

THE DEVELOPMENT OF LOCAL ROAD SYSTEM AND THE ROLE OF FOREIGN AID IN INDONESIA

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abstract : Since the beginning of the third 5-year development plan, the Government of Indonesia (GOI) has been awarding a road development grant to district authorities throughout the country. This grant, provided under the Local Road Development Program (LRDP), was initially established as a means to support the provincial infrastructure development, and later on when it was treated as a block grant, is highly regarded as one instrument for decentralization process and also for a more balanced and dispersed regional economic development. This paper examines the progress of local road development system within the context of regional economic development. Although the development of local roads in Indonesia has been continuous and very progressive in the last ten years, efforts to study its effectiveness and contribution toward regional economic development have been very rare. In depth study to investigate this will be too costly and cumbersome; however, some important data that is available now can be used to conduct preliminary analysis to get a better understanding on how local road system affects economic development of the regions.

1. INTRODUCTION

1.1 Background

The Indonesia's economic development during PJP I¹ (the first 25 year long-ranged development plan), that ended in the fiscal year 1993/94, has successfully achieved an average of 6.8% growth per annum and resulted in the average increase of gross regional domestic product (GRDP) of 17 times across the provinces. The national economic structure had also shifted from agriculture to industry and, in some regions, to services. PJP I has then established a strong foundation for the nation to embark into the subsequent 25 year long-term economic development (PJP II). It is realized, however, that a continuous high rate of economic growth and economic policies that concentrate on maintaining the growth during PJP I have also brought with it a byproduct in the form of inequality and disparities between development sectors, between fractions of the people, and between regions. Now, it is in the main spirit of economic development in the era of PJP II to narrow the gap and to make a more equal, more dispersed development and to distribute its results into every region in the country.

The spirit of a more equal economic development, however, has emerged long time

¹PJP stands for "Pembangunan Jangka Panjang", a 25 year-ranged national development plan.

before PJP II, at least as indicated by the fact that since the beginning of Repelita III² (fiscal year 1979/80), the Government of Indonesia (GOI) has been awarding a road development grant to regional authorities throughout the country. This grant, provided under the *Local Road Development Program* (LRDP), was initially established as a means to support the provincial development, and later on when it was treated as a block grant, was highly regarded as one instrument for autonomy and decentralization process and also as a means for a more balanced and dispersed regional economic development. This grant is used for maintaining, upgrading, and building local roads, both interrural (Kabupaten roads) and urban (Kotamadya roads), within the district jurisdiction.

The LRDP grant which is used by districts³ through the Inpres⁴ mechanism was started in 1979/80 fiscal year and was originally intended for creating and improving accessibility of remote and backward areas, hence to make it possible for other sectoral programs such as transmigration, crop-estate plantation, and public services to take place. Under the grant scheme, the following activities can be funded : (1) maintaining and upgrading the existing district or local roads into a stable and good condition, and if warranted, building new routes; (2) improving and building bridges and culverts; (3) education and training for local engineers and managers to strengthen their knowledge and skills in road construction and management; and (4) coordination and management programs for both regional and national levels.

LRDP is one of many grants provided by central government to the districts under the Inpres schemes. However, as a block grant, the districts are to be given full authority to do the preparation and planning such as the selection of links to be built and to ensure that the road development fits very well within their regional development frameworks. Furthermore, in order to maximize the possible economic benefits created by greater accessibility and lower transport cost, LRDP projects proposed by districts should take into account other sectoral programs that take place in the region as well as other LRDP programs in the neighboring regions. For these reasons, the proposals need to be consolidated in the provincial level before they are submitted to the central government for consideration.

Needless to say that total funding requested by districts always exceed total national budget available for the grant. It is in this point that Bappenas⁵, after consultation with Department of Home Affair (DHA), Department of Public Works (DPW), and Department of Finance (DOF), begins to allocate the total money available to the districts according to a set of criteria determined beforehand. Three basic criteria are associated with physical target of good and stable road condition, target of road maintenance, and

²Repelita, acronym for "Rencana Pembangunan Lima Tahun", is a national five year development plan, in which sectoral and regional development is planned, funded, and implemented. Repelita III covers the period of fiscal year 1979/80 to 1983/84. Repelita I to V constitute PJP I, while PJP II composed of Repelita VI to X.

³District or Kabupaten, is a second level regional administration unit, under provincial level

⁴Inpres, stands for Instruksi Presiden (Presidential Decree), is a mechanism in which central government provides grant to the provincial and district authorities

⁵Bappenas is the National Development Planning Agency

enlargement of local road network to fulfill the spatial planning configuration and road density requirements. Other criteria involving past performance of the districts in managing and administering road construction, emergency reasons (such as earthquake, flood, tsunami, etc.), and the comparison with the previous allocation to prevent sharp fluctuation.

1.2 Transportation Sector In PJP II and Repelita VI

By embarking Repelita VI that started in April 1994, Indonesia is now in the course of its PJP II development plan. The course of transportation sector development during PJP II has been laid out by GBHN 1993⁶ which explicitly states that the development of transportation sector in Indonesia must be geared toward the creation of SISTRANAS⁷, an efficient, reliable, multimodes, and integrated national transportation system, projected to be able to serve future local, national, and regional economic development in the country. In addition to its conventional capability to serve the movement of people, goods, and services, this "state of the art" transportation system is required by GBHN to satisfy the following conditions :

- i) the system must be able to promote regional **development** and to comply with the national as well as the regional spatial planning;
- ii) the system must be able to cope with, in the context of competitiveness, the emerging global and regional economic cooperation (could be referred to recent development of growth triangles such as APEC, IMT-GT, IMS-GT, and BIMP-EAGA⁸);
- iii) the system must be able to take into account the energy constraints that seemingly to be faced in the near future as well as the conservation and preservation of the environment;

In order to satisfy the above requirements, GBHN has also indicated some prerequisites that need to be programmed and implemented as a support system to the SISTRANAS. This includes the quality of human resources development working on transportation sector, the involvement of science and technology in transportation services, private sector participation in transportation development, and changes in rules and regulation sensitive to the economic demand and technological advancement.

National, provincial, and local road networks are the main component of SISTRANAS. The quality and efficiency of the sistem, therefore, very much depend upon how good the road network performs its function in supporting the economic mobility and the development of the regions.

⁶GBHN stands for Garis-garis Besar Haluan Negara, is the basic guidelines for national development

⁷SISTRANAS, is a national transportation system

⁸APEC, Asia Pacific Economic Cooperation, IMT-GT, Indonesia Malaysia Thailand Growth Triangle, IMS-GT, Indonesia Malaysia Singapore Growth Triangle, BIMP-EAGA, Brunei-Darussalam Indonesia Malaysia Phillipines East Asean Growth Areas.

2. THE NATURE OF THE LRDP INVESTMENTS

2.1 GOI Investments

When LRDP started in 1979, only 17 provinces were involved and granted a total of only 13 billion rupiah. By 1988, the grant has reached an amount of 180 billion rupiahs distributing to all provinces but DKI Jakarta. Since then GOI had been increasing the grant up to the beginning of Repelita VI. Since the beginning, the grant is awarded with the emphasis on creating economic activities in the districts, breaking through isolated areas, increasing accessibility to new settlements of transmigration, and linking villages to the market through provincial and arterial roads. This is shown in Table 1 which records 1992/93 local road projects according to its linkages with spatial and sectoral development in the regions. As expected, projects associated with services to economic mobility constitutes the largest portion in each region (about 61% of total nationwide) while projects associated with plantation, transmigration, and tourism vary considerably among regions (9.82% for estate plantation, 5.82% for transmigration, 5.81% for tourism, and 17.11% for others). Linkage of local road projects to plantation and transmigration resettlements in outer Java islands has created road networks capable of mobilizing agricultural, or even agro-industry typed of, economic activities in the regions, accelerated by emerging private sector investments in that sector. Notice also that projects fall under category "others" could presumably be interpreted differently; in Eastern Islands, where Maluku and Irian Jaya constitute the largest portion, projects are usually undertaken to create accessibility to remote and backward areas without any prior specific linkage to either economic activity or other sectoral development. In Java, due to highest population density, projects under this category could be assumed simply as a result of population bias in allocation criteria or by the economic viability of the projects.

Performance of LRDP projects during the first 4 years of Repelita V is summarized in Table 2 which shows total length, amount of good road condition (%), and density (km per km² of areas) in 5 regions of Indonesia. Although total length and density of local roads during 1989 to 1993 was practically the same, meaning that there was no construction of new links, the total length of good and stable roads, however, increased steadily in each region. This good performance of LRDP projects is reflected by the fact that percentages of good local roads increased from 40% to 58.67%, or at least 30,110 km roads had been upgraded during that 4-year period.

The associated budget allocation of LRDP by provinces during the 5-year plan of Repelita V is shown in Table 3, in which total government investment has been steadily increased from 225 billions in the fiscal year 1989/90 to 967.62 billion rupiahs in 1993/94. Across the regions, Sumatera Island always get the highest allocation, followed by Java-Bali, then by Kalimantan, Sulawesi, and the Eastern Islands. Notice also that in the 1991/92 fiscal year, allocation for Eastern Islands became the third largest after Java and Sumatera, indicating some shifting in government investments from the western to the eastern part of Indonesia (later in Repelita VI it becomes the second largest after Sumatera).

Table 1 : LRDP Projects Associated with Sectoral Development
Fiscal Year 1992/93 (Km of length)

Regions	Sectoral Development					Total Regions
	Plantation	Transmi- gration	Tourism	Services	Others	
Sumatera	260.84	250.34	108.39	2,023.46	446.07	3,089.10
Java Bali	161.07	0.00	157.24	1,536.49	250.36	2,105.16
Kalimantan	184.35	137.31	107.22	1,013.81	20.54	1,463.23
Sulawesi	145.00	117.60	72.17	732.68	472.39	1,539.84
Eastern Islands	263.47	96.75	149.66	944.90	571.95	2,026.73
Total Indonesia	1,014.73	602.00	594.68	6,251.34	1,761.31	10,224.06

Source : Bureau for Regional Development Aid, Bappenas, 1992

Eastern Islands consist of NTB (Nusa Tenggara Barat), NTT (Nusa Tenggara Timur), Maluku, Irian Jaya, and Timor Timur provinces.

Table 2 : Local Road Performance During Repelita V

Performance	Regions					
	Sumatera	Java Bali	Kali- mantan	Sula- wesi	Eastern Islands	Total Indonesia
FY 1989/90						
Total length	47,358	52,127	15,916	23,767	22,107	161,275
% in good condition	34.35	56.76	24.69	30.89	33.41	40.00
Density	99	389	29	122	38	83
FY 1990/91						
Total length	47,358	52,127	15,916	23,767	22,107	161,275
% in good condition	41.42	63.57	32.20	36.56	42.58	47.11
Density	99	389	29	122	38	83
FY 1991/92						
Total length	47,358	52,127	15,916	23,767	22,107	161,275
% in good condition	46.59	67.07	42.31	42.55	50.85	52.77
Density	99	389	29	122	38	83
FY 1992/93						
Total length	47,358	52,127	15,916	23,767	22,107	161,275
% in good condition	52.38	70.49	50.77	48.97	60.41	58.67
Density	99	389	29	122	38	83

Source : Project Secretariat LRDP, Bappenas, 1994

Table 3 : Government Investment for LRDP During Repelita V (Rp Millions)

No.	Provinces, Number of Districts & Number of Kotamadyas	Repelita V				
		1989/90	1990/91	1991/92	1992/93	1993/94
1	DI Aceh, 8,2	11,401.6	24,658.3	37,740.2	43,951.4	54,614.7
2	North Sumatera, 11,6	16,014.4	23,750.6	39,165.1	44,388.7	52,135.0
3	West Sumatera, 8,6	9,258.7	14,070.2	23,822.1	29,703.7	34,092.9
4	Riau, 5,2	6,706.9	20,156.8	28,894.3	31,977.0	37,682.4
5	Jambi, 5,1	8,147.0	13,678.8	19,301.8	23,379.1	28,955.7
6	South Sumatera, 8,2	13,586.7	25,192.8	35,769.8	45,714.2	53,651.5
7	Lampung, 4,1	5,285.3	10,661.2	16,522.9	20,097.6	23,052.3
8	Bengkulu, 3,1	4,515.1	6,709.0	10,625.0	15,319.9	17,671.6
9	DKI Jakarta, 0,5	-	4,975.0	5,000.0	5,000.0	5,000.0
10	West Java, 20,5	19,225.6	35,815.8	45,401.8	51,464.0	58,880.4
11	Central Java, 29,6	17,256.0	26,907.9	38,498.3	43,522.3	50,421.8
12	DI Yogyakarta, 4,1	2,674.6	5,624.9	7,649.8	9,042.1	9,649.8
13	East Java, 29,8	17,848.3	32,319.6	48,045.3	54,083.1	62,898.7
14	West Kalimantan, 6,1	8,986.1	21,808.2	33,720.5	39,962.4	46,845.9
15	Central Kalimantan, 5,1	3,716.8	12,690.9	19,185.9	25,578.7	30,120.3
16	South Kalimantan, 9,1	4,709.0	11,900.3	17,881.6	24,575.2	28,212.6
17	East Kalimantan, 4,2	3,134.7	18,866.7	26,751.1	28,133.6	31,700.0
18	North Sulawesi, 4,3	6,023.0	12,820.5	18,222.6	20,710.9	26,851.2
19	Central Sulawesi, 4,1	5,317.1	9,029.7	15,869.9	18,665.5	22,288.6
20	South Sulawesi, 21,2	10,283.1	22,806.6	36,859.4	45,768.0	54,005.5
21	Southeast Sulawesi, 4,0	6,633.9	11,134.2	16,939.1	18,988.4	22,858.9
22	Bali, 8,1	5,342.6	7,194.4	10,596.2	11,428.8	13,113.6
23	NTB, 6,1	4,672.7	6,950.9	12,427.9	18,997.9	21,974.6
24	NTT, 12,0	9,031.7	19,978.3	32,334.3	37,607.4	41,698.3
25	Maluku, 4,1	3,496.6	12,197.4	17,699.3	19,420.5	22,260.1
26	Irian Jaya, 9,1	6,200.2	33,928.4	46,733.3	60,110.3	70,536.8
27	Timor Timur, 13,0	4,985.9	9,999.2	15,470.8	20,216.8	25,355.8
Sumatera (1 to 8)		74,915.7	138,877.7	211,841.2	254,531.6	301,836.1
Jawa Bali (9 to 13 & 22)		62,347.1	112,837.6	155,191.4	174,540.3	199,964.3
Kalimantan (14 to 17)		20,546.6	65,266.1	97,539.1	118,249.9	136,878.8
Sulawesi (18 to 21)		28,257.1	55,791.0	87,891.0	104,132.8	126,004.2
Eastern Islands (23 to 27)		28,387.1	83,054.2	124,665.6	156,352.9	181,825.6
TMC Program		10,546.4	16,673.4	7,971.7	17,812.5	21,111.0
Total Indonesia		225,000.0	472,500.0	685,100.0	825,620.0	967,620.0

Source : Project Secretariat LRDP, Bappenas, 1994

Note : Kotamadya, or Kodya for short, is a medium-size city in a district, and often turns to be the capital city of the district; LRDP involving 243 districts and 61 Kodyas in 27 provinces;

TMC : Tax, Management, and Coordination. Exchange rate at 1995 : about Rp 2200 = 1 US\$

This reflects some policy changes towards prioritizing less developed areas in the eastern part of the country. As a result of this funding, total length of local road network nationwide has grown from 161,275 km in 1989 to 173,600 km in 1993, then to 181,266

km in 1995. During Repelita V, a total of 49.705 km local roads were constructed and upgraded into stable and good condition, at a total cost of 3,175.84 billion rupiahs of GOI budget, involving 243 districts and 61 kotamadyas (municipalities) in 27 provinces across the country. Now Indonesia is entering the second year of Repelita VI. To continue road sector development program, Table 4 shows physical target of road development sector during Repelita VI, categorized by type of works and road classification, including bridges. Concerning local roads alone, 428,128 km will be maintained, 65,000 km will be upgraded, and 5,100 km new links will be built. Across the board, this constitutes in the average of about 64% of road development programs in Repelita VI. Following this target of local road upgrading program, it was projected that at the end of Repelita VI, about 80% of local roads will be upgraded into stable and good condition with the estimated total cost of about 5,606.7 billion rupiahs. The description of this projection into regional level can be seen in Table 5, while the corresponding funding is shown in Table 6. Proposed and actual budgets of LRDP for the first 2-years of Repelita VI is shown in Table 7. Although physical target of LRDP projects looks very optimistic, available government funding, however, seems not very promising. In the 1994/95 fiscal year, 967.62 billion rupiahs was allocated for LRDP grant with no increase from the previous year. In 1995/96, the allocation was increased by only 3% to 997.62 billion rupiahs. This level of government funding will likely be relatively the same for fiscal year 1996/97 and the subsequent years.

Table 4 : Physical Target of Road Sector Development During Repelita VI

Type of Works	1994/95	1995/96	1996/97	1997/98	1998/99	Total
Rehabilitation & Maintenance						
Arterial & Collector Roads	28,300	38,551	43,223	47,630	55,996	213,700
Local Roads	78,336	82,396	87,634	89,528	90,286	428,180
Bridges	12,030	21,539	24,616	25,640	36,175	120,000
Upgrading & Replacement						
Arterial & Collector Roads	5,039	3,792	3,482	4,268	4,409	21,350
Local Roads	11,830	13,218	12,549	13,303	14,100	65,000
Bridges	13,852	10,819	10,321	9,856	10,152	55,000
Building & Development						
Arterial & Collector Roads	1,050	1,016	1,020	1,010	804	4,900
Local Roads	650	993	1,018	1,043	1,396	5,100
Bridges	1,100	6,357	7,312	7,333	8,148	30,250
Toll Roads	51	58	61	68	74	310

Source : Repelita VI Book III, Chapter 24, Transportation

Target in km for roads, in meters for bridges

2.2 Foreign Aid

The big investment of GOI in local road system has created a favorable condition for attracting internasional assistance. The involvement of foreign aid in the development of local road system in Indonesia can be traced back to 1982 when The World Bank (IBRD) provided US\$ 100 millions (Loan 2083-IND) under Rural Road Development Project (RR1) with the main objectives of improvements of local roads in 25 districts of 5

Table 5 : Physical Target of LRDP During Repelita VI (Km length of good roads)

Regions	Repelita VI					
	1994/95	1995/96	1996/97	1997/98	1998/99	Total
Sumatera	4.301,86	4.806,59	4.563,32	4.837,50	5.127,32	23.636.60
Java Bali	2.245,54	2.509,00	2.382,02	2.525,14	2.676,42	12.338.11
Kalimantan	1.511,87	1.689,26	1.603,76	1.700,12	1.801,98	8,307.00
Sulawesi	2.022,07	2.259,32	2.144,97	2.273,85	2.410,08	11,110.28
Eastern Islands	1.748,66	1.953,82	1.854,94	1.966,39	2.084,20	9,608.00
Total	11,830.00	13,218.00	12,549.00	13,303.00	14,100.00	65,000.00

Source : Project Secretariat LRDP, Bappenas, 1994

Table 6 : Projected Funding of LRDP Projects During Repelita VI (1.000 rupiahs)

Regions	Repelita VI				
	1994/95	1995/96	1996/97	1997/98	1998/99
Sumatera	297.784,784	365.995,876	382.218,979	445.702,844	519.646,082
Java Bali	146.210,250	178.514,235	186.316,227	216.846,801	252.407,455
Kalimantan	121.233,008	149.002,848	155.607,536	181.452,846	211.556,314
Sulawesi	126.443,336	155.406,662	162.295,206	189.251,290	220.648,538
Eastern Islands	139.487,537	171.438,790	179.037,972	208.774,911	243.411,176
Total	831,158,916	1,020,358,411	1,065,475,921	1,242,028,691	1,447,669,511

Source : Project Secretariat LRDP, Bappenas, 1994

Total Funding Repelita VI : Rp 5,606,691,450,000

provinces and institutional strengthening in the provinces. This was followed in 1987 by RR2 (US\$ 190 millions Loan 2881-IND) to be used by 78 districts in 14 provinces. Since then, IBRD, ADB, OECF, and USAID loans have been provided up to now. The past and on-going LRDP projects assisted by foreign loans is shown in Table 8. In addition to civil works, these loans are also utilized for workshop and laboratorium works, provision of equipment, training and education, and consultancy and supervision services. Table 9 summarizes regional allocation of LRDP funding for both GOI and foreign aid in the present fiscal year 1995/96 with a total of more than 1.2 trillion rupiahs. From now on, this is most likely about every year total funding for LRDP projects. The proportion of foreign loan to local funding is about 20%, indicating the supplementary role of foreign aid in LRDP projects. By regions, this proportion varies from 12.4% in Eastern Islands to 37.3% in Java Bali.

Given the nature of LRDP grant, government intervention is unavoidable in planning, allocating, and supervizing the operationalization of local road development. This centralized management is in the form of the Coordinating Committee (CC) assisted by

Table 7 : Government Investment for LRDP During the first 2-year of Repelita VI (Rp Millions)

Regions	Repelita VI			
	1994/95		1995/96	
	Proposed	Actual	Proposed	Actual
Sumatera	805,599.7	295,151.2	823,272.4	302,000.0
Jawa Bali	487,719.2	178,216.0	479,268.7	170,400.0
Kalimantan	289,320.0	140,440.9	401,333.9	157,000.0
Sulawesi	270,335.2	122,930.7	410,894.0	130,000.0
Eastern Islands	316,282.0	197,461.1	448,904.6	214,000.0
TMC Program		33,420.2		24,220.0
Total Indonesia	2,169,256.0	967,620.0	2,563,673.6	997,620.0

Source : Project Secretariat LRDP, Bappenas, 1994

Table 8 : Foreign Aid in Local Road Development Program

No.	Loans	Amount (US\$ mil.)	Schedule	Districts Involved
1	IBRD 2083-IND (RR1)	100.00	1982-1987	25 districts in 5 provinces
2	IBRD 2881-IND (RR2)	190.00	1988-1994	78 districts in 14 provinces
3	IBRD 3490-IND (KR3)	215.00	1992-1996	73 districts in 9 provinces
4	IBRD 3579-IND (KREI)	155.00	1993-1998	51 districts in 7 provinces
5	IBRD 3589-IND (FERP)	42.10	1993-1996	4 districts in NTT only
6	IBRD 3732-IND (KR5)	101.50	1994-1999	27 districts in 5 provinces
7	ADB 1232-INO (LR3)	200.00	1993-1997	70 districts in 4 Java provinces

Source : Directorate General of Highway, Department of Public Works.

FERP was provided for rehabilitating local roads in Flores Island (NTT province) damaged by 1993 earthquake and tsunami

the Project Secretariat (PS), both chaired by Bappenas, whose membership consists of representatives from DHA, DPW, and DOF. In the implementation side, CC and PS are to be assisted by Project Implementation Unit (PIU), chaired by Directorate General of Highway, DPW. While this management is likely to prevail still in the next LRDP project implementation, there has been some indication that this centralized approach has not been as effective as expected to strengthen local institutions, especially as regards to increased decentralization since the links between the central management and the local governments become looser and looser. Therefore, a more decentralized approach is warranted.

Lesson from RR2 has indicated that institutional factors tend to predominate over economic or technical factors in determining the effectiveness of local road projects. The sustainability of the projects was due to a large extent to the existence of a follow-up project covering the same districts. As such, districts tend to rely on a continuous project rather than to try to be accountable for local road sustainability. Key weaknesses

identified in KREI projects, for example, include inadequate attention to alignment and alternative route location, especially with regards to minimizing environmental impacts, and lack of adequately prepared long- and medium-term road development plans and priorities.

Table 9 : LRDP GOI and Foreign Aid Funding
Fiscal Year 1995/96 (1.000 rupiahs)

Regions	LRDP Allocation		
	GOI Funding	Foreign Aid	Total Funding
Sumatera	302.000,000	40,297,000	342,297,000
Java Bali	170.400,000	101,352,990	271,752,990
Kalimantan	157.000,000	24,166,000	181,166,000
Sulawesi	130.000,000	32,710,000	162,710,000
Eastern Islands	214.000,000	30,415,000	244,415,000
Total Indonesia	973,400,000	228,940,990	1,202,340,990

Source : Project Secretariat LRDP, Bappenas, 1994

3. LOCAL ROADS AND REGIONAL DEVELOPMENT

3.1 Scenario for Regional Development

The strong commitment of GOI to support the development of KTI⁹ (eastern part of Indonesia) is the basic idea behind the regional scenario R2 (SR2), as opposed to scenario R1, and has been incorporated within Repelita VI of provincial development¹⁰. The message behind SR2 is clear; that in the near future a larger part of economic activities needs to take place in KTI and a more equal regional distribution of income per capita needs to be achieved. SR2 has the following features.

First, KTI will become a special development area and the government will allocate a larger proportion of GOI investment (along with foreign aid) to all KTI provinces.

Second, the share of KTI in GOI investment will gradually increase from 30% in 1993 to 35% in 2018. These investments, financed from the development expenditure budget, are one of the main instruments of government policies.

Third, the resources will be used for further improvements in transport system

⁹KTI stands for Kawasan Timur Indonesia (eastern part of Indonesia), covering all regions except Java-Bali and Sumatera

¹⁰Scenario R1 is a policy neutral regional scenario, assuming a continuation of past regional economic trends in which economic and export growth would still be concentrated in Java. Both scenarios R1 and R2 were developed jointly by Bappenas and the Netherland Economic Institute (NEI)

(predominantly roads), education, health, and all kind of other physical and social infrastructures, but will also give incentives in the field of taxes, regulations, and other fiscal and monetary terms.

Fourth, as a result of this policies, it is projected that more private investments will be attracted to KTI, especially in high future potential economic sectors such as agriculture and agro-processing, fishery, mining & quarrying, and tourism.

Fifth, the share of KTI in national private investments is expected to increase gradually from 11% in 1993 to 19% in 2018. At the same time, the share of KTI in non-oil export will grow from 20% to 29%.

These cooperative efforts of the government and private sector in KTI should, in the long run, lead to increased production capacity and employment, creating a more conducive atmosphere for economic growth. At the end of PJP II, a completely different picture of regional economic will prevail. In SR2, most KTI provinces show Gross Regional Domestic Product (GRDP) growth rates higher than national average during Repelita VI, as well as in the whole PJP II period. These projections are shown in Table 10 and Table 11 respectively. During Repelita VI, total GRDP of KTI is projected to grow by 6.6% per annum, while national macro economic projection shows a growth rate of 6.2%. The corresponding values for non-oil GRDP are 8% and 6.9%. This high growth in KTI will likely take place in Kalimantan, South Sulawesi, Maluku, and Irian Jaya. Table 11 shows a clear impact of the SR2 regional policy after Repelita VI in which economic growth continue to grow in KTI during PJP II and will in turn lead to a substantial further increase in its share in national GDP.

3.2 The Role of Road Sector

The projected average economic growth of more than 7% per year will not only change the regional picture substantially, but will also imply a completely different sector structure of GRDP within the regions at the end of PJP II, as shown in Table 12. During the next 25 years, agriculture and oil&gas sectors are going to diminish significantly, while manufacturing and services will gain much share in GRDP. Share of services (trade, transport, public services, and other services) increase from 39.1% to 46.2%, while the share of transportation alone increases from 6% to 9.1%. In KTI, the share of transport sector in GRDP is expected to increase from 6% to 11.3%.

In the core of growing importance of transport sector in Indonesia, is the road sector development, including local roads. While LRDP is likely to be continued to be funded by the government across the provinces, there is a need, however, to reorient future foreign aid toward a regional approach, requiring more linkages with regional economic development and growth. This notion of GOI, at least, has been jointly shared with the World Bank in its forthcoming pipeline to pursue a more efficient way to provide loans in road sector. Under this new approach, LRDP projects will be focussed on a limited number of provinces at a time, in order to improve local coverage, implementation, and most importantly ownership.

Table 10 : GRDP Growth & Distribution During Repelita VI (Under SR2)

Regions	Total GRDP			Non-Oil GRDP		
	Annual Growth (%)	Distribution (%)		Annual Growth (%)	Distribution (%)	
		1993	2018		1993	2018
Sumatera	5.9	23.6	23.2	7.9	18.6	19.6
Jawa Bali	6.3	59.6	59.6	6.4	65.5	63.9
Kalimantan	6.2	8.7	8.7	8.9	6.8	7.4
Sulawesi	7.4	4.3	4.6	7.4	5.0	5.1
Eastern Islands	6.7	3.8	3.8	7.0	4.1	4.3
KBI	6.2	83.2	82.9	6.7	84.2	83.4
KTI	6.6	16.8	17.2	8.0	15.9	16.6
Indonesia	6.2	100.0	100.0	6.9	100.0	100.0

Source : Bappenas-NEI Study, 1994

KBI : western part, KTI : eastern part of Indonesia

Table 11 : GRDP Growth & Distribution During PJP II (Under SR2)

Regions	Total GRDP			Non-Oil GRDP		
	Annual Growth (%)	Distribution (%)		Annual Growth (%)	Distribution (%)	
		1993	2018		1993	2018
Sumatera	7.1	23.6	22.5	8.4	18.6	21.7
Jawa Bali	7.1	59.6	56.6	7.2	65.5	57.2
Kalimantan	8.0	8.7	10.6	9.6	6.8	10.5
Sulawesi	9.2	4.3	6.8	9.2	5.0	6.9
Eastern Islands	7.1	3.8	3.7	7.3	4.1	3.7
KBI	7.1	83.2	79.0	7.5	84.2	78.9
KTI	8.2	16.8	21.2	9.0	15.9	21.1
Indonesia	7.3	100.0	100.0	7.8	100.0	100.0

Source : Bappenas-NEI Study, 1994

It is believed that a stronger regional approach with regard to project management would have a number of advantages over past operations as it will allow for a better review and solution of the institutional and incentive constraints of each province/district and a project design adapted to local conditions. Regional approach of local road development would also improve planning stage using spatial consideration and provincial transport network, as well as to move responsibility for planning and implementation from central agencies to local agencies. This in turn would strengthen the capability of local government in handling sectoral development in their own regions and would yield in a stronger autonomy and decentralization.

Table 12 : Regional Sector Distribution of GRDP According to SR2

Sector	1993			2018		
	KBI	KTI	Indonesia	KBI	KTI	Indonesia
Foodcrop	11.6	10.9	1105	3.8	3.4	3.7
Other Agriculture	7.7	13.5	8.7	3.4	6.0	3.9
Mining	1.3	9.1	2.6	1.6	8.3	3.0
Manufacturing	19.2	10.0	17.6	35.4	17.3	31.7
Public Utilities	1.6	0.6	1.4	1.8	0.9	1.6
Construction	6.7	5.1	6.4	7.6	7.0	7.5
Trade	17.8	14.2	17.2	20.2	32.3	22.7
Transportation	6.0	6.0	6.0	8.6	11.3	9.1
Services	10.2	5.4	9.4	11.0	7.1	10.2
Public Services	6.4	7.4	6.5	4.1	4.6	4.2
Oil & Gas	11.7	17.8	12.7	2.6	1.9	2.4
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source : Bappenas-NEI Study, 1994

4. CONCLUSIONS

Traditionally, road development is regarded as a prerequisite to economic development, making it possible for the productive but remote areas to be connected with domestic market with a reasonable cost of transportation. The better the condition of the road, the lower the cost, and the larger the contribution to economic growth. As such, road sector development has a high degree of correlation with economic development of the areas.

Concerning local road development in Indonesia, efforts to investigate this relationship has so far been very rare. Some reasons might explain this. First, roads *per se*, is not directly related with economic development due to the fact that demand of transportation is a derived demand. Second, road development is highly considered as public sector, a government's responsibility, leaving nobody else to be accountable for its economic and financial viability. Local governments are likely to have the perception that local roads funding are to be granted anyway, regardless of their performance. Third, no significant amount of fund has so far been allocated for a full-scale research to investigate the relationship between road development and economic growth in district level.

Eventhough centralized management of LRDP would still be adopted for the next programs in Repelita VI, there is a need to take a new approach based on regional and spatial characteristics of selected provinces to boost the economic growth of the regions. A central management, however, needs to be equipped with macroeconomic tools and for this reason, effort is now being done to develop KREEM (Kabupaten Road Economic Evaluation Model).

Foreign aid to support LRDP would still be necessary in the future as demand to road capacity is steadily increasing due to economic growth in all provinces. The next local road loans, however, would be focussed on a more regional approach to boost other sectoral development in one or two provinces that form a cohesive economic entity.

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