

Chapter 4

Development Concept for Master Plan

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4.1 Background for Development Concept

The development potentials and constraints in the field of rice marketing and post-harvest processing in Cambodia appear to be as follows:

4.1.1 Development Potentials

(1) Potential for Further increase of Rice production

In Cambodia, food shortage has continued for many years due to the ruin of production system caused by the civil war lasted for decades. With the yield growth and planted area expansion, the country achieved an overall rice “surplus” in 1995 and this have been sustained until now. A noteworthy fact is that the Cambodia has attained the self-sufficiency in rice in the situation mentioned below. This indicates a large potential for a further increase of rice production.

- Cultivated area has recovered to 2.0 million ha while it was 2.5 million ha in 1967.
- Production infrastructure has not been developed and irrigated area in dry season rice is only 240 thousand ha.
- Rice is grown in rainy season largely dependent on the rain. It suffers a large damage from a drought or flood every three to four years.
- There are constraints for increasing rice production such as limited use of fertilizer, good seed and modern agricultural technology.
- Population is rapidly increasing (increment rate is 2.3%).

According to MAFF's Agricultural Development Plan (2001 - 2005), the rice production in 2005/06 will be 20% more than the level of 1999/00. And the milled rice of 30 to 35 thousands tons is expected to be surplus, which equals to 10 to 17% of the production.

(2) Boarder Trade with Neighboring Countries

At present, surplus rice market is largely dependent on informal trading with neighboring countries. A large quantity of paddy flows into the neighboring countries while the food is distributed by WFP to the vulnerable people. It is because of the low purchasing power in Cambodia, the easier access to the markets in neighboring countries and, above all, because of the strong purchasing power of neighboring countries who are the prominent rice exporters in the world. If it were not for this informal paddy trading, it is apparent that the domestic rice price slumps. This means that rice is produced with a premise of markets in adjacent countries.

Sustainable and stable supply of food is the indispensable condition for the food security. The sustainable and stable food supply shall be possible by promoting and improving the regional marketing system to/from the world's prominent rice exporters (rice surplus countries), Vietnam and Thailand, both adjacent to Cambodia, as well as to pay efforts to increase production and improve the domestic marketing system.

4.1.2 Development Constraints

(1) Marketing System

The government liberalized rice marketing in 1993. Since then, despite the situation of social unrest and of destructed economical infrastructure, private sector has formed the stabilized marketing system in its own way. At present, enough quantity and varieties of rice are stably supplied to cities such as Phnom Penh, and there is no serious problem exists for consumers because they (except very poor people) can choose varieties/prices what they want freely at retail shops in the cities.

However, commercial environments such as transport infrastructure, communication infrastructure and financing service, which support the fundamental of marketing system, are not well developed. Further, the majorities of the traders engaging in marketing are very small-scale and lack in experience, skill/techniques and management ability of the business. Thus, their business practices are rather old.

As the rice production increased, domestic market has no much greater spare capacity to absorb the increased production. Despite the marketing of surplus rice largely depends on informal trading with Vietnam and Thailand, there is little added value in the present form of paddy trade. Bargaining power of Cambodian traders is weak and they seem to lack an active/aggressive attitude toward increasing their sales to neighboring countries.

Under the present institution of border trading, it is practically impossible to do the formal way of paddy trading with adjacent counties. Therefore, the trade quantity can not be known and the opportunities to collect informal traffic fees are given to government officials. On the other hand, urban consumers such as in Phnom Penh have strong preference on taste and the fragrant broken rice from Thailand is continuously flowing into those cities.

Farmers are generally at disadvantageous position in selling paddy due to poor road infrastructure, limited marketing information, small-scale dealings and etc. At present, farmers have very little sense of marketing and pay few efforts to improve their bargaining power such as by organizing a group for collective sales. In order to foster farmers' organization, first of all, farmer's consciousness about farmer's organization needs to be changed. As for the government's

promotion and support activities for organizing farmers' group, it is in a stage of just about starting.

(2) Post-harvest Quality Control

The quality control is an important task in the development of rice industry and in the strengthening of food security (increase of edible quantity). Despite the post-harvest processing technology at farmers level is low, development and extension system for the appropriate technology is not well prepared. The use of good seeds and regular renewal of seeds that strongly affect the quality of paddy are not practiced. The milling yield in custom milling and commercial milling is low and the rice contains a lot of broken rice. There is also a need of improving storage practice.

In order to improve the quality, incentives are necessary. At present, incentives for farmers to improve quality are weak due to obscure relation between quality and price, to mode of production which is mainly for self-consumption. Moreover, purchasing power of consumers, especially in remote areas, are low and they do not expect high quality. The needs of urban consumers are mainly in specific varieties and the high quality processing is practiced only in limited quantity. Thus, the very limited needs for improved quality products from the market side are a strong factor impeding quality improvement. The lack of quality standard which indicate the targets for improvement activities is an another factor impeding quality improvement indirectly.

(3) Government Support

Food policy concerning rice is being promoted under market mechanism based on the market-economy policy of the government. Although legislation to carry out market economy is progressing, the market system for agricultural field is still immature due to various kinds of restrictions. Under such situation, the government is required to remove the restrictive factors against market mechanism and to practice complementary functions for market mechanism.

Due to introduction of market economy policy, the government officers lack sense of responsibility and lack concrete problem consciousness. It may be partly because of the severe financial condition in Cambodia, they lack manpower of optimum capacity and further there is little motivation to carry out their work. Actually, they have no capability of management to enforce policies. These are the largest constraint factors in extending development assistance by the government.

4.1.3 Development Potentials and Constraints in Each Field

The development potentials and constraints in the fields of the Study are summarized as follows:

Field	Potentials	Constraints
Rice Production	<ul style="list-style-type: none"> -Natural environment is suitable for lowland rice cultivation. -Various genetic resources of rice exist. -Production is possible to increase. -Traditional paddy cultivation technology exists. 	<ul style="list-style-type: none"> -Rice production is unstable due to flood or drought -Institutions for research and extension of agricultural technology is incomplete. -Access to agricultural materials is limited. -Expanding market is difficult.
Marketing Infrastructure	<ul style="list-style-type: none"> -Road rehabilitation plan is made up by the assistance from international organizations and foreign countries. 	<ul style="list-style-type: none"> -Road infrastructure is very poor. -Shortage of fund for maintenance work. -Damage by flood. -Scarcity of ability to receive assistance.
Farmers Organization	<ul style="list-style-type: none"> -Law for agricultural cooperatives is under legislative process. -Active NGOs assistance. -High organizing rate of farmers' organization in the past. 	<ul style="list-style-type: none"> -Experience of past failure in collective farming. -Insufficient understanding on advantages of farmers' group. -Scarcity of competent leader.
Post-harvest Processing & Quality Improvement	<p>Farmers level</p> <ul style="list-style-type: none"> -Quantitative loss in customary practices is low. 	<p>Farmers level</p> <ul style="list-style-type: none"> -Quality consciousness of farmers is low. -Crack of grain by inappropriate drying practice. -Cultivation of many different varieties. -Seed renewal rate is low. -Simple processing tools are lacking. -Access to appropriate technology is limited.
	<p>Custom Milling</p> <ul style="list-style-type: none"> -Procurement of parts is easy. 	<p>Custom milling</p> <ul style="list-style-type: none"> -Low milling yield and high broken rice ratio. -Incentive to improve quality and equipment is lacking (milling fee is paid by by-product).
	<p>Commercial Milling</p> <ul style="list-style-type: none"> -Rice Miller's Associations and Federation exist. -Continuous assistance by UNDP / NGO (EDC). -Competition in rice quality among rice millers in Bat Dambang exists. -WFP practices procurement by quality standard. 	<p>Commercial Milling</p> <ul style="list-style-type: none"> -High-value paddy variety is difficult to procure in quantity. -Many varieties are mixed in material paddy. -Uneven quality of material paddy. -Shortage of capital/technology/information to improve business. -Access to technology and market information is limited. -Expanding market is difficult. -Uniformity in product quality is incomplete.
	<p>Consumers and others</p> <ul style="list-style-type: none"> -Rice with different processing qualities is sold in some markets in Phnom Penh. 	<p>Consumers and others</p> <ul style="list-style-type: none"> -Needs for processing quality of consumers is low. -Quality standard is not yet made.

Field	Potentials	Constraints
Marketing system & Socio-economic Environment	<ul style="list-style-type: none"> -Rice is marketed by variety and there are clear prices differences among varieties. -There is demands for fragrant broken rice in urban markets. -WFP procures rice. -Traditional border trading with neighboring countries. 	<ul style="list-style-type: none"> -Saturation of domestic market. -Purchasing power in provinces is low. -Domestic market for dry season rice (IR varieties) is limited. -Rice production is mainly for home consumption. -Farmers' consciousness to improve selling methods is low. -Farmers' access to market/information is limited. -Most of marketing agents is small-scale and fund/management ability is insufficient. -Affected by fluctuation of international price of rice. -Communication infrastructure has not developed. -Bank services have not developed. -Informal fee collection by government officials. -Low spirit of law observance of the people -Unclear procurement of rice by army and police.
Policy & Government Support System	<p>Information services</p> <ul style="list-style-type: none"> -Price information services exist. <p>Extension & Research</p> <ul style="list-style-type: none"> -Continuous assistance by AusAID-IRRI. -CARDI exists as research institute. 	<p>Information services</p> <ul style="list-style-type: none"> -Means for distributing information in provinces is restricted. -Cooperation between government agencies is lack. <p>Extension & Research</p> <ul style="list-style-type: none"> -Seed multiplication and distribution system is not completed. -Extension system for marketing has not developed. <p>General</p> <ul style="list-style-type: none"> -Framework to intervene in marketing is unclear. -Capability to implement the policy is restricted (manpower/financial resources). -Motivation to work of the government officials is low. -Enforcement of laws/regulations by the government is weak.
Food Reserve	<ul style="list-style-type: none"> -MOC Warehouses exist in each province. -GTC exists as public enterprise deals with rice trading and rice reserve. 	<ul style="list-style-type: none"> -Financial condition of the government is very severe. -Government policy for food reserve is unclear.

4.2 Direction of Development

In Cambodia, rice is not only important as the people's staple food but also important as a key industry accounting for about 13% of GDP. Moreover, as indicated with the facts that agriculture population occupies about 80% of the total population and that rice cultivation takes up nearly 90% of total cultivated area, majority of the people are mainly making their living by rice cultivation. Thus, rice production is the mainstay of Cambodian economy and society, and development of rice industry is very important for the development of Cambodia.

With the yield growth and planted area expansion, the country achieved an overall rice “surplus” in 1995 and this have been sustained until now. Despite Cambodia being in a favorable situation of rice-surplus, the agricultural production system in Cambodia still remains highly vulnerable to weather shocks and pest damage. Stabilization of rice production remains an immediate problem to be solved. From the marketing aspect, it is essential to give incentives to farmers for improving the production. One such is to improve farmer’s income by strengthening their bargaining power and expanding markets.

At present, absorption of the surplus rice is highly dependent on the informal paddy trade with Thailand and Vietnam which are the world leading rice exporters. It is impossible to stop this paddy outflows under the saturation of domestic rice market.

Judging the present situation of marketing system and quality of rice, direct exportation to overseas markets must be considered as a rather future task. With practical viewpoints, it is advisable to tackle the development of rice industry through improving and promoting the present border trade first of all, with regards the strong purchasing power of neighboring countries who are the world No.1 & No.2 rice exporters as a development potential. As for the strengthening food security, improving and promoting the border trade shall ensure the stable and sustainable food supply. Also the situation of steady supply is clearly preferred to stabilize food prices.

To increase the profits of Cambodia in border trade, bargaining power of Cambodian trader's should be strengthened. Conversion of paddy trade to milled rice trade (i.e. increase added value of trade commodity) and improvement of quality also should be achieved. As for improvement of the institution of border trade, paddy trading should be legalized in practical manner. By doing so, traders will pass through formal boarder gates, thus eliminating informal fee collections at border areas, and it will also enable the official recording of trade.

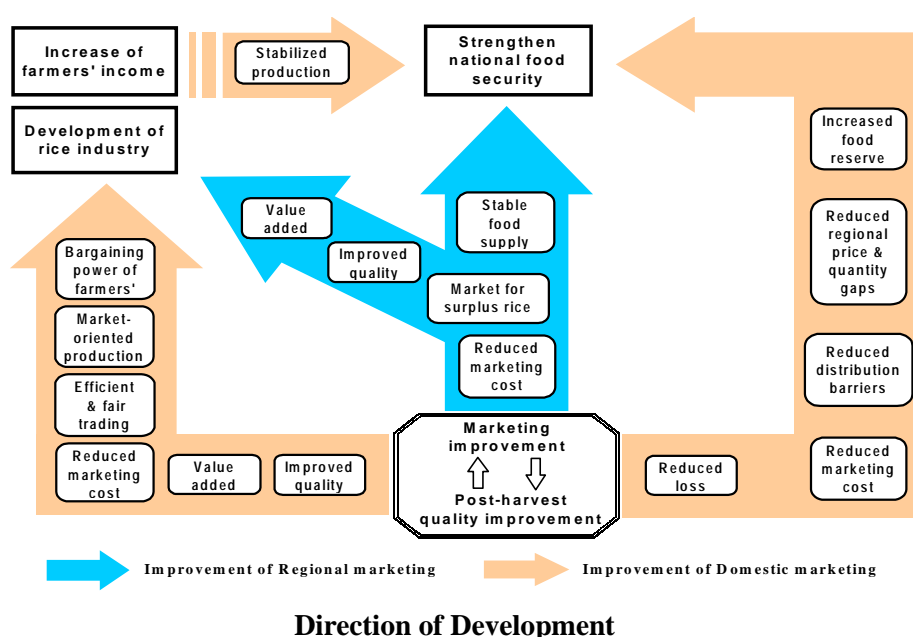
Despite an overall “surplus” situation, many Cambodians lack access to food supply due to insufficient purchasing power, poor roads and due to there are more profitable markets to sell. These poor roads need to be rehabilitated to reduce the marketing cost and the distribution barrier to deficit areas, and to meet the potential demands. Another factor increasing marketing costs is the informal

fee collection by police, army and civil servant: this should be eliminated immediately.

Rice processed in Bat Dambang province has an established brand value and dominates the high-quality rice markets in Phnom Penh and in some provincial towns. If the industry develop with foreign capital investment, it is expected that the demand for high-quality rice must increase as incomes of city dwellers improve. Other production areas should consider introducing a fragrant/soft type of rice to fit the consumer's taste. In Phnom Penh, large amount of imported Thai fragrant broken rice is sold for blending with domestic rice to add fragrant. It is advisable that imported Thai broken rice should be replaced with domestic rice by enhancing the production of fragrant variety.

To compete with Bat Dambang rice in Phnom Penh market, weak marketing capability of rice millers in other provinces should be strengthened. Selection of variety and quality improvement of material paddy is indispensable in order to produce better quality rice which meet the market demand. Rice millers should take an initiative to form a vertical integration of rice production–processing–marketing with farmers for mutual benefit. Competition in high-quality markets among the provinces shall lead the overall quality improvement in the country, and then lead to further possibilities of entering the overseas markets.

The government should strengthen the supporting services to the private sectors through creating a better business environment, more efficient and fair. To eliminate the chances for informal fee collection, legislation and regulation relating to private business such as registrations/permissions for business, tax system, market fees and etc. should be clearly made known to the public. Improving the transparency in procurement of state rice for army/police supply and introducing a supervisory system against unfair dealings such as price-fixing arrangement shall be necessary to achieve the modern (fair) business environment.



4.3 Framework of Master Plan

4.3.1 Strengthening of Food Security

As stated in the S/W for this study, the master plan is for the improvement of marketing system and post-harvest quality control of rice taking into account strengthening national food security. Also, the food security is ranked high in the national development plan of the government.

In order to attain the food security, 1) Sufficient food production, 2) Economic access to food, 3) Physical access to food and 4) Sustainable and stable food supply are required.

Presently, Cambodia has attained self-sufficiency in rice since 1995. Therefore, above mentioned 1) Sufficient food production and 4) Sustainable and stable food supply have been already achieved. On the other hand, for the 2) Economic access to food, there is a fact that WFP continues to distribute food to the vulnerable people. As for the 3) Physical access to food, transportation infrastructure is in very poor condition but its influence differs by the areas and seasons. The Cambodian government, international assistance organizations and NGOs distribute food to sufferers of disaster.

Achievement of food security for the vulnerable people and disaster sufferers under a free economy system means how to establish social safety net as a nation. This subject shall not be handled directly in the master plan which aims at improvement of rice marketing system under the free economy system, and the contents of tackling with the strengthening of food security in chalking out the master plan are as follows:

Requirement for Food Security	Contents of Tackling
1) Achievement in sufficient food production	Expanding market for surplus rice, Enhancing and maintaining farmers' incentive to produce, Reducing loss in post-harvest processes
2) Improvement in economic access to food	Reducing marketing cost, Reasonable pricing, Reducing quantitative and price gaps among regions
3) Improvement in physical access to food	Smoothing of distribution
4) Achievement in sustainable and stable food supply	Promoting border trade, Increasing food reserve, Modernizing trade form, Strengthening supply/demand adjustment by market mechanism

4.3.2 Development of Rice Industry

In Cambodia, all nationals relate to rice in any way in the processes between production and consumption. Therefore, economic effect of activating rice industry is large. As the nation level

self-sufficiency has been maintained, next task shall be a development of rice industry through quality improvement, marketing modernization and expanding markets. In the master plan, quality improvement in post-harvest rice processing and improvement of marketing systems for domestic trade and border trade shall be handled.

4.3.3 Consistency with the National Plan

Second Socio-economic Development Plan (SEDP II) and Agricultural Development Plan (2000 - 2005) shall be placed as higher plans of the master plan. Following policy and strategy regarding marketing and post-harvest processing of rice shall be taken into a framework for the master plan.

- Strengthening of food security
- Trade promotion of surplus agricultural produce
- Increase of added value of agricultural produce by improving quality and promoting the development of agricultural processing industry

4.3.4 Basic Conditions of the Marketing System

The basic conditions which had specified the marketing system under the past government food control system changed drastically since the introduction of a free economic system. Although the rice marketing system has its own unique features peculiar to rice, basic mode of rice marketing system is regulated with socio-economic factors such as development level of transportation/communication infrastructure, transportation business and financial services, national economy, political/social/cultural features, etc. Those factors regulate marketing system of other agricultural produce and industrial products and many of these factors shall be categorized as external conditions in the master plan although taking them into the contents of plan as much as possible. Following fields shall be treated as external conditions with viewpoints of the scope, scale and the C/P agencies of the study.

- Rehabilitation/development of transport infrastructure
- Development of communication infrastructure
- Fostering banking business and services
- Fields directly concerned with agricultural production (improvement of production infrastructure, research & extension of production technology, etc.)

However, important development activities in the above fields are showed in "Development concept" in the following section.

4.4 Development Concept

4.4.1 Development Targets

Emphasis on strengthening national food security was placed in the S/W of the study because a national level food shortage in the past. Based on the direction of development stated in preceding section, final goal for the master plan is set at “Strengthening of Food Security and Development of Rice Industry”. In order to achieve this final goal, following four development targets is set.

1. Stable and balanced regional supply-demand
2. Reasonable price mechanism under modern business system
3. Improvement of post-harvest quality control of rice
4. Development of rice border trade

Former three targets are aimed at removing the development constraints and the last is aimed at utilization of the development potential.

4.4.2 Targets Year

The target year of the master plan is set as the year 2010 with period of 10 years.

The period of 10 years is set as a period same as 2 times of 5-years national development plan and same as a long-term span in the AFTA conception of ASEAN. Economic situation under the free market system changes rapidly, making long-term estimates difficult. Therefore, it may not be practical to set long-term targets in the field of marketing development being influenced directly by the changes of economic situation. 10 years is also regarded reasonable period from the history of changes in the mode of rice marketing in other countries.

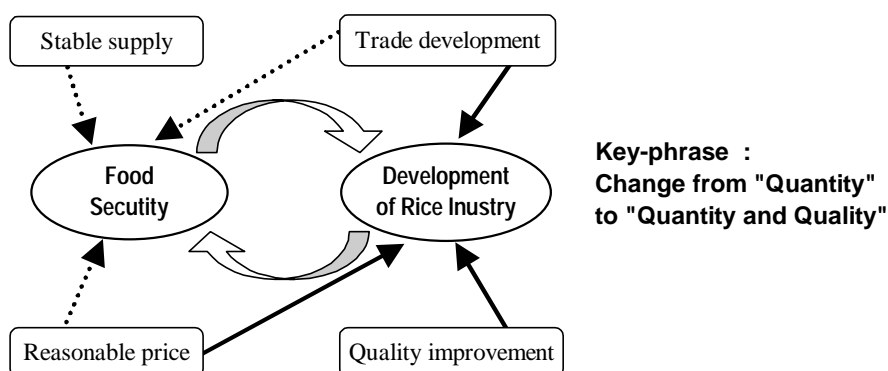
4.4.3 Development Scenario

The development targets consist of 4 elements; (i) stable supply, (ii) reasonable price, (iii) quality improvement and (iv) trade development, and it aims at changing the emphasis being put on quantity aspect into both of quantity and quality aspects gradually.

These 4 elements fulfill the quantitative requirement of food security, at the same time they support the qualitative improvement in rice industry. Since Cambodia has already been attaining the self-sufficiency in rice, further efforts are required for enhanced stable food supply. For doing so, improvement in economical access to food by rationalizing price mechanism is necessary, not only tackling to improvement in physical access to food. Moreover, in the process of improvement in economical access, fair/efficient trading can be realized by enhancing quality improvement and

quality control.

Quantity - Price - Quality, those essential factors of marketing are mutually relating. It is considered that modernization of rice marketing system and development of rice industry shall possibly be achieved in the continuous feedback process among those factors.



Aforementioned explanation can be illustrated in the above figure. As food security is enhanced, rice industry is developing and again it leads to enhanced food security. This circular interaction between food security and development of rice industry is a principal concept of the master plan, and it is supported with realization of 4 development targets. The development scenario can be represented by above key-phrase.

4.4.4 Development Targets and Expected Outcomes

The expected outcomes in each of the aforementioned development targets are as follows. Each of the development targets are not independent but are mutually supplementing.

Development Targets	Expected Outcomes
1. Stable and balanced regional supply-demand	1) Quantitative gap and price gap among regions is reduced. 2) Seasonal price difference is reduced. 3) Food reserve for poverty and disaster relief is enhanced. 4) Food balance is grasped.
2. Reasonable price mechanism under modern business system	1) Farmers' bargaining power is enhanced by organizing farmer's group. 2) Marketing cost is reduced. 3) Trade form is modernized.
3. Improvement of post-harvest quality control of rice	1) Quality of paddy is improved. 2) Loss in post-harvest practices is reduced. 3) Rice processing technology is improved. 4) Rice quality standard is legislated and introduced.

Development Targets	Expected Outcomes
4. Development of rice border trade	1) Institution of border trade is improved. 2) Infrastructure of border trade is developed. 3) Commodity value is added. 4) Market-oriented rice production is enhanced.

4.4.5 Development Targets and Activities

The activities for the expected outcomes are described below.

Indispensable activities in the fields being treated as external conditions such as development of transport infrastructure, fostering banking services, research & extension of production technology (refer to '4.3.4 Basic conditions of the Marketing system') are indicated with mark in order to clarify them.

(1) Stable and balanced regional supply-demand

Outcomes	Activities
<p>Quantitative gap and price gap among regions is reduced.</p> <p>Seasonal price difference is reduced.</p>	<p>Stabilize production and increase rice production in deficit area Imbalance between rice production and rice consuming population cause regional quantitative gaps. The production is highly vulnerable to weather shocks and is unstable. Therefore, improve physical and economic access to food by stabilizing production and by increasing production in rice deficit area.</p> <p>Prolong harvesting period Price generally lowers at harvesting season and rise in off-season. Therefore, improve physical and economical access to food by minimizing seasonal fluctuation of marketing quantity through extending multi-cropping and early maturing varieties.</p> <p>Enhance purchasing power in rice deficit area For instance, an area like rubber plantation area which is not suited for rice production has a purchasing power. Increase the purchasing power by the income from the sources other than rice.</p> <p>Reduce transportation cost Due to poor transportation infrastructure, transportation cost is high. Improve efficiency in transportation by rehabilitating and/or developing road infrastructure, especially in the national road network.</p> <p>Eliminate informal cost Transportation cost becomes high by the informal fee collection. This informal cost must be abolished, especially in the paddy trading at border area.</p> <p>Intervene in market using state fund Although there is a social need for supporting producer prices, it is impossible to introduce in a large scale due to severe financial conditions. Therefore, plan a system being connected with food reserve within a possible scale.</p>

Outcomes	Activities
	<p>Provide market price information The market information is collected by MAFF and broadcasted by radio. MOC, market management offices in Phnom Penh, NGO, etc. are also collecting market information but they are not effectively used due to lack of cooperating system. Therefore, plan an effective utilization system of market information and strengthen existing information service.</p>
Food reserve for poverty and disaster relief is enhanced	<p>Increase food reserve by farmers and traders Extend appropriate storage technics and financial assistance to farmers and traders, those are the motivation factors to increase their stock.</p> <p>Increase national food reserve Plan to increase national food reserve within a possible scale based on the quantity distributed in the past for disaster relief, the quantity distributed by WFP and the emergency rice reserve allocated to Cambodia by ASEAN.</p> <p>Distribute food to disaster-stricken area</p>
Food balance is grasped	<p>Improve accuracy of balance sheet of food supply-demand In order to improve accuracy of supply-demand balance sheet which will be basic data for food policy, collect data regularly such as the amount of carried over, inedible (seed, feed, damaged, etc.), milling yield, amount of consumption and also continuous data on export and import.</p>

(2) Reasonable price mechanism under modern business system

Outcomes	Activities
Farmers' bargaining power is enhanced by organizing farmer's group.	<p>Generally farmers are in a disadvantageous position in selling their produce. Plan to increase sales by strengthening their bargaining power through organizing groups.</p> <p>Establish and extend agricultural cooperatives The government is required to establish an adequate environment for agricultural cooperatives. With MAFF's initiative, promote the formation of cooperative through preparation of necessary legislation, fostering manpower, study of functions, etc. In future, by establishing a national, further extension of cooperative and enhancement of their activities will be promoted.</p> <p>Promote activities of farmer's group In reality, initial activities of farmer's group shall be a variety of activities such as rural credit, water management, joint procurement of agricultural materials, etc. including collective sales of farm produce. Foster models of such activities and establish tools for supporting these activities.</p>

Outcomes	Activities
Marketing cost is reduced.	<p>Improve transportation infrastructure Consumer price will be high if transportation cost is high. Efficient transportation shall lead to competitive prices. Therefore, the improvement of transportation infrastructure is essential.</p> <p>Eliminate informal cost Informal cost charged during transportation impedes price competitiveness. Eliminate such informal cost, especially in the border trade.</p> <p>Improve telecommunication infrastructure For efficient market information service and for efficient rice trade, development of mass media and communication infrastructure is necessary.</p> <p>Strengthen market information service The market information is collected by MAFF and broadcasted by radio. MOC, market management offices in Phnom Penh, NGO, etc. are also collecting market information but they are not effectively used due to lack of cooperating system. Therefore, plan the effective utilization system of market information and strengthen existing information service.</p>
Trade form is modernized.	<p>Establish public trading places for open price formation Establish markets for open price formation at important locations in the channels of rice marketing. And reduce regional price gap and supply/demand gap by open prices which reflect larger supply/demand situation. Also promote fair and efficient trade by introducing the transactions using a quality standard into those markets.</p> <p>Fully enforce weighting instrument verification system Existing weights and measures system under Ministry of Industry obligates inspection and verification of measuring instruments. As of now, it is practiced only a part of the country such as Bat Dambang province. Due to the correct weighting is fundamental condition for fair transaction, enforce regular and nationwide inspection and verification of weighting instruments.</p> <p>Legislate and introduce quality standard Quality standard is indispensable to improve the processing quality of rice and is also indispensable as a tool for shifting the inefficient sample trading to the specification trading.</p> <p>Improve state rice procurement system Plan to review/study the improvement of procurement system and introduction of specification dealings in state rice procurement for police/army supply, which have large influence to the domestic market, to increase the fairness and transparency.</p> <p>Modernize trading form With the introduction of specification dealings in state rice procurement, promote use of quality specification in private business, to increase the fairness and efficiency.</p>

(3) Improvement in post-harvest quality control of rice

Outcomes	Activities
Quality of paddy is improved.	<p>Introduce appropriate price reflecting its quality To promote the activities for quality improvement, economical incentives that lead to increase farmer's income are essential as well as extension of quality control technics. Generate the incentives (i.e. clear price difference according the quality) through introducing the quality standard in paddy transaction at the open markets.</p> <p>Promote seed multiplication and distribution Improvement of seed quality and frequency of seed renewal are indispensable factors for quality improvement. Some rice millers started distribution of superior seed and new variety seed to farmers with or without charges. Promote this distribution of seeds by rice millers.</p> <p>Promote rice production based on ecosystem and markets Introduce rice production based on market requirements through the promotion of seed distribution activity by rice millers.</p>
Loss in post-harvest practices is reduced.	<p>Improve post-harvest practices Post-harvest technology is not included in the present extension activity of MAFF. Therefore, farmers are having difficulty in access to the appropriate technology. Improve extension system for post-harvest technology by MAFF.</p>
Rice quality standard is legislated and introduced.	<p>Legislate and introduce quality standard Enact rice quality standard suited to the quality of rice in Cambodia. Promote its applications to actual transactions by using it in the government and WFP procurement of rice and in the transactions at the open markets.</p> <p>Improve reliability of inspection and analysis work Improve equipment and provide training to technicians, to improve the inspection quality and the management system of Camcontrol who is a only conductor of laboratory analysis and inspection works in Cambodia.</p>
Rice processing technology is improved.	<p>Improve custom milling system Custom milling is mainly for farmer's home consumption use, and large effect of improvement is expected. But it is not easy to change the system rooted the society and custom in village. Several approaches should be taken such as promotion of quality competition among custom millers by rationalizing fee system and provision of technical guidance.</p> <p>Improve technology of storage and rice milling Requirement of quality improvement from domestic market is weak. Therefore, to promote the quality improvement, demonstrate the economical effect of quality improvement at model facility under technical assistance.</p> <p>Enhance activities of rice millers association Provide technical and financial assistance to the activities of rice millers association, which are for supporting the improvement of milling technology, facility and business skills of members.</p>

(4) Development of rice border trade

Outcomes	Activities
<p>Institution of border trade is improved.</p>	<p>Legalize border trade and simplify export procedures Presently, a large quantity of paddy flow out to Thailand and Vietnam by informal border trade. Border trade is inevitable, therefore, legalize the border trade of rice/paddy along with the AFTA conception and simplify the procedures, for instance, simplify export license system to export declaration system at border gate.</p> <p>Eliminate informal costs in border trade Eliminate the opportunities for informal fee collection through legalizing paddy trade and simplifying the procedures.</p> <p>Grasp trade data and prepare measures to control supply-demand Through legalizing paddy trade and simplifying the procedures, promote outflow through formal border gates. At the same time, improve a system for trade-data collection and management among concern government agencies and grasp the trade quantity. It shall clarify a national food balance, fundamental for food policy making, more clearly.</p>
<p>Infrastructure of border trade is developed.</p>	<p>For development of border trade and gaining the profit in it, pertinent infrastructure needs to be accompanied in Cambodia side.</p> <p>Develop border trade facility Establish the open market at important locations for trading, and plan the functions of strengthening the bargaining power of Cambodian traders and forming fair prices in the market such as market information service, quality inspection, and quality control. Also, introduce the quality standard into dealings in the market, to promote modern/efficient trading. By disseminating information of open prices formed in the market, reduce regional price gap and supply/demand gap.</p> <p>Develop transport infrastructure (road/river)</p>
<p>Market-oriented rice production is enhanced.</p> <p>Commodity value is added.</p>	<p>Enhance activities of traders/rice millers association Through strengthening the activities of rice millers association supporting the improvement of milling technology of members, promote shifting paddy trade to milled rice trade in which added value is higher.</p> <p>Promote strategic rice production according to markets In order to expand the markets, farmers (rice producers) should understand the needs and mechanism of the markets in Thailand and Vietnam. With shifting the trade commodity from paddy to milled rice, clearer valuation of commodity quality shall be given to its price. It is expected that this clearer valuation (i.e. market needs) shall be fed back to farmers and shall work as incentive to improve quality and to change variety.</p> <p>Strengthen market information system In order to expand the markets and develop the rice-milling industry, continuous activity of collecting the commercial information in border trading and in Thailand and Vietnam markets is essential.</p>

Above-mentioned final goal - development targets – outcomes -activities are summarized in the following chart.

Final Goal	Strengthening of Food Security and Development of Rice Industry			
Development Target	Stable and balanced regional supply-demand	Reasonable price mechanism under modern business system	Improvement of post-harvest quality control of rice	Development of rice border trade
Expected outcome	<input type="checkbox"/> Quantitative gap and price gap among regions is reduced <input type="checkbox"/> Seasonal price difference is reduced <input type="checkbox"/> Food reserve for poverty and disaster relief is enhanced <input type="checkbox"/> Food balance is grasped	<input type="checkbox"/> Farmers bargaining power is enhanced by organizing farmer's group <input type="checkbox"/> Marketing cost is reduced <input type="checkbox"/> Trade form is modernized	<input type="checkbox"/> Paddy quality is improved <input type="checkbox"/> Losses in post-harvest practice is reduced <input type="checkbox"/> Rice processing technology is improved. <input type="checkbox"/> Rice quality standard is legislated and introduced	<input type="checkbox"/> Institution of border trade is improved <input type="checkbox"/> Border trade infrastructure is developed <input type="checkbox"/> Commodity value is added <input type="checkbox"/> Market-oriented rice production is enhanced
Activity	Improvement of Production	Stabilize production and increase rice production in deficit area Prolong harvesting period	Promote rice production based on ecosystem / market Promote seed multiplication and distribution system Improve custom milling system Improve post-harvest practices	Promote strategical rice production
	Promotion of Distribution	Reduce transportation cost Eliminate informal cost	Improve transport infrastructure Improve telecommunication infrastructure Eliminate informal cost Establish public trading places for open price formation	Eliminate informal cost in border trading Develop border trade facility Develop transport infrastructure (road / river) Increase added value Enhance activity of traders / rice miller's association
	Strengthening of Support	Provide market price information	Establish and expand agricultural organization Promote activities of farmer's group Strengthen market information service	Strengthen market information system
	Improvement of Environment		Fully enforce weighting instruments verification system Legislate and introduce quality standard Improve state rice procurement system Modernize trading form	Introduce appropriate price reflecting its quality Legislate and introduce quality standard Improve reliability of inspection and analysis work
				Legalize border trade and simplify export procedures

Final Goal	Strengthening of Food Security and Development of Rice Industry			
Development Target	Stable and balanced regional supply-demand	Reasonable price mechanism under modern business system	Improvement of post-harvest quality control of rice	Development of rice border trade
Food Security	<ul style="list-style-type: none"> Intervene in market by using state fund Increase national food reserve Increase food reserve by farmers and traders Improve accuracy of balance sheet of food supply and demand Distribute food to disaster-stricken area Enhance purchasing power in deficit area 			Grasp trade data and prepare measure to control supply-demand

Activity regarded as external conditions in this master plan