P.H. timber industries which reach 1,723,500 m³ per year, there is a shortage of at least 723,500 m³. In fact, South Kalimantan imports timber from other provinces as stated before to meet their needs.

3.3. Future Investment Opportunity

It is necessary to rehabilitate the existing forests relevant to their function. It is also necessary to exercise a firm supervision to guarantee continuous supply of timber.

The wood centre development plan in Banjarmasin area must be supported. But there is no need to build another timber industries and if necessary the existing industries should be evaluated.

4. Assessment and Identification of Agro Industrial Project : Livestock and Poultry Based Industries.

4.1. Present situation

4.1.1. Cattle

The present area of cattle grazing land in South Kalimantan is about 125,000 ha with about 62,300 cattle. Thus, each hectare holds only 2 cattle.

The cattle are usually kept free on the grazing land at day time. The grazing land is usually consist of along-alang (*Imperata Cylindrica*). From several studies it is possible to increase the holding capacity of the present grazing land into a good pasture. Several high quality grass such as *Pennisetum purpureum* and *Setaria* sp. can grow well in lands previously infested by along-alang. Furthermore the pasture quality can be improved, by combining the grass with suitable legumes. If that happens, the holding capacity of the grazing land can be increased into 10 cattle per hectare.

There are two systems of ownership in South Kalimantan. Firstly is the traditional system of ownership which is in groups. Each group has about 20 to 30 cattle. Another ownership system is in the form of cattle ranch. These cattle ranches spreading in three regencies, i.e., Tanah Laut, Tabalong and Hulu Sungai Selatan. Table III.41 shows the spreading of cattle ranches in South Kalimantan. See also Map ..

TABLE III.41

The Situation of Cattle Ranches in South Kalimantan
in 1982

Location	Number of Ranch	Area (ha)	Number Of cattle
Tanah Laut	15	29,470	2,197
Tabalong	3	30	62
Hulu Sungai Selatan	1	300	16

Source : Dinas Peternakan Prov. Kalimantan

The breed of the cattle raised are P.O and Bali which see have been well adapted to these region. The development of cattle in South Kalimantan from 1974 up to 1982 is shown in Table III.42

TABLE III.42
The Development of Cattle 1974-1982

Year	Number of cattle
1974	44,829
1975	45,576
1976	50,633
1977	52,274
1978	54,149
1979	55,204
1980	56,705
1981	57,503
1982	62,270

Source : Dinas Peternakan Prop.Kalsel

Present situation of cattle in South Kalimantan is still insufficient to meet the need, some are imported from other provinces such as N.T.S., South Sulawesi, and East Java.

Table III.43 shows the number of cattle imported.

TABLE III. 43
Imported of Cows in South Kalimantan

Year	Number of cattle
1974	4,621
1975	2,375
1976	2,607
1977	6,305
1978	6,687
1979	4,457
1980	6,131
1981	7,211
1982	9,003

Source : Dinas Peternakan Prop.Kalsel

4.1.2. Buffalo

Buffalo husbandry is mainly found in monotonous swamp which covers about 500,000 ha. The buffaly husbandry is still managed in traditional way. The herds are kept in the open fences called Kalang, at night. Kalang is built from logs arranged vertically from the bottom of the swamp. System of ownership is in groups. The developmant of buffalo population in South Kalimantan from 1974 up to 1982 can be seen on Table III.44

TABLE III.44

The Development of Buffalo Populatin from 1974-1982

Year	Number of buffalo
1974	46,920
1975	49,345
1976	49,479
1977	49,539
1978	49,571
1979	50,528
1980	52,003
1981	53,134
1982	52,870

Source : Dinas Peternakan Prop.Kalsel

The centre of buffalo husbandry can be seen on Map

4.1.3. Chicken

Chicken husbandry are developed well, although they are still limited in the suburb area. The development of chicken enterprises and chicken population can be seen on Table III. 45

TABLE III.45

The Development of Chicken Enterprises and Chicken Population from 1974 up to 1982

Year	Number of chicken enterprises	Number of chicken
1974	35	3,437,900
1975	35	4,126,970
1976	46	4,017,700
1977	58	4,195,772
1978	43	4,263,970
1979	105	4,545,290
1980	107	4,638,920
1981	280	5,099,710
1982	170	4,660,100

Source : Dinas Peternakan Prop.Kalsel

The number of chicken has not yet fulfilled the need of South Kalimantan. To meet the need some are imported from West and East Java. The imported from 1974 until 1982 can be seen on Table III. 46

TABLE III. 46

The Number of Chicken Imported 1974-1982

Year	Number of chicken imported
1974	16,050
1975	8,996
1976	data not available
1977	6,000
1978	11,530
1979	684,590
1980	702,920
1981	2,180,390
1982	2,496,270

4.1.4. Duck

Duck husbandries in South Kalimantan seem to be very promising. Traditional duck husbandries are mainly found in monotonous swamp. It is expected to be able to fullfill the needs of meat and eggs in South Kalimantan. In fact, some ducks are exported to other region.

The development of duck enterprises, duck population and exported to other regions can be seen in Table III.47

Table III.47

The Development of Duck Enterprises,
Duck Population and Number Exported to Other Regions
From 1974 until 1982

Year	Number of duck enterprises	Duck population	Number of ducks exported
1974	35	1,513,940	18,160
1975	35	1,665,340	23,814
1976	28	1,765,330	107,911
1977	47	1,853,570	84,542
1978	69	1,862,840	146,370
1979	75	1,381,460	132,350
1980	82	1,920,220	194,740
1981	106	2,012,360	260,220
1982	109	1,972,450	261,300

Source : Dinas Peternakan Prop.Kalsel

Duck husbandry center can be seen on Map

4.2. Population Growth Projection

4.2.1. Cattle

Based on population growth during 10 years and available grazing land, it is expected that rating growth of cattle is 4.1 % per year. The projection of cattle population from 1983 up to 1990 can be seen in Table III.48

TABLE III.48

The Projection of Cattle Population
From 1983 up to 1990

Year	Number of Cattle
1983	64,831
1984	67,489
1985	70,257
1986	73,137
1987	76,136
1988	79,257
1989	82,506
1990	85,889

The potential area for cattle husbandries can be seen on Map.

4.2.2. Buffalo

Based on the population growth during ten years and available area for raising buffalo is 1,5 % per year. The projection of buffalo population from 1983 up to 1990 can be seen in Table III.49

TABLE III.49
The Projection of Buffalo Population
from 1983 up to 1990

Year	Number of buffaloes
1983	53,663
1984	54,463
1985	55,285
1986	56,114
1987	56,956
1988	57,810
1989	58,678
1990	59,558

4.2.3. Chicken

Based on population development during ten years it is estimated that the rating of population is 5.7 % per year.

The projection of population development from 1983 up to 1990 can be seen in Table III.50

TABLE III.50

The Projection of Chicken Population
from 1983 up to 1990

Year	Number of chicken
1983	4,934,182
1984	5,215,430
1985	5,512,710
1986	5,826,934
1987	6,159,069
1988	6,510,136
1989	6,881,214
1990	7,273,443

4.2.4. Duck

Based on duck population development during ten years (Table) it is estimated that the rating of population development is 4.1 %. Thus we can project the population development until 1990 as we can see in Table III. 51'

TABLE III. 51

The Projection of Duck Population
from 1983 until 1990

Year	Duck population
1983	2,054,320
1984	2,137,507
1985	2,225,144
1986	2,316,375
1987	2,411,347
1988	2,510,212
1989	2,613,131
1990	2,720,269

4.3. Projection on Meat Consumption

Meat consumption in South Kalimantan comes from cattle, buffalo and poultry.

The need of normal protien per capita is 50 grams of protien per capita per day. If it is conversed into meat and eggs thus meat consumption will be 10 kiligrams and egg consumption will be 4 kilograms per capita per year.

Another animal prôtein can be expected from fish. The meat and egg consumption projection from 1983 until 1990 can be seen in Table III.52

TABLE III.52

The Projection of Population Growth of
Meat and Egg Consumption from
1983 until 1990

Y e a r :	Population	Consumption of	
		Meat (kg)	Egg (kg)
1983	2,235,556	22,355,560	8,942,224
1984	2,283,874	22,838,740	9,155,496
1985	2,343,464	23,434,640	9,373,856
1986	2,399,355	23,993,550	9,597,420
1987	2,456,580	24,565,800	9,826,320
1988	2,515,170	25,151,700	10,060,680
1989	2,575,156	25,751,560	10,300,624
1990	2,636,574	26,365,740	10,546,296

If we assumed that each cattle or buffalo can supply 100 kilograms of meat and each chicken or duck can supply 1.5 kg of meat, whereas only 10 % of the population are being slaughtered, thus we can calculate the total meat supply for 1983 until 1990 as can be seen in Table III.53.

TABLE III.53

The Projection of Meat Supply
from 1983 until 1990

Year :	M e a t s u p p l y (kg) *				Total
	Cow	Buffalo	Chicken	Duck	
1983	648,310	536,630	740,127	307,998	2,233,065
1984	674,890	544,680	782,315	320,626	2,322,511
1985	702,570	552,850	826,907	333,771	2,416,099
1986	731,370	561,140	874,040	347,456	2,514,006
1987	761,360	569,560	923,860	361,702	2,616,482
1988	792,570	578,100	976,520	376,531	2,723,722
1989	825,060	586,780	1,032,182	391,969	2,835,992
1990	858,900	595,580	1,091,016	408,040	2,953,536

From the above data on Table III. 54 we can project the balance of meat in South Kalimantan from 1983 until 1990, as can be seen in Table III. 54

TABLE III. 54

The Balance of Meat from 1983 up to 1990

Year	Total of meat* (kg)	Need ** (kg)	Shortage (kg)
1983	2,233,065	22,355,560	20,122,495
1984	2,322,511	22,888,740	20,566,229
1985	2,416,099	23,434,640	21,018,541
1986	2,514,006	23,993,550	21,479,544
1987	2,616,482	24,564,800	21,949,318
1988	2,723,722	25,151,700	22,427,978
1989	2,835,992	25,751,560	22,915,568
1990	2,953,536	26,365,740	23,412,204

* Taken from Table III. 53

** Taken from Table III. 52

Based on the above data, by 1990 South Kalimantan will suffer from shortage of meat about 23,500 tons.

Due to the limited area for the development of pastures and ranches, efforts should be aimed at poultry development program to overcome the problem.

4.4. Projection on Egg Production and Consumption

The development of egg production in South Kalimantan from 1978 until 1982 is shown in Table

III.55

TABLE III. 55

The Development of Egg Production
from 1973 until 1982

Year	Egg production (kg)
1978	4,967,700
1979	5,204,600
1980	5,329,900
1981	6,001,900
1982	6,267,500

Source : Dinas Peternakan Prop.KalSel

Based on the above Table, the rating of egg production reaches 6 % per year. Thus, the projection of egg production and consumption in South Kalimantan from 1983 up to 1990 can be seen in Table III. 56.

TABLE III. 56

The Projection of Egg Production and Need
from 1983 till 1990

Year	Egg production (kg)	Demand (kg)	Shortage (kg)
1983	6,643,350	8,942,224	2,298,874
1984	7,042,163	9,155,496	2,113,333
1985	7,464,693	9,373,856	1,909,163
1986	7,912,674	9,597,420	1,684,746
1987	8,387,329	9,826,320	1,438,991
1988	8,890,569	10,060,680	1,170,111
1989	9,424,003	10,300,624	876,621
1990	9,989,443	10,546,296	556,853

4.5. Future Investment Opportunities

Future Investment opportunities for the next ten years can be detected at :

- Animal husbandry enterprise. There are no enterprises involve in the area of cattle and poultry improvements in order to increase the quality of beef or poultry. Thus, breeding program must be put into priority. The proposed location of the animal husbandry and breeding can be seen on Map.
- Poultry food concentrate factory; the need food concentrate for poultry and its components from 1983 until 1990 can be seen in Table III. 57

TABLE III. 57

The Projection on the Needs of Concentrate Food for Poultry and Its Components

Year	Concentrate food needed (ton)**	*Basic material needed		
		Cassava (ton)	Soybean (ton)	Fishflour (ton)
1983	296	237	30	30
1984	313	250	31	31
1985	331	265	33	33
1986	350	280	35	35
1987	370	296	37	37
1988	391	313	39	39
1989	413	330	41	41
1990	436	349	44	44

* 100 kg food concentrate consist of 50 kgs Cassava, 10 kgs soybean and 10 kgs fishflour .

** 4 kgs food concentrate for 100 poultry per day.

The factory for food concentrate to be built has at least production capacity of 500 tons per year. The location of the factory must be close to the basic materials such as cassava, soybeans and and fishflour.

The proposed location can be seen on Map

5. Assessment and Identification of Agro Industrial Project

Fishery Base:

5.1. Present Situation

5.1.1. Sea fishery

The potential area for fish catch in territorial water coast is approximately 120,000 km²

Development of fish production from 1973 up to 1982 can be seen on Table III.58

TABLE III. 58

The Development of Number of Fishermen and
Dried Salted Fish Production
From 1973 until 1982

Year	Number of fishermen	Production (ton)	Productivity (ton/fishermen/year)
1973	10,000	20,503	2.03
1974	10,900	21,320	1.96
1975	11,375	21,170	1.86
1976	20,405	22,429	1.10
1977	18,990	30,808	1.62
1978	18,650	34,225	1.84
1979	19,195	32,527	1.70
1980	19,330	35,035	1.81
1981	20,060	39,098	1.95
1982	20,270	40,045	1.98

From the above Table we can see the tendency that number of fishermen is increasing that consequently resulted in the increasing of the catch. But the productivity per fisherman seems doesn't change.

From the potential catching area of 10,000 km², the exploitation level of freshwater fishery is relatively higher compared to those of sea fishery. The exploitation level of inland fishery reaches 67 %.

Problems faced by inland fishermen in their efforts to increase their catch and hence their income is the same as those faced by sea fishermen.

5.1.3. Basin and Pond Fishery

The potential area of basin and pond fishery in South Kalimantan is estimated at 200 km² and 24 km², respectively. Yet the exploitation level of this basin and pond are still low, which are 1 % and 6 %, respectively. If the potential area is completely developed, this can raise the production to 10,000 tons of dried fish from the basin and 1,200 tons from the pond per year. These potential area can be seen on Map

5.1.4. Fish-related Industries

In South Kalimantan there are 4 enterprises involved in the field of fishery, i.e., P.T.Misaya Mitra in Kota Baru, P.T.Kalimantan Fishery in Banjarmasin, and C.V.Dharma Mulia in Banjarmasin. Those enterprises except P.T.Misaya Mitra are P.M.D.N., whereas P.T.Misaya Mitra is the combination of P.M.D.N. and P.M.A. The 4 enterprises are involved in processing and storing of shrimps, frogs, and a certain kind of fish. The potential **capacity** and real production of each enterprise can be seen in Table III.63

Numbers of fishermen who use motor-boat and those who use motor-boat as well as better catching technology can be seen in Table III. 59

TABLE III. 59
The Development of Number of Fishermen
using Motor-boat and Those using motor-boat
with Better Catching Technology
From 1973 until 1982

Y E A R	Number of fishermen	
	Using the motor-boat	Using Motor-boat and the advanced technology
1973	939	504
1974	1,433	747
1975	1,490	785
1976	4,150	951
1977	3,804	944
1978	4,983	1,234
1979	5,023	1,375
1980	8,047	1,618
1981	8,393	1,637
1982	8,171	1,964

Source : Dinas Perikanan Prop.KalSel

From the above Table we can see that fishermen who only use motor-boat and those who use motor-boat as well as better catching technology have a tendency to increase, but the number of fishermen who use only motor-boat increase faster than those who use motor-boat as well as better catching technology. But this situation does not have effect to the fishermen productivity either.

The development of fishermen income is shown in Table III.60

TABLE III.60

The Development of the Fisherman's Income
from 1973 till 1982

YEAR	Income per fisherman Rp/year
1973	100,000
1974	80,000
1975	65,000
1976	44,000
1977	94,000
1978	117,000
1979	135,000
1980	229,000
1981	305,000

Source : Dinas Perikanan Prop.KalSel

From the above data we can see that the rise in income was in fact, caused of by the rise of the price of fish itself not by the productivity of the fishermen.

From the available area for catching fish which is estimated at about 120,000 km² the level of exploitation that can be reached are only about 180,000 tons per year.

The problem that causes the very low level of exploitation in South Kalimantan is the lack of capital and the low level of skill in catching technology.

Marketing is another big problem faced by fishermen. Every year of the season of sea or inland fishing market absorption are limited whereas the production of fish is abundant. This situation will cause the price goes down. Several fish enterprises which market dried fish to Java and Sumatera do not affect the price either.

There are no enterprises which market fresh fish or involve in the production of canned fish. The exports are limited to shrimps, frogs and a certain kind of fish.

5.1.2. Inland Fishery

The potential area for inland fishery is approximately 10,000 km².

The production of fish and numbers of fishermen involved and their productivity level from 1973 until 1982 can be seen in Table III, 61

TABLE III.61

The Development of Fishery Production, Numbers of Fishermen and Their Productivity Level From 1973 till 1982

Year	Fish Production (ton)	Numbers of fishermen	Productivity (ton/fishermen/ year)
1973	48,002	132,700	0.36
1974	48,246	133,500	0.36
1975	47,340	149,550	0.34
1976	56,223	152,725	0.36
1977	69,238	132,700	0.52
1978	44,171	134,430	0.34
1979	58,158	132,170	0.44
1980	51,235	132,260	0.39
1981	58,769	144,300	0.41
1982	60,140	152,485	0.39

Source : Dinas Perikanan Prop. KalSel

Advance catching technology is uncommon among inland fishermen. The productivity per fishermen is not different from year to year.

If we compare the productivity of inland fishermen to sea fishermen, it's relatively lower. The development of income of inland fishermen from 1973 until 1982 can be seen in Table III.62

TABLE III.62

The Development of Income of Fishermen in
Public Territorial Waters
from 1973 until 1982

Year	Income per fishermen (rupiah/year)
1973	43,000
1974	40,000
1975	34,000
1976	23,000
1977	27,000
1978	41,000
1979	83,000
1980	112,000
1981	184,000
1982	135,000

Source : Dinas Perikanan Prop.KalSel

The price of fresh water fish per unit is actually higher than that of sea fish, but because of the low quantity of catch, consequently the income of the inland fishermen are also lower.

Although the catch of each fisherman does not fluctuate from year to year, yet there is a raise in the fisherman income due to the raise in fish price.

TABLE III.63

The Potential Capacity, Real Product and
the Numbers of Marketing of the
Enterprises in Fishery in South Kalimantan

Name of Company	Potential capacity (ton/daily)	Real product- ion (kg/day)	Marketed in 1983 (ton)
PT. Misaya Mitra	2	11,648	593.5
PT. Kalimantan Fishery	2	744	268.1
PT. Wirontono	2	1,234	444.4
PT. Dharma Mulia	7	1,109	399.3

Source: Dinas Perikanan Prop. KalSel

5.2. Projection on Production

Based on Tables III.61 and III.63 the rate of production growth of inland fish is 7.7 % per year whereas that for sea fish is 2.5 % per year. Then we can estimate the production of those fish from 1983 until 1990 as can be seen in Table III.64 below.

TABLE III.64

The Projection of Sea and Inland Fishery Production
from 1983 until 1990

Year	Fish production (ton)		Total (ton)
	Sea	Inland	
1983	43,128	61,644	104,772
1984	46,449	63,185	109,634
1985	50,025	64,764	114,789
1986	53,878	66,383	120,261
1987	58,027	68,043	126,070
1988	62,495	69,744	132,239
1989	67,307	71,488	138,795
1990	72,489	72,275	145,764

If we estimate fish consumption in South Kalimantan from 1983 until 1990, there is a surplus as can be seen in Table III.65

TABLE III.65

The Projection of Fish Consumption
from 1983 until 1990

Year	Population of South Kalimantan	Fish consumption (ton)	Fish production (ton)	Surplus (ton)
1983	2,235,556	22,356	104,772	82,416
1984	2,288,874	22,889	109,634	86,745
1985	2,343,464	23,435	114,789	91,354
1986	2,399,355	23,994	120,261	96,267
1987	2,456,580	24,566	126,070	101,504
1988	2,515,170	25,152	132,239	107,087
1989	2,575,156	25,752	138,795	113,043
1990	2,636,574	26,366	145,764	119,398

The four enterprises above run their production under their potential capacity because of the low supply of shrimps, frogs and betutu fish. There are another industry that support fishery in South Kalimantan which are public dock yard boat industry as can be seen in Table III.66.

TABLE III.66

Public Dockyard in South Kalimantan

No	Regency/Municipality	Number	Potential capacity	Owner
1.	Kodya Banjarmasin	28	387	Private
2.	Kabupaten HSS	23	73	Private
3.	Kabupaten Kota Baru	29	89	Private
4.	Kabupaten	4	34	Private
5.	Kabupaten Tanah Laut	3	11	Private

Source : Kanwil Perindustrian Prop.KalSel

Besides those public dockyard boat industry there are still another industry to support fishery among others is home industries such as making of fish equipments. This kind of home industries can be found in the regency of Hulu Sungai Selatan in the town of Negara and also in coastal region where fishery activities going.

5.2. Future Investment Opportunities

Investments needed in the field of fishery for the next ten years would be :

- The development of shrimps production through shrimp culture on ponds to meet the need of the four existing enterprises.
- The shrimps production should be increased to 10 tons daily.
- The proposed location for the shrimp ponds are on the east coast of the regency of Tanah Laut which are close to the fishermen's villages. Besides that the ponds must be furnished with hatchery to supply shrimp seeds for those ponds
- Establishment of fish flour factory. Considering the available fish, the excess can be processed to the making of poultry concentrated food factory. The capacity of the factory should at least 50 tons per year in order to meet the need of poultry concentrated food. The proposed location is in the regency of Tanah Laut which is close to the basic material.
- Establishment of canned fish factory. This factory should produce at least 100,000 tons per year. It is suggested that the factory will be located close to fish flour factory.
- Modernizing the home industries for the making of fishing equipments. The location should be in the town of Negara and the east coast of Tanah Laut regency.

6. A study on Manufacturing Sector and Industrial Development

6.1. Trend from the Development of Industry 1972-1982.

Trend from the development of Industry in South Kalimantan during the period of 1972-1982 can be seen on the next data

TABLE III. 67

The Trend of the Development of Industry
in South Kalimantan 1972-1982

Year	Number of company	Fast of growth (%)
1972	1,392	-
1973	1,360	-2.29
1974	1,553	14.10
1975	1,552	-0.06
1976	1,708	10.05
1977	1,920	12.41
1978	2,095	9.11
1979	2,238	6.83
1980	2,320	3.66
1981	2,443	5.39
1982	2,520	3.07
Total	-	62.27
Average	-	6.23

The growth of the sector of industry can be counted in average be gotten as much as 6.23% per year. If it be counted by using geometrics $(Pt = Po(1+i)^n)$, we will get the growth in the facility and production from the Agriculture School sector in South Kalimantan as the next explanation.

- SPMA there are two : in Banjar Baru and Paringia
- SNAKMA only one that is in Fleihari
- Faculty of Agriculture with the fourth departments namely Agronomy, Protection, Sosek and Graduasi.
- Faculty of Forestry with two departments namely Managemen Hasil Hutan and Technology Hasil Hutan
- Faculty of Fishery with three Departments :
Management Sumber Daya Perikanan, Budi Daya Perikanan, Pengolahan Hasil Hutan.

The graduation of Faculty of Agriculture 149 person

The graduation of Faculty of Forestry 75 person

The graduation of Faculty of Fishery 54 person

TABLE III. 68

An Estimation of the Graduation till 1990

	1983	1984	1985	1986	1987	1988	1989	1990
SPMA	90	90	90	70	90	90	90	90
SNAKMA	70	70	70	70	70	70	70	70
Fac.of Agri	46	68	74	80	87	90	90	96
Fac.of For	23	28	33	40	55	60	65	70
Fac.of Fish	14	16	20	33	41	49	50	53

There are only one Agricultural Research in South Kalimantan that is Balai Penelitian Tanaman Pangan

TABLE III. 69

Trend Development in Industrial Sector
in South Kalimantan 1972 - 1982

Code	1972		1973		1974		1975		1976		1977		1978		1979		1980		1981		
	ISIC	to tal	to tal	to tal	to tal	to tal	to tal	to tal	to tal	to tal	to tal	to tal	to tal	to tal	to tal	to tal	to tal	to tal	to tal	to tal	
31.	1,461	-	1,432	1.98	1,725	20.4	1,818	5.35	1,978	8.8	2,078	5.05	2,341	13.62	2,572	8.94	2,922	13.61	2,966	2	
32.	409	-	251	38.6	249	0.79	264	6.02	242	0.33	227	35.1	243	7.05	247	1.65	215	12.95	209	2	
33.	3,539	-	3,239	8.4	4,169	28.7	4,884	17.1	5,473	12.06	7,211	31.7	7,225	0.18	8,096	11.9	10,79	33.37	12.88	1	
34.	697	-	700	3.09	705	0.71	694	1.56	309	55.47	327	5.82	352	7.65	398	13.07	436	9.95	545	2	
35.	1,271	-	2,46	93.0	2,552	3.73	2,530	0.86	1,846	26.4	1,837	0.48	2,624	42.8	2,714	3.54	2,159	29.5	2,570	1	
36.	54	-	87	6	2.11	116	33.33	156	34.48	136	12.82	136	0	251	84.56	354	41.03	396	12.43	451	1
37.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
38.	919	-	753	18.00	809	7.43	653	17.10	1,002	5.41	1,248	24.55	1,282	2.72	1,339	4.45	1,358	1.42	1,383		
39.	478	-	268	43.10	271	1.11	319	17.71	1,054	30.48	178	83.10	268	30.56	1,002	27.38	118	118.06	2,296		
Total		8,810	-	9,190	4.30	10,596	15.30	11,618	9.85	12,040	3.63		14,606	10.91			20,471	22.44			

Source : Dinas Perindustrian Prop. Kalimantan the annual report

Investment Requirement

For the development of the agriculture in South Kalimantan are still neede Balai-balai Penelitian in the field of :

1. Fishery
2. Breeding
3. Plantation / Gardening and
4. Forestry

Industry as much as 6.15 %

6.2. Trend of the Developing Employment in Industrial Sector in the period 1972 - 1982

In making the development trend of employment in industry in the period of 1972 - 1982 in South Kalimantan, so that industries can be divided into 9 kinds of industries according to the classification of ISIC (International Standard Industry Classification) namely :

Code ISIC	Kind of industries
3.1.	Food, drinks and tobacco industries
3.2.	Textile, Confection and Leather industries
3.3.	Lumber and Wood Industries
3.4.	Paper and Printing Industries
3.5.	Chemical, Rubber, and Plastic Industries
3.6.	Mineral not Metal Industries
3.7.	Metal Based Industries
3.8.	Metal and Machinery Industries
3.9.	Other Industries

Trend of employment development in industrial sector from 1972 - 1982 can be seen in Table III.73.

The employment development in Industrial sector from 1972 - 1982 indicated the average growth per year by 15.49 %. By using geometrics the growth degree is about 14.86 per year. How very limited the growth degree of employment can be seen on the following Table (Table III.70)

TABLE III.70

The Employment Development in the Industrial Sector
according to the Kind of Industry

Code ISIC	Kind of Industry	Growth %
3.1	Food, Drinks and Tobacco Industries	4.47
3.2.	Textile, Confection and Leather Industries	-7.48
3.3	Lumber and Wood Industries	21.07
3.4	Paper and Printing Industries	-3.38
3.5.	Chemical, Rubber and Plastic Industries	7.93
3.6	Minerals not Metal Industries	28.58
3.7	Basic Metal Industries	-
3.8	Metal and Machinery Industries	5.23
3.9	Other Industries	17.24

From the above data can be seen the kinds of industry in absorbing manpower which is reasonably high is the mineral not metal industries, lumber and wood industries and other industries, whereas other kinds of industries the increase of the absorption of manpower is small and there is even an indication of minus increase

6.3. Productivity

Productivity in this study is calculated from the values of production divided by the number related in industrial sector. This is due to the volume of production which is difficult to find considering the various units used in each type of industry.

TABLE III. 71
Productivity in Industrial Sector
From 1972 - 1982

Year	The Value of product (million rp)	Number of manpower	Productivity (million rph)
1972	4,182 940	8,810	0.475
1973	5,086 730	9,190	0.554
1974	6,725 260	10,596	0.635
1975	12,137.929	11,618	1.045
1976	20,562.199	12,040	1.708
1977	22,163.643	13,241	1.674
1978	29,886.522	14,606	2.046
1979	58,419.642	16,719	3.494
1980	92,076.396	20,471	4.496
1981	85,553.558	23,327	3.668
1982	102,109.580	35,203	2.901

Source : Annual report from Dinas Perindustrian
reprocessed

The limited productivity in the industrial sector can be seen on the following data :

TABLE III, 72

The Productivity of Food, Drink and Tobacco
in 1972 - 1982

Year	Value (in milion)	Number of manpower	Productivity (in million rph)
1972	1,074.540	1,461	0,735
1973	519.356	1,432	0.363
1974	489.806	1,725	0.284
1975	2,790.273	1,818	1.535
1976	2,488.267	1,978	1.258
1977	2,548.512	2,078	1.226
1978	2,730.753	2,361	1.157
1979	5,619.167	2,572	2.185
1980	9,127.837	2,922	3.124
1981	9,579.170	2,986	3.208
1982	11,665.179	2,263	5.155

Source : Dinas Perindustrian Prop.KalSel

TABLE III. 73

The Productivity of Textile, Confection and Leather
1972 - 1982

Year	Value of product (in million rp)	Numbers of manpower	Productivity (in million rup)
1972	35,200	40	0,086
1973	19,655	25	0,078
1974	13,126	24	0,053
1975	32,868	26	0,125
1976	61,210	242	0,253
1977	144,940	227	0,639
1978	346.032	243	1.424
1979	238.938	247	0.967
1980	223.804	215	1.041
1981	155.603	209	0.745
1982	175.193	188	0.932

Source : Dina^s Perindustrian Prop.Kalsel

TABLE III. 74
 The Productivity of Lumbering and Wooden Industries
 1972 - 1982

Year :	Value of product (in million)	Numbers of manpower	Productivity (in million)
1972	2,514,000	3,539	0.710
1973	2,902,272	3,239	0.896
1974	5,337,240	4,169	1.280
1975	5,126,746	4,884	1.050
1976	10,640,635	5,472	1,944
1977	10,799,918	7,215	1.497
1978	12,296,915	7,220	1.702
1979	22,913,320	8,097	2.830
1980	52,825,157	10,790	4.892
1981	53,600,083	12,888	4.159
1982	66,590,448	23,937	2.782

Source : Dinas Perindustrian Prop.Kalsel

TABLE III, 75

The Productivity of Papers and Printing
in 1972 - 1982

Year	Value of product (in million rp)	Numbers of manpower	Productivity (in Million rp)
1972	70.890	697	0.102
1973	373.023	700	0.533
1974	298.632	705	0.424
1975	31.992	694	0.046
1976	0.151	309	0.005
1977	70.860	327	0.217
1978	90.040	352	0.256
1979	69,810	398	0,175
1980	112.153	436	0.257
1981	1,089.036	545	1.998
1982	5,722.310	548	10.442

Source : Dinas Perindustrian Prop.KalSel

TABLE III. 76

The Productivity of Chemical, Rubber and Plastic
industry in 1972 - 1982

Year	Value of product (in million rp)	Numbers of manpower	Productivity (in million rp)
1972	460.200	1,271	0.362
1973	1,227.018	2,460	0.499
1974	511.209	2,552	0.200
1975	3,418.418	2,530	1.351
1976	6,930.614	1,846	3.754
1977	7,823.910	1,837	4.259
1978	13,771.666	2,624	5.248
1979	24,809.140	2,714	9.141
1980	24,408.723	2,159	11.306
1981	16,080.030	2,570	6.257
1982	11,626.828	2,75	4.267

Source : Dinas Perindustrian Prop.KALSEL

TABLE III. 77

The Productivity of Mineral Out of Metal Industry

1972 - 1982

Year	Value of product (in million rp)	Numbers of manpower	Productivity (in million rp)
1972	-	-	-
1973	-	-	-
1974	-	-	-
1975	315.670	156	2.023
1976	76.146	136	0.560
1977	8.055	136	0.059
1978	105.085	251	0.419
1979	71.549	354	0.202
1980	192.550	398	0.484
1981	321.281	451	0.7123
1982	681.745	667	1.022

Souece : Dinas Perindustrian Prop.KalSel

TABLE III. 78
 The Productivity of Metal and Machinery Industry
 1972 - 1982

Year	Value of product (in million rp)	Numbers of manpower	Productivity (in million rp)
1972	28.200	919	0.031
1973	45.406	953	0.060
1974	72.228	909	0.089
1975	156.777	953	0.165
1976	210.148	1,002	0.210
1977	742.175	1,248	0.595
1978	400.878	1,282	0.313
1979	811.076	1,339	0.606
1980	1,631.939	1,358	1.202
1981	1,812.238	1,383	1.310
1982	1,098.481	1,530	0.718

Source : Dinas Perindustrian Prop.Kalsel

TABLE III. 79

The Productivity of Another Industries

1974 - 1982

Year	Value of product (in million rup)	Numbers of manpower	Productivity (in million rup)
1974	3.03	271	0.011
1975	253.200	319	0.794
1976	155.018	1,054	0.147
1977	23.273	178	0.131
1978	129.153	268	0.482
1979	3,886.642	1,002	3.879
1980	3,554.233	2,185	1.627
1981	4,550.399	2,345	1.940

Source : Dinas Peindustrian Prop.KalSel

6.4. Projection

The development of industrial sector in South Kalimantan in the case the number of enterprises, employment and the productivity till the year of 1990 are as the data belows :

6.4.1. Projection of the Number of Enterprises

TABLE III. 80

Projection of the Number of Enreprises Industry
in South Kalimantan up to 1990

Year	Number of Enterprises Projection
1983	2,684
1984	2,849
1985	3,024
1986	3,210
1987	3,407
1988	3,617
1989	3,840
1990	4,076

6.4.2. The projection of Employment

The development in industrial sector in South Kalimantan in case of the employment up to 1990 can be seen in the next table

TABLE III. 81

The Projection Employment in Industrial Sector in South Kalimantan
up to 1990

Kinds of Industry	Y E A R							
	1983	1984	1985	1986	1987	1988	1989	1990
31. Food, Drinks and Tobacco Industries	2,421	2,535	2,654	2,779	2,910	3,046	3,190	3,340
32. Textile, Confection and Leather Industries	174	161	149	136	127	118	109	101
33. Lumbering and Wooden Industries	28,992	35,101	42,493	51,451	62,291	75,416	91,307	110,545
34. Paper and Printing Industries	477	461	444	431	416	402	388	375
35. Chemical, Rubber and Plastic Industries	2,942	3,176	3,424	3,699	3,993	4,309	4,651	5,020
36. Mineral not Metal Industries	858	1,103	1,421	1,823	2,344	3,014	3,876	4,983
37. Metal Based Industries	-	-	-	-	-	-	-	-
38. Metal and Machinery Industries	1,610	1,694	1,783	1,874	1,974	2,078	2,186	2,300
39. Other Industries	2,750	3,224	3,684	4,431	5,195	6,090	7,140	8,371

6.4.3. Projection of Productivity

The development of productivity in Industrial sector can be seen on the following Table

TABLE III. 82
The Development of the Value of Production
in South Kalimantan during 1972-1982

Kinds of industry	Development of the value of product (%)
31. Food, Drinks and Tobacco Industries	26.93
32. Textile, Confection and Leather Industries	17.40
33. Lumbering and Wooden Industries	38.83
34. Paper and Printing Industries	55.13
35. Chemical, Rubber and Plastic Industries	38.12
36. Mineral not Metal Industries	11.63
37. Metal Based Industries	-
38. Metal and Machinery Industries	44.23
39. Other Industries	51.09

The projection of development in industrial sector in South Kalimantan in case of the value of production till the year of 1990 is as the next Table.

TABLE III. 83: The Projection of the Value of Production in Industrial Sector
in South Kalimantan up to 1990 (in million rupiah)

Kinds of Industry	Year							
	1983	1984	1985	1986	1987	1988	1989	1990
31. Food, Drinks and Tobacco Industries	14,805.012	18,792.630	23,853.713	30,277.313	38,830,923	48,780.892	61,917.144	78,591.8
32. Textile, Confection and Leather Ind.	205.533	241.276	283.254	332.570	390.438	458.374	538.138	631.7
33. Lumbering and Wooden Industries	92,816.880	128,867.6	178,494.0	248,383.2	344,845.4	478,741.0	664,626.3	922,713.
34. Paper and Printing Industries	8,876.1	17,769.7	21,361.3	33,138.2	51,407.3	79,747.7	123,712.3	191,914.
35. Chemical, Rubber and Plastic Industries	16,060.9	22,181.6	30,640.1	42,319.9	58,450.0	80,732.9	111,506.5	154,015.
36. Mineral not Metal Industries	760.7	849.2	947.0	1,057.5	1,180.6	1,319.5	1,471.0	1,644.
37. Metal Based Industries	-	-	-	-	-	-	-	-
38. Metal and Machinery Industries	1,098.4	1,584.3	2,285.0	3,296.0	4,753.7	6,856.3	9,888.6	14,262.
39. Other Industries	6,876.9	10,388.8	15,698.4	23,717.2	35,832.9	54,141.8	81,801.3	123,594.

TABLE III.84: The Projection of Productivity in the Industrial Sector
in South Kalimantan till 1990
(in million rupiah)

Kinds of industry	y e a r							
	1983	1984	1985	1986	1987	1988	1989	1990
31. Food, Drinks and Tobacco Industries	6.115	7.413	8.988	10.895	13.344	16.014	19.410	22.846
32. Textile, Confection and Leather Industries	1.181	1.499	1.901	2.433	3.074	3.884	4.937	6.255
33. Lumbering and Wool Ind.	3.201	3.671	4.200	4.827	5.536	6.348	7.279	8.346
34. Paper and Printing Ind.	18.608	29.869	47.895	76.886	123.575	198.377	318.846	511.772
35. Chemical, Rubber and Plastic Industries	5.459	6.984	8.938	11.440	14.638	18.735	23.959	30.680
36. Mineral not Metal Ind.	0.886	0.769	0.667	0.580	0.503	0.437	0.379	0.330
37. Metal Based Industries	-	-	-	-	-	-	-	-
38. Metal and Machinery Ind.	0.682	0.935	1.281	1.758	2.408	3.299	4.523	6.201
39 Other Industries	2.500	3.222	4.261	5.352	6.897	8.890	11.456	14.764

6.4.4. Analysis of Industrial Development

If it be seen the development of the existing industries nowadays where mostly are the industries that made the raw materials from out of South Kalimantan, such as :

- Food, drinks and tobacco industries
- papers and printing industries
- metals and machinery industries,

where the industries that made the raw materials from South Kalimantan itself is only limited on lumberings, rattans and rubber industries. Observing from the potency of the nature sources, South Kalimantan has various potential such as :

- Minerals: Coal

Quartz sand

caolin

Batu gamping

Iron ore

Gambut

- Natural Plantation : 1. Oranges
- 2. Pine-apples
- 3. Bananas
- 4. Rambutans
- Second Crop Plantation : 1. Corn
- 2. Cassava
- 3. Sweet potatoes

But it was deeply regretted that the exist potency above has never touched by the private investors. It can be understood because those private investors just only want to invest their money if the exertion condition the concerning region are well enough and support enough, for example there is the properly infra structure that is good enough and the needs of the industry facilities.

If we see the region's condition in South Kalimantan, especially about the infra structure are very poor, for instance there isn't any good enough streets to the existing basic nature on those regions, there is not any other industry's facilities such as electricity, quays etc. It's as the reason why the private investors are not attract to invest their money in this region.

7. A Study on Mineral Resources

The existing mineral resources.

The high potential minerals exist in South Kalimantan are :

- Coal
- Quartz sand
- Caolin
- Lime stone (batu gamping)
- iron ore.

7.1. The Past Condition

Coal is particular had once been exploited. It stopped now leaving some small diggings done by the local people. During the Japanese occupation iron ore used to be exploited too, and now it stopped completely.

Coal and iron ore exploitation in the past can be described as follows.:

7.1.1. Coal.

Coal found in South Kalimantan is non caking coal, therefore it needed another kind of process to change it to middle or high quality coke. Nevertheless South Kalimantan's coal could still be used as fuel for steam engine/kettle (for instance locomotive, steam boat , generator etc)

Formerly when steam boats, trains and various industries weren't still using steam kettles, coal from Kalimantan, Pulau Laut in particular, was exploited in large amount to fulfill the need of fuel. Here are some places that used to be exploited :

- Stagen Kota Baru : in 1903
- Gunung Kupang : in 1918-1929
- Martapura : in 1918-1928
- Amuntai/Parangin : in 1918
1939 -1940
- Gunung Batu Besar : in 1919-1931
- Banyu Irang : in 1920
- Pulau Sebuku : in 1928
- Pulau Laut : in 1928 - 1931
- Pengaron : in 1929

Survey on coal in South Kalimantan had been done since the Dutch colonialism until 1965 by :

- Hooze : in 1888
- Goellner : in 1921
- Ubaghs : in 1938
- Klees : in 1917
- De Stoutz & van Doornink in 1940
- Lemann & Baum : in 1956- 1960 (Wedexro)
- Sutaryo Sigit : in 1958
- Proyek Besi Baja Kalimantan : 1963-1965

The main purpose of the surveys was to find out the spread of the amount of sediment reserve, the quality and the possibilities of its use etc. In general the surveys had not been done in detail and the data obtained were still very limited.

7.1.2 . Iron ore

During the Japanese occupation people used to build a furnace in Bijuin (Kabupaten Tanah Laut) taking the ore from Tanalang and Batukora. The capacity of the furnace was 3,000 tons pig per year, but could only produce 800 tons pig per year. Lime-stone from Batukora is used flux.

7.2. The Present Condition

The details of the high potential minerals in south Kalimantan mentioned above are :

7.2.1. Coal

Location

Coal in South Kalimantan are located in :

1. Gunung Kupang
2. Kerasik (in the village of Banyu Irang Sungai Riam)
3. Sungkai (in the village of Paku Keratongan).
4. Sungkai (in the village of Sarang Burung
5. The village of Transad Binuang
6. Kandangan
7. Sungai Benawa Pagat
8. Lasung Batu Paringin
9. Gumpa Paringin
10. Pulau Laut
 - Stagen
 - Semblimbangan
 - Sungup
 - Sungup-Salero
11. Pulau Sebuku
12. Telaga Langsat
13. Lok Haur
 - Arah Hulu
 - Halintang

14. Sungai Sebbabi
15. Tiwadek Lebak
16. Sarang Burung
17. Gunung Damar
18. Sungai Gering
19. Daerah Cempaka
20. Sungai Mondin
21. Guntung Mondin

Capacity Available

Here is the result of the survey done
by various institutions :

TABLE III. 85

Capacity of Coal Deposit

No : Location		Surveyed by	The result of the survey
1	2	3	4
1.	Gunung Kupang	Pusat Pengembangan Teknologi Mineral	Thin layer of coal under the lanau stone, the position is not clear
2.	Kerasik Banyu Irang Sungai Miam	ibid Lembaga Geologi dan Pengembangan Nasional	Layers of coal about 1.5 m thick The sediment aslant bout 15° -30° north- west.
3.	Desa Paku Ke- patongan Sung- kai.	Pusat Pengembangan Teknologi Mineral	Thin layers of non caking coal about 60-70 cm thick. Location N 70° E/40°
4.	Gunung Sarang Burung Singsai	ibid	Coal about 3 m thick Location of layers N 230° E/30°

1	2	3	4
5. Desa Transad Binuang	Pusat Pengembangan Teknologi Mineral		About 25-70 cm thick layers of coal and lanau stone sand. Location of layers N 230° E/35°
6. Kandangan	ibid		Layers of coal about 1 m thick. Location of layers N 195° E/41°
7. Sungai Benawa Pagat	ibid		Split of coal in the layers of lanau stone sand.
8. Lasung Batu Area Paringin	ibid		Layers of coal 4-5 m thick. Location of layers N 195° E/41°
9. Gumpa Paringin	ibid		Layers of coal about 2 m thick go straight from the layers at N 195° E about 45° - 50° aslant
10. Pulau Laut	Lembaga Geologi dan Pengembangan Nasional.		Reserve : 2,600,000*
- Stagen	Nasional.		Reserve : 2,600,000*
- Seablimbingan	L.I.P.I.		Reserve : 3,900,000*
- Sembuluan			Reserve : 4,200,000*
- Sungup			Reserve : 10,600,000*
- Sungup-Salero			Reserve : 200 m in depth
11. Pulau Sebuku	Direktorat Geologi		Reserve: 197,000 tons
12. Telaga Lingsat Area	Kanwil Dept. Pertambangan Prop. KalSel		The layers of coal at N 120° E/31°. Shining coal, easily broken, brownish black

1.	2	3	4
13.	Lok Naur -Aral Hulu -Halintang	Kanwil Dep.Pertamb. Prop.KalSel	The layers are located at N 3° E/ 46° . Layers of coal about 3 cm thick. Location of layers N 136° E/ 46° Revealed coal about 1 m thick on the east slope of the hill of Halintang Located at N 182° E/ 26°
14.	Sungai Sebarbi	ibid	Shining coal, brownish black, easily broken, about 40-80 cm thick, located at N 235° E/ 43°
15.	Tiwadek Lebak	ibid	Revealed coal, located at N 156° E/ 24° about 1 m thick.
16.	Sarang Burung	ibid	Revealed coal about 50 m along the southern slope of the hill of Sarang Burung, located at N 230° E/ 34° about 3 m thick.
17.	Cunung Damar	ibid	Difficult to determine the thickness of the coal.
18.	Sungai Gerang	ibid	The rock generally located at 150° E/ 22° . Black in colour, brittle, shining about 1 m thick
19.	Cempaka Area	ibid	Revealed in several places especially in the eastern and southern part

1	2	3	4
20.	S ungal Mon- din	Kanwil Dep.Pertam- bangan Prop.KalSel	Revealed coal and rock alternatively located at N 255° E/6°
21.	G untung Mondin	ibid	Kind of shining coal brownish black , brittle about 60 cm thick

Resource: Kalimantan Mineral Resource Potency,
Region Office of the Department of
Mining and Energy Prop.KalSel, 1982

The result of the samples obtained from several
places is as follows

Pulau Laut (Sungup-Salero)

Chemical Analysis

Sample no	I	II	III	IV
Free H ₂ O	6.6 %	9.8%	4.4 %	5.2 %
Noisture	3.7 %	3.7 %	3.7 %	3.4 %
Ash	4.4 %	9.8 %	5.2 %	23.6 %
Vol.matter	49.8 %	46.1 %	46.1 %	39.8 %
Fixed carbon	42.1 %	40.4 %	45.0 %	33.2 %
Sulphceer	0.3 %	0.4 %	0.4 %	0.4 %
Calorific value	7.698 Cal	6.983 Cal	7.508 Ca	5.864 Cal

Pulau Sebuku

Technical Analysis

Test no	%	%	%	The value of calorie
1. K1 203	9.3	-	37.7	-
2. K1 204 a	3.7	6.9	45.4	4,515
3. K1 204 b	5.6	6.0	55.4	6,830
4. K1 204 (avc)	4.6	6.45	45.4	7,172
5. K1 205	7.0	5.1	41.3	6,728
6. K1 206	8.2	-	44.04	-
7. K1 207	11.2	5.0	40.04	6,936
8. K1 208 a	8.05	6.5	40.8	6,640
9. K1 208 b	5.1	5.6	40.8	7,285
10. K1 208 c	4.7	7.3	43.8	7,576
11. K1 208 (avc)	5.9	6.5	43.5	7,166

Source : Kanwil Dep. Pertambangan Prop. Kalsel

Petrographical Analysis at Kanibungan Pulau Sebuku

No sam-	Vitrain (%)	Claraian (%)	Claraian resinous (%)	Hydrite (%)	Claraian durei stage (%)	fusain inter stage (%)
41	35.5	62.0	0.4	1.6	-	1.0
42	42.2	52.4	-	1.0	3.7	0.7
43.	22.8	38.7	23.3	3.8	4.6	6.8
44.	37.2	47.0	3.1	1.5	1.5	4.7
45.	21.7	62.3	5.6	0.4	2.5	7.5
Mixed sample	31.7	52.4	4.6	1.6	2.4	4.3

Source : Kanwil Pertambangan Prop.KalSel

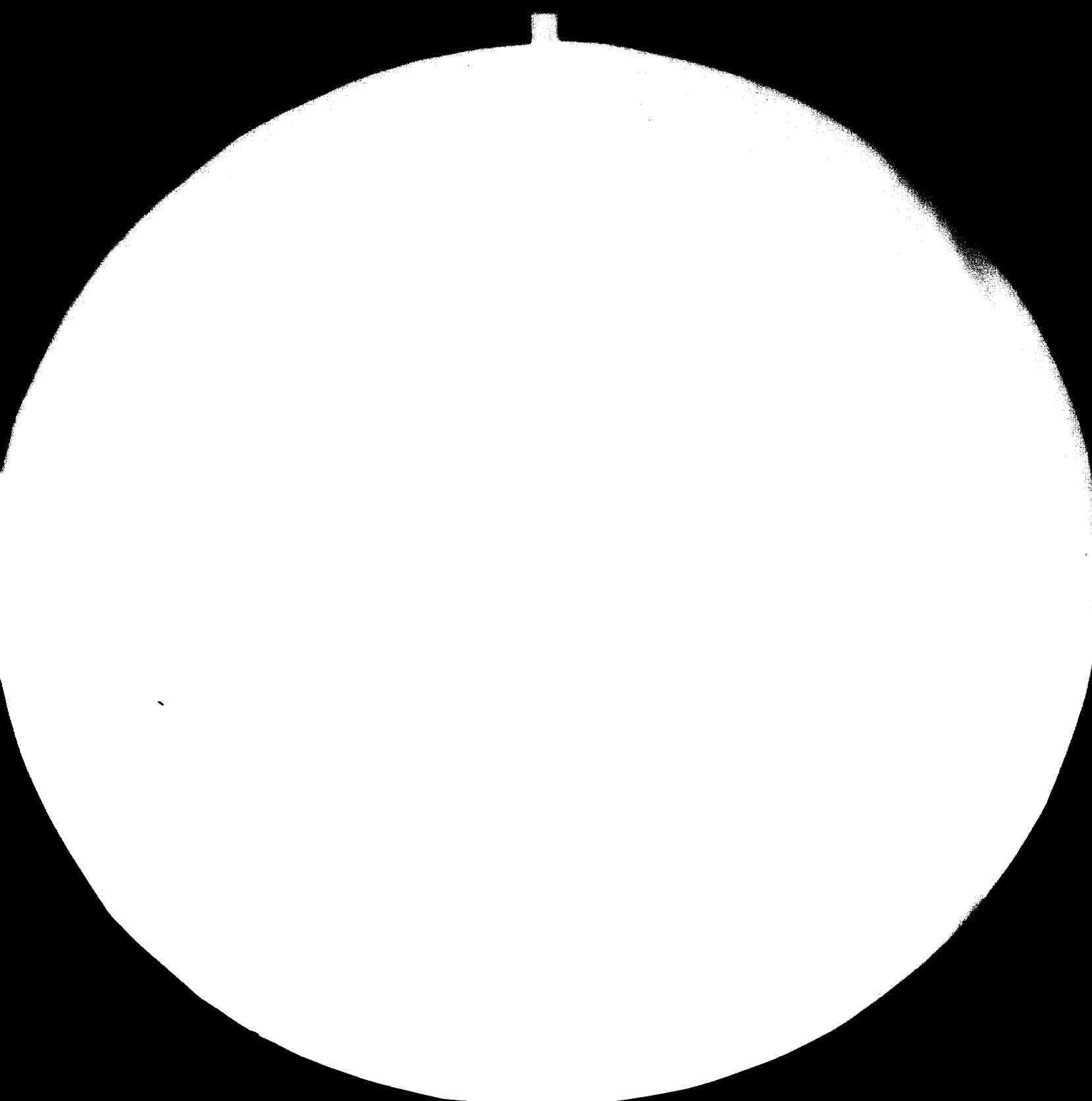
Resource : The above data is obtained only as far as the exploration phase, price and employment data could not be obtained.

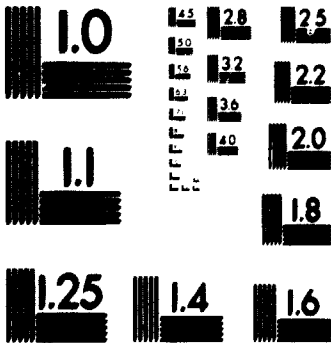
To see where exactly the location of the coal in South Kalimantan, please look at the Map

85.05.21

AD.86.0

IIIIFR





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS
STANDARD REFERENCE MATERIAL 1010a
(ANSI and ISO TEST CHART No. 2)

7.2.2. Quartzite

Location

Location of quartzite in South Kalimantan are :

1. Kintap, Asam-Asan, Jorong Tanah Laut
2. Kuala Tambangan Takisung Tanah Laut
3. Liang Anggang Banjarbaru

Available Capacity

Based on the research's result of Kanwil Departemen Pertambangan dan Energi Prop. Kalsel can be seen in Table III. 86

TABLE III. 86
Capacity of quartz Deposit

No	Location	Result of the study
1.	Kintap, Asam-Asan Jorong	: Measured : 7,500,000 tons reserve Indicated : 45,000,000 tons reserve SiO_2 : 97 - 99 % Fe_2O_3 : 0.10 - 0.20 % TiO_2 : 0.05 - 0.3 % Al_2O_3 : 0.2 - 0.7 % Measurement of grain : fine up to now
2.	Kuala Tambangan	: Quality and reserve are not known yet
3.	Liang Anggang	Quality and reserve are not known yet, partly they are mined as 'urug' sand

Source: Kanwil Departemen Prop. Kalsel

The result of the analysis in Kuala Tambang is as follows :

SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	CaO	Mg O	MnO	tiO ₂	(in %)
96.03	empty	2.40	0.595	0.022	0.019	0.138	%

Source : Kanwil Departamen Prop.KalSel

Resource : The abovedata is obtained only as far as the exploration phase, price and employment data could not be obtained.

To see where exactly the location of the quartzite sand in South Kalimantan is, please see picture 10

7.2.3. Caoline

Location

In South Kalimantan caoline is located in :

1. Pematang Danau Martapura
2. Surian Martapura
3. Tatakan, Bitahan Rantau

The capacity Available :

The next data shows the result of survey done by various institutions

TABLE III. 87

Capacity of Caoline Depcsit

No	Location	Surveyed by	The result obtained
1.	Pematang Danau Martapura	Kanwil Departamen Prop. Kalsel	White : 8,254,632* Yellow and Red : 1,340,000* * in tons suitable for fine ceramics and fire-proof bricks
2.	Surian Martapura	Direktorat Sumber Daya Mineral	Quality : unknown Reserve : 8,500,000 m ³
3.	Tatakan, Bitahan Rantau	Kanwil Departamen Prop. Kalsel	Reserve: 4,849,106 ton Suitable for fire-proof bricks. A kind of somat fine ceramics

Source : Kanwil Departamen Prop. Kalsel

The result of the sample analysis done in
Pematang Danau Martapura

SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	TiO ₂	CaO	MgO	Mn ₂ O	K ₂ O	Disappear Blazing
44.52	7.64-	0.03-	0.05-	0.01	0.02-	0.05-	0.12-	2.57-
%	27.75%	9.63%	0.43%	1.07%	1.72%	0.27%	2.15%	12.58%

Source : Kanwil Departamen Prop. KalSel

Resource : The above data is obtained only as far as
the exploration phase, price and employment
data could not be obtained.

To see where exactly the location of kaolin
(caoline) is in South Kalimantan, please
look at the pictue 10.

7.2.4. Limestone

Location

Limestone in South Kalimantan can be found in

1. Padang Batung Kandangan
2. Telyk Kalumpang Kota Baru
3. Gunung Besar Lantung, Hulu, Sampanahan, Sungai-Kupang, Gunung Bataraja, Mantewe Kota Baru
4. Cabe Martapura
5. Pagat, Batu Tanga, Liang Hadangan Barabai
6. Matungan, Gunung Batu, Lompinit Rantau
7. Jaro and Lumbang, Muara Uya Tabalong

The capacity available

The following data shows the result of survey done by various institutions

TABLE III, 88

The Capacity of Limestone Deposit

no	Location	Surveyed by	The result obtained
1	2	3	4
1.	Padang Batung Kandangan	Direktorat Sumber Daya Mineral Departemen Perindustrian	The quality of limestone and clay available fullfills the requirement for cement basic materials Reserve : more than 9 millions tons. CaO : 53.0 - 55.8 % MgO : 0.3 - 2.9 %

1	2	3	4
2.	Teluk Kalumpang	Kanwil Departemen Prop. KalSel	<p>Measureable reserve in Dungauken and Sungai Ku- pang is 226.5 million tons.</p> <p>Indicated reserve : 5.9 billions tons CaO : 53-56 % MgO : 1 - 2.7 %</p> <p>The limestone and clay fulfill the require- ments for cement basic material</p>
3.	Gunung Batu Be- sar, Lantung Hulu, Samparahan, Sungai Kupang, Gunung Ba- tu Raja, Mentowe	Kanwil Departemen Prop. KalSel	<p>Quantity and quality ha- not been revealed</p> <p>Reserve : large enough.</p>
4.	Cabe Mattapura	ibid	Reserve : little
5.	Pagat, Batu tangga Liang Madangan Barabai	ibid	Quantity and quality haven't been revealed
6.	Hatangan, Gunung Ba- tu, Lampinit Rantau	ibid	Quantity and quality haven't been revealed
7.	Jaro and Lumbang Muara Uya Taba- long "	ibid	Quantity and quality haven't been revealed

Resource : Kalimantan Natural Resource Potency

Several limestone sediment locations that have been surveyed and sampled showed by the next data

Gunung Heringgit Tabalong

No	CaO	MgO	Al ₂ O ₃	Fe ₂ O ₃	MnO	SiO	TiO	HB
1.	55.00	0.046	0.034	0.069	-	0.06	-	42.49
2.	55.00	0.025	0.057	0.107	-	0.38	0.020	42.89
3.	55.00	0.361	-	0.050	0.012	0.22	0.020	42.59

Resource : Digging material in South Kalimantan

Masakau Tabalong

no	CaO	MgO	Al ₂ O ₃	Fe ₂ O ₃	MnO	siO	TiO	HB
1.	51.43	1.356	0.061	0.100	-	1.10	-	43.33
2.	53.57	1.166	0.088	0.071	0.006	0.98	0.138	42.71

Resource : Mineral in South Kalimantan

Cantung Kota Baru

No	CaO	The rest aren't melted	Al ₂ O ₃	Fe ₂ O ₃	H ₂ O	P ₂ O ₅	SO ₃	HB
1.	55.36	0.37	0.43	0.07	0.22	0.08	-	43.47
2.	55.71	0.11	0.19	0.01	0.18	0.06	-	43.80
3.	55.74	0.09	0.12	0.21	0.01	0.01	-	43.82

Resource : Mineral in South Kalimantan

Gunung Batu Tunggai Barabai

No	CaO	MgO	Al ₂ O ₃	Fe ₂ O ₃	MnO	SiO ₂	TiO ₂	HB
1.	54.28	0.055	0.012	0.176	-	0.55	0.080	42.52
2.	55.36	0.030	0.047	0.086	0.015	0.46	0.020	42.94
3.	55.00	0.041	-	0.176	-	0.28	-	42.77

Source : Mineral in South Kalimantan

The above data is obtained as far as the exploration phase; price and employment data have not been obtained.

To see where exactly the location of limestone in South Kalimantan is , please look at the picture.

7.2.5. Iron Ore

In South Kalimantan iron ore can be found in :

A. Kabupaten Tanah Laut

1. Ulin
2. Tembaga
3. Gunung Melati, Gunung Pisang
4. Gunung Batubara
5. Jajakan -Pontain
6. ~~Kerataan~~
7. Tanjung
8. Riam Pinang
9. Takisung
10. Sarang Alang

B. Kabupaten Kota Baru

1. Gunung Kukusan
2. Pulau Sebuku

C. Kabupaten Hulu Sungai Tengah

1. Gunung Tanalang
2. Gunung Batu Berani
3. Gunung Batu Besi

D. Kabupaten Tabalong

1. Paduang, Lumbang , Kinarum

The Capacity Available

The following data shows the result of surveys done by several institutions. It shows the capacity available.

TABLE III. 89
Capacity of Iron Ore Deposit

no	Location	Surveyed by	The result obtained
1	2	3	4
1.	Tanah Laut		
	1.1. Ulin'	Proyek Besi Baja Kalimantan	Total reserve : 489,300 tons with average of . . 50.63 % degree of Fe
	1.2. Tembaga	ibid	Total reserve of insitu ore 464,000 tons, 62.37 % Fe
	1.3. Gunung Me- lati, Gunung Pisang	ibid	Total reserve of alluvial ore : 108,700 tons , 56.00 % Fe
	1.4. Gunung Ba- tu Kora	ibid	Total reserve of insitu :35,000 tons alluvial:120,000 tons 51.42 % Fe
	1.5. Jajakan Pontain	ibid	Total reserve : 1,370,000 tons , 56.37 %
	1.6. Koratain	ibid	Total reserve : 20,000 - 30,000 tons Unrevealed reserve.
	1.7. Tanjung	ibid	Total reserve : 177,000 tons , 50.60 % Fe
	1.8. Riam Pinang	ibid	Total Reserve: 649,200 tons 50.60 % Fe
	1.9. Takisung	ibid	Little reserve
	1.10. Sarang A- lang	Wecks	Total reserve : 1,000 tons

1	2	3	4
2.	Kota Baru		
2.1.	Gunung Kukusan	Wadoxro	Total reserve : 100,000,000 tons
2.2.	Pulau Sebuku	Directorate of Mining Directorate of Geology	Total reserve : 86,120,700 tons
3.	Hulu Sungai Tengah :		
3.1.	Gunung Talang	Directorate of Geology Proyek Besi Baja Kalimantan	Total reserve : 3,018,105 tons Delluvial sediment, 58.21 % Fe Insitu sediment 58.75% Fe
3.2.	Gunung Batu Berani	Directorate of Geology Proyek Besi Baja Kalimantan	Total reserve : 64,800 tons, 54,86 % Fe
3.3.	Gunung Batu Bosi	ibid	Little reserve
4.	Tabalong		
4.1.	Pasung Lumbang Kinarua	Proyek Besi Baja Kalimantan	Little reserve

Resource : Minerals in South Kalimantan

Several iron ore locations that have been surveyed and sampled show the following data.

Gunung Tanalang

Element	SiO ₂	TiO ₂	Al ₂ O ₃	MnO	CaO	MgO	Zn	Cu	H ₂ O
Insitu	7.45	0.12	3.10	0.14	1.50	0.70	0.08	0.01	0.51
Belu- vial	5.45	0.17	2.63	0.17	0.15	0.19	0.14	0.01	0.72

U l i n

Element	SiO ₂	TiO ₂	Al ₂ O ₃	CaO	MnO	Cu	CrO ₃	N
Ore insitu	3.64	0.28	-	-	0.17	0.02	0.09	-

Koratain

Location	Mineral	
The west ore body	Magnetic	64.5 %
The central ore body	Magnetic	64.1 %
The east ore body	Magnetic	59.5 %

Gunung Kukusan

Kinds of sediment	Bank ore %	Clay ore %	Debris %
Fe	47.0	46.6	44.2
SiO ₂	7.1	4.8	9.0
Al ₂ O ₃	9.2	11.0	11.1
Burned-disappear	12.2	11.9	12.5
Cr ₂ O ₃	2.43	2.52	2.55
NiO	0.52	0.70	0.53
MnO	0.48	0.78	0.40
TiO ₂	0.24	0.27	0.39
S	0.08	0.17	0.10
P ₂ O ₅	0.06	0.025	0.06
The total amount of reserve	99.5 % 23 million tons	98.8 % 100 million tons	99.8 % 3.3. million tons

Resource : Minerals in South Kalimantan, 1977

Pulau Sebuku

Location	Fe %	SiO ₂ %	Al ₂ O ₃ %	Cr ₂ O ₃ %	Ni %	TiO ₂ %
1. Seraka-man	a. 53.20	4.79	5.08	2.85	0.91	0.17
	b. 48.31	4.87	7.59	2.03	trace	0.39
	c. 45.31	6.90	12.27	2.05	0.22	0.51
2. Batu	a. 54.35	2.04	6.73	2.11	0.17	0.43
	b. 49.17	4.62	9.08	2.32	0.32	0.53
3. Tanjung Belanda	a. 51.40	2.80	7.60	1.21	0.30	0.34
	b. 48.89	4.62	7.57	2.03	0.39	0.41
	c. 40.83	5.63	9.08	2.25	0.10	0.43
4. Gunung Tabuan	a. 55.75	2.02	2.41	1.49	0.52	0.34
	b. 46.16	6.16	9.14	2.51	0.60	0.40
5. Gunung Damar	Fe %	SiO ₂ %	Al ₂ O ₃ %	Cr ₂ O ₃ %	NiO %	Less in ignition
	a. 47.5	2.75	12.8	2.87	0.35	12.0- 14.5
	b. 49.6	1.90	18.6	3.20	0.60	11.0- 15.7
	c. 48.5	1.82	5.7	4.15	0.91	12.6-13.3

Resource : Minerals in South Kalimantan

The above data is obtained only as far as the exploraton phase; price and employment have not been obtained.

To see where exactly the location of iron ore is , please look at the picture 11

Instead of the minerals and digging materials mentioned above, there is another potential digging material in South Kalimantan called "gambut" (peat)

In geology and mining terms, peat is said to be certain sediment which contains organic substance, comes from disintegrated and decomposed plants in a very wet environment.

Surveys on peat up to now is done for the agricultural need especially in the transmigration site located on the low land or on the dry/ wet swamps.

Surveys are limited for the peat area which is less than 1 m thick, because the area with more than 1 m thick peat is not good for agriculture.

Surveys on peat as the source of energy was done only recently. The peat thickness is estimated to be about 2-5 m. Indonesia is one of the countries which has great potency of peat in the world after Canada, the Soviet Union and the USA. It's estimated that the spread of peat in Sumatera (40%), Kalimantan (50%) and Irian Jaya (10%) covers the area of 26,000,000 ha. Half of the amount of peat is in Kalimantan, so the spreading in Kalimantan is about 13,000,000 ha. If the average thickness is 2 m, the potency of peat in South Kalimantan is about 260 billions m^3 . This is a very potential reserve of peat that can be developed.

In South Kalimantan peat can be found in Kecamatan Gambut, Kabupaten Banjar. According to the result of the surveys done by the region office of the Department of Mining and Energy of the Province of South Kalimantan there is an area of 525 ha of potential peat with 14,990,800 tons reserve.

Another digging materials which are also potential such as ochre, phosphate, clay and laterite.

Ochre

Ochre or the pigment mineral is the soft of soil which consists of the mixed magnesium oxida, sand, clay, etc. Its colour depends on the inside mineral compositon, it will be yellow or brown if the limonite mineral are dominant and read if the hematie mineral are much. And it will be black if there is ion of Mn or Cu and grey if there is MnO₂ inside it.

Ochre can be used as the colour's element of paint, ink, rubber industry, paper, marble, the mateial of plastics, cement etc. Besides it, it can also be used as polish for metals and glass.

In South Kalimantan ochre can be found in the village of Layuh, Kecamatan Kahakan on the Eastern part of Barabai. Here ochre is formed as the result of the residuale hematite concentration, limonite and clay. It seems that hematite is dominant so the red colour is apparent on the ochre sediment. As the result of the sample analysis we can see the the next Table:

No :	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	CaO	MgO	MnO	TiO ₂	P ₂ O ₅	H.B
	%	%	%	%	%	%	%	%	%
1.	51.59	17.27	16.77	0.175	0.464	0.006	0.100	0.280	9.160
2.	49.33	16,64	22.56	0.315	0.514	0.012	0.405	0.670	9.360

Concerning to the ochre's sediment in this region has never been made the surveys in detail so we certainly don't know how much the existing reserve: of ochre here. Then is known too, that there is ochre around Banjarbaru, which never made any surveys, either.

Phosphate

In South Kalimantan the sediment of phosphate is found on the calcium caves in the region of Hulu Sungai Selatan, that is in :

- Gunung Liang Mandala, Gunung Burit Sanga and Gunung Bukit Tunggal in Kecamatan Telaga Langsat.
- Gunung Batu Bini and Gunung Batulaki in Kecamatan Padang Batung.
- In almost all of the calcium's caves on the calcium's mountain clusters alongside north to south along the area about 160 km. This calcium mountain cluster is as the western side of Meratus mountain.

Here the sediment of phosphate comes from the chemical reaction between the animal's rubbish the inhabitants of those caves namely the bat's rubbish and the birds' rubbish which contains phosphate (H_3PO_4) with the limestone or the fragments of the existing limestone at the bottom of the caves.

In 1972 Kanwil Departemen Pertambangan Prop.Kalsel has made a preface survey on the Pahajatan cave in Telaga Langsat and the cave of Batubini in Kecamatan Padang-Batung. The result of the chemical analysis that be taken from these caves are :

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No :      Element      Level %
-----
1.  : P2O5             12.48 - 20.91
2.  : Fe2O3            24.74 - 36.56
3.  : Al2O3             0.19 - 2.22
4.  : CaO               1.25 - 6.50
=====

```

The estimate reserve on these caves are :

- Gua Pahajatan : 3,000 tons
 - Gua Batubini : 8,000 tons
- With the thickness between 1 - 2 m.

Then in 1975 again by Kanwil Departemen Pertambangan Prop. KalSel done the detail survey on locations :
 Gunung Liang Mandala, Gunung Burit Sanga, Gunung Batu Tunggul, Gunung Batuhini and Gunung Latulaki. In this survey or researches the sediment of phosphate be found spreading on 36 caves, with the amount of reserve 41,512,30 tons. This number is too small for the raw material of a factory of fertilizer of super phosphate. It seems that this reserve will only mean if it be done in small scale by the local people as nature fertilizer. From the observation here, the sediment of phosphate can be divided into two types, that is :

- a. Soft rock (soft ore), as the most sediment be found and it exist together with soil, and clay with the thickness between 0.50 - 2.00 m.

Based on the chemical composition , this type of rock includes the kind of Al, Fe-phosphate with the level between 10.00 - 22.00 %. This soft ore generally having SiO₂ between 30.00 - 68.00 %.

- b. Hard rock (hard ore), it's rather hard and adhered/covers the basic of rock that is limestone with the thickness between 10.00.-15.00 cm.

Based on its chemical composition this type is called Ca-phosphate. Generally the level of P₂O₅ between 12.00 - 37.00 %.

Based on the result of chemical analysis about the sample of this rock that be taken in this area is as follows :

- Al ₂ O ₃	: 5.00 - 11.00 %
- Fe ₂ O ₃	: 5.00 - 10.00 %
- CaO	: on the soft ore sediment less than 10.00 % on the hard ore sediment 25.00-40.00%
- P ₂ O ₅	: on the soft ore sediment : 12.00 - 29.00% on the hard ore sediment : 22.00 - 37.00%

MgO	: Less than 1.00 %
K ₂ O	: btween 0.00 - 2.00 % ,generally less than 1.00 %
Na ₂ O	: Less than 1.00 %
Mn	: Less than 1.00 %
H ₂ O	: between 5.00- 10.00 %
CO ₂	: between 1.00 - 4.00 %

The soft ore sediment contains 26.20 - 63.32 BPL (Bone Phosphate of Lime) or 26.20 - 63.32 % Tricalcium phosphate.

The hard ore sediment contains 48.00 - 80.7 BPL or 48.00-80.7 % Ca₃ (PO₄)₂.

(1.00 % Tricalcium phosphate or BPL = 0.458 % P₂O₅)

Clay and Laterit.

Clay be taken and used for making brick-stone and gerabah. The removal location of this clay among others are :

- Simpur near Kandangar
- Pulau Pinang near Binuang
- Mataraman, Binuang
- Lok Tabat, Banjarbaru

Laterit here means the top layer of the ferrous receipt of soil (lateritic). The top layer of this laterit contains 'Iron Cap'. So that it can be used as the the street covering or "Urug" soil, before those streets be covered by stone or rock.

The removal locaton of this 'Iron cap' generally around the stre t thai is being made, among others at :

- Dahai, Taniran, Pasintik near Tanjung
- Banua Anyar and Batu mandi near Paringin
- Telaga langsung
- Simpang Empat
- Bati-Lati
- Pleihari
- Jorong
- Asam-Asam
- Kintap.

8. Transportation

Transportation is one of the elements of the infra structure facilities.

Transportation to move goods and services at a reasonable cost is the primeover of development.

As one of the elements of the Infra Structure transportation in South Kalimantan can be grouped in 4 groups, i.e.,

1. Land Transportation
2. River Transportation
3. Sea Transportation
4. Aerial Transportation

8.1. Land Transportation.

The land way network in South Kalimantan connects the capital of the province with the capitals of the 7 regencies and the Administrative capital of Banjarbaru.

The capital of Barito Kuala regency can be reached by river while the regency of Kota Baru can be either by sea or by air.

According to the last data, since September 30th, 1983 the roads in South Kalimantan consists of 290.00 km State Road and 717.4 km province road.

The communication, length and the classes, the construction and condition of the state road per September 30th, 1983 can be seen in Table III.93

The communication, length and the classes, the construction and condition of the Province Road per September 30th, 1983 can be seen in Table III.94

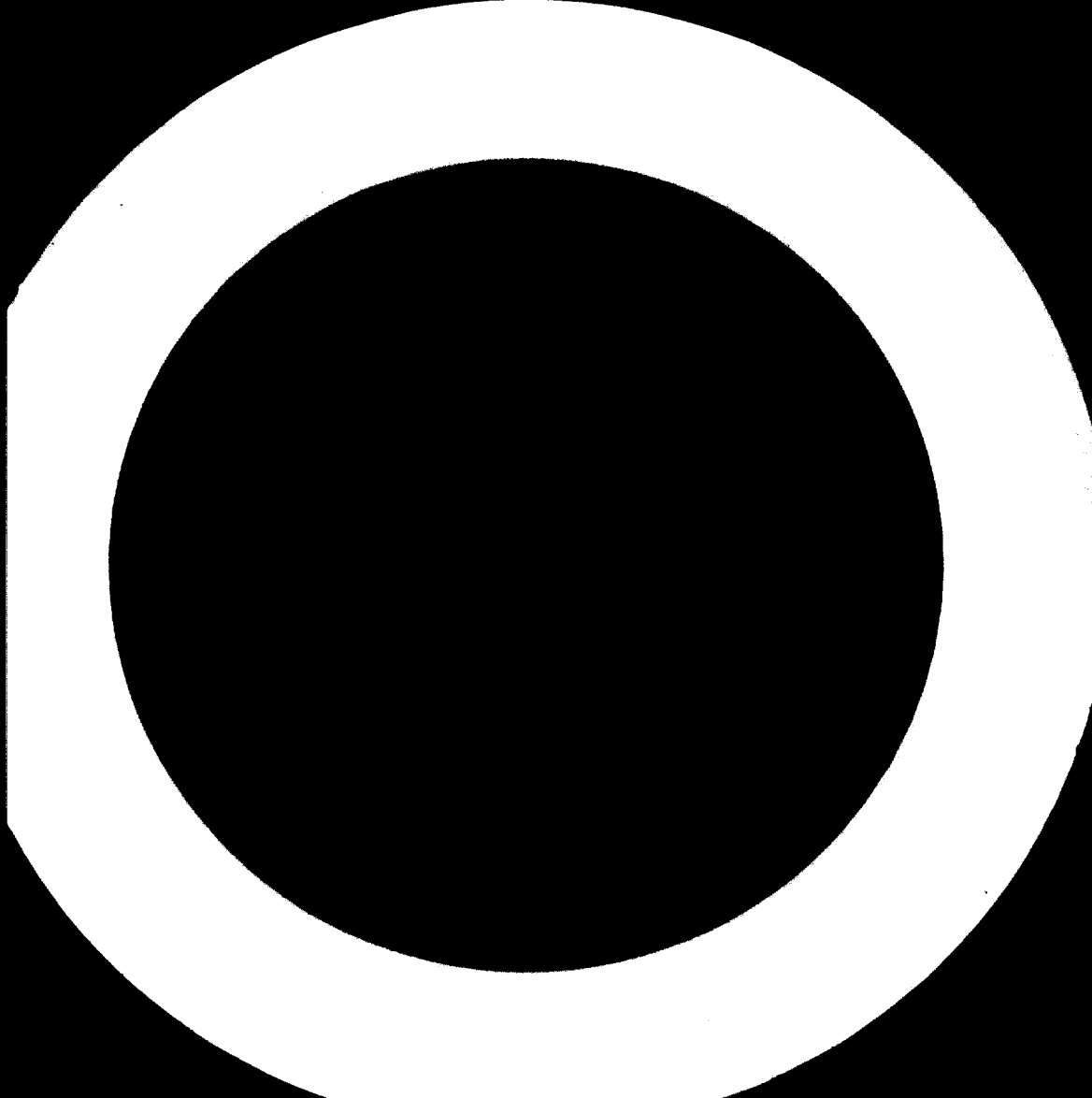


TABLE III. 91

The Condition of the Province Road in South Kalimantan
up to September 30th, 1983

194

No.	Route	Length km	Class	Construction			Condition		Critical km
				Asphalt km	Gravel km	Soil km	Steady km	Unsteady km	
010	: Banjarmasin-Mtपुरा Lama ²	30.00	IV	7.00	16.00	7.00	-	30.00	-
011.	: Simp.3 Liang Anggang- Simp.3 Bati-Bati	13.5	IIIA	13.5	-	-	-	13.5	-
012	: Simp.3 Bati-Bati -Simp.4 Banjarbaru	21.00	IIIA	21.00	-	-	-	21.00	-
013	: Simp.3 Bati-Bati - Plei- hari	32.00	IIIA	32.00	-	-	-	32.00	-
014	: Pleihari-Takisung	22.00	IV	22.00	-	-	-	22.00	-
015	: Pleihari-Kintap	79.00	IV	34.00	45.00	-	-	79.00	-
016	: Rantau -Maga-sari	30.00	IV	21.00	9.00	-	-	30.00	-
017	: Kandangan-Balimau	18.00	IV	15.00	3.00	-	-	18.00	-
018	: Kandangan-Padang Batung	7.00	IV	7.00	-	-	-	7.00	-
019	: Kandangan-Negara	28.00	IV	15.00	13.00	-	-	28.00	-
021	: Barabai-Pagat	7.00	IIIA	7.00	-	-	-	7.00	-
022	: Barabai-Kapar Kias	5.00	IIIA	5.00	-	-	-	5.00	-
023	: Kapar Kias-Mantimin	17.00	IIIA	17.00	-	-	-	17.00	-
024	: Kapar Kias-Birayang	5.00	IIIA	5.00	-	-	-	5.00	-
025	: Amuntai-Lampihong	18.00	LV	18.00	-	-	-	18.00	-
026.	: Lampihong-Mantimin	11.50	IV	11.50	-	-	-	11.50	-
027	: Lampihong-Paringin	12.00	IV	12.00	-	-	-	12.00	-
028	: Mantimin-Paringin	12.00	IIIA	12.00	-	-	12.00	-	-
030	: Paringin-Halong	33.00	IV	8.00	25.00	-	-	33.00	-
031	: Dahai-Paringin	10.00	III	10.00	-	-	10.00	-	-
032	: Tanjung-Dahai	14.00	IIIA	-	8.00	6.00	-	14.00	-
033	: Dahai - Habuun	14.00	IIIA	14.00	-	-	14.00	-	-
034	: Tanjung-Habuun-Batu Babi	71.00	IIIA	71.00	-	-	60.00	11.00	-
035	: Sebanban- Pagatan	35.50	IV	-	-	35.50	-	34.50	1.00
036	: Pagatan - Batu Licin	22.50	V	-	-	22.50	-	21.50	1.00
037	: Kota Baru-Seblimbingan	16.2	IV	9.2	7.00	-	-	14.2	2.00
038	: Kota Baru- Serangan	24.2	IV	10.00	14.2	-	-	22.2	-
039	: Kintap - Sebanban	67.00	IV	-	67.00	-	-	62.5	4.50
040	: Banjarbaru -Aranio	28.0	IIIA	28.00	-	-	-	28.00	-
041	: Anjir - Serapat	14.00	IV	-	4.00	10.00	-	11.00	3.00
		717.4	-	425.2	211.2	81.00	1.8	585.9	13.5

The data given in the two tables above reveal that the construction of the asphalt road of the state road is 79.19 %, and the province road is only 59.27 %.

In general the condition of the 95.15 % of the state road and the 81.67 % of the province road is unsteady.

In the framework of the development of the eastern part of South Kalimantan Batu Licin and Sungai Kupang have been determined as the transmigration location. For that purpose transmigration road between Batulicin and Sungai Kupang has been built. To connect the growth centre of Kandangan and the eastern region of South Kalimantan there are two alternatives of the feasible possibilities to be carried out, i.e.

1. Kandangan - Padang Batung - Batulicin
2. Kandangan - Padang Batung - Sungai Kupang - Batulicin

The Province of East Kalimantan can be reached by the state road, i.e. :Tanjung - Panajam - Balikpapan.

The possibility building new road connecting Sungai Kupang and Tanah Grogot in the region of East Kalimantan is traced as well.

Details of the network of the above mentioned roads can be seen on the enclosed Map of the Network of Road.

Means of transportations and the passenger Transportation service in the area of Kodak XIII which covers the Province of South Kalimantan and the Province of Central Kalimantan from 1975 - 1980 can be seen on the next data.

TABLE III, 92

Numbers of Motor Vehicles and Passenger Transportation- Service in the area of Kodak XIII from 1975 - 1980
(pieces)

Kind	1975	1976	1977	1978	1979	1980
Four wheels Pass. transp	3,125	3,888	4,193	4,662	5,666	6,152
Truck	1,404	2,116	2,132	2,591	3,077	4,572
B u s	148	246	327	337	323	391
T o t a l	4,677	6,250	6,652	7,590	9,066	11,115
Two wheels						
Motorcycle	15,350	20,327	28,880	36,262	42,615	60,064
Passengers (1,000 person)	3,231	4,278	4,354	4,796	5,228	5,803

Resource: Kauwil Perhubungan Darat Prop. KalSel

The table above shows that the number of motor-vehicles as well as the passengers are increasing every year.

According to the Dinas Lalu Lintas Jalan Raya/LLAJR of the Province of South Kalimantan, the amount of goods brought out of Banjarmasin in 1980 was 201,202 tons and the goods brought to Banjarmasin was 361,890 tons.

The important land transportation problems are

1. Most of the roads in South Kalimantan, either the State Roads or the Province ones, are in unsteady condition and are class III roads. However these roads have to be used for heavy equipment transportations and this result in overburdening the roads. Eventually many roads change from steady to unsteady roads.
2. Some of the State Roads especially those located in the regency of Banjar and Hulu Sungai Utara are eroded and this results in hampering the land transportation, This is possible because of the roads are located along the river and some are located on the swamp area. To maintain these roads high expense is needed.
3. High expence is also needed to build new roads because of the difficulties mentioned above caused by the condition of the road sites which go through the swampy and hilly areas.

4. The increase of the land transportations which is faster than the increase of the roads causes traffic congestion especially in Banjarmasin. This situation, in turn, increases traffic accidents.

8.2. River Transportation

River Transportation in the Province of South Kalimantan gives support to the land transportation. The natural condition of this region with rivers that can be sailed to, the interior makes it possible for the river transportation to reach remote places that cannot be reached by the land transportation.

The following table shows the numbers, length, depth, and the available important rivers in South Kalimantan.

TABLE III, 93
The Most Important River in South Kalimantan
December 1983

No	N a m e	Length		Depth		Width m
		Entirely km	Can be sailed km	The highest m	The lowest m	
1.	Sungai Barito	700	650	3	3.80	650
2.	Sungai Martapura	80	45	4	2.40	150
3.	Sungai Negara	127	125	5	2.60	595
4.	Sungai Balangan	50	40	5	1.95	40
5.	Sungai Tabalong	60	42	3	1.00	45
6.	Sungai Kusan	80	40	4	2.20	40
7.	Sungai Batulicin	70	45	3	1.20	90
8.	Sungai Satui	49	30	4	2.30	30
T o t a l		1,416	1,017	-	-	-

Source : Direktorat Lalu Lintas dan Angkutan Sungai
Danau dan Penyeberangan Prop.KalSel

Resource : Direktorat Lalu Lintas dan Angkutan Sungai
Danau dan Penyeberangan Prop.KalSel

To support the river transportation there are several canals, the most important one is Anjir Serapat which connects Sungai Barito and Sungai Kapuas in the Central Kalimantan, 15.00 km in the South and 15.00 km in the Central Kalimantan. This makes the communication between Banjarmasin and Palangra Raya possible.

The means of transportation used are the River Taxi's and River Express Buses.

The following table consists of data about the means of river transportation as is noted by Direktorat LLASDP of the Province of South Kalimantan, 1980

TABLE III. 94

Numbers of Means of River Transportation
in South Kalimantan in 1980

Kind of vehicle	Numbers
1. Motor Dalam	2,298
2. Kelotok	5,846
3. Motor Tempel	4,333
4. Tongkang	176
5. Tiung proa	216

Resource : Direktorat Lalu Lintas dan Angkutan
Sungai Danau dan Penyeberangan
(LLASDP) Prop. KalSel

The numbers of passengers and goods transported by the means of the above river transportation in South Kalimantan in 1980 was about 414,760 persons and about 1,424 tons of goods.

The main problems of the river transportation is that many of the rivers and canals become shallow in the dry season and in the wet season many water plantations grow in the rivers and it makes the rivers difficult to be sailed across.

There is also the problem of lacking the River Communication facilities such as river traffic signs and river piers along the rivers.

10.3. Sea Transportation

There are two kinds of harbours in the sea communication in South Kalimantan i.e. : the Ocean Harbour and the Nusantara Harbour.

There are two Ocean harbours used as the import and export ports i.e. Trisakti Harbour and Kotabaru Harbour.

Trisakti Harbour is located about 20.00 km from the Barito Estuary. Facilities available in Trisakti Harbour are 6,000 m² warehouse, 3,500 m² pile room and 6,554 m² yard. Ships of the 3,000 D.W.T tonnage can dock here.

Kotabaru Harbour is also used as an export-import port to export wood and sea fish.

Besides the above harbours there are also two Nusantara ports in South Kalimantan i.e. : Sungai Martapura and Alalak Port. These ports are used for the interinsular ports, where small boats and sail boats pull in.

Sungai Martapura Port is located on the bank of the branch of the Barito River called Sungai Martapura about 30,00 km from the Barito Estuary. This port has a 4,832 m² warehouse and a 2,700 m² pile room

The most important problems exist in the sea communication are :

1. The shallowness of the Barito Estuary
2. Lacking of bridges and other port facilities such as cranes, Forklifts and so on

10.4. Aerial Communication

There are four airports in South Kalimantan i.e. :

1. Syamsuddin Noor in Banjarmasin
2. Stagen in Kotabaru
3. Batulicin in Batulicin Kotabaru
4. Warukin in Tanjung

- ad.1. The Syamsuddin Noor Airport is located in Banjarmasin with 1,850 m long and 45 m wide landing strip, can be landed on by DC-9.
- ad.2. The Stagen Airport is a pioneer, can be landed on by DC-3, BN-24 and C-212.
- ad.3. Batulicin Airport is especially used for the transmigration transportation and can be landed on by DC-3, BN-24, C-212 and Hercules.
- ad.4. Warukin Airport belongs to PN Pertamina, is used for the Company's needs particularly and is sometimes used for the transportation of the prostrate pilgrims from the regency of Tabalong headed for Surabaya.
This airport can be landed on by DC-3, BN-24 and C-212.

The Airway Companies in South Kalimantan are
- PN Garuda Indonesian Airways which has 3 routes of flights i.e. :

- Banjarmasin-Jakarta-Banjarmasin
- Banjarmasin-Surabaya-Banjarmasin
- Banjarmasin-Balikpapan-Banjarmasin

Flight from Banjarmasin to Jakarta and Surabaya make use of DC-9, while F-28 is used for the flights from Banjarmasin to Balikpapan.

-Merpati Nusantara Airlines/MNA has broader routes of flights than Garuda, because this company has pioneer routes as well as which connects Banjarmasin with Kotabaru and several other towns in Central Kalimantan such as : Palangka Raya, Sampit, Pangkajene, Buntok and Muara Teweh. The airplanes used are VC-27, HS-748, DHC-6 and C-212.

-Bouraq Airlines has the same routes as MNA. The airplanes used are HS-748, F-27, BN-3, BN-27, C-402 and DC-3.

-Dirgantara Air Service/DAS serves pioneer routes in particular and makes use of DC-3, BN-24 and C-212.

In general problems on aerial transportation is the problem of terminals especially at the pioneer airport with its inadequate condition.

During the pilgrim season the regular passenger traffics are usually hampered. To solve this problem, during the Polita IV, Syamsuddin Airport is planned to be used for the Pilgrim Airport by the government of South Kalimantan.

The airport is going to be developed and upgrade so that it is possible for the DC-10 to land here. A receiving station for the prostrate Pilgrims will also be built here.

Possible Analysis of Investment

To make the investment in the field of transportation possible it is necessary to learn the correlation of the four subsectors of transportation above.

The degree of correlation is determined mainly by the geographical and topographical condition of the area which are connected one another by means of transportation.

Inter regional transportation in South Kalimantan can be classified into 3 classifications i.e.:

1. Inter regencies transportation in South Kalimantan.
 2. Transportation between South Kalimantan and Central Kalimantan
 3. Transportation between South Kalimantan and East Kalimantan.
- ad.1. Inter regencies transportation in South Kalimantan can be classified into 3 kinds i.e. :
- a. Banjarmasin - the regency of Kotabaru
 - b. Banjarmasin- the other regencies
 - c. Banjarmasin - the regency of Hulu Sungai Utara

The regency of Kotabaru and Banjarmasin can be connected in 3 kinds of transportation : land, sea and aerial transportations .

Land transportation is done in two ways i.e.: Banjarmasin - Pagatan, on land , continued by sea transportation. This kind of transportation is limited on passenger's transportations, it is not beneficial for goods transportations because of the unsteady condition of the road between Banjarmasin - Pagatan and no regular Ferry goes from Pagatan to Kotabaru.

It's concluded now that goods transportations from Banjarmasin to Kotabaru and the reverse is done by sea transportations and it is really the facts.

In general aerial transportation is limited on passenger's transportation because the planes to be used are the smaller kind and the airport of Stagen itself is only a pioneer airport.

Now we can say that there is a positive correlation between the sea and aerial transportations. The development of both kinds of transportations is done in the same directions.

The communication between Banjarmasin and other regencies is generally done on land with the exception of the regency of Hulu Sungai Utara which uses land transportation as well as river transportation.

Communication between Banjarmasin and the regency of Barito Kuala only can be done by river transportation.

There is a negative correlation between the land and river transportation connecting Banjarmasin and the regency of Hulu Sungai Utara in that it means the development of both is in the opposite directions.

ad.2. Transportation communication between South Kalimantan and Central Kalimantan is especially done by the river transportation to the areas in Central Kalimantan where the big rivers of Barito, Kapuas and Katingan, pass through.

For the other important places such as Saapit and Kuala Pembuang, sea transportation is available. For passenger in particular, there is also an aerial transportation from Banjarmasin to all places mentioned above in Central Kalimantan.

Goods' transportation is done by means of river and sea transportations.

The correlation of the various transportation is said to be positive when the development of the three kinds of transportations can be done in the same direction.

ad.3. South Kalimantan and East Kalimantan can be connected in three kinds of transportations, on land, sea and air. The communication is limited for the most important towns in East Kalimantan i.e. Balikpapan and Samarinda. Goods' transportation between the two Provinces can be done either on the land or on the sea, while aerial transportation is relatively in small numbers for this purpose.

Passengers' transportation through the sea is relatively small compared with the two kinds of transportations mentioned above.

The correlation between sea and land transportations, goods in particular, is a negative one, the correlation between land and aerial transportation is a positive one as well as the correlation between the sea and aerial transportations.

The correlation of land, sea and aerial transportations for passengers is a negative one. There is a small correlation only between the sea and aerial transportations.

Based on the above information added by the factual observation in the sector of transportation, investment opportunities in this field is possible.

The investments opportunities as mentioned above, among others are :

1. Ferry Project connecting Pagatan and Kotabaru, so the communication between Banjarmasin growth centre and Kotabaru growth centre will increase. The project is best managed by the government making use of "Roll off on" ferry. The project must be supported by the road increase project connecting Banjarmasin and Pagatan
2. River Express Buses Project in order to increase the communication between South Kalimantan and Central Kalimantan. In fact there are some private companies and the government as well as managing the river express buses, carried out by Direktorat Lalu Lintas Angkutan Sungai Danau dan Penyeberangan. This activity is not successful because those buses are too big (60.00-80.00 persons). These big buses used for this transportation is not suitable to the condition of the canals connecting Barito river and Kapuas river. The result is that many of those buses run aground, especially during the dry season. Besides, the buses are uncomfortable. Therefore the buses should be built smaller, more comfortable aided by certain machines that could ~~accelerate the speed to grant the success of~~

CHAPTER IV

BASIC NEEDS, COMPONENT-NEEDS, AND REQUIREMENT

1. Assessment of Food Supply and Demand.

In order to find the food balance of the inhabitants of South Kalimantan Province we have to know how much carbohydrate, protein, vitamin, and mineral are consumed by them. The amount of carbohydrate can be taken from rice, protein - from meat, eggs, and fish consumed. As for the amount of vitamin and mineral can be taken from vegetables and from fruit consumed.

Then we determine the minimal demand for carbohydrate protein, vitamin and mineral per capita daily. By doing so we get the rate of rice, meat, egg, fish, vegetables, and fruit demands.

It is necessary to know whether the foodstuff product is insufficient or abundant. What will we do if it is still insufficient? What kind of investment do we need? On the contrary, what will we do if it is abundant? Again, what kind of investment do we need in this case? The balance-sheet in South Kalimantan Province in 1983 as follows:

1. The Carbohydrate Demand in 1983.

a. demand	:	233 g.kg./c/year
b. population	:	2,183,384
c. rice production	:	718,336 tons
d. consumption	:	508,729 tons
e. c - d	:	209,607 tons

The demand of rice has been sufficiently fulfilled, even it has been more than enough if other sources of carbohydrate are included such as sweetpotato, cassava, taro, etc.

2. The demand of minerals in 1983.

2.1. Vegetables.

- a. demand : 55 kgs./capita/year
- b. population : 2,235,556
- c. production : 9,033 tons
- d. mineral consumption : 122,956 tons
- e. c - d : -113,923 tons

We still have the shortage of 113,923 tons of vegetable which should be added in order to fulfill the minimal requirement to be healthy.

2.2. Fruit.

- a. demand : 55 kgs./capita/year
- b. population : 2,235,556
- c. production : 31,449 tons
- d. consumption : 122,956 tons
- e. c - d : -91,507 tons

We still have the shortage of 91,507 tons of fruit which should be added in order to fulfill the minimal requirement to be healthy.

3. The demand for protein.

3.1. Meat

- a. demand : 10 kgs./capita/year
- b. population : 2,235,556
- c. production : 2,233,065 kilograms
- d. consumption : 22,355,560 kilograms
- e. c - d : -20,122.195 kilograms

We still have the shortage of 20,122,495 kilograms of meat in 1983.

3.2. Egg

- a. demand : 4 kgs./capita/year
- b. population : 2,235,556
- c. production : 6,643,350 kilograms
- d. consumption : 8,942,224 kilograms
- e. c - d : -2,298,874 kilograms

We still have the shortage of 2,298,874 kilograms of egg in 1983.

3.3. Fish

- a. demand : 10 kgs./capita/year
- b. population : 2,235,556
- c. production : 104,772,000 kilograms
- d. consumption : 22,356,000 kilograms
- e. c - d : 82,416,000 kilograms

We have the surplus of 82,416,000 kilograms of fish in 1984.

2. Assessment of housing and facilities.

It is assumed that in 1982 the people in South Kalimantan Province had housing. The demand for wooden equipment for buildings is sufficient (without including the H.P.H. and non H.P.H. industrial demand), whereas other materials such as cement, betoneser are still supplied by other regions.

The estimation of the demand for housing up to 1990 can be seen on the following table:

Table IV.1

The demand for the addition of housing till 1990 in South Kalimantan Province

Year :	Population Growth :	Demand for additon of housing (m2)*
1983 :	52,172	1,095,612
1984 :	43,318	1,119,678
1985 :	54,590	1,146,390
1986 :	55,891	1,173,711
1987 :	57.225	1,201,725
1988 :	58,590	1,230,390
1989 :	59,986	1,259,706
1990 :	61,418	1,289,778

Note: * the minimal demand per capita is 21 m²

The assumption of 21 m²/capita is based on the criterion - which says that the cheap house of type 42 created by the National Cheap Housing Enterprise or PERUMNAS is suitable-

for a married couple so that the ratio per capita is :

$$42 \text{ m}^2 : 2 = 21 \text{ m}^2$$

3. Assessment of clothing needs.

The minimal need for textiles of man clothing is 10 metres per year, and of woman is estimated about 6 metres per capita/year. It is based on the assumption that the man clothing is generally more coarse than that of woman-clothing because the clothe is used for making working-dress so that it is easier broken. So that it is estimated that the average need for man clothing is 2 X 5 metres = 10 metres. Moreover, the woman clothing is more stable and durable and the estimation of the average need each year is 6 metres.

The next table shows us the needs for textiles in South Kalimantan Province up to 1990.

Table IV.2

The needs for textiles in South Kalimantan Province up to 1990

Year : Population Number* : Needs for textiles (per m)		
1983 :	2,235,556	: 17,884,448
1984 :	2,288,874	: 18,310,992
1985 :	2,343,464	: 18,747,712
1986 :	2,399,355	: 19,194,840
1987 :	2,456,580	: 19,652,640
1988 :	2,515,176	: 20,601,360
1989 :	2,575,156	: 20,601,248
1990 :	2,636,574	: 21,092,592

Note: * it is assumed that the number of men and women is

relatively the same, so that the rate of textile used per capita is 8 metres yearly.

4. Assessment on the availability of potable water and - healthy care.

4.1. The availability of potable water.

The sources of potable water supplies in South Kalimantan Province are originated from the rivers - which flow in the region of South Kalimantan - Province, and they are :

- | | |
|-------------------------------------|------------|
| a. Barito river with its length | = 700 kms. |
| b. Martapura river with its length | = 80 kms. |
| c. Nagara river with its length | = 127 kms. |
| d. Kusan river with its length | = 80 kms. |
| e. Batu Licin river with its length | = 70 kms. |
| f. Satui river with its length | = 49 kms. |
| g. Tabalong river with its length | = 60 kms. |
| h. Balangan river with its length | = 50 kms. |

Besides, there are also other source of potable - water supplies from the rain water reservoir, the - spring reservoir, the shallow drilled wells, the - deep drilled wells, and the dugged wells.

The means of supplying water has also been develop- ed through the Potable Water Project carried out - under the Directorate of Sanitary Engineering Depart- ment of Public Work.

The development of water supplies which have been at work during the Third Five-Year Development can be - seen on the following table :

Table IV.3

Home Water Consumption, Public Tap, and Water Debit in accordance with towns in 1979 - 1981

Town	:Home Consumption:		Public Tap		: Debit	
	: 1979	: 1981	: 1979	: 1981	: 1979	: 1981
Banjarmasin	:12,585	: 14,329	: 200	: 200	: 275	: 325
Kotabaru	: 400	: 1,400	: '8	: 68	: 5	: 50
Martapura/ Banjarbaru	: -	: 2,000	: -	: 120	: -	: 100
Kandangan	: -	: 200	: -	: 20	: -	: 20
Barabai	: -	: 300	: -	: 20	: -	: 20
Pleihari	: -	: 200	: -	: 20	: -	: 20
Total	:12,985	: 18,329	: 208	: 448	: 280	: 535

Source : Bappeda of South Kalimantan Province.

In 1979, the government began to serve Banjarmasin - Kotabaru with potable water but in 1981 other towns such as Martapura, Banjarbaru, Kandangan, Barabai, and Pleihari also got it. The total home consumption increased from 12,858 cubic metres in 1979 up to 18,329 cubic metres in 1981.

The means of supplying potable water in the rural areas is carried out through the establishment of water supplies by making rain water reservoir, spring reservoir, shallow drilled wells, deep drilled wells, and dugged wells.

The water supplies in towns have met about 30% of their people's need, whereas in the rural areas they could

reach only 20% of the total need. Based on the estimation of the people's composition in towns and that of found in in rural areas, it is estimated that the absolute number of people who have not got the potable water yet are 317.5 thousands and those who have not gained it yet are 1,270.1 thousands .

4.2. The provision of health care.

The Public Health Care Service which is either - organized by the Regional Office of the Department of - Health or by the Regency Offices deals with the means of increasing the number and function of hospitals, public - health centres, and so forth and it also deals with the provision of sufficient and skillful medical workers - throughout the region.

As soon as the development of hospital in Marabahan- completed in the Third Five-Year Development, each regency has got its own hospital even with limited capability in giving service. In the Third Five-Year Development there was also any supplements in the number of beds from 1,528 beds in 1979 became 1,645 beds in 1981 including 10 more- beds for hospital in Banjarmasin, 57 beds for the hospital in Sarabai in 1981, and 50 beds for hospital in Barito Kua- la in 1980.

Yet, the supplement of such number of beds was felt - not able to catch up the need if compared with the ration- of population growth. The ration of bed number supplement compared with the ration of population growth descends -

(in 1979 the ratio is 1 : 1,276 whereas in 1981 the ratio is 1 : 1,287).

To clarify it we can compare the number of hospitals- according to the provision of beds in each regency during the period of 1979 till 1981 in South Kalimantan Province- and it can be seen on the following table :

Table IV.4

Number of hospital according to the provision of beds in - each regency during the period of 1979 till 1981 in South Kalimantan Province

Regency/ Municipality	Number of hospital								Number of beds	
	G.H.	D.R.	I.A.	L.						
	:1979:	1981:	1979:	1981:	1979:	1981:	1979:	1981:	1979:	1981:
Banjarmasin	: 4	: 4	: 1	: 2	: 1	: 1	: -	: -	: 802:	812
B a n j a r	: 4	: 4	: -	: -	: -	: -	: -	: -	: 183:	183
T a p i n	: 1	: 1	: -	: -	: -	: -	: 1	: 1	: 114:	114
n.S.S.	: 2	: 2	: -	: -	: -	: -	: -	: -	: 99:	99
n.S.T.	: 1	: 1	: -	: -	: -	: -	: -	: -	: 42:	99
n.S.U.	: 1	: 1	: -	: -	: -	: -	: -	: -	: 65:	65
Tabalong	: 2	: 2	: -	: -	: -	: -	: -	: -	: 82:	82
Marito Kuala:	-	: 1	: -	: -	: 1	: 1	: -	: -	: 50:	100
Tanah Laut	: 1	: 1	: -	: -	: -	: -	: -	: -	: 50:	50
Kotabaru	: 2	: 2	: -	: -	: -	: -	: -	: -	: 41:	41
T o t a l	:18	:19	: 1	: 2	: 2	: 2	: 1	: 1	:1528:	1645

Source : The Regional Office of Department of Health of -
South Kalimantan Province.

In order to overcome the limitation of hospital's services in the regencies, the visit of specialists from the province must be increased in frequency for the last three years. In addition the opportunities of acquiring more knowledge in the provincial hospital have been given to doctors or medical workers of each regency.

In order to increase the reach of the service upon the needy people, Public Health Centers have been built in each sub-district.

In the early of the Third Five-Year Development (1979-1980) there were 89 Public Health Centres in South Kalimantan Province, and they have increased to 101. Based on their spread through out the region, the target of each sub-district to have one Public Health Centre has been fulfilled.

The limitation of Public Health Centre in reaching the people has been eliminated by providing auxiliary public health centres by 37 in 1979 to 147 in 1981. On the other hands, the number of clinics and the Mother and Child Foster Care Clinics are almost constant in this period.

The number of doctors has increased rapidly not only within the three years but also since the early of the Third Five-Year Development. The number of doctors in the early of the Third Five-Year Development were 146 and in the mid of the Third Five-Year Development became 185.

By relating the number of doctor with the number of population we can conclude that the service given to them has increased.

Its ration in 1979 is 1 : 13,353, whereas in 1981 it

became 1 : 11,442. On the other hand, other kinds of workers namely, midwives, apothecary assistants, dental hygienists, health supervisors are constant since the early of the Third Five-Year Development up to 1982.

Based on the study of midterm implementation of the Third Five-Year Development, the Regional Office of Department of Health has needed the supplementation of medical workers for government hospitals and public health centres, because the workers are still below the standard.

The number of the whole medical workers are 1,715 in 1982; it is still far from the standard requirement which must be 2,855. (Ratio standard is 1 : 765).

4.3. Public Health Condition.

The condition of the public health can be measured by its rate of mortality and other tool of health measurements. By using the crude death rate (CDR) of which data are limited, we can estimate the crude death rate as follow :

The number of mortality in December 1980 is 827, and in the year of 1980 it became 9,924. The number of population in that year is 2,040,403. It means that 5 people died out of 1,000 people each year.

4.4. The condition of health facility.

The health facilities in South Kalimantan Province including general hospitals, delivery rooms, insane asylums, public health centres, clinics, and Mother and Child Foster Care can be seen on the following table :

Table IV.5

Number of Health Facilities in South Kalimantan
Province during 1979 - 1981

Regency/ Municipality	H o s p i t a l s								Number of Beds	Public Health Centre	Clinics		Mother & Child Foster Care or (EKIA)			
	General Hospital		Delivery Room		Insane Asylum		Leprosaria				1979	1981	1979	1981		
	1979	1981	1979	1981	1979	1981	1979	1981			1979	1981	1979	1981		
Banjarmasin	4	4	1	2	1	1	-	-	802	812	7	17	22	22	18	16
B a n j a r	4	4	-	-	-	-	-	-	163	163	16	25	16	18	5	5
P a p i n	1	1	-	-	-	-	1	1	114	114	17	26	6	6	3	3
M. S. S.	2	2	-	-	-	-	-	-	99	99	9	21	21	21	7	7
M. S. T.	1	1	-	-	-	-	-	-	42	99	8	13	27	27	10	10
M. S. U.	1	1	-	-	-	-	-	-	65	65	13	24	15	15	-	-
Tabalong	2	2	-	-	-	-	-	-	82	82	9	17	30	31	7	7
Barito Kuala	-	1	-	-	1	1	-	-	50	100	18	33	5	6	1	1
Tanah Laut	1	1	-	-	-	-	-	-	50	50	5	15	6	6	5	5
Kotabaru	2	2	-	-	-	-	-	-	41	41	24	58	14	14	3	3
T o t a l:	18	19	1	2	2	2	1	1	1,528	1,645	126	248	164	166	59	59

Source : The Regional Office of Department of Health of South
Kalimantan Province.

4.5. The Supplementary demand for potable water and Medical workers.

4.5.1. Potable water.

As has been discussed earlier that the supplies of potable water in towns have reached 30% of the people, whereas in rural areas, they have not reached 20%. Relating to the number of town people of 529,200 in 1981, it means that there are about 370,400 people have not got the potable water yet. As for the people in rural areas of 1,587,600 which means that 1,270,100 people have not got it.

4.5.2. Medical Workers.

Based on the data in 1982 where the population totaled 2,183,384, the medical workers just totaled 1,715. So that the ration between the medical workers and people is 1 : 1,273. If we compare this figure with the standard ratio of 1 : 765, it shows that the number of medical workers are below it. Based on this situation, then we have a shortage of 1,140 medical workers. The projection of the need of medical workers in 1990 is 2,636,547 : 765 is equal to 3,447 medical workers.

5. Assessment of Educational and Training Facilities.

5.1. The Condition Availability of Educational and Training Facilities.

The availability of educational and training facilities in South Kalimantan Province is as follows :

5.1.1. The Educational Facilities.

The Educational Facilities in the sort of high schools and academies.

5.1.1.1. High School consists of :

- 1.State SPMA in Banjarbaru with the capacity of 80 students.
- 2.Private SPMA in Paringin with the capacity of 40 students.
- 3.State SNAKMA in Pleihari with the capacity of 30 students.
- 4.State STM in Banjarmasin with the capacity of 658 students.
- 5.State STM in Banjarbaru with the capacity of 456 students.
- 6.Private STM in Kandangan with the capacity of 290 students.
- 7.Private STM in Barabai with the capacity of 221 students.
- 8.Private STM in Tanjung with the capacity of 178 students.
- 9.Private STM in Banjarmasin with the capacity of 620 students.

5.1.1.2. Academies consist of :

Diploma Program, academy, and university. The PAAP Diploma Program held by Economic Faculty has the capacity of 250 students. This program consists of two departments, namely Department of Business Administration and Department of Finance. The number of graduates from PAAP Diploma Program was 195 in 1982.

Academy :

1. AKPI or Academy of Finance and Banking of Indonesia in Banjarmasin has the capacity of 621 students. It consists of two departments namely Department of Banking and Department of Finance. The number of graduates from this academy in 1982 was 232 graduates.
2. ASMI or Academy of Secretary and Management in Banjarmasin with the capacity of 1,839 students.

University :

1. Lambung Mangkurat University. It has eight faculties

iesh namely : Faculty of Law

Faculty of Social & Political Science

Faculty of Teacher Training & Pedagogy

Faculty of Technology

Faculty of Agriculture

Faculty of Forestry

Faculty of Fishery

Faculty of Economics

Each has its own departments and they are :

- Faculty of Law : Criminal Department
Civil Law Department
Governmental Department
 - Faculty of Social & Political Science :
Business Administration Department
Governmental Administration Department
The M.K.D.U. Department
 - Faculty of Teacher Training & Pedagogy :
History Department
Indonesian Department
Civics Department
Business-economics Department
English Department
Mathematics Department
Chemistry Department
Biology Department
 - Faculty of Technology :
Civil Engineering Department
 - Faculty of Agriculture :
Agronomy Department
Social & Agricultural Department
Plant Protection Department
 - Faculty of Forestry :
Forest Management Department
Department
 - Faculty of Fishery :
Fishery Technology Department
Economic Fishery Department
-

- Faculty of Economics :

Development Study Department

Management Study Department

The number of graduates up to 1982 can be seen on the table below :

Table IV.6 .

Number of Lambung Mangkurat University Graduates from 1970-1982

Year:	F.L.	F.S.P.	F.T.E.	F.T.	F.A.	F.F.	F.Fr.	F.E.	Total
1970:	2	5	-	-	8	-	-	2	17
1971:	5	2	3	-	4	-	-	2	16
1972:	4	1	-	-	-	4	4	1	14
1973:	10	1	5	1	1	3	3	4	28
1974:	14	2	7	5	6	3	3	4	44
1975:	5	5	1	1	2	3	3	12	32
1976:	9	1	3	2	3	3	1	7	29
1977:	15	6	5	11	6	1	1	8	53
1978:	7	2	6	5	4	1	3	15	43
1979:	19	3	15	2	5	3	9	22	78
1980:	27	8	20	2	5	9	7	24	102
1981:	35	15	50	8	7	7	3	50	175
1982:	54	26	109	9	41	30	18	72	359
Total:	206	77	224	46	92	67	55	223	990

Source : Lambung Mangkurat University .

Note : F.L. = Faculty of Law
 F.S.P. = Faculty of Social & Political Science
 F.T.E. = Faculty of Teacher Training & Pedagogy
 F.T. = Faculty of Technology
 F.A. = Faculty of Agriculture
 F.F. = Faculty of Forestry
 F.Fr. = Faculty of Fishery
 F.E. = Faculty of Economics

2. Some Private Universities which have not graduated any students are :

UNISKA or Kalimantan Islamic University

UVAYA or A.Yani Veteran University

5.1.2. Training Facilities.

In the Third Five-Year Development the number of students who were given any in-training service in the B.L.K. according to their skill and characteristics of carrying out of the training held by the Vocational Training Creation Centre Project of Forestry in Banjarbaru totaled 558 trainee consisted of carpentry, auto-mechanic, welder, electric installation, business administration, and bricklayer.

All those given trainings are in the basic level. The clarification of this can be seen on the following table :

Table IV.7

Number of Trainees during the Third Five-Year Development

Year	Type of Training	Carpentary			Automechanic			Welder		
		M	W	Total	M	W	Total	M	W	Total
1979	Basic	15	-	15	20	-	20	-	-	-
1980	Basic	10	-	10	13	-	13	-	-	-
1981	Basic	29	-	29	37	-	37	34	-	34
1982	Basic	37	3	40	40	-	40	40	-	40
1983	Basic	40	-	40	40	-	40	40	-	40
Total		131	3	134	150	-	150	114	-	114

Source : The Regional Office of Directorate General of Creation and Use of Manpower of South Kalimantan Province 1984.

Table IV.8

Number of Trainees during the Third Five-Year Development
trained in B.L.K. for electric installation, business admin-
istration and bricklayer

Year	Type	Electric			Business			Bricklayer		
		of Installation			Administration					
Train-										
ing: M : W : T : M : W : T : M : W : T										
1979	Basic	-	-	-	-	-	-	-	-	-
1980	Basic	-	-	-	-	-	-	-	-	-
1981	Basic	-	-	-	-	-	-	-	-	-
1982	Basic	-	-	-	-	-	-	-	-	-
1983	Basic	40	-	40	20	20	40	40	-	40
T o t a l : 40 : - : 40 : 20 : 20 : 40 : 40 : - : 40										

Source : The Regional Office of Directorate General of
Creation and Use of Manpower of South Kalimantan
Province, 1984.

As for the activities trained at B.L.K. according to
the skill and sort of training, the sort of skills and
the characteristics of the carrying out of such training-
which was held by the Mobile Training Units (M.T.U.) from
1979 till the end of December, 1982, totaled 3,369 trainees,
consisted of 2,245 male trainees and 624 female trainees.

The training which was held consisted of building -
carpenters of 432 men, building bricklayer of 267 men, iron
blacksmith of 233 men, radio and T.V. repairers of 628 men,
needleworks of 240 men and 19 women, fishery of 236 men and
6 women, carving of 36 men and 6 women, electric installation

of 79 men, purun weaving of 11 men and 9 women. The clarification of this matter can be seen on the following table:

Table IV.9

Number of students who were annually trained in B.L.K by -
the Mobile Training Units for Craftmanship and Blacksmith,
in 1979 - 1982

Year	Type	Craftmanship			Blacksmith					
		Carpenter	Bricklayer		M	W	T			
1979	Basic	46	-	46	51	-	51	39	-	39
1980	Basic	148	-	148	65	-	65	35	-	35
1981	Basic	98	-	98	68	-	68	64	-	64
1982	Basic	140	-	140	83	-	83	95	-	95

Total		432	-	432	267	-	267	233	-	233

Source : The Regional Office of Directorate General of -
Creation and Use of Manpower of South Kalimantan-
Province, 1984.

Table IV.10

Number of Students who were annually trained in the B.L.K. through the Mobile Training Unit (M.T.U.) for Repairing, Sewing, and Agriculture during 1979 till 1982

Year	Type	Repairment			Sewing			Agriculture											
		Radio			T.V.			Clothing			Embroidery			Food			Gardening		
		M	W	T	M	W	T	M	W	T	M	W	T	M	W	T	M	W	T
1979	:Basic	58	-	58	62	-	62	20	63	83	-	-	-	49	-	49	46	-	-
1980	:Basic	65	-	65	92	-	92	31	153	184	-	-	-	32	-	32	32	-	-
1981	:Basic	80	-	80	80	-	80	10	121	131	-	20	20	82	-	82	120	-	-
1982	:Basic	59	-	59	152	-	152	23	181	204	-	40	40	79	6	85	61	-	-
T o t a l		:262	-	262	366	-	366	64	518	602	-	60	60	242	6	248	259	-	-

Source : The Regional Office of Directorate General of Creation and Use of Manpower of South Kalimantan Province, 1984

Table IV.11

Year	Type	Breeding			Fishing			Carving		
		M			W			T		
		M	W	T	M	W	T	M	W	T
1979	:Basic	48	-	48	53	-	53	-	-	-
1980	:Basic	32	-	32	32	-	32	-	-	-
1981	:Basic	80	-	80	60	-	60	-	-	-
1982	:Basic	80	19	99	91	6	97	34	6	40
T o t a l		:240	19	259	236	6	242	34	6	40

Source : The Regional Office of Directorate General of Creation and Use of Manpower of South Kalimantan Province, 1984

Table IV. 12

Number of Students who were trained in the B.L.K. through the Mobile Training Unit (M.T.U.) for electric installation, weaving purun and rattan during 1979 till 1982

Year	Type of Training	Electric Installation			Weaving Purun, Rattan		
		M	W	T	M	W	T
1979	Basic	-	-	-	-	-	-
1980	Basic	-	-	-	-	-	-
1981	Basic	-	-	-	-	-	-
1982	Basic	79	-	79	11	9	20
Total		79	-	79	11	9	20

Source : The Regional Office of Directorate General of -
Creation and Use of Manpower of South Kalimantan
Province, 1984.

As for the favourite kinds of training which have -
ever been held by B.L.K. are among others : Agriculture ,
Gardening, Carbide Welder, Electro I and Electro II, Auto
mechanic, Building Carpenter, Sewing, Embroidering, and
Riz Farming.

Table IV. 13

Kinds of Favourite Training which have ever been held by -
the B.L.K./P.

No.:	Kinds of Training:	Number of:	Time :	Frequency
:	:	student :	Allocation:	:
1.:	Agriculture	20	3 months	-
2.:	Carbide Welder	20	3 months	-
3.:	Electro I & II	40	3 months	twice
4.:	Automechanic	20	3 months	once
5.:	Building Carpenter	40	3 months	twice
6.:	Sewing	40	3 months	once
7.:	Embroidering	20	3 months	once
8.:	Blacksmith	20	3 months	once
9.:	Mix Farming	80	3 months	pne

Source : The Regional Office of Directorate General of -
Creation and Use of Manpower of South Kalimantan-
Province, 1984.

5.2. The Supplementary of Educational Facilities and Necessary Trainings.

The present educational facilities in South Kalimantan Province are mostly in the field of managerial - skill. Whereas the educational facilities in term of technical skill is still poorly provided. The technical skill education is just in the field of agriculture beside those ones belong to Faculty of Civil Engineering.

Furthermore the industry development needs the other technical skills such as electrical engineering , mining machinery, and so forth.

In order to fulfill the needs, it is suggested here- to establish the polytechnic of electrical enginee- ring department, machinery department, and mining - department. As for the training either in term of its kind or its frequency, is supposed to be more suffi- cient since it becomes a regular program of the - offices in this region.

CHAPTER V

Investment Component

Investment activities are needed for the economic growth. These investments can be classified into two kinds i.e. the government investment and the private investment.

1. The Government Investment

The government investment plays a dominant role in the regional development of South Kalimantan. The Government investment consist of the Central Government, the Provincial Government and the Regency / Municipality Investment.

The investment from the Central Government is reflected on the sectoral Projects, Presidential Instruction Project (INPRES) and subsidi for rural investment (Subsidi Desa).

The development of the sectoral projects in South Kalimantan during the year of 1969/1970 till 1983/1984 can be seen on the following Table.

TABLE V . 1

Total of the Sectoral Development Project
in South Kalimantan in the year of
1969/1970 - 1983/1984

No	Year	Total	Value (x Rp.1,000)
01.	1969/1970	-	2,383,886.80
02.	1970/1971	-	2,575,943.10
03.	1971/1972	-	3,157,451.70
04.	1972/1973	-	3,355,254.84
05.	1973/1974	-	3,223,922.86
06.	1974/1975	86	3,390,179.00
07.	1975/1976	115	9,582,475.00
08.	1976/1977	128	11,493,000.00
09.	1977/1978	145	15,353,333.00
10.	1978/1979	167	22,591,295.00
11.	1979/1980	134	55,612,614.50
12.	1980/1981	198	47,476,880.05
13.	1981/1982	117	63,515,443.85
14.	1982/1983	214	73,760,313.61
15.	1983/1984	201	44,577,353.95

Source : Bappeda of South Kalimantan

According to the available data, the sector wise breakdown from the Central Government mentioned above is just prepared for Pelita III, and it can be seen in Table V, 2.

TABLE 2

Value and Amount of Projects by Sector Financed by the
National Budget during Pelita III in Kalsel

237

No	Sector/Sub-sector	1979/80	% Total of project	1980/81	% Total of project	1981/82	% Total of project	1982/83	% Total of project	Total of project	% Total of project	1983/84	% Total of project			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
01	Agriculture Sector															
1.	Irrigation Sub Sector	19,000,000	4.13	2	520,000,000	0.27	3	1,850,000,000	10.09	3	1,350,000,000	11.16	4	1,270,248,000	3.58	19
2.	Plantation SubSector	47,500,000	1.05	1	60,000,000	0.72	1	60,000,000	0.53	1	60,000,000	0.49	1	52,020,000	0.33	3
3.	Cattle breeding	50,000,000	1.10	2	85,000,000	1.02	2	95,000,000	0.83	1	50,000,000	0.41	1	52,581,830	0.42	3
4.	Fishery sub-sector	27,500,000	0.61	2	40,000,000	0.48	2	70,000,000	0.61	1	50,000,000	0.41	1	118,676,450	0.80	5
5.	Forestry sub-sector	40,000,000	0.88	2	31,000,000	0.37	1	90,000,000	0.79	2	50,000,000	0.41	2	60,252,050	0.37	3
6.	Food crop sub-sector	47,500,000	1.05	2	65,000,000	0.76	2	200,000,000	1.73	1	100,000,000	0.83	1	204,465,875	1.39	3
02.	Industry Sector															
1.	Industry Sub sector	24,500,000	0.54	2	40,000,000	0.46	2	55,000,000	0.60	1	25,000,000	0.20	1	44,627,225	0.25	1
3.	Mining and Energy Sector															
1.	Mining Industry Sub sector										25,000,000	0.20	1	25,000,000	0.15	1
2.	Energy Sub sector															
04.	Transportation and Tourism															
1.	Road facility sub-sector	500,676,000	11.22	1												
2.	Land's Transportation	94,8124,000	21.05	4	3,267,250,000	39.01	4	3,835,000,000	24.05	3	2,500,000,000	20.57	2	3,369,084,605	22.65	21
3.	Sea's Transportation															
4.	Aerial Transportation															
5.	Post and Telecommunication															
6.	Tourism sub sector				15,000,000	0.18	1	60,000,000	0.52	1	60,000,000	0.49	1	98,470,000	0.65	3
05.	Trade and Co-operation															
1.	Trade sub sector															
2.	Co-operation sub sector				15,000,000	0.18	1	50,000,000	0.43	1	50,000,000	0.41	1	50,000,000	0.32	1
06.	Manpower and Transmigration															
1.	Manpower sub sector															
2.	Transmigration sub sector				25,000,000	0.18	1	25,000,000	0.21	1	25,000,000	0.20	1	25,000,000	0.15	1

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
07 : Village, Region and City Building Sub-Sector																	
1. : Village, Region and City Building Sub-Sector	100,000,000	2.22	3	190,000,000	1.80	3	240,000,000	2.08	5	287,000,000	1.70	6	72,000,000	0.88	4		
08 : Religion Sector																	
1. : Religion Sub-Sector	545,000,000	12.10	3	590,000,000	6.90	4	457,500,000	3.90	4	540,000,000	4.44	4	900,000,000	0.65	9		
09 : Education, Youth, Journalism, National Culture and Believing in God Sector																	
1. : Public Education and Youth Generation Sub-Sector	195,000,000	4.37	4	447,000,000	5.39	6	1,110,500,000	9.73	7	1,370,000,000	11.77	7	1,043,000,000	12.55	12		
2. : Office Sub-Sector				65,000,000	0.78	1											
3. : National Culture and Believing in God Sub-Sector	90,000,000	1.10	2	100,000,000	1.20	2	11,000,000	1.26	2	100,000,000	1.20	2	100,000,000	1.20	4		
10. : Health, Social Property, Role of Women, Religion and Family Welfare Sub-Sector																	
1. : Health Sub-Sector	143,500,000	3.18	4	100,000,000	1.27	5	403,000,000	3.52	5	450,000,000	3.70	1	870,400,000	5.92	6		
2. : Social Property and Role of Women Sub-Sector	30,000,000	2.20	2	100,000,000	2.19	4	100,000,000	2.75	4	370,000,000	2.67	3	500,000,000	4.02	5		
3. : Religion Sub-Sector	17,500,000	0.30	2	20,000,000	0.24	2	27,000,000	0.24	1	100,000,000	0.82	1	125,000,000	1.02	1		
11. : Rural Housing and Living Sector																	
1. : Rural Housing and Living Sub-Sector						20,000,000	0.24	1	25,000,000	0.22	1				43,500,000	0.25	1
12. : Law Sector																	
1. : Law Sub-Sector																	
13. : National Defense and Security																	
1. : National Defense and Security Sub-Sector	80,000,000	1.76	2	115,000,000	1.39	2	200,000,000	0.74	2	300,000,000	2.46	2	100,000,000	0.53	2		

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
: Information, Press and Communication Sector																
: Information, Press and Communication Sub-Sector	85,000,000	1.87	2	20,000,000	2.43	1	150,000,000	0.87	2	75,000,000	0.69	2	66,000,000	0.69	2	
: Science, Technology and Research Sector																
: Development of Science and Technology Sub-Sector																
: Research Sub-Sector																
: The Government Apparatus Sector																
: The Government Apparatus Sub-Sector	1,313,000,000	29.16	14	2,144,750,000	25.85	13	3,777,000,000	20.13	14	3,827,000,000	31.41	15	4,553,576,176	39.71	15	
: Business Development Sector																
: Business Development Sub-Sector	10,000,000	0.22	1				350,000,000	3.04	1							
: Retail Resources and Living Area Sector																
: Retail Resources and Living Area Sub-Sector							480,000,000	3.67	1	425,000,000	3.49	2				
Total	4,730,000,000	100	57	8,300,000,000	100	64	11,500,000,000	100	62	12,150,000,000	100	61	14,834,473,500	100	100	100

Source: Uganda General Description of National 1984

The development of the Presidential Instruction Projects (IMPRES) in South Kalimantan during the fiscal years of 1969/1970 till 1983/1984 can be seen in Table V.3

TABLE V. 3
Presidential Instruction Projects
during the fiscal years of 1969/1970 - 1983/1984

No	Fiscal year	Total Projects	Value (1,000 rupiah)
01.	1969/1970	2,356	64,525.5
02	1970/1971	2,126	539,290
03	1971/1972	1,153	306,037.8
04	1972/1973	1,491	572,726
05	1973/1974	632	737,491
06	1974/1975	4,236	1,206,257
07	1975/1976	6,357	1,599,503
08	1976/	.	3,624,720
09	1977/1978	6,200	4,270,324
10	1978/1979	6,042	5,094,061
11	1979/1980	3,764	4,601,235
12.	1980/1981	3,426	12,011,692
13.	1981/1982	3,846	16,252,099
14	1982/1983	3,395	23,474,086
15	1983/1984	10,169	23,418,203

Source : Laporan Proyek IMPRES

The development of the Subsidied Rural Investment Project mentioned above both in number and value projected for the coming Pelita cannot be estimated, because those projects will be first fixed out by the Central Government and the Society.

As a note being added here, that for the fiscal year of 1983/1984 those society-supporting funds for the subsidied Rural Investment Projects both in number and value cannot be presented, because of the lack of the data, so that the projects mentioned above cannot be presented in detail according to the sectors.

The investment from the Regional Government of South Kalimantan as a support and complement of the one from Central Government is financed by the A.P.B.D.

The development of the projects of Regional Government of South Kalimantan during the fiscal year of 1969/1970-till 1983/1984 can be seen in the following Table.

TABLE V , 4

Projects which are Financed by the APBD of
South Kalimantan during the fiscal year of
1969/1970 till 1983/1984

No	Fiscal year	Total	Value (1,000 rupiah)
1.	1969/1970	19	400,000
2.	1970/1971	19	630,000
3.	1971/1972	21	702,000
4.	1972/1973	42	810,000
5.	1973/1974	40	1,010,300
6.	1974/1975	57	1,475,500
7.	1975/1976	67	2,165,234
8.	1976/1977	52	3,022,145
9.	1977/1978	57	3,744,658
10.	1978/1979	59	4,475,000
11.	1979/1980	57	4,500,000
12.	1980/1981	64	8,300,000
13.	1981/1982	62	11,500,000
14.	1982/1983	61	12,150,000
15.	1983/1984	108	14,823,421.5

Source : Bappeda Prop.KalSel

Due to the lack of data, those Presidential Instruction Projects can't be specified according to their sectors. Nevertheless., in general those Presidential Instruction Projects are many others. The Presidential Instruction Projects on Regencies /Municipalities; The Elementary School Presidential Instruction Projects, the Health Presidential Instruction Projects, the Presidential Instruction Projects for Roads .

Besides the sectoral projects and the Presidential Instruction Projects, there are also other projects which are commonly called the Village Aids Projects and its implementation, the subsidy which was used to finance those projects was not enough, so that people's self-help was really needed.

Based on the available data, the development of those subsidized rural Investment Projects, which are supported by the Society in Regency/Municipality during the fiscal years of 1979/1980 till 1983/1984 in South Kalimantan can be seen on the following Table.

Table 7.5
Subsidied Rural Investment Projects and Their Society's Supporting Funds
in South Kalimantan according to Regencies/Municipality during Politics I

NO	Regencies/ Municipality	1977 / 1980			1980 / 1981			1981 / 1982		
		Total	Self supporting	Subsidy of government	Self supporting	Subsidy of government	Total	Self supporting	Subsidy of government	
1.	Kotabaru Banjarmasin	82	77,123,500	26,850,000	65,981,000	44,120,000	134	59,575,500	38,300,000	
2.	Banjarm	371	61,744,000	21,975,000	125,862,325	41,340,000	1,446	175,850,600	247,100,000	
3.	Tapin	263	25,734,250	30,170,000	37,405,000	51,180,000	731	44,595,000	100,100,000	
4.	H.S.S	166	28,015,500	18,670,000	36,245,000	78,270,000	333	75,475,500	170,500,000	
5.	H.S.P.	531	17,452,250	56,020,000	49,689,000	93,440,000	2,253	119,491,000	306,100,000	
6.	H.S.U.	175	71,204,000	65,065,000	19,452,250	103,580,000	675	112,310,000	240,900,000	
7.	Totaling	103	30,797,400	43,570,000	42,104,000	67,680,000	305	72,677,800	158,900,000	
8.	Tarah Laut	93	23,497,400	32,725,000	36,667,750	54,050,000	223	65,520,000	106,900,000	
9.	Setela	231	50,665,000	38,035,000	55,508,000	41,080,000	487	88,830,000	147,900,000	
10.	Kotabaru	218	36,993,000	95,605,000	40,100,000	155,410,000	499	60,435,000	260,300,000	

SECTION 1

Table 7.5

Subsidized Rural Investment Projects and Their Society's Supporting Funds
South Kalimantan according to Regencies/Municipality during Pelita III

Regency	1980 / 1981			1981 / 1982			1982 / 1983			1983 / 1984		
	Subsidy of government	Total	Self supporting	Subsidy of government	Total	Self supporting	Subsidy of government	Total	Self supporting	Subsidy of government	Total	Self supporting
0,000	44,120,000	134	59,575,500	38,300,000	100	49,395,000	76,750,000	-	-	66,750,000		
0,325	41,340,000	1,446	175,840,600	247,100,000	8.8	183,766,285	306,500,000	-	-	404,000,000		
0,000	52,180,000	731	44,595,000	100,100,000	744	45,605,000	127,750,000	-	-	120,750,000		
0,000	75,270,000	333	75,270,000	170,500,000	1,771	82,370,000	111,000,000	-	-	321,000,000		
0,000	93,440,000	2,253	119,131,000	306,100,000	2,195	133,709,500	386,750,000	-	-	581,750,000		
0,250	103,580,000	675	112,310,000	240,900,000	580	131,117,500	315,000,000	-	-	525,000,000		
0,000	67,680,000	305	72,677,800	158,900,000	310	52,077,000	197,500,000	-	-	251,250,000		
0,750	54,050,000	223	65,580,000	106,900,000	270	70,125,000	130,000,000	-	-	170,000,000		
0,000	44,080,000	487	88,830,000	147,900,000	522	130,461,500	190,500,000	-	-	285,000,000		
0,000	155,410,000	499	60,435,000	260,300,000	511	57,491,700	233,000,000	-	-	415,250,000		

SECTION 2

Besides the projects which are financed by the Central Government such as sectoral projects, Inpres projects and society self-supporting projects as well as the projects which are financed by the Regional Government of South Kalimantan, there are also projects which are financed by the local government of Regencies/Municipalities.

Some of these projects financed by the Local Government of Regencies/Municipalities are Inpres Project which becomes a part component of the fund of Regencies/Municipalities but they are small in number so that these projects can illustrate the number of development projects in the Regencies/Municipalities.

2. Private Investment

The Private Investment based on its fund resources can be classified into three groups, i.e.,

- The Private Investment which is financed by the Foreign Capital Investment
- The Private Investment which is financed by the Domestic Capital Investment
- The Private Investment which is known as the Private Investment non Facilities.

TABLE V.6

Value and Amount of Projects by Sector Financed by the National Budget during Period III in Costa Rican Province

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
01. Agricultural Sector																	
1. Irrigation Sub-Sector			6,387,577,500	12.37	6	6,728,728,120	14.16	7	9,074,019,000	14.29	6	9,100,072,000	13.99	6	6,496,077,000	14.57	8
2. Plantation Sub-Sector			225,000,000	0.44	2	176,900,000	0.38	2	225,545,000	0.36	2	281,166,000	0.52	3	545,541,000	1.23	3
3. Cattle Breeding Sub-Sector			316,000,000	0.63	3	374,322,000	0.67	3	849,989,000	1.34	5	1,293,506,000	1.75	5	1,263,238,000	2.64	5
4. Fishery Sub-Sector			40,000,000	0.12	1	73,025,000	0.16	1	86,500,000	0.15	1	508,225,500	0.69	1	208,862,000	0.46	1
5. Forestry Sub-Sector			98,000,000	0.29	3	230,793,000	0.50	4	217,480,000	0.34	3	984,425,000	1.29	5	828,811,000	1.96	5
6. Food Crop Sub-Sector			9,118,000,000	5.30	7	2,273,922,000	4.80	18	3,282,887,485	5.19	12	3,194,711,000	4.34	11	2,884,645,000	6.70	9
02. Industrial Sector																	
1. Industrial Sub Sector			47,500,000	0.23	2	184,127,000	0.40	4	303,435,000	0.48	4	422,875,000	0.54	4	421,287,200	0.95	4
03. Mining and Energy Sector																	
1. Mining Sub Sector			77,000,000	0.21	1	200,000,000	0.43	1	275,000,000	0.44	1	320,900,000	0.49	1	245,935,000	0.55	1
2. Energy Sub-Sector			-	-	-	2,126,729,000	4.02	1	10,811,27,000	17.02	1	4,762,635,000	6.45	1	3,658,295,000	0.21	1
04. Transportation and Tourism Sector																	
1. Road Preparation Sub-Sector			355,500,000	1.47	1	850,000,000	1.50	1	3,370,000,000	5.31	2	452,000,000	0.62	1	365,400,000	0.79	1
2. Land Transportation Sub Sector			2,013,113,000	5.98	6	3,361,000,000	7.09	5	2,371,448,000	3.73	5	3,486,286,000	4.73	6	3,884,380,000	8.67	7
3. Sea Transportation Sub Sector			2,210,076,000	6.58	6	1,279,823,000	2.72	8	1,925,827,000	3.02	8	5,366,525,400	7.26	8	1,699,106,000	3.84	6
4. Aerial Transportation Sub Sector			125,000,000	0.39	1	280,000,000	0.44	2	623,030,000	0.98	1	693,523,000	0.87	1	1,493,625,000	3.79	2
5. Post and Telecommunication Sub Sector			114,083,000	0.33	1	99,065,000	0.23	1	181,070,000	0.20	1	148,510,000	0.21	1	11,750,000	0.03	1
6. Tourism Sub Sector			-	-	-	-	-	-	60,000,000	0.09	1	60,520,000	0.10	1	93,285,500	0.21	1
05. Trade and Cooperation Sector																	
1. Trade Sub Sector			33,500,000	0.10	2	177,388,700	0.39	4	119,799,000	0.18	6	635,900,000	0.37	8	506,900,000	0.14	11
2. Cooperation Sub Sector			100,000,000	0.29	4	375,050,000	0.72	6	643,150,000	1.01	9	325,342,000	0.45	8	195,966,200	0.45	5
06. Transport and Transmigration Sector																	
1. Transport Sub Sector			869,056,000	2.48	12	1,945,288,000	4.12	17	1,424,739,000	2.34	12	2,416,912,000	3.28	17	1,623,286,650	3.65	19
2. Transmigration Sub Sector			7,279,400,000	21.70	7	5,321,938,000	11.23	7	5,293,804,500	8.33	10	9,902,234,000	13.42	6	4,366,689,000	9.79	5

The foreign capital investment projects which have been being approved during Pelita I till Pelita III, especially about their value, can be seen on the following Table (V.7)

TABLE V, 7

Value of Foreign Capital Investment (FMA)
already approved during Pelita I till Pelita III
in South Kalimantan

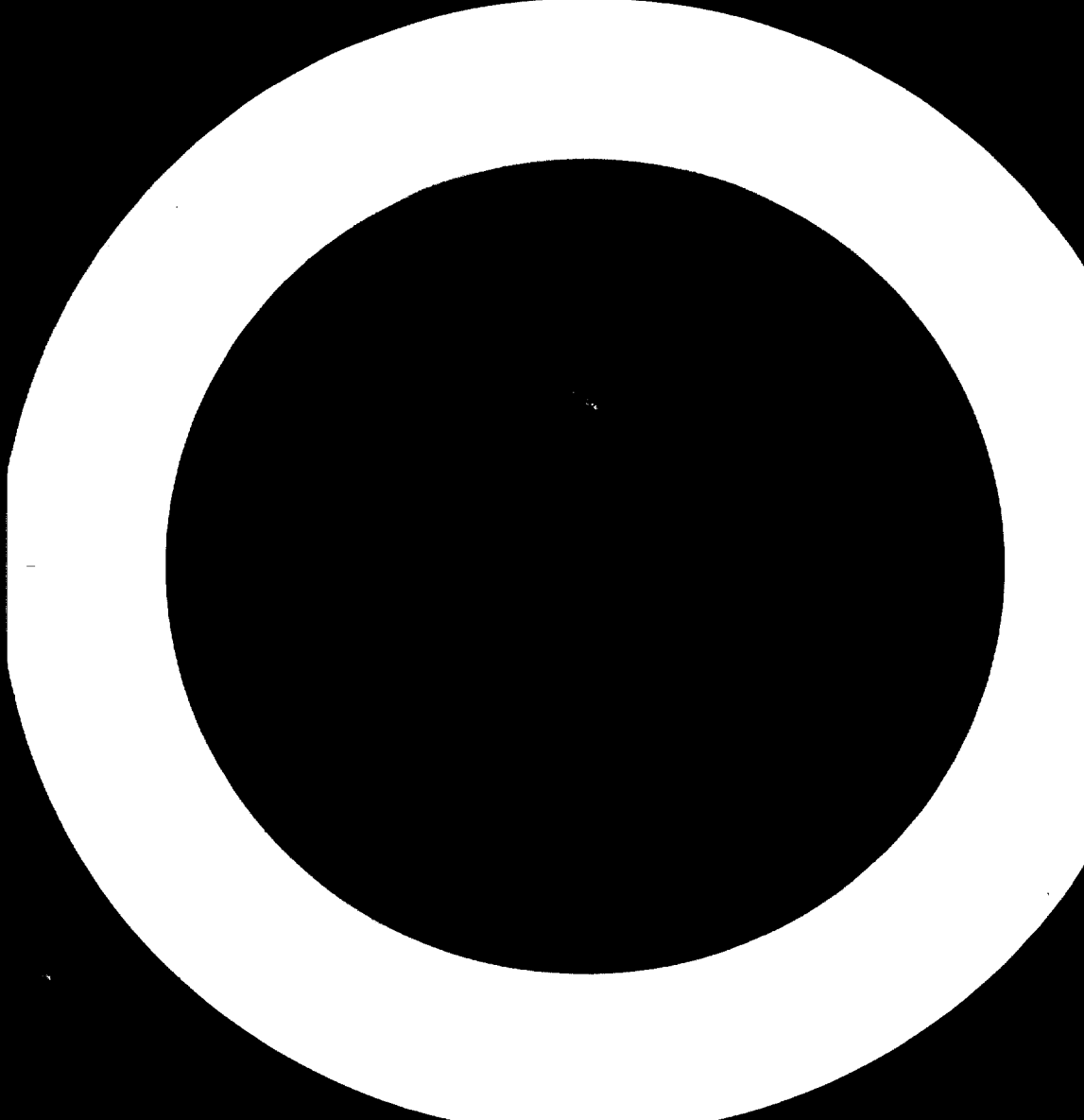
No	Period	Value of Investment (US \$)
1.	Pelita I 1969 - 1973	24,335,650
2.	Pelita II 1974 - 1978	-
3.	Pelita III	
	1979	5,734,000
	1980	3,000,000
	1981	44,036,000
	1982	701,333,000
	1983	71,536,636

Source : BEMD Prop. Kalimantan

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
16. Government Apparatus Sector																
1. Government Apparatus Sub Sector		83,000,000	2.49	13	1,351,435,000	2.49	21	1.72,557,200	2.72	13	1,298,804,000	1.76	10	600,399,400	1.79	11
17. The Development of Business Sector																
1. The Development of World Business Sub Sector																
18. Natural Resources and Living Area Sector																
1. Natural Resources and Living Area Sub Sector																

Total 33,621,614,500 100 134 47,476,000,000 100 198 63,515,348,000 100 117 73,765,118,600 100 214 4,977,358,600 100 201

Source: Zappala: General Description of South Maldivian Province



Foreign Investment Projects as stated on Table 5,7 can be informed according to the latest data of 1983 as follows :

- The amount of foreign investment projects was 11 projects.
- There are two investments projects in the sub-sector of Mult -Mining Industry and which had already possessed the temporary approval certificate.
- There are nine foreign investment projects which had already possessed the Permanent Approval Certificate, and they are
 - one crumbrubber industry
 - four logging industries
 - three plywood industries
 - one fishery industry,

The detail of those industries mentioned above can be seen in Table V.3 below.

TABLE V, 8

251

The Situation of Foreign Investment Enterprises by the End of 1962
in South Kalimantan

1	2	3	4	5	The position of the enterprise				10	11
					6	7	8	9		
No.	Name of the Enterprise	No. Dated SPS and SPS	Kind of enterprise	Location	SPS held	In trading	In Project	Net Investment	Smooth	Financing
1.	PT Peteca Indonesia LTD	2-27/1961/1966 Dated 9-2-1966	Logging	Steger Betabaru	-	-	Yes	7,000,000	-	-
2.	PT Sani Fisher	36/7/Agriculture/1960 Dated 26-6-1960	Logging	Petalicin K. Baru	-	Y	Yes	3,000,000	-	-
3.	PT Buntan Kintap	36/7/Industry/1979	Logging	Kintap Ketabaru	-	-	Yes	6,979,706	-	-
4.	PT Tulipgama Ind. Ltd	04/11/PMA/1961 Dated 2-2-1961	Logging	Muara Pagotan	-	-	-	4,850,000	Yes	-
5.	PT Miagra Nitre	9-75/PMA/6-2-1966 Dated 25-6-1966	Shrimp Fishery	Kotabaru	-	-	Yes	3,585,850	-	-
6.	PT Lefese Petalicin Plywood	112/VI/PMA/1961 Dated 30-9-1961	Plywood	Tanjung Village	-	-	Yes	20,000,000	-	-
7.	PT. Tanjung Seletan abmar Jaya	12/1/PMA/1961 Dated 9-6-1961	Plywood	Alalak Betala	-	-	Yes	14,843,000	-	-
8.	PT Bumi Ploam	62/VI/PMA/1962 Dated 12-7-1962	Plywood	Alak-Alak Kb. P. enjer	-	-	-	6,062,000	Yes	-
9.	PT Sang Tung	151/VI/Mekulin/12/66 Dated 12-12-1966	Crumb rubber	Banjari Raya	-	-	Yes	3,250,000	-	-
10.	PT Anabaha Indonesia	557/203/11/1962 Dated	Coal	Kota Baru	Yes	-	-	4,010,000	-	-
11.	PT Baidaha (openyal)		-	-	Yes	-	-	-	-	-
Total					2	-	7	2	73,536,656	-

Source: KEMO Prop. Kalsel

The projects of domestic capital investment which have been approved during Pelita I till Pelita III especially about their value can be seen on the next Table :

TABLE V .9

Value of Domestic Capital Investment(PMDN) which have been approved during Pelita I till Pelita III in South Kalimantan.

NO	Period	Value of Investment Rp
1.	Pelita I	
	1969 - 1973	792,306,000
2.	Pelita II	
	1974 - 1978	14,680,802,000
3.	Pelita III	
	1979	12,974,236,000
	1980	89,004,000
	1981	58,661,812,000
	1982	85,033,857,000
	1983	240,070,712,751

Source : BEMD of South Kalimantan

The domestic Investment Projects stated on Table III,9 can be informed in accordance with the latest data of 1983 as follows :

- The amount of the domestic investment projects are 73 projects.
- There are four domestic investment projects which had already possessed the Temporary Approval Certificate, and they are among others :
 - One multi-mining Industry
 - one chemical industry
 - two manufacturing industries
- There are 69 domestic investment industries which had already possessed the Permanent Approval Certificate, and they are :
 - seven crumbrubber industries
 - five plantation industries
 - eight logging industries
 - sixteen plywood industries
 - ten sawmill industries
 - five rattan industries
 - five fishery industries
 - five chemical industries
 - one paper industry
 - one tape industry
 - two printing industries

- three hotel business industries
- one electricity industry

- The detail of these industries can be seen on the Table V.10 below.

TABLE V, 10

Situation of the Domestic Investment Enterprises by the end of 1983
in South Kalimantan

No	The Name of the Enterprises	No. Stud. SPS and SPS	The Kind of Enterprises	Location	SPS			Position of Enterprises			Net Investment Planning
					5	6	7	8	9	10	
1		3	4	5	6	7	8	9	10	11	
1.	PT. Glade Bhakti	22/1/1982/1966 Dated 2-2-1966	Plantation	Terim Peleh	-	-	-	-	Yes	771,779,691,70	
2.	PT Broom Raya Mas	136/1/1982/1978 Dated 28-2-1978	Manufacture Sugar	Beribabti	-	-	-	-	Yes	506,000,000	
3.	PT Industri Gula Kalimantan	134/1/1982/1981 Dated 27-2-1981	Mini Sugar	Kertap- Tale	-	-	-	-	Yes	5,996,233,420	
4.	PT Perkebunan VIII Dama Sialit	20/11/1982/1982 Dated 2-4-1982	Rubber, Tea, Coffee	Dama Sialit Kertapura	-	-	-	Yes	-	5,355,937,000	
5.	PT Jetirance	400/03/1982/1978 Dated 28-5-1978	Jelutung Meja	Loktabat Bana Jat Baru	-	-	-	Yes	-	100,000,000	
6.	PT Intitami II	14/11/1982/1977 Dated 14-2-1977	Logging	Stagen Kotabaru	-	-	-	Yes	-	587,630,792	
7.	PT Pamban Power, LTD	11/1/1978 Dated 6-7-1978	Logging	G.Patu Besar	-	-	-	-	Yes	1,323,000,000	
8.	PT Sumpal Timber	36/11/1982/1978 Dated 28-4-1978	Logging	Serai Kotabaru	-	-	-	Yes	-	1,447,899,629,50	
9.	PT Jaya t Timber	16/7/1979 Dated 21-9-1979	Logging	Pelalong	-	-	-	Yes	-	1,476,047,000	
10.	PT Yayang Timber	15/7/1979 Dated 12-9-1979	Logging	Pakalong	-	-	-	Yes	-	1,867,597,000	
11.	PT Alam Wada	164/12/1982/1974 Dated	Logging	Serai Kotabaru	-	-	-	Yes	-	400,000,000	
12.	PT Piret Rahmat Timber	400/12/1982/1973 Dated 19-9-1973	Logging	Bulu Sungai Ut.	-	-	-	-	Yes	-	
13.	PT Pusaka Jaya Agung	130/4/1982/1975 Dated	Logging	-	-	-	-	-	Yes	150,000,000	
14.	PT Kalimantan Fishery	0252/12/1982/1983 Dated	Fishery	Triandati	-	-	-	Yes	-	829,000,000	
15.	PT Nisa Suppa Agung	164/1/1982/1980 Dated 11-2-1979	Fishery	-	-	-	-	-	Yes	-	

1	2	3	4	5	6	7	8	9	10	11
16. PT Sakti Beach Kalimantan Timber	118/2/1968/2000 Dated 12-2-1968	Timber	Timber	-	-	-	-	-	Yes	-
17. PT Kalimantan Cold Storage	24/12/1968/278 Dated 12-2-1968	Cold Storage	Cold Storage	Benjarasin	-	-	-	Yes	-	175,000,000
18. PT Rama Mills	30/3/1968/1174 Dated	Cold Storage	Cold Storage	Benjarasin	-	-	-	Yes	-	171,464,000
19. PT Sakti Kudu	20/2/1968/111/76 Dated	Sawmill	Sawmill	Benjarasin	-	-	-	Yes	-	155,000,000
20. PT Daya Sakti Timber	29/12/1968/111/78 Dated	Sawmill	Sawmill	Putih Beringin Benjarasin	-	-	-	Yes	-	518,750,000
21. PT Sakti Sisa Ancha Timber	36/1/1968/2000 Dated 3-1-1968	Sawmill	Sawmill	Calapat	-	-	-	Yes	-	2,497,997,130
22. PT First Jayanti Unit II-IV	43/11/1968/2000 Dated 25-11-1968	Sawmill	Sawmill	Side of Barito	-	-	-	Yes	-	2,552,339,000
23. PT Tanjung Raya Timber	16/4/1968/012/1968/77 Dated 5-5-1977	Sawmill	Sawmill	Merutau	-	-	-	Yes	-	2,629,629,995
24. PT Daya Sarung	202/7/1968/2979 Dated 21-2-1979	Sawmill	Sawmill	Benjarasin	-	-	-	Yes	-	2,330,000,000
25. PT Dayap Kayu Timber	69/1/1968/2980 Dated 5-5-1968	Sawmill	Sawmill	Siaggron Luar	-	-	-	Yes	-	3,746,875,000
26. PT Basirah Industrial Corp.	12/1/1968/2977 Dated 12-11-1977	Sawmill	Sawmill	Basirah	-	-	-	Yes	-	1,500,000,000
27. PT Punggal Pannasag	12/1/1968/2981 Dated 15-2-1981	Sawmill	Sawmill	Benjarasin	-	-	-	Yes	-	6,219,453,225
28. PT Tiga Badungmal	65/1/1968/2979 Dated 15-2-1979	Sawmill	Sawmill	Barito Kuala	-	-	-	-	Yes	1,357,900,000
29. PT Sakti retas Plywood	1464/331/5/1968/72 Dated	Plywood	Plywood	Antasan Prens	-	-	-	Yes	-	750,000,000
30. PT Kalanya Plywood	701/303/5/1968/72 Dated 20-3-1972	Plywood	Plywood	Antasan Prens	-	-	-	Yes	-	1,063,517,321
31. PT Kalbung Plywood	124/1/1968/2979 Dated 25-7-1979	Plywood	Plywood	Benjarasin	-	-	-	Yes	-	2,361,000,000
32. PT Karanda Uma Ika Wood	98/1/1968/2980 Dated 17-6-1980	Plywood	Plywood	Jelaput	-	Yes	-	-	-	6,139,183,750
33. PT Dayak Besar Group	115/1/1968/2980 Dated 2-7-1980	Plywood	Plywood	Benjarasin	-	-	-	-	Yes	3,250,000,000
34. PT Tanjung Raya Plywood	103/1/1968/2980 Dated 12-12-1980	Plywood	Plywood	Jelaput	-	-	-	Yes	-	8,970,897,750
35. PT Gunung Meranti Raya Plywood	104/1/1968/2980 Dated 18-2-1980	Plywood	Plywood	Merutau	-	Yes	-	-	-	5,995,000,000
36. PT Daya Sakti Rengas Plywood	105/1/1968/2980	Plywood	Plywood	Jelaput	-	-	-	Yes	-	9,189,706,162

1	2	3	4	5	6	7	8	9	10	11
37. PT Mayora Industries		27/1/1982/1982 Dated 27-1-1982	Plywood	22.4.82	-	-	-	-	Yes	2,697,000,000
38. PT Wijaya Pratama Plywood		28/1/1982/1982 Dated 28-1-1982	Plywood	Basirah	-	-	-	Yes	-	6,802,000,000
39. PT Barito Pacific Lestari Wood Product		8/1/1982/1982 Dated 8-1-1982	Plywood	Jelaput	-	-	Yes	-	-	12,296,000,000
40. PT Austral Bina Plywood		35/1/1982/1982 Dated 35-1-1982	Plywood	Mentuli	-	-	Yes	-	-	14,887,000,000
41. PT Surya Setra Timur Corp		61/1/1982/1982 Dated 61-1-1982	Plywood	Kain Cerucuk	-	Yes	-	-	-	6,325,000,000
42. PT Narva I Timber		61/1/1982/1982 Dated 61-1-1982	Plywood	Benjamasin	-	-	-	-	Yes	9,942,534,000
43. PT Inbutani II Plywood		63/1/1982/1982 Dated 63-1-1982	Plywood	Kotabaru	-	-	-	-	Yes	11,884,000,000
44. PT Sinar Sate Indah Plywood		14/1/1982/1982 Dated 14-1-1982	Plywood	Jelaput	-	-	-	Yes	-	10,787,475,000
45. PT Kembara Sati Indah		-	Rattan Ind	-	-	-	-	-	Yes	-
46. PT Banjar Mas		50/1/1982/1982 Dated 50-1-1982	Lampit and Mat	Benjarbaru	-	-	-	Yes	-	950,000,000
47. Pt Kalimantan Revo Ind		15/1/1982/1982 Dated 15-1-1982	Chair, Rattan's Table	Benjarbaru	-	-	-	Yes	-	3,858,990,612
48. PT Chandra Tera Botan Hindiora		12/1/1982/1982 Dated 12-1-1982	Industry	Martapura	-	-	-	-	Yes	638,000,000
49. PT Buana Jaya Sari		120/1/1982/1982 Dated 120-1-1982	Rattan's Lumber pit	Betala	-	-	-	-	Yes	448,545,000
50. PT Galena Martapura		53/1/1982/1982 Dated 53-1-1982	Paper's Indus.	Martapura	-	-	-	Yes	-	6,794,000,000
51. PT Grafika Mugi		66/1/1982/1982 Dated 66-1-1982	Printing	Benjamasin	-	-	-	Yes	-	283,600,000
52. PT Sura Kalimantan		45/1/1982/1979	Printing	Benjamasin	-	-	-	-	Yes	619,049,748
53. PT Oxygen Plant Indon		36/1/1982/1982 Dated 36-1-1982	Oxygen	Benjarbaru	-	Yes	-	-	-	1,169,375,000
54. PT Galena Glue Resentare		55/1/1982/1982 Dated 55-1-1982	Formaldehyde	Betala	-	Yes	-	-	-	4,658,164,000
55. PT Intan Wijaya Chemical Industry		119/1/1982/1982 Dated 119-1-1982	-	Benjamasin	-	Yes	-	-	-	5,193,759,000
56. PT Galera Citra Kuda		132/1/1982/1982 Dated 132-1-1982	Shid	-	-	Yes	-	-	-	3,795,000,000
57. PT Gochi		61/1/1982/1982	Shid	-	-	Yes	-	-	-	7,292,455,000

1	2	3	4	5	6	7	8	9	10	11
58.	PT. Kalimantan Indonesia	27 28/11/73	Crum Rubber	Selega Bira	-	-	-	Yes	-	571,287,662
59.	PT. Bukit Kuning	02/11/73/1973	Crum Rubber	Berdie River	-	-	-	Yes	-	38,174,640
		Dated 22-6-1976								
60.	PT. Peta Kuning Kuala	15/6/73/1973	Crum Rubber	Perjarmasin	-	-	-	Yes	-	110,074,252
61.	PT. Peta Kuning	-	Ibid	Amuntai	-	-	-	Yes	-	-
62.	PT. Peta Kuning Jaya	-	Ibid	-	-	-	-	Yes	-	1,159,000,700
63.	PT. Peta Kuning	-	Ibid	Berdie	-	-	-	Yes	-	-
64.	PT. Peta Kuning	-	Ibid	Berdie Baku	-	-	-	Yes	-	972,962,000
65.	PT. Peta Kuning	10/11/73/1973	Crum Rubber	Perjarmasin	-	-	-	Yes	-	-
		Dated 18-7-1970								
66.	PT. Peta Kuning	03/11/73/1973	Crum Rubber	Ibid	-	-	-	Yes	-	610,000,000
		Dated 8-2-1971								
67.	PT. Central Dewata Utama	13/11/73/1973	Crum Rubber	Ibid	-	-	-	Yes	-	2,089,000,000
		Dated 13-2-1971								
68.	PT. Kuning Peta Kuning	75/11/73/1973	Crum Rubber	Ibid	-	-	-	Yes	-	1,743,269,000
		Dated 22-4-1972								
69.	PT. Peta Kuning	56/11/73/1973	Crum Rubber	Banjarnegara	-	-	-	Yes	-	15,613,404,980
		Dated 11-3-1972								
70.	PT. Banjar Kuning Utama	179/11/73/1973	Crum Rubber	Ibid	-	-	-	Yes	-	-
		Dated 23-6-1973								
71.	PT. Kunci Bumi Kuning	84/11/73/1973	Crum Rubber	Ibid	-	-	-	Yes	-	-
		Dated 22-3-1973								
72.	PT. Lina Srengedat	219/11/73/1973	Crum Rubber	Ibid	-	-	-	Yes	-	-
		Dated 18-8-1973								
73.	PT. Kunci Bumi Kuning	189/11/73/1973	Crum Rubber	Ibid	-	-	-	Yes	-	-
		Dated 29-6-1973								

Total

4 7 3 29 20 249,870,712,753,20

Source : Bappada Prop. Kalsel

The detail illustration about the private investment which is known as the Private Non-Facility, especially about its amount and its working sector, is very hard given, due to the lack of the data. In spite of that, the data concerning the value of non-facility Private Investment during the Pelita I till Pelita III can still be obtained from the Regional Investment Coordination Agency of South Kalimantan and it can be seen on the Table V ,11.

TABLE V , 11
Value on Non-Facilities Private Investment
during Pelita I till Pelita III
in South Kalimantan

No	Period	Value of investment (in 1000)
1.	Pelita I 1970 - 1973	3,298,478
2.	Pelita II 1974 - 1978	8,849,886
3.	Pelita III 1979	2,220,463
	1980	25,434,709
	1981	48,128,740
	1982	48,129,735

Source : Exposed BKPMI Prop. Pelita of August,
10th ,1983

CHAPTER VI
RECOMENDATION

As described in Chapter III, observing from the point of view of the development of product of various raw materials connected with the existing industries which process that raw material, therefore in the future, the investment opportunities in various sectors can still be expected.

The investment opportunities in various sectors as mentioned above can be concluded as follows:

4.1. Food Crop Based Industries

4.1.1. Rice Industry (Rice Mill)

When the production of paddy is added based on the projection of production in 1990, and with the assumption that the existing rice mills are operating will full capacity, there will be already a surplus of raw material 49,837 tons of dry unhulled rice. It means that in South Kalimantan it is possible to build the new rice mills.

4.1.2. Cassava Industry

The production of cassava up to 1990 hasn't fulfilled yet the needs of the existing cassava industries operating at full capacity. And for these, the area of cassava must be $41,600 : 6 = 6,933$ ha.

The new cassava related industries can be built in the transmigrant's area of Sebamban after the establishment of cassava plantation as has been mentioned above (see Map 1).

4.2. Plantation Crop-Based Industries

4.2.1. Rubber Industry

When the increase of rubber production as we have mentioned in the projection of rubber production 1990, there is no need to build new crumbrubber industries in South Kalimantan.

In order to fulfill the target of the present crumbrubber industries to reach their full capacity, new area of rubber plantation up to 1990 is needed:

- with the assumption that the raw material supplied from Central and East Kalimantan still shows the figures like that of the 1982's and by planting the high fielding clones to produce one ton per ha, the needed new area is 75,000 ha - 50,993 ha = 24,407 ha.
- without importing the raw material from Central and East Kalimantan the needed new area is about 50,000 ha.
- before establishing the new crumbrubber industries it is recommended to open new rubber estate at the following locations (see Map 2)

- Danau Salak - (Banjar regency)
- Batu Icin - (Kotabaru regency)
- Pasukan - (Kotabaru regency)
- Paringin - (IHSU regency)
- Muara Uya - (Tabalong regency)

4.2.2. Coconut Industry

When the increase of coconut production shows the same figures as that shown by the projection of coconut production by 1990, it's necessary to build new cooking oil industries to process the excess.

In order to be able to suffice the need of cooking oil industries by 1990, 61,155 tons are needed - 56,096 tons = 5,099 tons of coconut. The future expansion of coconut can be seen on Map 2.

4.2.3. Rosella Industry

When the increase of rosella production is still based on the projection of production 1990, consequently there is no need to build rosella industries (gunny sacks) in South Kalimantan.

If we wish to build gunny sack industries, an area of rosella plant should be opened.

4.2.4. Sugar Industry

A sugar industry now is being developed in Pleihari. It is still possible to build new sugar industries but must be preceded by the opening of new sugar cane plantation in the area of Sebuher.

Nowadays, sugar industry as well as sugar cane plantation are being built in Pleihari (Tanah Laut regency). Besides that, there is a possibility to build sugar industries as well as sugar cane plantation in Sebuher of Kotabaru regency.

4.3. Forest Based Industries

The capacity of production of the existing forest-based industries still exceed the available basic material. The basic material which is needed is partly imported from Central Kalimantan.

The possible investment opportunities which come from those forest based industries are in the field of waste-product processing. Banjarmasin is the only location for this kind of industry.

4.4. Livestock and Dairy-Based Industries

In this case, the open investment opportunities are :

4.1.1. Leather Factory

Up to now, there is no such thing in South Kalimantan, while the raw material for this purpose is available. The capacity of the factories which can be built is about 750 tons of leather annually and the best location for these factories is around Banjarmasin.

4.1.2. Livestock Food Factory

Until now, the livestock food which is needed is imported from Java. In order to meet a demand of livestock food in South Kalimantan, there are many opportunities to build livestock industries especially for poultry breeding with the minimum capacity of 450 tons per year.

The recommended locations are in the transmigration's area.

4.1.3. Cattle Breeding

In order to fulfill the need of meat and eggs, the investment opportunities for these purposes are still open. The best location is in Tanah Laut regency.

4.5. Fishery Based Industry

4.5.1. Shrimp Fishpond

The investment opportunities in the field of shrimp fishpond are still open. The capacity of product which will be built is recommended around 5 up to 10 tons. The best location is on the east coast of Tanah Laut regency.

4.5.2. Fish Powder Factory

Due to an over production of fish in Tanah Laut regency, there is a possibility to open new investment in fish powder factories. As a support for the poultry feed factory, the best location is in the capital of Tanah Laut regency.

4.5.3. Fish Canning Factory

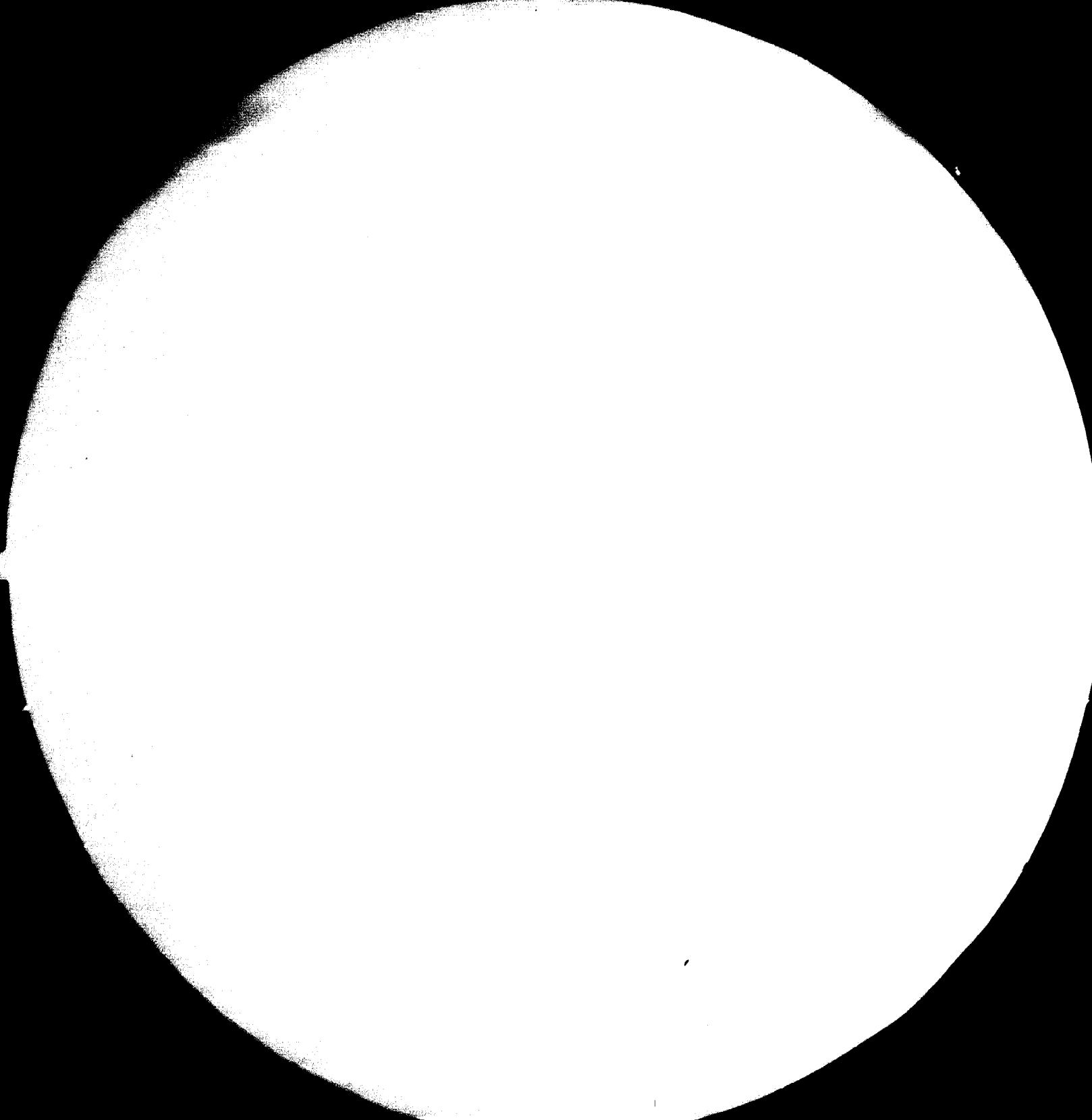
Due to an over production of fish in Tanah Laut regency, there is a possibility to open investment for fish canning factories. The minimum capacity of the factories which will be built is 10,000 tons per year and the best recommended location is in the capital of Tanah Laut regency.

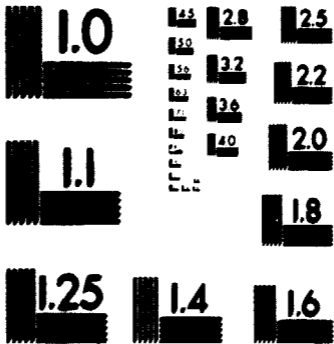
4.6. Agricultural Related Industries.

The investment opportunities which can support the sector of agriculture are agricultural equipment industry, dockyard ship industry and catching fish tool industry

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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS
STANDARD REFERENCE MATERIAL 1010a
(ANSI and ISO TEST CHART No. 2)

4.7. Manufacturing Industries

Based on the available raw material, it is possible to open new industries such as :

4.7.1. Glass and Glassware Industries.

The available raw material for this purpose can be found in Kintap, Asam-Asam and Jorong of Tanah Laut regency. The measured reserve is 7.5 million tons, whereas the indicated one is about 45 million tons. Besides that, there is also a deposit from Kuala Tambangan, Taki-sung and Liang Angang of Tanah Laut regency. About both quality and quantity of the reserve can be decided yet.

4.7.2. Ceramics Industry

Raw material for this kind of industry can be found in Penabang Danau, Banjar regency with the reserve of white kaolin is about 3.2 million tons and the red and yellow one is about 1.3 million tons; the reserve is 3.5 million cubic metres.

Furthermore, the reserve of the raw material in Tatakan and Pitahan of Tapin regency is about 4.8 million tons.

4.7.3. Fruit Canning Industry

Based on the available raw material, it is possible to build new fruit canning industries (orange, pine-apple and rambutan), corn canning industries and banana powder processing industries.

4.8. Mineral Industry

The minerals which can be found in South Kalimantan such as coal, quartz sand, kaolin, limestone and iron has a great deposit. Due to this condition, there is a possibility to build new industries such as ceramics industry, glass and glassware industry as well as other industries such as:

4.8.1. Coal Mining

The investment in this field has been done and expected to produce by 1985

4.8.2. Lime stone Industry

The largest lime stone deposit for basic material of cement industry is found in Padang Batung of HSS regency with the reserve of more than 900 million tons and about 226 million tons in Teluk Kalumpang of Tanah Laut regency.

4.8.3. Peat or Gambut Industry

Besides those minerals mentioned above, there is also a potential mineral, namely : peat or gambut.

The capacity of peat which spreads around the area of 13 million ha in South Kalimantan is 260 billion cubic metres.

Based on the research carried out by Kantor Wilayah Departemen Pertambangan of South Kalimantan Province , the deposit of peat in Gambut Sub Distric of Banjar regency is around 15 million tons.

4.9 . Transportation

In the sector of transportation, the investment opportunities which are opened are :

- 4.9.1. The Ferry Project which connects Pagatan with Kotabaru uses the roll off on system.
- 4.9.2. The River Express Bus Project which connects South Kalimantan with the Central Kalimantan has a capacity of 60 to 80 passengers per unit.

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