CHAPTER III

DEVELOPMENT PERSPECTIVES

This Chapter discusses the perspectives for SKR development, focusing on the policy framework and setting a development framework. Further, a scenario is proposed for SKR development.

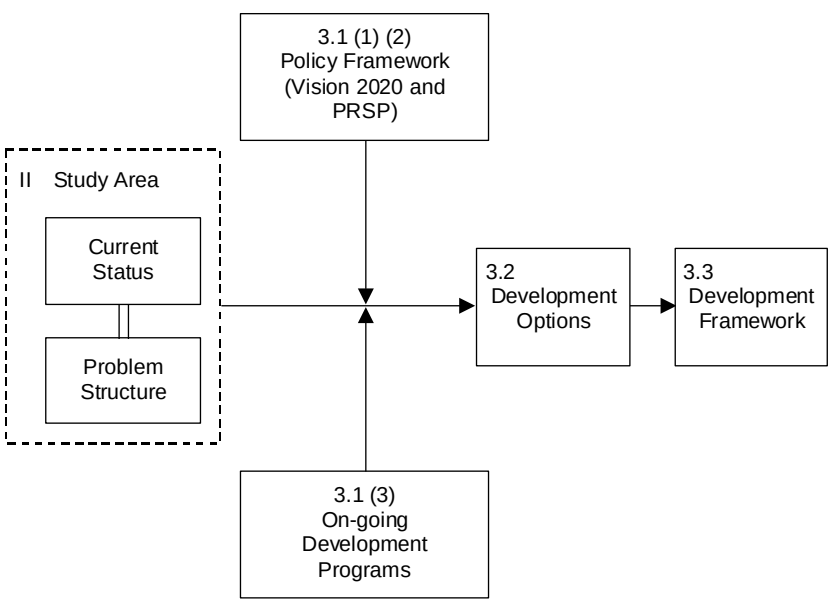


Figure 3-1 Formulation of Development Framework and Scenario

3.1 Policy Framework and On-going Development Programs

1) Lao Vision 2020

The long-term policy framework of Lao PDR will be presented in the Vision 2020 that is under preparation by SPC. The policy framework paper issued so far envisages eight priority programs as follows:

(1) Food production to attain and maintain self-sufficiency in staple foods;

(2) Stabilization/reduction of shifting cultivation, protecting the environment and forestry assets and reducing poverty in such areas;

(3) Commercial production, including marketing of products;

(4) Infrastructure development, both social and economic;

(5) Improved socioeconomic management and foreign economic relations, including relations under ASEAN, AFTA, and WTO;

(6) Rural development to attain balanced development over the country;

(7) Human resource development; and

(8) Service sector development, inclusive of tourism and other service industry.

From these priority programs, it is clear that the market-oriented economy will be pursued, paying attention to minimize the gap between the agriculture-based rural areas and the industry-based urban areas. It is also clear that the natural environment should be vigorously protected in any development program. Likewise, attention should be drawn to human resource development to make such programs effective and sustainable. These basic policies are reflected in formulating the development framework and scenario for SKR.

Under the Vision 2020, the government has expressed its determination to develop an economic and social profile so that it leaves the ranks of the least developed nations by the year 2020. This implies that Lao people will attain a level of US$760 (at 2000 constant prices) in terms of per capita GDP by 2020. This target appears to be relatively high because it will require an average GDP growth rate of nearly 9% up to 2020. However, since SKR is currently at a level higher than the national average in terms of per capita GDP and SKR is expected to lead the economic growth of the country being endowed with the development potentials, the policy framework envisaged under the Vision 2020 will be referred to in setting framework for SKR development.

2) Poverty Reduction Strategy Paper

The Lao government is preparing a Poverty Reduction Strategy Paper (PRSP) to fight poverty nationwide. The PRSP is scheduled for presentation towards the end of 2001.

According to the interim paper submitted by the government to the 7th Round Table Meeting in November 2000, several strategic issues were put forward for implementation. The interim paper focuses on fighting poverty through (i) human resource development, (ii) rural development, and (iii) people's participation. It also defines that the "new actors" for development are the provinces, districts and villages. This PRSP will be referred to in formulating development frameworks and scenarios for SKR development.

The interim PRSP focuses more on development of social infrastructure. The other reports[1] prepared by the government also pay more attention to facilities to support rural life; e.g., rural roads, health services, water supply, education and rural infrastructure. However, for poverty alleviation, a holistic approach will be required and attention should be drawn at the same time to income generation for rural households. Consequently, SKR development will pay more attention to rural income generation. How to enhance the rural household income is one of the major issues to be addressed in SKR development.

3) On-going Development Programs

While the Vision 2020 and the PRSP are discussed as a policy framework at the national level, several projects have been proposed and/or programmed for implementation in SKR. In Savannakhet province, the following major programs are scheduled:

(i) The major components of the East-West Corridor (i.e., improvement of NR9 and construction of the New Mekong Bridge) are scheduled for completion in 2004.

(ii) A gold/copper mine complex in Villabuly (Xepon) district is planned to start its operation by the time NR9 is improved.

[1] These reports include: (i) Rural Development based on Participatory Planning, (ii) Strategic Directions for Development of the Road Sector, (iii) Health Strategy up to 2020, (iv) Education Strategic Vision, (v) Vision for Agriculture to 2020, and (vi) Forest Resource Management to the Year 2020.

(iii) The Savannakhet Special Economic Zone (SEZ) is planned to be established by the time the East-West Corridor is opened.

(iv) Electric power from the Nam Theun II hydropower station will be transmitted via Savannakhet when it becomes operational in 2006.

(v) The water supply system and other urban infrastructure will be improved in Khantabuly (the capital of Savannakhet) by 2003.

On the other hand, Khammouan province has been promoting several development programs including:

(i) Plantations of eucalyptus for pulp processing are underway in the northwestern part of the province.

(ii) The Nam Theun II hydropower station in the northern part of the province is in the final stage of an EIA and it is scheduled that the project will become operational in 2006.

(iii) The improvement of NR8 has been programmed with the financial assistance of international donors.

These on-going development programs are taken into account when formulating the framework and scenarios for SKR development.

3.2 Options for SKR Development

For integrated regional development in SKR, various options are conceived on the basis of the social and economic setting, as well as the protection of the environment in the region. These options may be represented by three alternative development options as listed and discussed below.

(i) Rapidly open regional development;
(ii) Moderately open regional development; and
(iii) Relatively closed regional development.

1) Rapidly Open Regional Development (Alternative Option 1)

The rapidly open regional development option may count on accelerated development of transportation networks, freer movement of people, and

accelerated industrial development in the urban area. It will lead to a high grown scenario with an average GDP growth rate of 8 to 10% per annum.

Under this rapidly open regional development option, development of the feeder road networks from NR9 may be accelerated towards the hinterlands and another economic corridor may be opened along NR8 in or around 2010 together with the construction of the Thakhek-Nakhon Phanom Bridge. Consequently, inner towns and districts will be rapidly integrated into the market economy. However, such a rapid opening of SKR would bring about deterioration of the environment, particularly in the forest areas.

The rapidly open development scenario will also require accelerated industrialization in SKR. Incentives are granted to foreign investors in any part of SKR to make utmost use of natural resources available in the region. To this end, foreign workers will be employed without any restriction to overcome the shortage of skilled workers in the region. The accelerated industrial development, however, will bring about rapid migration to the urban areas and an enlarged gap between rural and urban areas. It will also discourage local entrepreneurs opening new business for industrialization.

2) Moderately Open Regional Development (Alternative Option 2)

The moderately open regional development option will lead to the moderate but steady economic growth of SKR, with an average GDP growth rate of 5 to 7% per annum.

Under this option, the transportation networks in the region will be gradually developed, paying attention to development of inner towns so as to prevent rapid migration to the metropolitan area. Rural area development will receive more attention and more investment. Special attention will be paid to enhance rural household income through diversified farming and to develop local industries in the rural area. The market economy will gradually penetrate the rural area through marketing of increased production of diversified crops and local products. Utilization of forest resources is envisaged but reforestation will be programmed in parallel. Some specific development programs (e.g., a gold/copper mine project in Savannakhet and pulp production in Khammouan) may be promoted as far as they are environmentally sustainable.

With the moderately open regional development option, priority will also be accorded to capacity building for farmers, private entrepreneurs and public officers so as to attain long term sustainable development. In this context, more investment will be directed to basic education and technical education/training at the initial phase of SKR development. Movement of skilled workers from the neighboring countries may be allowed as far as it will contribute to capacity building of SKR people.

3) Relatively Closed Regional Development (Alternative Option 3)

The relatively closed regional development option will lead to the fairly low economic growth in SKR, with the average GDP growth rate of 2 to 4% per annum. Under this option, economic impact of the East-West Corridor will be limited without additional investments in the hinterland areas.

Although efforts are made to alleviate poverty in the rural area, more attention will be paid to development of social infrastructure as envisaged under the interim PRSP. With less income generation at the household level, it is feared that such social infrastructure may be less sustainable in the long run. Natural resources will remain less developed and the environment may be more protected.

Under the relatively closed regional development option, traditional systems of the rural and urban life will be respected to the utmost extent. Most households in the rural area will continue to count on a single crop of rice cultivation. Movement of people from the neighboring countries will be restricted. As capacity building will take a longer period, development projects will have to be programmed for gradual implementation.

4) Selection of Development Option

Three alternative development options as outlined above are evaluated in terms of their conformity to the policy framework under the Vision 2020 and PRSP, and their sustainability.

From the viewpoint of conformity to the policy framework under the Vision 2020, the rapidly open regional development option would attain the economic growth target set under the Vision. The market economy would more widely penetrate the rural area. However, this option will have negative impacts on the

environment, and it would enlarge a gap between the rural agricultural economy and the urban industrial economy. Human resources in SKR would remain less developed. On the other hand, the moderately open regional development option would contribute more to rural area development with the enhancement of household income based on diversified farming. Capacity building and human resource development emphasized in the initial phase would also contribute to sustainable development, though social and economic infrastructure development might be prolonged if compared to the rapidly open development option. The relatively closed regional development option would limit the expansion of the market economy and curtail improved rural household income generation. Thus, there might be a delay in rural area development. Consequently, judging from the development policy under the Vision 2020, the moderately open regional development option is the most desirable option among the alternatives.

From the viewpoint of PRSP, the rapidly open development option would enlarge the gap between the agriculture-based rural areas and the industry-based urban areas. The moderately open development option, on the other hand, would contribute to enhanced rural household income and it would close the rural versus urban gap. Poverty in the rural area might be reduced significantly. The relatively closed development option would contribute less to the poverty alleviation as it limits the opportunities for social and economic development in the rural area. Therefore, the moderately open development option is the most desirable option for poverty reduction among the three alternatives.

From the viewpoint of sustainability for SKR development, the moderately open development option appears to be the most desirable because of the balance between rural and urban development, and manageable resource development. While, the rapidly open development would aggravate the environment and discourage the self-reliance motivation. Although the relatively closed development option may be most sustainable for the environmental protection, it would not contribute to sustainable development in the rural area.

The three alternative options are tabulated for comparison in Table 3-1. As a result of comparative analysis, it is recommended that the moderately open regional development option be selected as the most recommendable option for SKR development.

Table 3-1 Comparison of Development Options

Reference	Rapidly Open Regional Development	Moderately Open Regional Development	Relatively Closed Regional Development
Vision 2020	• The market economy will more widely penetrate the rural areas. • Commercial production will be promoted rapidly. • Infrastructure will be quickly improved. • The gap between agriculture-based rural and industry-based urban economies will be enlarged. • Human resource development will be retarded.	• The market economy will gradually penetrate the rural areas. • Commercial production will be promoted through diversified farming and local industries. • Infrastructure will be gradually improved. • The gap between rural and urban economies will be mitigated. • Capacity building and human resource development will be strategically promoted.	• The subsistent livelihood will remain widely. • Commercial production will be less promoted. • Less investment is expected in infrastructure. • The gap between rural and urban economies will remain narrow. • Capacity building and human resource development will be retarded.
PRSP	• The gap between rural poverty and urban wealth will be enlarged. • Social infrastructure in the rural area will be quickly improved. • Rural to urban migration will be accelerated.	• Rural poverty may be strategically reduced. • Social infrastructure improvement will be retarded. • Inner towns will be strategically developed to mitigate migration.	• Reduction of the rural poverty will be retarded. • Social infrastructure improvement will be retarded. • Development of inner towns will be retarded.
Sustainability	• The environment may deteriorate. • The self-reliance motivation may be discouraged.	• Manageable resource management will be introduced. • Self-reliance will be encouraged.	• The natural environment may be more protected. • Subsistence livelihood will widely remain.
On-going Programs	• Impacts of the on-going programs will be enlarged.	• Impacts will gradually spread in the rural and urban areas.	• The on-going programs will have less impact on rural development.
GDP Growth	8~10% per annum	5~7% annum	2~4% per annum
Recommendation		Adopt	

3.3 SKR Development Framework

Based on the moderately open regional development option selected in the foregoing section, various development framework for SKR will be formulated and proposed as follows:.

1) Social Development Framework

The social framework for SKR development will be set for (i) demography, (ii) public health, and (iii) basic education.

Demographic Framework

According to the latest population projections by the National Statistics Center (NSC), it is estimated that the Lao population will increase from 5.23 million in 2000 to 6.65 million in 2010 and 8.21 million in 2020. The population growth rate will remain relatively high, though it will gradually decrease from 2.8% in 2000 to 2.1% by 2020. Assuming the same trend of population growth, the SKR population is estimated to increase from 1.07 million in 2000 to 1.36 million in 2010 and 1.68 million in 2020, i.e., an increase of 57% over two decades. The population will reach 1.20 million in Savannakhet province and 0.48 million in Khammouan province in 2020. Such an increase in the regional population would become a pressure for social and economic development, as well as for resource management.

Table 3-2 Population Projection

(Unit: 000 prs)

		1995	2000	2005	2010	2020
Lao PDR		4,612	5,234	5,921	6,651	8,207
SKR	Total	944	1,072	1,209	1,363	1,682
	Savannakhet	672	763	860	970	1,197
	Khammouan	272	309	349	393	485

Source: JICA Study Team estimate

The rural population, which accounts for 86% of the SKR population, will remain high though the urban population would increase at a higher rate than the rural population. The urbanization rate is estimated to increase from 2.9% in 2000 to nearly 3.8% in 2010, but it would decrease to around 2.7% towards 2020. The urban population will reach around 300,000, or twice the level of 2000. The urban population will not be concentrated in the provincial capital cities

(Khantabuly and Thakhek) while about 40% of the urban population will be distributed in the District centers.

Table 3-3 Rural-Urban Population Distribution in SKR

(Unit: 000 prs)

		1995		2000	2005	2010	2020	
SKR	Rural	807	(86%)	908	1,012	1,129	1,351	(80%)
	Urban	137	(14%)	165	197	234	330	(20%)
Savannakhet	Rural	571	(85%)	642	716	799	955	(80%)
	Urban	100	(15%)	121	144	171	242	(20%)
Khammouan	Rural	236	(87%)	265	296	330	396	(82%)
	Urban	37	(13%)	44	52	62	88	(18%)

Source: JICA Study Team estimate

Employment in the agriculture sector, which accounted for 89% of total employment in SKR, would decrease to around 80% in 2020, though the number of employment in this sector would increase from 490,000 in 2000 to around 613,000 in 2020. Increase in employment in the service sector is estimated to be larger than in the industrial sector. Employment in the service sector would account for 15.8% in 2020 (an increase from 48,500 persons in 2000 to 121,000 persons in 2020) and the industrial sector for 4.1% (an increase from 12,800 persons in 2000 to 31,300 persons in 2020). During the plan period up to 2020, about 60% of new employment (or 122,000 persons) will be absorbed by the agriculture sector and nearly 10% (or 18,500 persons) by the industrial sector.

Table 3-4 Employment Projection for SKR

(Unit: 000 prs)

		1995		2000	2005	2010	2020	
SKR	Agriculture	422	(89%)	491	554	603	613	(80%)
	Industry	11	(2%)	13	15	17	31	(4%)
	Services	41	(9%)	48	57	64	121	(16%)
	Total	474	(100%)	552	626	684	765	(100%)
Savannakhet	Agriculture	300	(90%)	349	394	427	430	(79%)
	Industry	7	(2%)	8	9	11	21	(4%)
	Services	28	(8%)	34	40	47	91	(17%)
	Total	335	(100%)	391	443	485	542	(100%)
Khammouan	Agriculture	122	(88%)	142	160	176	183	(82%)
	Industry	4	(3%)	5	6	6	11	(5%)
	Services	12	(9%)	14	16	18	30	(13%)
	Total	138	(100%)	161	182	200	224	(100%)

Source: JICA Study Team estimate

Public Health Framework

The health status and health service coverage in SKR is at a low level, though it is slightly better than other provinces in Lao PDR. Special attention will be paid to reduce the high infant mortality and maternal mortality rates. A low immunization coverage should also be improved drastically, together with the improved access to latrines use and clean water, particularly in the rural areas. For integrated regional development in SKR, it is envisaged that some benchmarks will be set as targets or a so-called outcome index for improvement of the health status. It is planned that the following targets are set for regional development in SKR:

Table 3-5 Public Health Targets for SKR

	2000	2005	2010	2020
Infant Mortality Rate (1/1,000)	70	60	40	20
Children Mortality Rate under 5-years old (1/100,000)	127	80	60	30
Maternal mortality (1/100,000)	550	490	250	130
Delivery w/professional attendant (%)	-	-	-	-
Urban	-	30	60	100
Rural	-	20	50	100
Total Fertility Rate	5.3	45	3.5	3.0
Immunization Coverage (%)				
Urban	40	70	100	100
Rural	30	60	80	90
Clean water access (%)	50	55	60	60-70
Latrine access (%)	10	46	50	70

Note: These targets are set by referring to the benchmarks set by the government. They will be further reviewed by JICA sponsored health sector master plan study.
Source: JICA Study Team estimate

Educational Framework

Although there has been a considerable improvement in the education sector, the educational level is still poor in SKR, as well as in Lao PDR. Improvements in basic education (5-year compulsory education in primary school and 3-year education in lower secondary school) is the most critical issue for social development in SKR. For the improvement in basic education, an enrollment ratio is one of the most significant parameters to gauge its achievement, and this ratio is set as a framework for educational and human resource development in SKR.

Judging from the 1995 population census, the net enrollment ratio of primary education is in the same range in Savannakhet, Khammouan and Lao PDR. It was 72-76% in 1996-1998. Under the SKR Development Plan, it is envisaged that the net enrollment ratio of primary schools in SKR will be elevated to more than 80% by 2005, 85% by 2010, and 90% by 2020. On the other hand, the enrollment ratio in lower secondary schools, which was around 22% in 1996, will be elevated to the level of 50% by 2010 and 60% by 2020.

Table 3-6 Basic Education Targets for SKR

(%)

	1996	2005	2010	2020
Primary school enrollment ratio	72	80	85	90
Lower secondary school enrollment ratio	22	40	50	60

Source: JICA Study Team estimate

Much effort is required to achieve these targets. For instance, improvement of primary education should involve construction of more than 200 primary schools by 2010 and 800 primary schools by 2020, in addition to improvement of nearly 1,000 incomplete primary schools where less than 5-years of education are offered. A high rate of dropouts (about 20-22% in SKR primary education) and the rate of repetition (24-25% in SKR) should also be decreased together with enhancement of the enrollment ratio. After the framework is set for educational development in SKR, a substantial parts of the target set for basic education improvement should be implemented in the first 5-years so as to have a greater effect in the remaining period of the long-term development plan.

2) Macroeconomic Frameworks

Basic Concept

In the later half of the 20th century, the world economy in general enjoyed a boom through mass production, mass consumption and mass waste. Economies of scale were pursued, and economic flow has been preferred to the economic stock. Now, at the outset of the 21st century, it is said that the economy and social life will change to appropriate production and appropriate consumption where quality, durability and sustainability will be the goals.

Despite such a paradigm shift in the 21st century, SKR cannot be left as it is, because the existing economy and social amenities are insufficient to support minimum living conditions. In this context, it is appropriate that the Lao government has expressed its determination to develop an economic and social profile and to alleviate poverty all over the country.

Lao PDR is in an ever changing world and it is premature to predict the society and economy in SKR after the year 2020. It is therefore proposed that the macroeconomic framework be reviewed in or around 2010 for SKR development. Such a review might not drastically change the framework proposed herein, judging from the level of the SKR economy and society.

Economic Framework

The macroeconomic framework for Lao PDR is still under discussion in the committee formed by the Lao government and the JICA Macroeconomic Policy Study Team. A preliminary discussion paper indicates that the Lao economy would grow at an average annual rate of 5-6% over the period 200-2020.

SKR has been and is expected to be one of the leading regions for national economic development. Thus, the growth of the Savannakhet and Khammouan economy will be set at a higher level than that of the national targets. Both in Savannakhet and Khammouan, the industry and service sectors will be the largest growth engines. In Savannakhet, growth is expected to accelerate after the completion of the East-West Corridor in or around 2004. The establishment of the Savannakhet Special Economic Zone is proposed, and a copper/gold mine could start its operations around the time of the Corridor completion. In Khammouan, it is planned that the Nam Theun II hydropower project will become operational in 2006 and a pulp plant could be completed towards 2009.

With these SKR activities in mind, it is proposed that the economic framework be set to develop an economic profile so that SKR at least leaves the level of the least developed nations by the year 2020. This implies that SKR will attain a level of US$800 (at 1999 constant price) in terms of a per capita GPP by the year 2020. Consequently, the economic framework for SKR development is proposed as tabulated and illustrated below.

Table 3-7 Economic Framework for SKR Development

(Billion Kip at 1999 price)

	1995	(%)	2000	2005	2010	2020	(%)	Growth Rate (%) 2000-2020
GDP	1,578	(100)	2,640	3,810	6,140	10,740	(100)	7.3
Agriculture	1,033	(65)	1,490	1,960	2,470	3,500	(33)	4.4
Industry	204	(13)	350	570	1,130	2,200	(21)	9.6
Services	296	(19)	790	1,270	2,510	5,000	(46)	9.7
Import duties	45	(3)	10	10	30	40	(0)	5.0
GDP per capita (US$)*	217		319	409	585	830		4.9

Note: *US$1 = 7,700 Kip

Source: JICA Study Team estimate

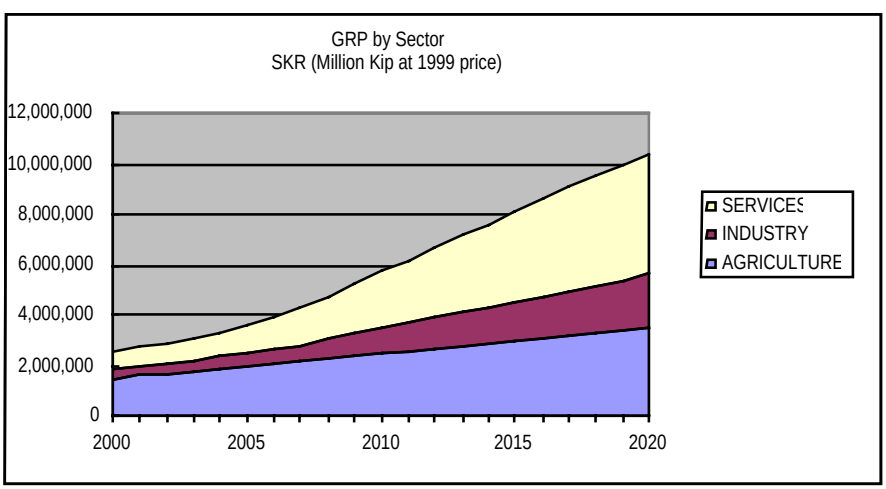


Figure 3.2 Economic Framework for SKR

3) Land Use Framework

A framework for land use in SKR is set through simulation of future land use plans for 2020. The simulation is made on the basis of current land use, forestry conservation and protection, watershed classification, and land suitability analysis, as well as the macroeconomic framework set out in the foregoing section. Basically, the following criteria have been applied in mapping out a land use plan for 2020:

(i) Conservation areas are respected and should not be reduced, except for the submersible area by the Nam Theun II hydropower project.

(ii) Total forest areas, inclusive of conservation areas and protection forests, should exceed the national target (60% of the total land) in SKR.

(iii) Land for agriculture use will be planned to secure agricultural production envisaged under the economic framework. Paddy field will not be increased so much, but grazing and feeder crop land for livestock raising will be expanded. Fruit and forest plantations will be integrated into the shifting cultivation land and other areas for promotion of agro-forestry.

Under the above criteria, a land use plan for 2020 is proposed as tabulated below and as shown on the map in the following page.

Table 3-8 Land Use Plan for 2020

(1,000 ha, %)

Land Use in 2020 :	Kammouan Province		Savannakhet Province	
Forestry	**1,107.8**	**66.41**	**1,356.0**	**63.36**
Protection Forest	780.1	46.77	666.3	31.14
Production Forest	244.3	14.65	517.6	24.19
Fruit & Forest Plantation	83.4	5.00	172.1	8.04
Agricultural Land	**287.6**	**17.24**	**747.5**	**34.93**
Rice Paddy	133.5	8.00	295.3	13.80
Grazing Land	125.5	7.52	282.0	13.18
Other Agriculture Land	28.6	1.71	170.2	7.95
Other Area	**272.6**	**16.34**	**36.5**	**1.71**
Barren land & Rocks	197.5	11.84	3.0	0.14
Swamp	14.3	0.86	13.6	0.64
Urban Area	1.2	0.07	3.5	0.16
Water	59.6	3.57	16.4	0.77
Total	1,668.0	100.00	2,140.0	100.00

Source: JICA Study Team estimates

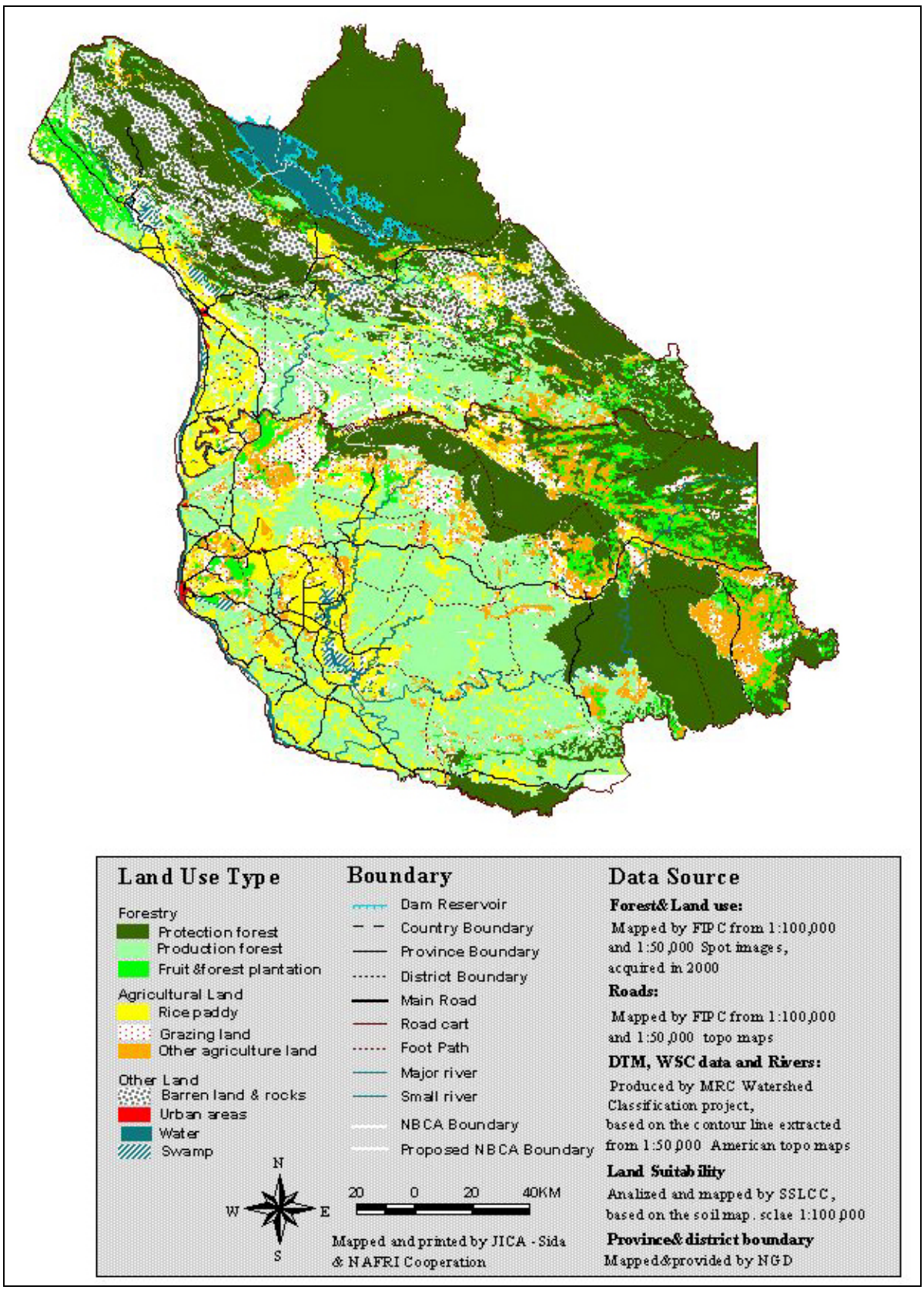


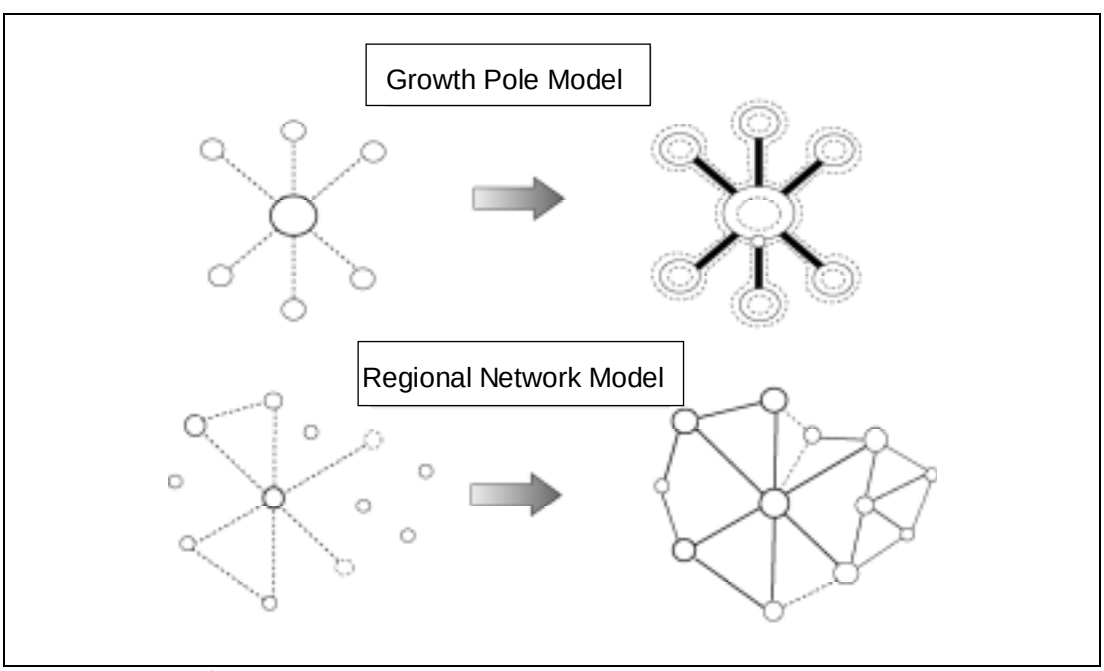
Figure 3-3 Land Use in 2020

4) Spatial Development Framework

Alternatives Models

Growth Pole Model: Currently, the accumulation of urban functions is limited to the provincial capital towns of Khantabuly and Thakhek. Conceivably, these cities may function as growth poles for SKR regional development. These growth poles may gradually develop, integrating some satellite centers around the poles. The applicability of this growth pole approach for SKR development, however, is rather limited because both cities are located on the Thai international border and have less possibility to develop satellite centers nearby and strengthen their function as poles.

Regional Network Model: Another model for regional development planning is the "regional network" model. A basic premise of this is that cities and towns within a region or sub-region are members of a cluster of urban centers and these centers interact to achieve a totality that is more than the sum of its parts. Although the regional network approach is desirable, the case of SKR has some constraints on its application as the transportation network is not well developed and it will take sometime to improve.



Source: JICA Study Team

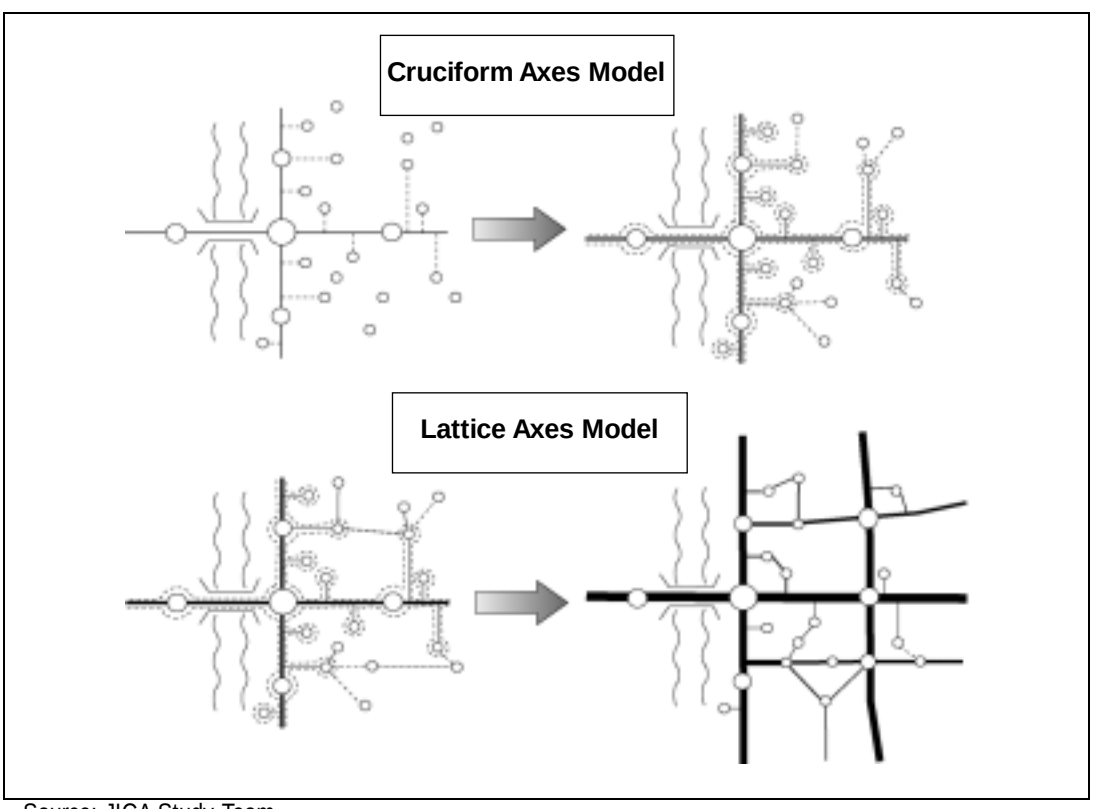
Figure 3-4 Schematic Diagram of Growth Pole and Regional Network Models

SKR Spatial Development Models

Cruciform Axes Model: This alternative model is proposed to be applied in the short term for the spatial development of SKR. This model develops the areas along the transportation routes without forming networks. In view of the current distribution pattern of the population and towns, as well as the level of existing transportation network in SKR, this approach appears to be realistic.

Lattice Axes Model: In the longer term, it is desirable that the cruciform axes are networked to some extent and the transportation lattice is improved in a ladder form. Growth-belts might be developed along the ladder. This is called the “lattice axes” model.

It is proposed that for regional development of SKR a cruciform axes model is applied in the short term and a lattice axes model is applied in the long term.

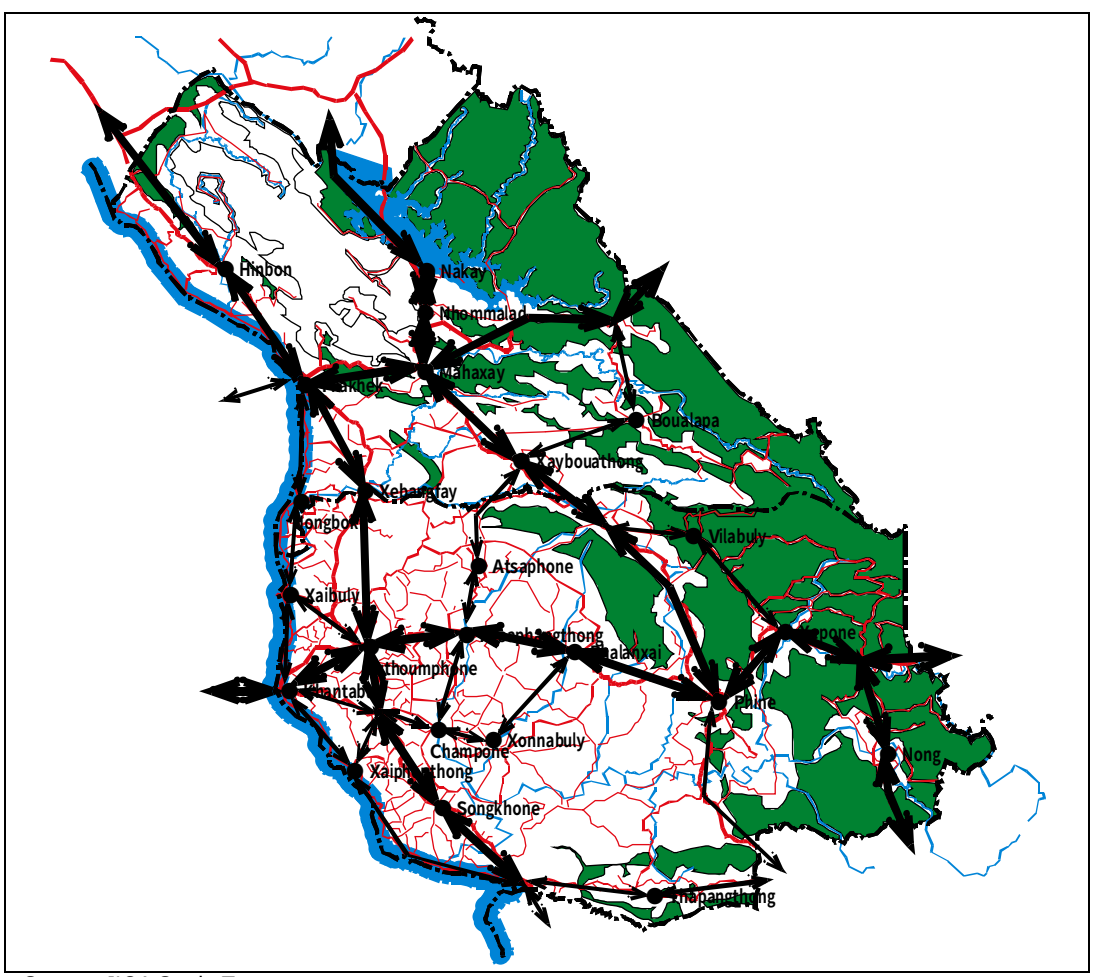


Source: JICA Study Team

Figure 3-5 Schematic Diagram of Cruciform and Lattice Axes Models

Transport System

Development of future transport systems in SKR will require an external linkage and internal integration simultaneously. For external linkage development, it is necessary to support international transportation demands as discussed in Chapter II. For internal integration, the transportation system needs to satisfy the following conditions: 1) encouraging widely balanced regional development, and 2) securing all weather access to district centers. To this end, two-way-access to each district center will be promoted as the most practical and effective manner for transport system development. An arterial transport network plan has been formulated and is illustrated in the figure below:



Source: JICA Study Team

Figure 3-6 Future Arterial Transport Network

The above transport network is based on the following criteria:

- Existing national routes need to be respected, since the majority of district centers are located along the routes.
- Isolated district centers need to be connected with neighboring district centers, in at least two directions.
- Isolated district centers need to be connected with national routes when it is impractical to make direct connections between district centers due to geographical conditions.

Urban Core Distribution System

Presently, only Khantabuly and Thakhek have the necessary level of urban characteristics. In order to promote widely balanced regional development in SKR, it is necessary to strengthen urban functions within the inland areas. The following towns are considered as the candidates for development.

- Existing district centers: These need to be strengthened, since they host major public facilities and major local markets.
- Node towns on the future arterial transportation networks: These need to be strengthened as candidates for future district centers in case of further divisions.

These inland towns will grow, reflecting the nature of the respective servicing areas, as well as the characteristics of transportation and communications. These are expected to be as follows:

SKR Agricultural Production

The majority of agricultural products in SKR will be generated in the lowlying flat areas located in the lowland (Mekong) region and the central region. These products will be transported to Savannakhet and Thakhek, then distributed to Vientiane and Thailand. The most common route will be a combination of NR9 and NR12 to NR13. For the domestic consumption, NR1 will play an important role when directly connecting SKR rural areas to Vientiane. Agricultural products in the southern region will also move northward via NR13.

SKR Resources

The major physical resources in SKR could comprise pulp wood or pulp/paper in Khammouan, basic minerals/metals in Savannakhet, and logs and wood products from both provinces. When exporting to Thailand, they will be transported to Thakhek and Khantabuly via NR9 and NR12, while exporting to Vietnam, NR1 and NR8 will be commonly utilized. For domestic commodities, NR13 will be fully used as a corridor to Vientiane.

International Commodity Trade

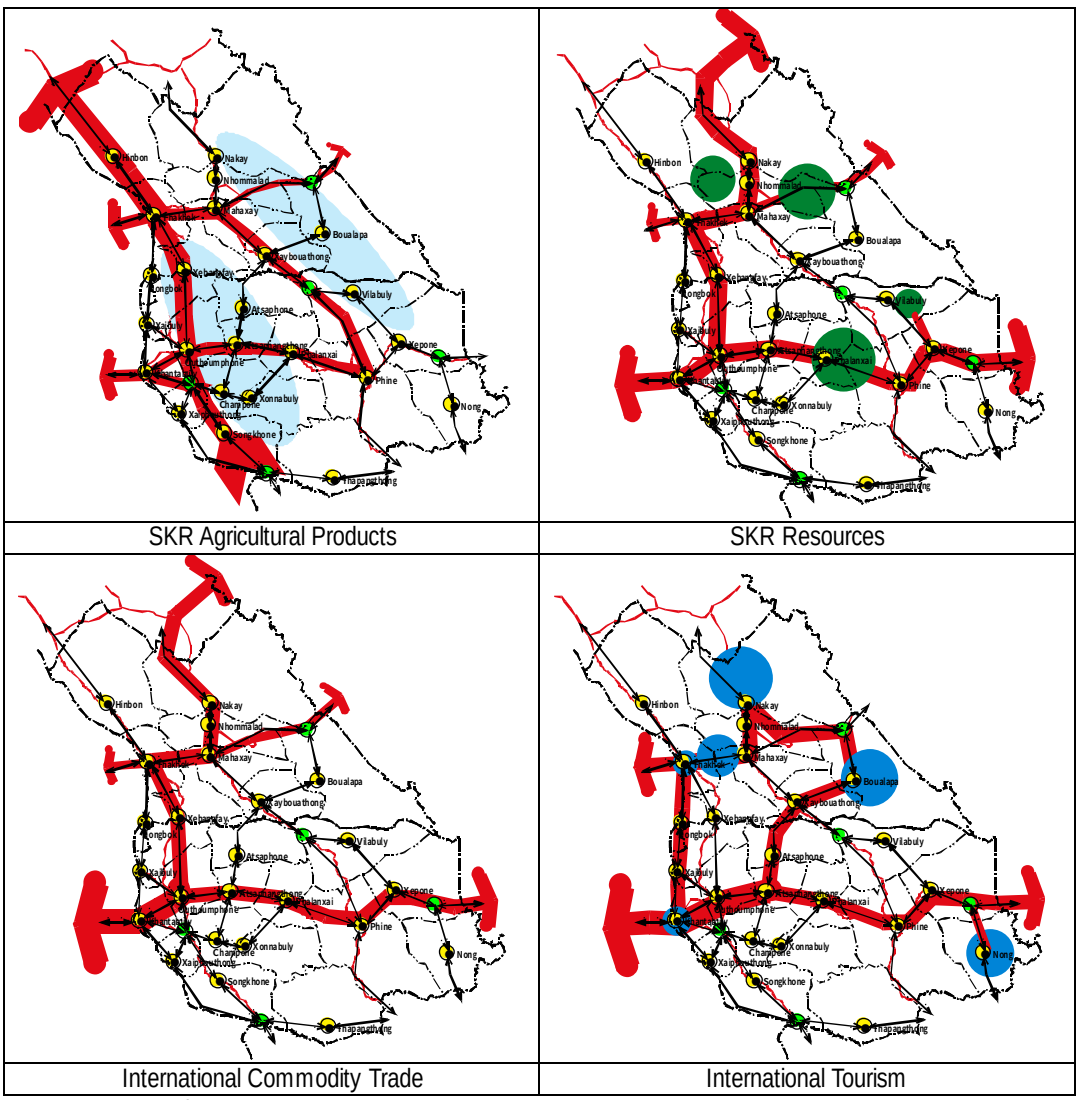
For commodity flow between Bangkok and Hanoi, the shortest route is to use a combination of NR13, NR 12, NR1, and NR8. In future, there will be several products from the northeastern corner of the Northeast Thailand and these will be forwarded to Vietnamese ports in Danang and Vinh, via NR9 and NR12 respectively.

International Tourism

International tourists to SKR are broadly divided into two categories, i.e., Thai tourists and other nationals. It is expected that the most of Thai tourists will make short visit to SKR while tourists from other nations tend to stay longer and seek experience of local life. For tourism in SKR, there are two promising courses and destinations as follows:

- A circular route that connects Khantabouly as a gateway, Boulapa as a eco-tourism site, Nakay as dam lake site, Mahaxai for scenery and limestone caves, and Thakhek as a gateway, and
- An international transition course to/from Thailand and Vietnam through NR9.

These transportation patterns are illustrated on the following page



Source: JICA Study Team

Figure 3-7 Major Transportation Routes in SKR

Given the characteristics of future traffic patterns, as well as in the light of the current administrative system, the urban cores in SKR will form a hierarchical composition as described below.

Primary Cities: Khantabuly (Savannakhet) and Thakhek:

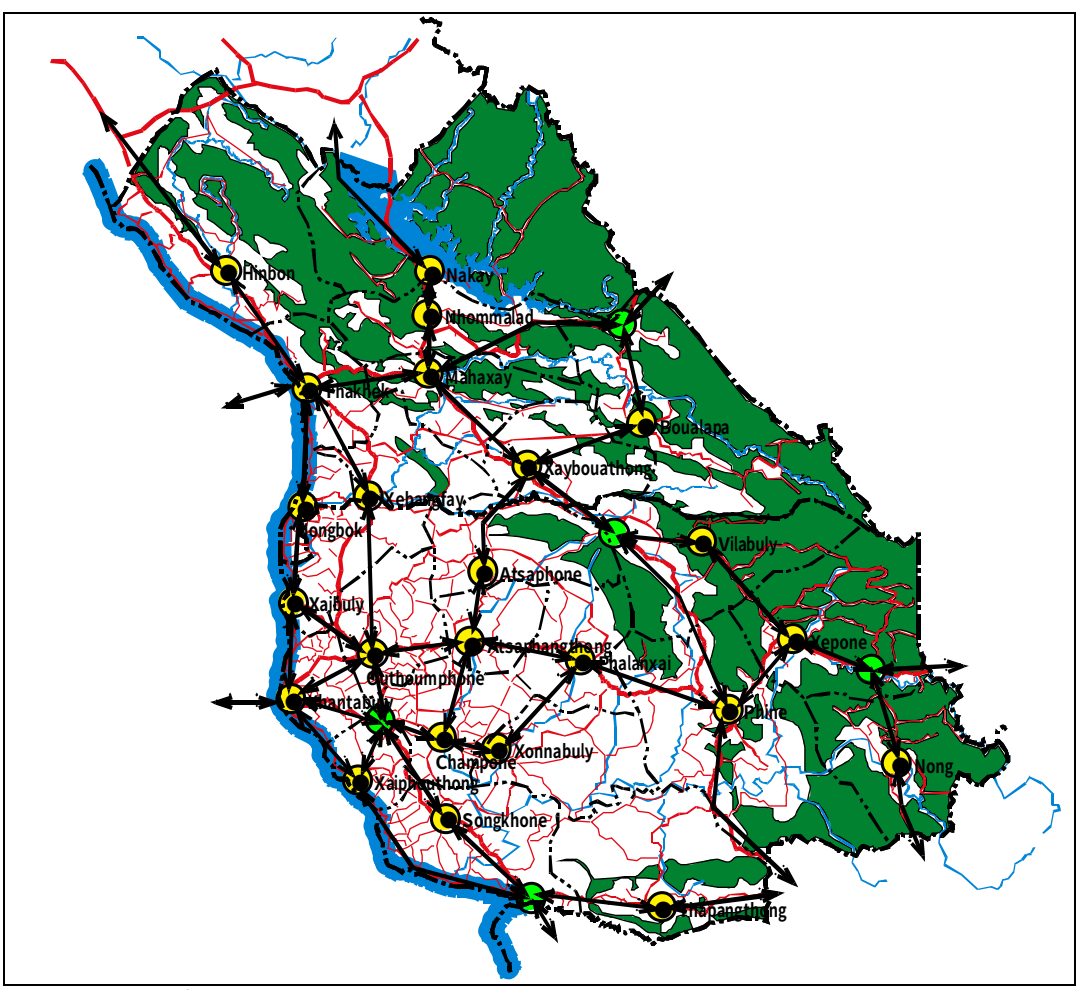
These will accumulate urban functions such as trade and commerce, manufacturing, and higher education. These functions are indispensable not only for development of SKR but also for Lao PDR.

Metro Link Towns: Seno, Xaibouly, Lak 35:
These will be strongly linked to each other and complement the urban functions of Khantabuly.

Inner Core Towns: Mahaxai, Lankon, Atsaphonethong, Phin, Dansavan:
These will act as inner-land distribution centers being located at important traffic nodes.

Rural Center Towns: Nakay, Boulapa:
These will become tourist-spot access towns being located near the major tourist destinations.

Rural Towns: Other district centers:
These will serve as public service centers for the surrounding rural villages.

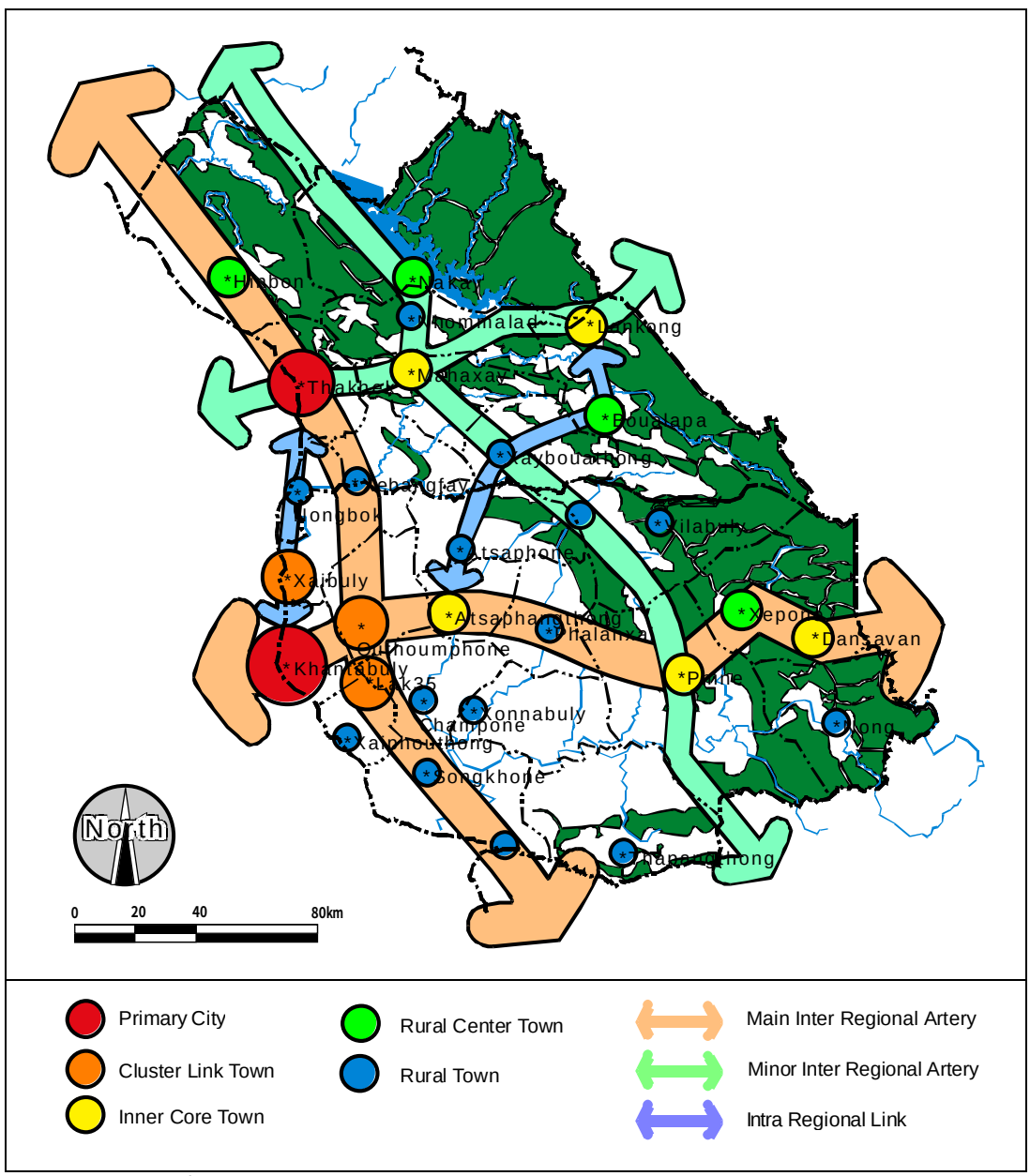


Source: JICA Study Team

Figure 3-8 Urban Cores Distribution System

Future Spatial Structure

The future spatial structure of SKR is formulated on the basis of the characteristics of transportation, hierarchical composition of urban cores and land use plan, as shown below.



Source: JICA Study Team

Figure 3-9 Future Spatial Structure Plan