Chapter 7 Investigation of Framework on Establishment of Open Paddy Market

As explained in the preceding chapter, the methodology for formulating an open paddy market development plan is that deliberations are made on the framework of the plan and then the business model is examined based on the results obtained from the pilot project. In this chapter, elements consisting the framework of the open paddy market development plan will be examined.

7.1 Positioning of Open Paddy Market from the Viewpoint of Essentiality and Publicness

【Background】

Possible users of the open paddy market are most of the farmers selling paddies, and the collectors, millers and traders of those paddies. Since the market would be used by many of local inhabitants, it can be said that it is a project having certain level of publicness. Like other public retail marketplaces found in more than 200 places around the nation, the open paddy market is expected to be used by the unspecified general public.

Even though the open paddy market will provide services that are very important for the life and economic activities of the users, it is not an indispensable function for a local community as a whole. Without an open paddy market, paddies have been distributed through other existing channels. However, when it comes to the provision of a fair and equitable trading place, not an ordinary marketplace, it can be said that the role of the open paddy market is quite significant for present economic activities in Cambodia.

【Analysis and Issues】

In the first place, the public nature and the essentiality of the open paddy market will be clarified as the starting point of the formulation process of the development plan. To put it more plainly, the open paddy market may be operated as a public project under direct control of the government, as a commercial enterprise operated by the private sector, or as a social project, in which the government has limited involvement, operated by the private sector. The positioning of the open paddy market as compared to other projects is illustrated in the Figure 7-1.

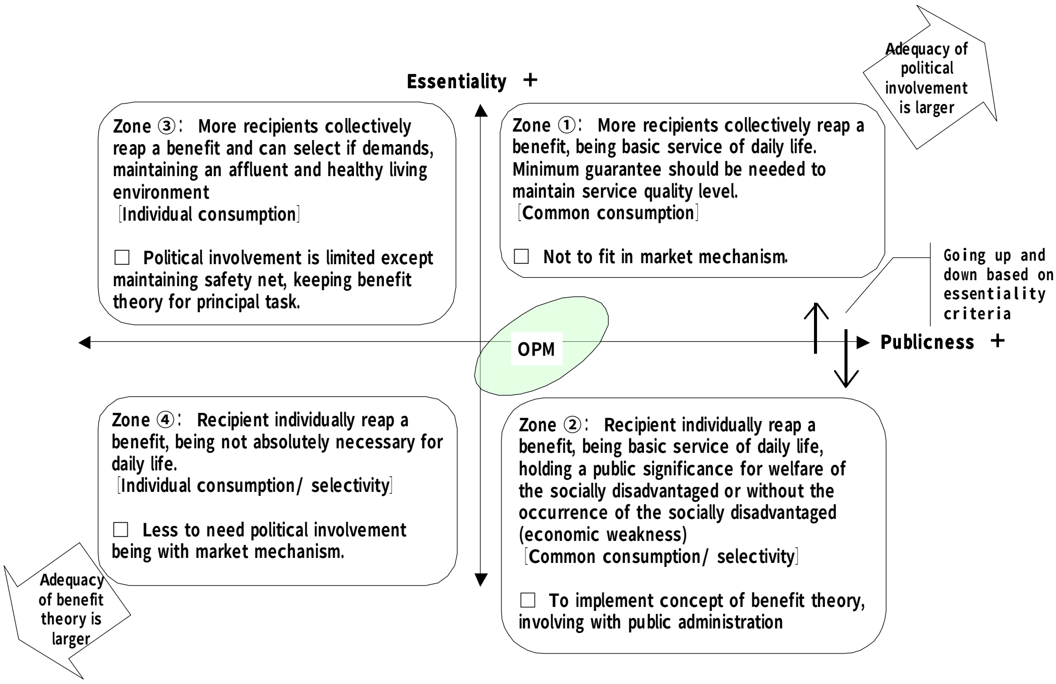

Fig7-1: Mutual relation between Essentiality and Publicness

【Observation】
The percentage of users to the local population as the parameter of publicness for the OPM may be set at around 10% of selling paddy, based on the experiences from the pilot project. It was actually found from the experiences from the same pilot project that the fair and equitable transaction of paddies seen as the parameter of essentiality exerts considerable impact on existing paddy transactions. However, it cannot be said that the fair and equitable transactions of paddies have taken root, and thus, the open paddy market should maintain the fair and equitable transactions of paddies for the present.

As seen above, the open paddy market is a place where important services from the viewpoint of publicness and essentiality are provided, and, therefore, it seems in no way compatible with marketing principles. In addition, even though it is not an area of activities where no government involvement is necessary for the maintenance of fair and equitable transactions, limited government involvement may be enough since it is not an indispensable service.

7.2 Positioning of Open Paddy Market in Rice Distribution System

【Background】
The role and function of the open paddy market should be clarified by positioning it as part of the rice distribution system from paddies produced by farmers to milled rice bought by consumers.

However, Cambodia so far has had no any open paddy market (except the newly established Svay Antor OPM), and the positioning has not yet been fixed.

In the pilot project, the positioning of open paddy market in the distribution system was examined based on the premise that it is an open paddy market used by paddy farmers. However, most of paddy transactions by collectors selling paddies to Vietnamese dealers and those between Cambodian and Vietnamese traders are performed at a large scale at temporary river ports and national boundaries. This means that it is possible to envision an open paddy market for use by these people. The positioning of these two cases of open paddy market is illustrated in the Table 7-1.

Table 7-1: Ranking in respective of OPM

Location	Main sellers	Main buyers	Position of distribution system
Place of production	Farmers	Rice millers > traders	Upstream of distribution system (direct relation to farmers with small size of lots)
River port/ boundary	Primary/ secondary collectors > Farmers	Traders > rice millers	Downstream of distribution system (traders' segment using)

【Analysis and Issues】

As a general rule, the open paddy market itself does not transact paddies so that it can maintain a neutral position both to sellers and buyers. This means that the open paddy market is not a party to transactions in the distribution system. Nonetheless, at the incipient period of the pilot operation, the users were having a notion that the open paddy market was actually transacting in paddies. Mainly due to the absence of in-market brokers and the lack of funds for purchasing paddies, the open paddy market did not gain correct understanding from its users about the positioning of the market in the distribution system. With respect to an open paddy market in Cambodia, this is a central problem to be addressed.

More particularly, not many farmers have enough means of transporting paddies, and quite a few farmers just waited for people from the pilot project coming and picking up their paddies, assuming they were also collectors. However, in reality, paddies are taken into the premises of the pilot project by farmers utilizing the transportation service offered by the project. But the farmers' perception was that the pilot project came to pick up their paddies. In addition, although collected paddies were purchased by in-market brokers, farmers thought that they were purchased by the pilot project. Since the pilot project has conducted a verification research based on the actual conditions in Cambodia, it cannot be said that the positioning of the open paddy market in the Cambodian rice distribution system has not yet been established.

【Observation】

There is no actual example of a wholesale market in Cambodia. It may take some time till the users get a correct understanding of the positioning of the open paddy market in the distribution system.

While the pilot project was an open paddy market situated in a rice producing area, there exists a place where Vietnamese traders come to purchase paddies from Cambodian traders. This place can be seen as an imperfect form of an open paddy market, and it could be developed into a large-scale open paddy market in the future.

In addition, most of the paddies purchased for the purpose of domestic consumption are distributed within the province where the paddies are produced. Therefore, it may be safely expected that rice millers will become the local users of the open paddy market.

7.3 Role of Open Paddy Market in Development of Rice Industry

【Background】

MOC said that the value of exporting agro-products from Cambodia increased by US$ 5 million in 2005, though it was US$ 800,000 by guess several years ago.

Rice growing is an important industry for Cambodian economy, but rice is also important as the national staple food from the perspective of stable food supply. Considering that almost all of the nation's population live in rural areas and most of them are engaged in rice growing, the rice industry can be positioned as a vital industry in terms of the social stability. As for the stable supply of food, Cambodia has had rice surplus every year since the reestablishment of social stability in 1995, and food shortage is merely a local problem in a time of disaster.

Through the promotion of natural environment suitable for rice growing and the improvement of traditional rice growing techniques, the possibility of increased unit crop yield is high and, therefore, rice production is expected to continue growing. Therefore, development of new export market opportunities has become a challenge that needs to be treated. Agricultural export including rice has now become an important national development policy, but the export of milled rice is still a niche business.

【Analysis and Issues】

The present research has been conducted with an aim to expand the open paddy market system to other areas based on the experiences gained from the pilot project, thereby promoting the nation's rice industry. The following flow chart, Figure 7-2 shows the idea.

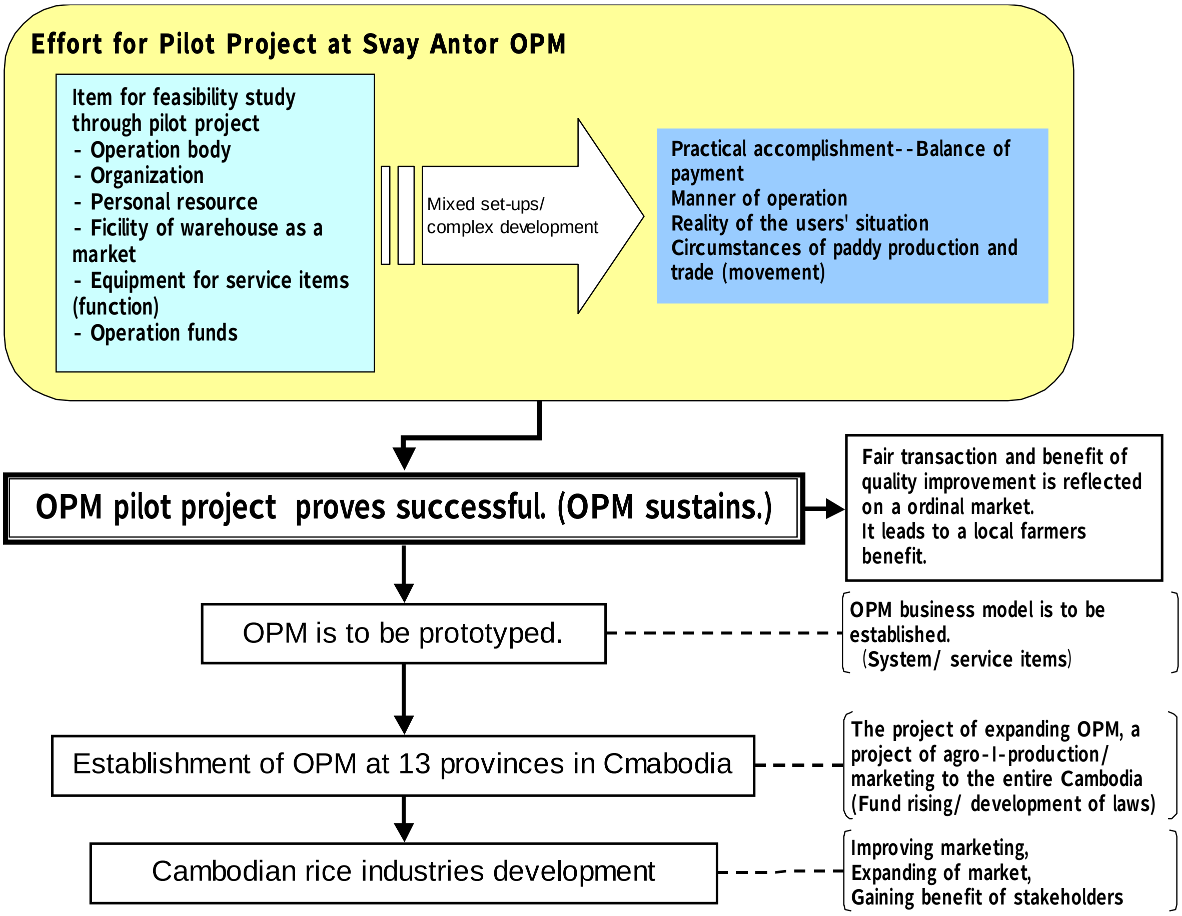

Fig7-2: Promoting the nation’s rice industry

Through the implementation of the pilot project, it was confirmed that the open paddy market exerts considerable impact on the traditional paddy transactions, and that it contributes to the improvement of paddy quality desired by buyers. More particularly, the accurate scaling practice of the pilot project serves to prevent deceptive scaling and the rounding off practice, and the presentation of prices based on a scientific quality evaluation in response to millers' and traders' demanding consistent premium paddy quality contributes to the improvement of paddy quality.

Cambodian rice production is already satisfying the domestic consumption demand, and the nation’s population and consumption per head is expected to decrease in the coming years. This means the expansion of the domestic market cannot be expected and, therefore, the development of overseas market opportunities will be a prerequisite to the development of Cambodian rice industry.

These days rice export from Vietnam to other countries is thriving, and paddy export from Cambodia to Vietnam is rapidly increasing. Paddy export to Vietnam is expected to continue growing for the time being. However, Cambodian paddy export is being performed in unfavorable situations where there exists no official and stable export system, Vietnamese traders are purchasing paddies on favorable terms, and Cambodia has little choice of market. Changing these situations is a challenge to be tackled.

If paddy export to Vietnam stops suddenly, the domestic paddy price would plunge and the rice production would decrease significantly. It is Cambodian farmers who take the risk. Therefore, for the promotion of Cambodian rice industry, ensuring stable paddy export to only Thailand and Vietnam is not enough; exploration of third country market opportunities is also indispensable.

【Observation】

Although the open paddy market is merely one of distribution practices, from the viewpoint of the development of rice industry, it can be a very useful tool for the realization of a centralized milling system and the uniform quality of milled rice.

Figure 7-3 below shows flow in the future of paddy that will be collected and supplied by the open paddy market, and then milled intensively, finally milled rice will be supplied to domestic market and overseas market. At present Cambodia exports milled rice to Singapore and so on in a container, which is a small amount of niche trade. However, no exporting organization (exporter) exists in Cambodia for the time being for the ordinary amount (more than 5,000 tons/one ship) of milled rice trade, that is capable to perform an export contract from the points of technology/ funds/ management, and being trusted by an importer. It requires bringing up the future ability to export milled rice through paddy export to Thailand/Vietnam.

Meanwhile, as an export facility engaging in paddy export to Vietnam, it would play a very influential role in terms of storage capacity, quality improvement, speedup of cargo handling, and quality inspection. The existence would lead to the improvement of the disadvantageous position of Cambodia with respect to paddy export to Thailand/Vietnam. At present, no particular measures are in place to prevent it. By prohibiting the unofficial import of paddy by the government of Thailand/Vietnam, and by lowering the current export charges or introducing a flat-rate export charge system by Cambodian Government, paddies exported through the official channel may be increased.

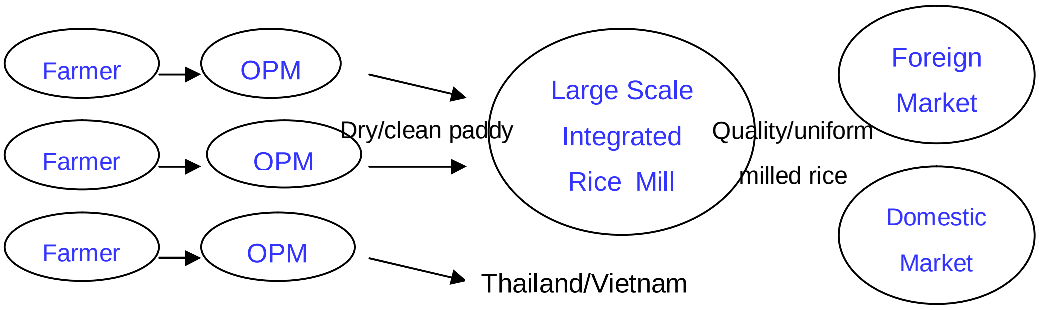

Figure 7-3: FUTURE CHANNEL OF RICE FLOW

The establishment of Phnom Penh Rice Wholesale Market is expected in the future for the domestic distribution of milled rice, like Jakarta/Bangkok/Yangon as a big city. Development study on

Cambodia' Wholesale and Export Marketplace has proposed this idea as National Wholesale Market in the report.

7.4 Role of Open Paddy Market in the Development of Regional Economy

【Background】

Policies regarding the scope of activities of an open paddy market in the rice producing area are, with respect to sellers, to cover the area where paddies of 10.000 tons or so can be collected economically and to collect paddies at an upstream side of the distribution channel (collection at a downstream side would be uneconomical). With respect to buyers, no policy has been set forth to define the activity scope, since many buyers come a long distance (e.g. from other provinces, Vietnam).

The establishment of an open paddy market would determine where to set up distributing centers for the promotion of the convenience of transaction and transportation. In those places commercial activities are already vigorously conducted, and the setting up of an open paddy market would give further spur, by introducing paddy distribution, to the material and commerce flows. Specific examples are employment creation due to the demands for workforce for the open paddy market, and the setting up of offices of banks, fertilizer dealers, seed dealers and restaurants. In addition, accommodation facilities for traders coming from distant areas would be necessary as one of related facilities of the market.

Most of those who have traditionally engaged in paddy collection in rural areas are local influential persons like village heads and commune chiefs. The establishment of an open paddy market might be tentatively detrimental to the interests of those existing distributors. Since support and understanding of local governments and communities are indispensable for the successful operation of an open paddy market, their understanding from a long-term perspective should be promoted.

【Analysis and Issues】

Svay Antor where the pilot project was implemented is a rural town, but it has been a center for the distribution of agricultural products as can be seen from the existence of large warehouses during governmental food control. There still remains the market of agricultural products like banana. It is also the center for rural industry where lots of manufacturers of threshing machines are operating their business.

The direction of agricultural distribution and the road conditions might have produced these situations. The speed of distribution of agricultural products has been accelerated by the refurbishment of the Route 11 and improved communication conditions. Since it is less than one-hour drive from Svay Antor to Neak Loeang where Route 11 and Route 1 intersect, the material flow might pass through without stopping at Svay Antor in the future. On the other hand, since refurbishment of the road connecting Svay Antor with Vietnam is planned, it cannot be denied that Svay Antor may increase its importance in terms of material flow.

【Observation】

In the above, the role of the open paddy market was examined from the viewpoint of socioeconomic of Svay Antor where the pilot project was conducted and, especially, from the viewpoint of the agricultural product distribution. When an open paddy market is established in other region, the influence of past/current/future situations of agricultural distribution as well as transportation conditions in that region should be taken into consideration.

A pilot project could be named a regional open paddy market , and another one might take the form of a wide-area (central) open paddy market that covers the whole country or a wide area like the southeast or northwest region of the country. In that case, the project would exert impact on the rice distribution system of Cambodia as a whole, not of a limited region.

However, since a wide-area open paddy market would handle much larger amount of paddies, it could not provide wide range of services as provided by the pilot project but would be run under a basic fee system where fees are charged in accordance with the handling amount. Supplementing the situations, transportation business, warehouse business and banks would be set up as the peripheral industry of the wide-area open paddy market.

Based on the experience in pilot projects, the establishment of business confidence has been behind much for implementing the contract that is basic concept for business, especially in rural communities in Cambodia. The simple and primitive method of transaction merely exists to confirm all paddies actually and pay for all immediately, because weights cheating, intentional deterioration in quality, and no invoice/receipt cause serious troubles in transaction. The volume transaction by a sample, and the time-lug transaction may make more risky business. Open paddy market takes a role of creating the environment for fair and equitable trade, but prior to this fact, open paddy market needs to have to challenge for rethinking of their business activity by themselves.

7.5 Selection of the Site for Open Paddy Market

【Background】

The site for the pilot project was selected by considering whether surplus paddies were generated in the region, the availability of existing warehouses, and the number of local millers who could be potential purchasers. The surplus paddies generally represent the quantities in distribution, and the availability of existing warehouses was a prerequisite for the implementation of the pilot project, and the existence of millers who can be potential purchasers in the peripheral areas was another criterion. Based on these criteria, three areas (4 provinces, 11 districts) were selected through the feasibility study as candidates for the pilot project site.

Since initially the pilot project assumed rice millers to be the potential buyers of the collected paddies, it was expected that the larger the capacity and the number of rice millers, the more price competition would be generated. However, it was revealed that the involvement of traders as the purchaser is important as they buy large volume of paddies.

The preliminary survey shows that there are 31 districts in 13 provinces surveyed where 10.000 tons or more of surplus paddies are produced a year. Some of these districts are adjacent with each other and at the same time in the same province or adjacent with each other but in different provinces. As paddy crosses district border freely, it is appropriate for the area to grasp a cluster of districts.

Table7-2: Districts with substantial amount of production and surplus in the study area

Area cord	Province	Annual production: more than 50,000ton Surplus amount: more than 20,000ton	Annual production: 30,000 to 50,000ton Surplus amount: more than 10,000ton	No. of districts
01	Banteay Meanchey	Mongkol Borei	Preah Netr Preah	2
02	Battambang	Moung Ruessei, Thama Koul, Bavel		3
03	Kampong Cham	Bateay, Or Reang Ov	Chejung Prey	3
04	Kampong Chhnang		Rolea B'ier	1
05	Kampong Speu			0
06	Kampong Thom		Baray	1
07	Kampot		Chuok	1
08	Kandal			0
14	Prey Veng	Svay Antor(PV), Kamchay Mear, Kanhchriech, Pea Reang, Kampong Leav	Kampong Trabaek, Peam Chor, Preah Sdach	8
15	Pursat	Bakan		1
17	Siem Reap	Kralanh, Puok	Chi Chaeng	3
20	Svay Rieng		Kampong Rou	1
21	Takeo	Ankor Boei, Bati, Bourei Cholsar, Prey Kabbas, Samraong, Treang	Kiri Vong	7
Total		20	11	31

【Analysis and Issues】
The Figure 7-4 "Districts with Large Production and Surplus of Paddy" shows that 4 regional groups with the surplus paddy, Banteay Meanchey/ Battambang/ Siem Reap, Battambang/ Pursat, Takeo, and Prey Veng/ Kampong Cham, are formed related from Table 7-2. These regional groups are aggregations of districts with a lot of paddy production and surplus. It means that there is enough surplus amount to be transacted/ distributed if an open paddy market is set up in their trade area.

【Observation】

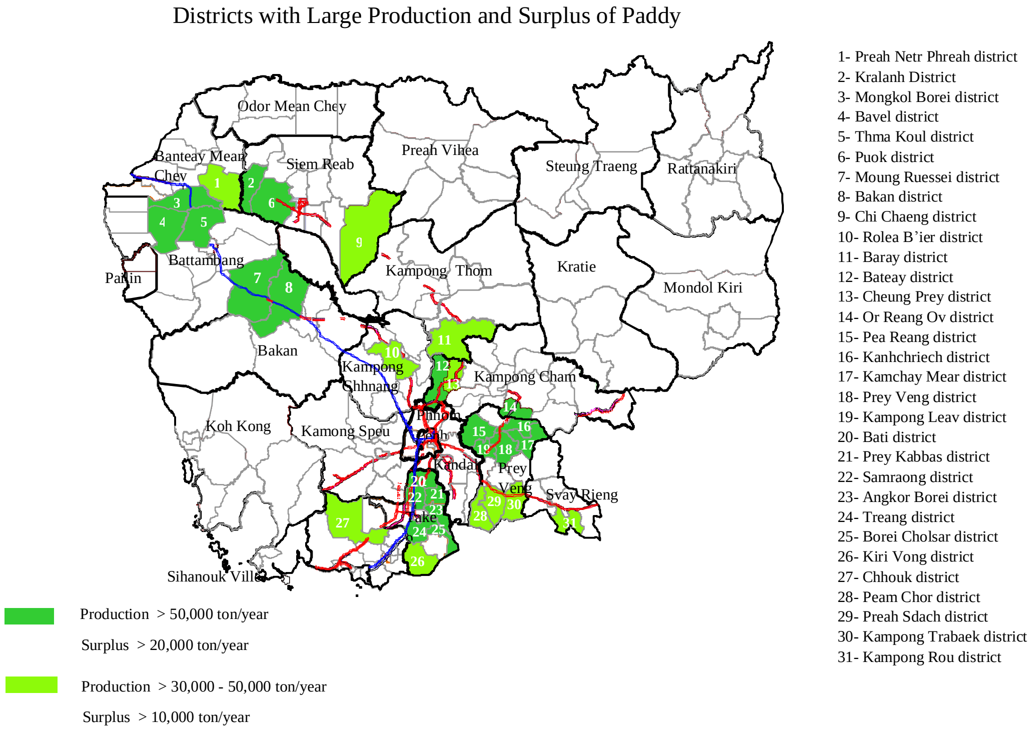

Figure 7-4: Districts with large production and surplus of paddy

The experiences from the pilot project has clarified that an open paddy market in the production area is able to collect paddy from a cluster of several districts as illustrated above.

The Open paddy market in the production area is a starting point for transportation, and marketing base becomes terminal point. Transportation infrastructure (road/river) connects starting points and terminal points as the marketing route. The Open paddy market is supposed to be set up on the route, however additional unloading/loading work is requisite in case on the route. This means that the open paddy market is preferably located at the starting point and/or the terminal point if necessary amount paddy is available as stated on the Figure 7-5.

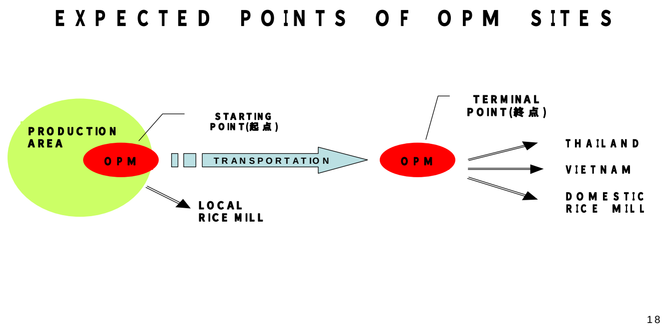

Figure7-5: Expected points of OPM sites

The marketing base indicates the gates for paddy export to Thailand/Vietnam. Under the present situations, the gate where paddy is exported to Thailand is Banteay Mien Chey/Battanbang, and to

Vietnam is Takeo/Prey Veng.

For the case of a short distance from the starting point in the production area to the terminal points(Refer to the condition between Svay Antor and Peam Ro, Mong Kor Borei and Poipet in Banteay Mien Chey) as the export gate, it might require open paddy markets at both points, or only one at the terminal point near the export gate that could cover the production area. In another case that production and export gate locate in the same district, paddy collected from farmers is directory exported without further domestic transportation. However paddy volume is much less than the paddy from other provinces with long distance.

After the analysis mentioned above, the open paddy market could be typified as the Table 7-3 below, in consideration of their locations and positioning of the marketing route.

Criteria for typifying the OPM are who are sellers (farmers/collectors) and who are buyers (domestic rice millers/trader for exporting to Thailand/Vietnam, including Cambodian traders acting on behalf of Vietnamese traders). In addition, it is important that there is a good access for the users, meaning that it depends upon the site location inaugurated. That means the position of marketing process.

Table 7-3: Typfying of OPM pattern

Type	Position of distribution	Main sellers	Main buyers	Site of OPM for example
Productive area type	Upstream/Start point for transport (direct relation to farmers with small size of lots)	Farmers	Rice millers> Traders	Mongkol Borei (Vanteay Meanchey Bakan (Pursat) Svay Antor (Prey Veng)
Intermediate type (wide area type partly involves production)	Mainly down stream, partly involves upstream	Collectors> Farmers	Traders> Rice millers	Ankor Borey (Takeo)
Wide-area type	Down stream/Terminal point for transport (traders' segment using)	Primary/ Secondary collectors> Farmers	Traders> Rice millers	Poipet (Banteay Meanchey) Peam Ro (Prey Veng)

The pilot project was regarded as the open paddy market positioned in the production area. On the other hand, an open paddy market positioned among traders should be considered to be a wide-area-type OPM. In other words, they are positioned at the upper and the lower stream of the marketing flow.

The productive-area type of OPM is located at the place that paddy could center for exporting to Thailand/ Vietnam and processing/ milling for domestic consumption, e.g. Prey Veng and Banteay Meanchey. However, there is possibility to establish the 2nd and 3rd open paddy markets in the same cluster of surplus production districts, provided that farmers utilize the services of open paddy market more than the capacity of existing open paddy market.

The sites of nominal OPM locations in the plan on Establishment of OPM are stated in the Figure7-3:

Expected Locations of New OPMs

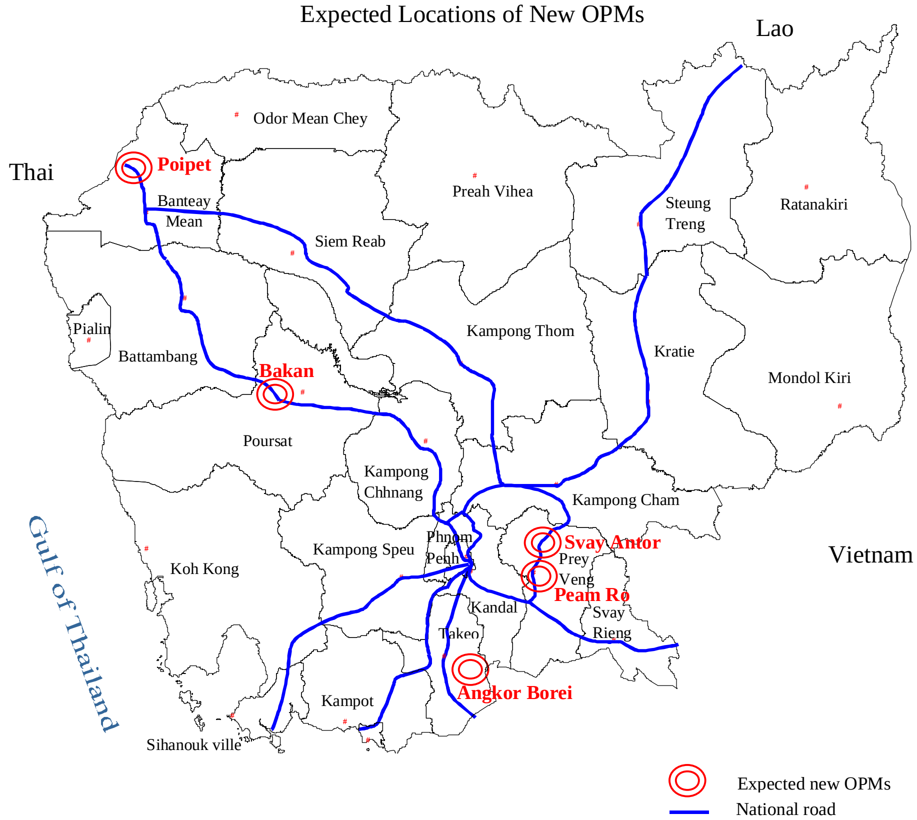

Figure7-3: Expected locations of New OPMs

As a conclusion, with respect to the selection of the site for an open paddy market, three perspectives should be taken into account. Those are paddy that is the subject of transaction, people dealing paddies (traders), and the operating body of the market.

7.6 Consistency with National Development Program and Formulation of Distribution Policy

【Background】

While development areas having direct relations with the open paddy market are diverse, as policy areas directly related to the open paddy market, food production policy, food control and distribution policy and agricultural import/ export policy can be pointed out.

Among food production policies, policies to increase rice production by developing irrigation facilities and promoting cultivation techniques have been positioned as the most important policies. Meanwhile, in these days emphasis has been placed on quality improvement through the distribution of high-quality seeds.

Cambodian distribution policy under the current market-oriented economy is basically unrestricted distribution with respect not only to rice but also gasoline fuels. Production and domestic distribution of rice (paddy) are not at all restricted, and no restrictions are in place with regard to people engaging in the transaction and the geological area.

Cambodia, which is an agricultural nation, is promoting agricultural export in order to earn foreign currency. Export items include rubber, soybean, cashew nut, maize, and milled rice. Though not appearing in export statistics, in reality paddy export is by far big in volume.

Multinational negotiations on deregulation of trade, elimination of customs barrier for WTO/FTA, AEC, EPA have been proceeding. Cambodia nowadays exports paddy to Thailand/Vietnam and imports Thai broken rice and milled rice for specific periods and prices, which are unofficial and widespread trade except the official export of small amount of milled rice. Unofficial trade normally doesn't pay any tax, which means almost disregarding the rules.

【Analysis】

It is expected that in an average year, the supply and demand of rice will be stable. As farmers seek to grow rice that will bring them more profit, the government needs to formulate appropriate measures in that respect.

It is expected that the current unrestricted distribution under private initiative will continue. Other possible scenario would be that Cambodian government introduces the paddy-price-support policy that is now in place in Thailand. However, it requires adequate financial base on the side of Cambodian government.

Cambodia, which is situated adjacent to Thailand and Vietnam or the two major rice exporters, has a high potential with respect to rice export. Thailand is already a member of more advanced developing countries and its rice export is decreasing. In addition, Vietnam is expected to join the group soon. Thus, it is expected that in the near future Cambodia will come under the limelight in the international rice trade. It is an urgent task for the Cambodian government to develop a system that can cope with such a development.

【Observation】

In the Cambodian national development program, promotion of agricultural export has long been a key policy. In that sense, a large volume of paddy export to adjacent countries, which is seen now, is in alignment with the national development plan. The large paddy export is the result of increased in rice production under the unrestricted distribution. However, in reality, there are many problems such as imbalance of national power between Cambodia and her neighboring countries, indefinite charges during the transportations and national boundary measures, and rampant unfair and unjust business practices being seen in the country. Corruptions are so rampant that the development of necessary legal systems as the institutional design is not catching up.

When Cambodia was in short of rice supply, no consideration was necessary with respect to the demand situations in promoting domestic rice production. However, continuous rapid increase of surplus rice since 1995 has forced the rice production to be coordinated with the market demand. Although Cambodian paddy distribution is highly dependent upon paddy export to Thailand and Vietnam, in reality, no effective measures are in place, risky rice production is being performed and all the risks are being put on farmers, consequently.

However, in order to keep ensuring stable distribution and avoid social ferment, such a picture cannot be changed in a short period of time. In order to design the framework of an open paddy market, it is essential to formulate a plan by accepting the realities as they are without denying the real situations. We believe such an attitude would lead to the formulation of a feasible plan.

Deregulation of trade and elimination of customs barrier may affect the world rice market in the future, but it may be difficult to change drastically the rice marketing in Cambodia. Cambodian rice industry has strength in the production field, but weakness in processing and marketing. It is inconceivable that Cambodia will be granted some import quota by any countries like in the garment industry.

Commercial practices are frequently against the rule under present situations of undeveloped rural society and national boundary measures. Under such situations the open paddy market proved to improve the paddy transaction on basis of market principle for main chance, i.e. correct scaling and price formation by scientific quality evaluation, from the experience of pilot project. And paddy quality improvement by an open paddy market powers up the export competitiveness for Cambodian rice/paddy, and expects to acquire resistance for stopping paddy import or price sharp decline under the influence of neighboring countries. This could alleviate the farmers risk aforementioned.

7.7 Development of Legal Systems for Open Paddy Market

【Background】

As a legal system required for the development of an open paddy market, Agricultural Product Wholesale Market Law, Rice (Paddy) Standards and Weights and Measures Law are important.

The Agricultural Product Wholesale Market Law is related to the establishment of an open paddy market. Rice (Paddy) Standards and the Weights and Measures Law are related to paddy transactions at the open paddy market. Codex Domestic Committee has the responsibility for rice standardization. The government authorities responsible for the enforcement of the Weights and

Measures Law is the Ministry of Industry, Mine and Energy.

【Analysis】
Major contents of Thai and Vietnamese market laws are as follows:
Thailand: “Regulation of Internal Trade Department for Promotion of Agricultural Goods Central Market Establishment B.E. 2541(1998)”

- This law was enacted in 1991 and amended several times since then.
- The establisher (corporation, limited/unlimited partnership, association, farmer’s group) applies for a permit for the setting up of a market with Domestic Distribution Department.
- Agricultural Product Wholesale Market (Central Market) is divided into a paddy/field crop market, a vegetable/fruit market, a livestock market, and a fish market.
- A paddy market should have a lot area of 3.2 hectares or larger and be 30 km or more apart from other paddy markets. The warehouse capacity should be 1.000 ton or more and at the same time a concrete drying facility or silo and testing equipment should be provided.
- Services provided by the market include measurement, transportation, storage, financing, cargo loading/unloading and (drying). Their fees should not exceed the amounts set down by Domestic Distribution Department.
- The market is under obligation to publicize its market prices.
- Paddy market is under obligation to find buyers but is not allowed to participate in the transactions except for exceptional cases.

Vietnam: “The Government Decree No.02/2003/ND-CP of January 14, 2003 on Development and Management of Marketplaces”

- The law governs development, management, operating organization, construction investment, refurbishment and transaction with regard to traditional retail markets. It does not cover wholesale markets and supermarkets.
- Markets are positioned as a local public facility under a socioeconomic development plan.
- Concerned authorities include local people’s commissions in addition to the Ministry of Trade, the Ministry of Planning and Investment, and the Ministry of Finance. With respect to the operation of a market, Marketplace Management Board is responsible.
- Retail markets are classified according to scale (partition number).
- The construction fund is provided by business enterprises, individual investors, finance loan and government; and the operating body is selected through bidding.

Under the current market-oriented economy policy, rice distribution is totally unrestricted in Cambodia. However, in reality, distribution without rules, excess competition, and prevalence of the logic of small number of the strong are rampant. In order for an open paddy market to obtain economic independence while maintaining its public nature, governmental support in the form of development of legal systems is indispensable.

【Observation】

Experiences from the pilot project indicate that hasty development of legal systems is not necessary. It is not the situations where rapid enactment of a market law is required. A law focused on promotion may be useful, but a law focused on restriction is not necessary. It is not the situations where markets are shooting up to accelerate unfair competitions. Rather, it is a more serious problem that Weights and Measures Law, which is already in place, is not strictly observed as is the case with other laws.

Rice standards have a rare opportunity to be applied compulsorily under the present free marketing that differs from the period of the government control. It can be described as the rice specifications when the army and/or police need to prepare the bidding documents. This means that rice standards may be more practically utilized as the target of quality improvement as a kind of quality self-control.

Draft of the rice standardization has been already submitted to Codex Domestic Committee (refer to Appendix 10); however the office (Camcontrol) has not started the processing work yet. The pilot project examined actually the draft of the paddy standards.

Draft of paddy standards tested in the pilot project provides grading system, but so far present real distribution doesn't require it. Moisture content and impurities among various inspections items in the draft such as moisture content/ red grain/ cracked and broken grain/ damaged grain/ impurities/ immature grain/ whole grain are exactly reflected in transaction pricing by calculation. In regard with other inspections items buyers and sellers concerned negotiate for pricing according to quality analytical value, in reality buyers put red grains and damaged grains more attention.

As mentioned above the draft of paddy standards provide with targeted value for each inspection item, but it is not standards for grading system. It will be expected to become quality target by institutionalization of standards in future, but it may not be applied in Cambodia as no Thai/ Vietnamese traders follow their standards in practical transaction.

Chapter 8 Review of Business Model on Establishment of Open Paddy Market

8.1 Review of the business model

In order to carry out a business called an "open paddy market", a business model that utilizes fully tangible and intangible resources such as management philosophy, material, human resources, information and financial assets is required.

As experienced by the pilot project implementation, there is a fact that the financial support of the government is difficult to expect in Cambodia even for a project which has public interests and does not fit for the market principle. In order to prepare a feasible open paddy market development plan, the business model needs to be built by keeping public interests and recognizing the operation of the open paddy market as a business. Next, major elements of the business model will be reviewed based on the experience and the analysis of failure/success factors of the pilot project.

8.2 Understanding of business environment

【Background】

The pilot project was implemented at Svay Antor in the northern part of Prey Veng Province. Prey Veng Province is located in the southeastern part of Cambodia and most parts of the province are the frequently flooded areas of the Mekong River. It has the largest rice production of the country and also a huge surplus. Rice is mainly grown in the rainy season but in some places it is also grown in the dry season. The outskirts of Svay Antor are the area where rice is grown traditionally. There is however no so-called brand rice. The scale of rice production of average farmers is 1.5 ha of planted area and 3.0 tons of production.

In the target area of the pilot project, the road condition of the north-south direction is relatively good with the National Road 11 running through north and south, but its east-west direction is quite poor. Transportation costs widely differ with not only distance but also transportation time. The electrification of villages is not progressing and the costly electric supply with the time limit by private generators is only seen in Svay Antor. The use of televisions and radios becomes popular but there is no any newspaper. In addition to the I-COM (wireless radio), the cellular phone covers recently most of the areas and information becomes more accessible for some of the residents.

As there was a government owned large warehouse in Svay Antor in the days when the food was under the government control, Svay Antor is always a rice depot. It has supplied milled rice mainly to the metropolitan area but it has also supplied paddy to Vietnam in recent years.

Small-medium-size rice mills gather at about 30 places in Svay Antor. Rice mills have collected paddy from nearby farmers and paddy collectors. Paddy collectors are often local influential persons as the paddy collection business is easy to start if purchasing funds for paddy and truck are available.

【Analysis/Issues】

Based on the experience of the pilot project, the business environment is reviewed from the viewpoints of nature, society and economy. The natural environments include geographical conditions of rice production and natural disasters; and the social environments are security, regional development, road conditions, foreign support, relationship with Thailand and Vietnam, and the recruitment of human resources; and for the economic environments, industrial structure, regional price difference, currency situations and other various elements can be considered.

Considering its business nature, subjective opinions of buyers and sellers must be taken into account. For example, paddy collectors and rice millers were at the beginning reluctant to accept the pilot project as they thought it benefited farmers and hurts their business. As it cuts down distribution costs, it certainly invades a part of the vested interest (business territory) of paddy collectors. Meanwhile, the misunderstanding that the pilot project assisted only farmers, which had invaded the vested interest of rice millers, was almost swept away.

【Examination】

The business environment of the open paddy market has changed like its common business. The basic factor is the distribution volume of paddy but it is based on the supply and demand. Another factor is the activity of farmers, paddy collectors, rice millers and traders who are the users of the open paddy market, the player of the business. The principle of competition is working in the distribution of paddy under the free distribution regime. At the same time, there is like a traditional vested interest and it is sometimes an impediment to fair and equitable trade. Some users do not accept the improvement of distribution, in some cases.

The open paddy market must be operated independently. In other words, the open paddy market cannot be sustained without being both operationally and economically independent. To leave management responsibility to the management is the best way to be operationally independent, and to maintain appropriate profit and expenditure is the best way to be economically independent. For the economic independence in particular, both buyers and sellers must be convinced to pay for the service received from the open paddy market, as its users (beneficiaries) must bear the necessary expenses for the market operation.

8. 3 The management body of the open paddy market

【Background】

The management philosophy of the open paddy market as a wholesale market is fare and equitable trade, and for that, the management body needs to maintain its neutrality. The management body also needs to prepare existing facilities or necessary funds in order to secure land and facilities for the open paddy market.

Because of such nature of a wholesale market, the local government establishes and operates a wholesale market in Japan. The paddy market of Thailand (Paddy Central Market) is operated and its facilities are maintained by rice mills, agricultural cooperatives and agricultural banks. The government of Thailand established a wholesale-market law and supervises each paddy market in order to maintain their neutrality. Market facilities including land of local retail markets in Cambodia belong to the local government although private funds are often drawn for the construction due to a lack of public funds.

The pilot project used the government owned existing facilities. It was, however, unable to establish a specific management body before the beginning of the project and it was thus operated tentatively by the implementing organization of the study (PDOC/PDAFF/the study team). After the completion of the pilot project, MOC rents facilities to an NGO established for the operation of the open paddy market and entrusts to operate the market. This is in line with the study policy: "the private sector is to be utilized as much as possible for the management body" and "the management system which enables maximum government involvement and control is to be established although the shift from the government to joint venture of the government and a private, and finally to a private sector is realistic."

MOC expects provincial chambers of commerce to take initiative as operation bodies for open paddy markets to be established in the future.

Chamber of commerce are legally based on Royal Law No.0695/03, June 22, 1995; and 10 provinces have already established a provincial chamber of commerce respectively as of July 2006. According to Article 1l of the law, the chambers of commerce are allowed to establish and operate commercial/agricultural warehouses, public commercial and industrial markets. For these activities, MOC is required to apply for permission from the Council of Ministers in accordance with Article 12.

【Analysis/Issues】

This study, before the beginning of the pilot project, investigated the management bodies of local retail markets, state company GTC (Green Trade Company) and existing NGOs but as they had yet got experience in an open paddy market, the study was not able to find a suitable organization to entrust/to assume the operation of the pilot project. This is because they do not have the record of operation despite the income to match operational costs of the pilot project need to be acquired.

It was also clear that according to the baseline/opinion survey conducted during the preparation stage of the pilot project, more than 80% of the survey subjects (expected users) wished the management body to be the private (mainly NGO) but not the government institution. There is a sentiment of distrust among the residents against the government institution.

【Examination】

In many countries the buyers and sellers in rice markets are from the private sector. The owner and management body of wholesale market facilities are often, however, local governments. It is thus appropriate that the Social Enterprise, which contributes to the local society, plays the role of management body of the open paddy market as an administrative service that is difficult with the market mechanism. The non-profit organizations like NGOs and cooperatives can be considered for the Social Enterprise.

Requirements for the operation body of open paddy market are; non profit making (profit is to be reinvested for the activities and not to be shared to personnel involved), ability for independent management (fair decision is requested to all participants), capacity in public activity (profit is not pursued for any specific organization or personnel), private organization (private sector activity to supplement for official activity).

Any organization can manage the open paddy market provided that it can provide a fair and equitable transaction mechanism. It might be stipulated in the future legal reform, but that might ruin the chance of the open paddy market development. It is, for now, important to review fully the management body by the stakeholders at the opening of the open paddy market one by one. The spirits of concerned parties to support the open paddy market development is, above all, essential.

On the assumption that chamber of commerce works for operation body of open paddy market, chamber of commerce holds some advantages of firm foundation and organization under the relevant law, financial capability by business person as members, business experience, and business related members such as rice miller/ traders. On the other hand, it is worry whether chamber of commerce maintains public benefit and neutrality because there is the tendency of prioritizing benefits for members. Existing rice millers association has no specific law for organizing their association, however powerful rice millers in each province generally are members of chamber of commerce.

<u>Possibility for the participation in paddy market by farmers' organization</u>

In regard with possibility for agricultural cooperative of farmers to become the operation body for a open paddy market, it is quite difficult for agricultural cooperative representing the interest of farmers as sellers, to manage open paddy market at neutral position. And it is assumable that village/ commune level of agricultural cooperatives is unable to collect needful paddy volume in the limited area. Furthermore there might meet up with various issues on organization, human and financial resources. This means that an agricultural cooperative itself is almost impossible for participation in the operation of an open paddy market.

In addition, there will be possible in broad meaning for farmers' group/ agricultural cooperative to participate in the paddy market by collection of market information, market oriented production (marketable production), joint shipment body. Joint shipment by farmers' group/ agricultural cooperative contributes to decrease unfair and inequitable transaction by increasing bargaining power by farmers themselves, quality improvement, and increase paddy transaction volume at an open paddy market as well. In the future farmers' group/ agricultural cooperative may expect to establish their own shop for paddy sale at an open paddy market.

8.4 Setting the size of the open paddy market

【Background】

A prerequisite condition of the open paddy market to function as a wholesale market is the required volume (scale) of paddy for transactions to come to the market. If sellers come to the market, the volume can be secured and eventually buyers gather to purchase the paddy.

Another point to consider for deciding the size of the market is the required transaction volume (scale) to be economically independent for the management body. From the experience of the pilot project, it is clear that the required transaction volume changes widely in relation to the operational costs. The minimum volume to maintain the market also exists.

The impact of the open paddy market on the conventional paddy transactions is also influenced by the transaction volume. It does not, however, concern directly with the size setting for the open paddy market. The pilot project set the target transaction volume to 10% (10,000 tons) of the surplus in the targeted area. Cheating on weighing has decreased by several percent of transaction volume dealt by the pilot project.

Based on the above, the target area is to be set, required size of storage facilities/equipment is to be prepared, and the staff is to be assigned.

【Analysis/Issues】

Required volume for buyers:

The volume of paddy a farmer sells at one time ranges from 100 to 2,000 kilograms. The average is less than 1 ton depending on the size of lot of same variety/quality. On the other hand, as buyers like paddy collectors, collect paddy according to the requested quality, volume, price and time of collection by rice mills and traders, the paddy is not uniform quality but with same variety. The volume of purchase by a rice mill at one time is a truckful, approximately 3 to 10 tons; and traders buy and sell approximately 10 to 50 tons. The maximum of several hundred tons of paddy was stored by the pilot project, but it was often unable to accommodate the request (variety /volume) of the buyers.

The transaction volume to be economically independent for the open paddy market:
The way to express the volume of paddy transactions can be the volume of receipt/shipment and the volume for the service. The volume of receipt is bigger than the volume of shipment as it losses weight by drying and cleaning. The volume for the service is sometimes counted more than two times for the same paddy but the income of the service is reflected properly. Therefore, analyzing the management requires figures representing each service. It is, however, appropriate to use the volume of receipt in general.

The pilot project estimated the volume to be 8 thousand tons per year (from September 2005 to August 2006), and expected the final balance to be favorable, though at the outlining stage the annual planned transaction volume to be 10 thousand tons. The issue to be addressed for the project size was thus how to achieve the planned transaction volume. The paddy collection service was a major decisive factor for the transaction volume in the pilot project.

【Examination】

(1) Achievement of planned scale

The pilot project had a plan to collect one thousand tons per month, several tons per day in the transaction peak from January to February. The collection style of “go to collect paddy at the sellers” but not “wait for sellers (farmers) to take paddy to the market” required a large number of workers and addition of truck rental, and it showed that it was beyond the capacity of the project. “Sellers (Farmers) taking paddy to the market” is not realistic considering the distance and transportation means, and thus paddy collectors will see more business opportunities.

The open paddy market in the production area where “go to collect paddy at the sellers” is expected is against the expansion of the market. However, it is necessary to achieve the planned transaction volume by the efficient collection service focusing on the collection areas. For example, the open paddy market of Svay Antor might concentrate on the Kanhchiriech district for for the collection on the premise of the cooperative collection experienced by the pilot project in the Kanhchiriech district.

As mentioned already, there are 31 districts nationwide that produce more than 10 thousand tons of annual surpluses each. However, they are merely a potential without the willingness of farmers to use the open paddy market. The target of transaction volume by an open paddy market doesn’t intend to occupy the paddy market but creates the conditions for fair and equitable trade. The experience in pilot project showed 10% of surplus in the districts enough for this target. If an open paddy market of 10 thousand ton annual capacity is operated in several places in the production area, a substantial impact can be expected.

(2) Size of wide-area open paddy market

The open paddy market that covers a wide area can be placed at the distribution base rather than at the production area. The annual transaction volume of 100 to 200 thousand tons corresponding to 10% of distribution volume can be planned as 2 thousand to 3 thousand tons/location of paddy shipped to Vietnam at the peak from several locations in Prey Veng Province. It can be expected to place the market in one or more locations each in the suitable place of paddy transactions for the domestic and Thailand/Vietnam.

8.5 Function/Service of the open paddy market

【Background】

The essential function of the open paddy market is to provide a place for opportunity of transactions for buyers and sellers. The functions/services, in addition, are classified into the basic services and the optional services. The basic services are essential for the transactions and it covers loading (unloading/loading), measuring, quality testing (mainly moisture test) and settlement. The optional services are provided upon the users' request.

The pilot project has conducted a demonstration test on various services including development service based on the request of the users before the establishment and the findings during the project implementation. The functions/services provided by the pilot project are listed in the table below.

Table 8-1: Functions/ Services of the pilot project

Basic Services		Optional Services		
Charged	Free	Charged	Free	Planed only(charged)
Loading/unloading	Price formation	Threshing	Lending of paddy sacks	Seed distribution
Weighing	Settlement	Transportation	Improvement of post-harvest practices	Insecticide for storage (only incidence)
Quality inspection		Drying	Market information	
		Cleaning		
		Storing		
		Distribution of fertilizer		
		Paddy mortgage scheme		

【Analysis/Issues】

Understanding of the functions:

Many workshops were held to explain about the functions of open paddy market, and experience in using the services might help users understand the functions, but it was not so easy especially for farmers.

Next figure shows the functions of open paddy market as regarded a building. A building foundation normally is not seen because it is under ground. A foundation corresponds to the functions as wholesale market for open paddy market. Part of a building above ground can be seen easily, and anybody needs to pass the first floor. Any paddy brought to open paddy market requires for weighing and quality analysis without exception. After entering into the first floor of a building it is necessary to select the floor where to go up according to need. Corresponding to the case of open paddy market the users select kind of services. The problem is that people often misunderstand open paddy market has merely the functions of paddy drying and cleaning, because they forget the fundamental function of open paddy market as a wholesale market like a building foundation is not seen.

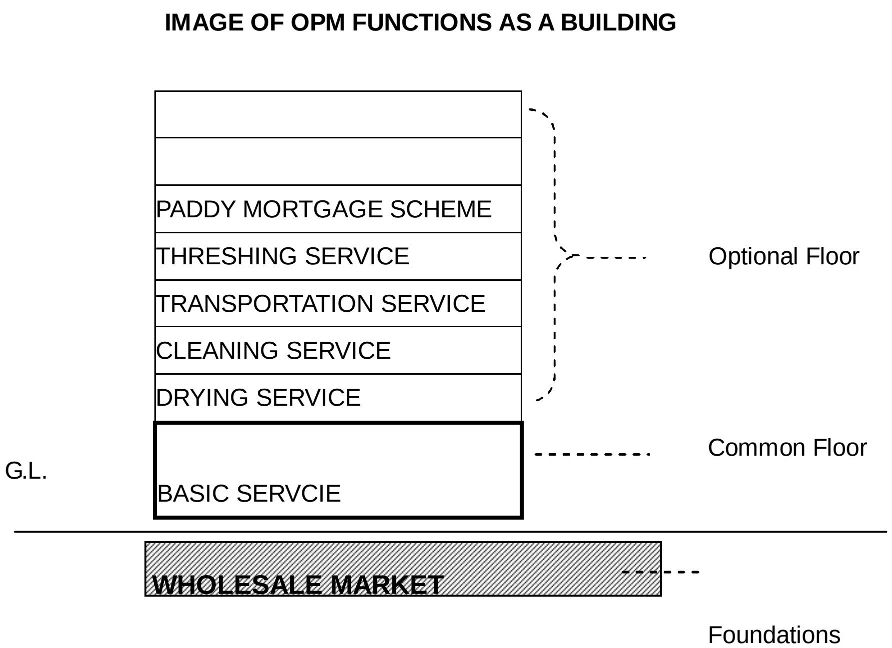

Figure 8-1: IMAGE OF OPM FUNCTIONS AS A BUILDING

Selection of services:

As the results of the verification of various services by the pilot project, it has been found out that a technically useful service sometimes is unprofitable due to weak needs under the present market conditions.

Considering the development of the open paddy market, to narrow services at the early stage is realistic. However, the changes of market conditions (communication/transportation) and the market needs (quality improvement) in the future need to be taken into consideration although the profitability at the present is important for evaluating each service.

(1) Appropriateness of collection service:
The transportation service for paddy collection brought the largest income among the various services of the pilot project but it also cost a great expense; and besides, it was hard to manage. Therefore, this service needs to be reviewed.

The transportation service was provided for paddy collection with a fee upon request of farmers who did not have transportation means or live in a remote area. However, most of farmers equated it with the collection of paddy collectors. As a result, the project distributed paddy bags and collected them as paddy collectors did. A series of operations by going to farmers' houses, then providing weighing and quality testing services, and making payment in order to collect more paddy will results in competition with paddy collectors. This means, for farmers, that the choice of where to sell their paddy is increased. Upon the influence of the service, the existing paddy collectors are also inclined to conduct transactions with accurate measurement and appropriate market price.

Sellers of paddy in the pilot project are farmers. This was also assumed by the original plan. However, it differs widely on the fact that farmers take (using the transportation service) paddy voluntarily to the market. Based upon the experience of the pilot project, the collection service is forced to continue, as the volume of collection will most certainly decrease substantially under the present situations once the collection service is terminated.

(2) Review of service quality
In order to ensure the accuracy, the weighing and quality testing of paddy to be collected in the pilot project were conducted after the paddy was brought into the open paddy market. However, farmers were distrustful of the way in which the price was decided based on the weight and quality that they could not confirm by their own eyes after the shipment. Thus weighing had been done temporarily with a spring scale at the farmers' place and re-weighing with a platform scale was carried out after paddy had been brought into the open paddy market. However, issues like occasional difference between temporary weighing and re-weighing etc., delayed payment due to late quality testing; and frequent administrative errors also occurred. In other words, means to improve the quality of the service caused the deterioration of the quality of the service in the other aspect.

As mentioned the above, unless the selection of service quality is done properly while keeping the direction of service improvement under the competition with paddy collectors, increasing cost cannot be absorbed. In this example, changes were made then and the accuracy of the spring scale was checked with a precise standard balance (weight) before weighing, the moisture content was measured with a moisture meter, the foreign materials was checked with eyes, the price was decided and the payment was made at the spot. For the possible poor-quality paddy (yellow grain), the quality test was carried out at the laboratory as before.

(3) Paddy mortgage scheme service

The paddy mortgage scheme service was introduced based on the baseline/questionnaire survey of farmers. It was, however, ended up in the unexpected result that very few farmers used the service in the pilot project.

【Examination】

Combination patterns of sellers/ buyers:

The buyers and sellers in the paddy transaction can be classified as following patterns:

- Between farmers and paddy collectors, between farmers and rice millers.
- Between paddy collectors and rice millers, between paddy collectors and Cambodian traders.
- Between Cambodian traders and Vietnamese traders (in some cases a paddy collector is a Cambodian trader)

In the pilot project, farmers, mid-traders, mid-traders and rice millers/ traders were intended sellers and buyers, existing two times of transaction. It was considered that the above-mentioned rice millers and traders would engage in paddy transaction as registered wholesalers in the market. At the early stage, investors were included as mid-trader, but their position is as Cambodian traders. In case rice miller/ traders became registered wholesalers, the direct transaction between a farmer and a Vietnamese trader would happen in the open paddy market as originally planned. The changes of buyers and sellers in the pilot project are shown in the Figure 8-2.

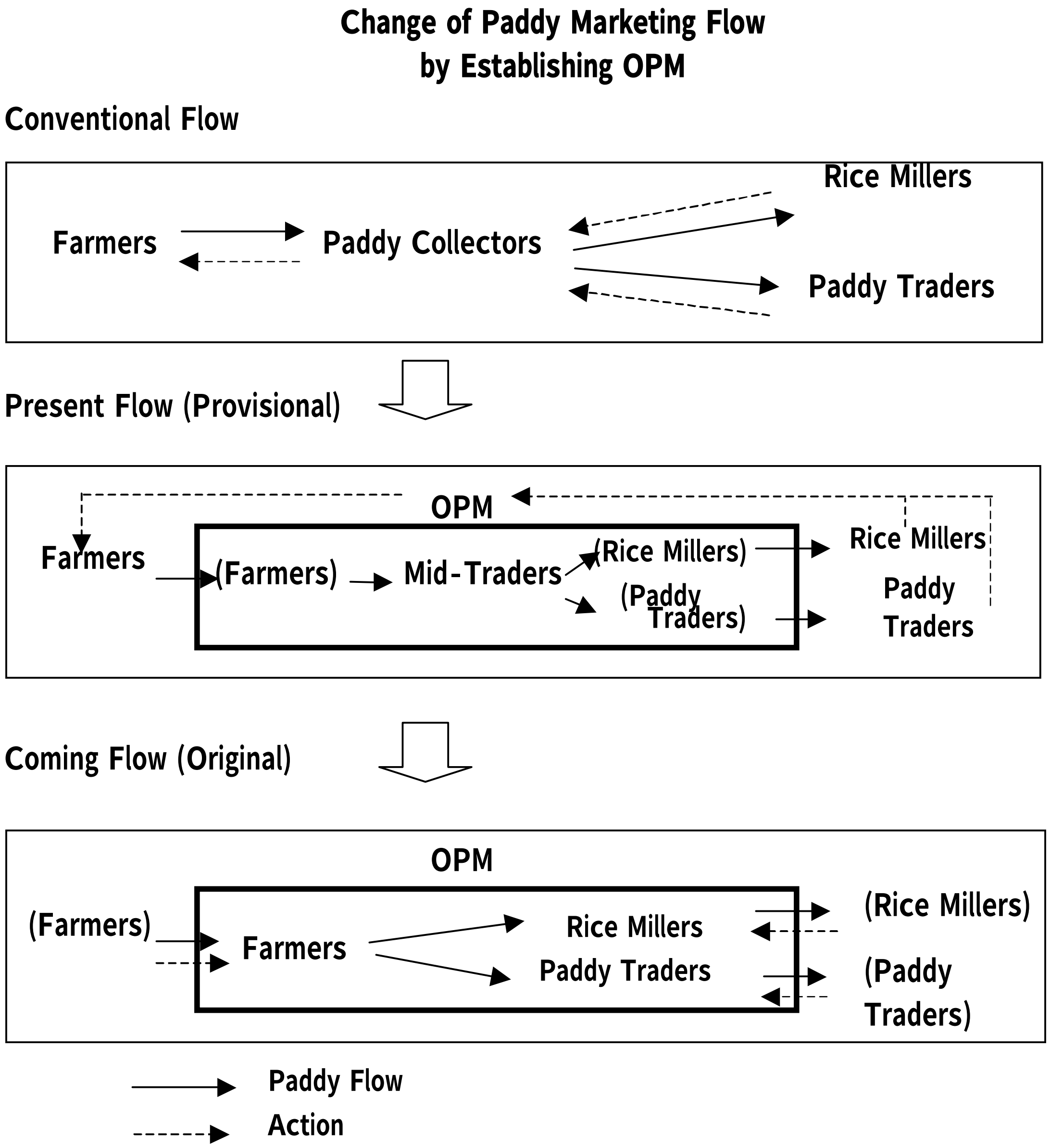

Figure 8-2: Change of Paddy Marketing Flow by Establishing OPM

At the time of termination of the pilot project, two third of handling amount corresponded to "present flow (tentative)" in the figure above, and one third "coming flow (original)". In order to shift to "coming flow (original)" totally, rice millers/ traders need to take the position of mid-traders in an open paddy market for decreasing transaction times and making the transaction rationalized. Relationship of trust between an open paddy market and rice millers/ traders may progress to prepare paddy procurement funds (deposit) by rice millers/ traders as mid-traders. And they also need flexibility on funds and time for assorting paddy (variety/ quality/ volume). However it is the fact that some rice millers have already positioned mid-trader, and some traders have also announced to invest for paddy procurement in next harvest season. It can be said that enough paddies come to an open paddy market; the matter expects to be changed rapidly.

Paddy Mortgage Scheme: PMS

About 40% of farmers suffered from the high interest rate of microfinance according to the farmer survey of this study. They were forced to sell paddy at the cheap price just after the harvest to repay the debt. Based on these results, the PMS has been implemented.

The PMS started in September 2005, but the track record has shown no improvement as planned. It should be reviewed whether the scheme was designed by considering the situation of potential borrowers. In other words, it should be reviewed whether the fact that farmers are in debt is properly linked with the possibility use of the PMS by the farmers.

The reason that farmers need financing is not juts for their living expenses, but basically for the production funds to purchase fertilizers and fuel for agricultural machinery. The period when the fund is most needed is from March to May for the rainy-season crop. The payment is made in November to January by selling harvested paddy. As PMS is the scheme to provide financial support using paddy as mortgage, it can be said that the time when paddy is available and the time when funds are needed have a gap.

With regard to the fertilizer sale, fertilizer shops sell to farmers on credit with a commune/village chief acting as a guarantor. Farmers, however, pay fees to a guarantor. As farmers borrow money (buy on credit) to get fertilizers, they have to repay to fertilizer shops by selling paddy just after the harvest. In other words, in order to use PMS, a certain amount of resources (paddy) is required, but farmers have none.

For farmers, it appears that the time is not enough from the harvest to the payment. It is also understandable that they cannot decide to use the PMS under the situation that the pattern of paddy price to increase several months after the harvest is not absolutely sure as the latest paddy price is strongly influenced by the international market. The PMS does not limit the use of rice millers and traders. It can be said, however, that 2% monthly interest rate (in some opinions, 2% of monthly interest is too high) of PMS is not attractive to rice millers who have rice mill plants, which can be used as collaterals under the situation that the financing is rapidly developed by financial institutions.

Even if houses and fields are used as collaterals, still there is safe feeling as they are still nearby. In the case of paddy being used as collateral, the farmers feel like their paddy having been sold out as it leaves their hands; this makes them feel uneasy as the financing amount is just half of their paddy price. Such a feeling is the result of the society where mutual trust is immature.

8.6 Funds

【Background】

Funds prepared in advance for the pilot project including the initial fund for storage repair, equipment and materials purchase and partly for operation were all provided by JICA. Other funds were supposed to be prepared by the management body, which made it difficult to look for a management body.

The pilot project started in December 2004 with relation to the harvest season. The project commenced without having any management body. In other words, the project was operated under the direct management of the study-executing organization without certainty to secure funds for the whole operation. It can be said that this caused great difficulties in the pilot project operation later.

【Analysis/Issues】

The details of required funds found out during the pilot project are as follows.

Table 8-2: Contents of the fund for financial management of Open Paddy Market

Kind of source	Amount	Purpose/Issues
Investment fund	1,207,000,000riels US$294,416.-	Expenses for warehouse renovation and equipment procurement. 2 warehouses (3,000 ㎡) belonging to MOC were constructed in the 1980s. Reclaiming and pavement for drying yard (2,25 ㎡),thresher (3), trucks (2), cleaner (1), generators (2).
Operation fund	300,000,000riels US$73,000.-	Truck rental fee, personal cost, fuel cost, repairing cost in descending order. Rental fee becomes expensive because of having no development of rental system, comparing to possession. Personal cost depends on personnel number. Fuel cost is mainly for trucks and generators. Generators require not only fuel, but also repairing cost, due to no supply of electricity.
Fertilizer procurement fund	22,000,000riels US$5,000	The time gap requires the funds because fertilizer dealers ask for cash payment before selling to farmers, while farmers require credit sale until harvesting time.
Paddy mortgage scheme fund	50,000,000riels US$12,200.-	Loan of the half amount of current paddy price with interest of 2% per month. Fewer borrowers because of risks of recent price fluctuation even though there is no experience of paddy mortgage scheme in Cambodia.
Paddy procurement fund	365,000,000riels US$89,000.-	Since the fund for paddy purchasing is the fund required by middlemen in the market (buyers), it is not directly concerned with the open paddy market. No mid-traders at the beginning. The number of mid-traders has gradually increased, but still not enough; this causes limitation of handling amount of paddy.

【Examination】

The financial planning for the fertilizer/seed distribution plans was difficult to make without possible materialization. Later, the fertilizer distribution was implemented and funds needed to be raised.

The fund for paddy mortgage scheme was expected to be large. At first, it was afraid to implement the scheme, as enough fund was not in sight. Fortunately, the pilot project was able to use the counterpart funds of KR-2. For general cases, the institutional finance that requires collateral, and public funds is to be used.

Fund for paddy transactions, the largest amount of all, can be separated from the other funds needed for the open paddy market as it is basically covered by the funds of buyers and sellers and the financing of financial institutions. However, the paddy market will not be able to operate as the paddy transactions cannot be carried out without a purchasing fund. The more the purchasing fund is available, the more the volume of paddy in the market might be increased.

In the plan of operation for the pilot project, the preliminary survey on farmers as sellers had been conducted. However, the preliminary survey focusing mid-traders as buyers in the market was not adequately done. This was because there were no mid-traders actually existing in the market. For future establishment of open paddy markets, to know the number of registered mid-traders in the market and available funds in advance will lead to the understanding of the transaction volume of paddy going through the market.

8.7 Review of balance

【Background】
The government support is usually provided to the operation of social enterprises. In the case of the open paddy market, the support for the initial investment might be provided; but, considering the present condition of Cambodia, it is extremely difficult to expect support for the operational costs. With regard to the operational cost, to keep the balance is a target. In other words, it is in a dilemma that the market cannot be sustained without being economically independent while service fees must be kept low in view of its public nature.

The financial balance of Svay Antor OPM during the implementation of the pilot project was in deficit in total. Generally speaking, business project will be forced to terminate in the case that balance falls down deficit and gets discontinuation of cash flow. However the pilot project did continue its operation under the situations of deficit due to the reservation of cash flow. It means the pilot project might have the opportunity to recover financial situations later. This was a big advantage for the pilot project, but at the same time made the operational habits of regardless of deficit.

Following major reasons can be listed.

- Service fees were set low in view of public interests.
- Poor efficiency leads to high costs.

- A set of equipment and materials including supplies was purchased, though for a short period. (Residual value still remains)
- Unprofitable various services were tested in the end. (Trial and errors come generally with experimental researches and the system development.)

【Analysis/Issues】

The balance of the pilot project is a collection of income from individual service and the costs of the service. Therefore, the balance of each service needs to be reviewed if the whole balance is to be checked.

According to the experience of the pilot project, the largest income earning but most costly items for the transportation service are the rental of trucks to collect paddy from farmers, the wages of workers and the fuel costs. If farmers take paddy to the market by themselves, or if paddy collectors take it to the market, the expenses will be reduced substantially but the income will drop too. Judging from the experience of the pilot project, it will not likely to happen. Cooperative shipment by a group of farmers is a possibility even if the shipment by an individual farmer is difficult. In that case, the area must be expanded to secure the volume.

At the initial investment, the location of the market in particular is important for the establishment of an open paddy market. Support from the government such as provision of government owned land is needed. In addition, the issue here is how to keep the balance in order to be economically independent in the operation.

【Examination】

Depreciation cost for initial investment is practically hard to be added to service charge because it increases marketing cost that makes paddy price less competitive. Labor fee on a superficial level is quite low, but low working-efficiency denies its advantage. Best mix of human power and machines must be investigated.

The balance of operational costs of the open paddy market itself was mentioned above. In relation to that, the balance of sellers and buyers who are the users of the open paddy market needs to be reviewed. The users are in a position to pay service fees. If they incur a loss by using the open paddy market, they will withdraw from the market. That is why their balance also needs to be considered. In other words, it means the loss for the open paddy market as the transaction volume declines.

(1) Balance of mid-traders in the market

To keep the balance of the open paddy market makes the market operation to be sustained. If a mid-traders who is a user of the market suffers a loss by the market operation, the mid-traders of buyer will leave the market. It means that the market cannot be sustained.

Cases of profit and loss for mid-traders in the pilot project are shown below (in the figure).

Table 8-3: Cases of profit and loss for mid-traders in the pilot project

Mid-trader A (profitable case)

Item	Sign/Formula	
Investment period:	**a**	**238**
Total weight of purchased paddy (ton):	**b**	**304.117**
Total amount of purchase (riel):	**c**	**154,436,253**
Total sum of product of invested amount and period (Riel - Day):	**d**	**10,534,555,000**
Investment rate per day (%/day):	**e [=c/d]**	**0.0147**
Cash burn rate (time):	**f [=ae]**	**3.49**
Profit in the period (riel):	**g**	**5,467,695**
Profit ratio converted for one year (%):	**h [=365(g/d)]**	**18.944%**
Profit/Loss ratio per month (%):	**i [=h/12]**	**1.579%**

Cash burn rate was not raised due to the request of the mid-trader.

Mid-trader B (unprofitable case)

Investment period:	**a**	**323**
Total weight of purchased paddy (ton):	**b**	**425.626**
Total amount of purchase (riel):	**c**	**234,658,097**
Total sum of product of invested amount and period (Riel - Day):	**d**	**19,482,973,803**
Investment rate per day (%/day):	**e [=c/d]**	**0.0120**
Cash burn rate (time):	**f [=ae]**	**4.02**
Profit in the period (riel):	**g**	**(1,104,855)**
Profit ratio converted for one year (%):	**h [=365(g/d)]**	**-2.070%**
Profit/Loss ratio per month (%):	**i [=h/12]**	**-0.172%**

At the beginning of the harvest of particular variety, high moisture paddy was purchased too much. Cash burn rate was not increased.

Total sum and average

Investment period:	**a**	**323**
Total weight of purchased paddy (ton):	**b**	**1,970.190**
Total amount of purchase (riel):	**c**	**1,051,236,819**
Total sum of product of invested amount and period (Riel - Day):	**d**	**66,313,289,727**
Investment rate per day (%/day):	**e [=c/d]**	**0.01585**
Cash burn rate (time):	**f [=ae]**	**5.12**
Profit in the period (riel):	**g**	**11,907,651.17**
Profit ratio converted for one year (%):	**h [=365(g/d)]**	**6.554%**
Profit/Loss ratio per month (%):	**i [=h/12]**	**0.546%**

The case resulted in gained profit as a whole and the annual yield is 6.55%. It can be said that it provides high yields than the interest (4 to 6% depending on the period) of time deposit of other banks, however not enough for risky investment. From this point of view mid-traders should be replaced by rice millers / traders as paddy buyers.

(2) Profitability analysis of each service

The profitability of the OPM (second phase) in Svay Antor is analyzed by each of the 6 services including depreciation.

(a) Estimate of annual income

Although the second phase covers 6 months from September 2005 to February 2006, the estimate of annual income has been done based on the operational plan in order to see the balance year by year. As shown in the following table, the basic service is classified into PMS and fertilizer sale. The multiples to convert the transaction volume or income of the second phase into the annual transaction volume or income were calculated by dividing the annual target by the target for a half year.

Table 8-4: Yearly handling amount/ conversion rate for income

Services	Unit	Sum in Sep-Feb	Annual target	Multiples
		a	b	b/a
Basic	ton	3,800	8,000	2.11
PMS	Riel	7,908,750	17,943,750	2.27
Fertilizer	month	5	12	2.40
Transporting	ton	8,300	13,950	1.68
Drying	ton	3,900	5,300	1.36
Cleaning	ton	2,160	2,830	1.31
Storing	Riel	4,575,000	15,750,000	3.44
Threshing	ton	1,740	1,915	1.10

The interest income of PMS and the commission of fertilizer sale are classified into the income of basic service and the transportation income of the fertilizer sale is classified into the income of fertilizer sale. As there was no any operational plan for the fertilizer sale, the conversion rate of 2.40 was calculated using the number of months of operation (5 months from October to February). As shown in the table below, the annual transaction volume or income was estimated by multiplying the transaction volume or income of the second phase by the conversion rate.

Table 8-5: Yearly handling amount or income estimation

Services	Unit	Result in Sep-Feb	Multiples	Annual amount
		c	d	c*d
Basic	ton	3,385	2.11	7,143
PMS	Riel	303,510	2.27	688,968
Fertilizer	sack	249	2.40	598
Transporting	ton	3,359	1.68	5,642
Drying	ton	1,674	1.36	2,276
Cleaning	ton	371	1.31	486
Storing	Riel	2,492,756	3.44	8,575,081
Threshing	ton	289	1.10	318

(b) Estimation of annual expenses

With regard to the expenses, required expenses to achieve the estimated annual transaction volume were calculated based on the activities carried out in the second phase. The expenses related to several services were classified into the followings based on the observation in the field. Each service in the table is abbreviated as follows.

Ba: Basic service, Tr: Transportation service, Dr: Drying service, Cl: Cleaning service,
St: Storage service, Th: Threshing service

Table 8-6: Rate for dividing common expenses

(%)	Ba	Tr	Dr	Cl	St	Th	Total
Building C	100						100
Building C-1					100		100
Building A-1		40		40		20	100
Medium generator	80		10	10			100
Small generator	80			20			100
Pickup rental	50	50					100
Forklift rental	20		40	20	20		100
Electric power Fee	90				10		100

Besides, as the electricity is supplied only after the evening, the electricity for the work during the day is supplied by power generators placed in the premises.

(c) Breakdown expenses

After classifying common expenses, the breakdown of expenses for each service is to be reviewed. All figures represent the annual expenses and the fixed costs are listed by dividing them by the service life. The service life was set longer to the maximum usable point of each machines and equipment considering the actual condition of usage. The conversion rate of dollar to riel is 4,070 riel per dollar (February 2006). The details of expenditure and income by the services are shown in the tables on the following pages.

Table 8-7: The details of expenditure and income by the services

1) Expenditure and Income of Basic Srervice Rate: 4,070 R/$

		Unit Price			Quantity			Amount	Life	Annual Cost/Benefit		
			Unit	Sources		Unit	Sources	R	years	R/year	$/year	%
Facilities	Land	3.3	$/sq.m	local constructor	1,525.0	sq.m	Building C (Office)	20,482,275	100	204,823	50.3	0.3
	Warehouse	12.8	$/sq.m	"	1,525.0	sq.m	"	79,446,400	40	1,986,160	488.0	2.8
	maintenance				5.0	%	supposition	3,972,320	40	99,308	24.4	0.1
	Floor	10,468.1	$/unit	actual cost	1.0	unit	Building C	42,605,167	50	852,103	209.4	1.2
	maintenance				5.0	%	supposition	2,130,258	50	42,605	10.5	0.1
	Electricity	3,019.9	$/unit	actual cost	1.0	unit	Building C	12,290,993	30	409,700	100.7	0.6
	maintenance				5.0	%	supposition	614,550	30	20,485	5.0	0.0
	Office Room	5,113.2	$/set	actual cost	1.0	set	actual quantity	20,810,724	40	520,268	127.8	0.7
	maintenance				5.0	%	supposition	1,040,536	40	26,013	6.4	0.0
Machines	Husker hopper	5,524.0	$/unit	actual cost	1.0	unit	actual quantity	22,482,680	10	2,248,268	552.4	3.2
	maintenance				5.0	%	supposition	1,124,134	10	112,413	27.6	0.2
	Milling machine	6,613.9	$/unit	actual cost	1.0	unit	actual quantity	26,918,573	10	2,691,857	661.4	3.8
	maintenance				5.0	%	supposition	1,345,929	10	134,593	33.1	0.2
	Rice grader	3,643.2	$/unit	actual cost	1.0	unit	actual quantity	14,827,824	10	1,482,782	364.3	2.1
	maintenance				5.0	%	supposition	741,391	10	74,139	18.2	0.1
	Medium generator (80%)	1,620.9	$/unit	2,026.1$/unit*80%	1.0	unit	actual quantity	6,596,982	7	942,426	231.6	1.3
	maintenance (80%)				5.0	%	supposition	329,849	7	47,121	11.6	0.1
	battery (80%)	37.6	$/unit	47$/unit*80%	1.0	unit	actual quantity	153,032	7	21,862	5.4	0.0
	fuel oil (80%)	2,400.0	R/lit	actual cost	2,384.6	lit	6.9hrs/day*1.2lit/hr*360days*80%	5,723,136	1	5,723,136	1,406.2	8.1
	Small generator (80%)	1,456.0	$/unit	1,820$/unit*80%	1.0	unit	actual quantity	5,925,920	5	1,185,184	291.2	1.7
	maintenance (80%)				5.0	%	supposition	296,296	5	59,259	14.6	0.1
	fuel oil (80%)	2,400.0	R/lit	actual cost	777.6	lit	3.0hrs/day*0.9lit/hr*360days*80%	1,866,240	1	1,866,240	458.5	2.6
	Pickup rental (50%)	210.0	$/month	420$/month*50%	12.0	months	actual quantity	10,256,400	1	10,256,400	2,520.0	14.5
	fuel oil (50%)	2,400.0	R/lit	actual cost	877.5	lit	9lit/day*195days*50%	2,106,000	1	2,106,000	517.4	3.0
	lubricant (50%)	5.0	$/month	10$/month*50%	12.0	months	actual quantity	244,200	1	244,200	60.0	0.3
	Forklift rental (20%)	160.0	$/month	800$/month*20%	12.0	months	"	7,814,400	1	7,814,400	1,920.0	11.1
	fuel oil (20%)	2,400.0	R/lit	actual cost	456.0	lit	190lit/month*12months*20%	1,094,400	1	1,094,400	268.9	1.6
	lubricant (20%)	2.0	$/month	10$/month*20%	12.0	months	actual quantity	97,680	1	97,680	24.0	0.1
	maintenance (20%)	10.0	$/month	50$/month*20%	12.0	months	"	488,400	1	488,400	120.0	0.7

2) Expenditure and Income of Transporting Srervice Rate: 4,070 R/$

		Unit Price			Quantity			Amount	Life	Annual Cost/Benefit		
			Unit	Sources		Unit	Sources	R	years	R/year	$/year	%
Facilities	Land	3.3	$/sq.m	local constructor	262.0	sq.m	Building A-1 (40%)	3,518,922	100	35,189	8.6	0.0
	Warehouse	12.8	$/sq.m	"	262.0	sq.m	"	13,649,152	40	341,229	83.8	0.3
	maintenance				5.0	%	supposition	682,458	40	17,061	4.2	0.0
Machines	5ton truck	13,250.0	$/unit	actual cost	1.0	unit	actual quantity	53,927,500	10	5,392,750	1,325.0	4.2
	fuel oil	2,400.0	R/lit	"	3,900.0	lit	20lit/day*195days	9,360,000	1	9,360,000	2,299.8	7.3
	lubricant	15.0	$/month	"	12.0	months	actual quantity	732,600	1	732,600	180.0	0.6
	maintenance	15.0	$/month	same as lubricant	12.0	months	"	732,600	1	732,600	180.0	0.6
	3ton truck rental	480.0	$/month	actual cost	12.0	months	"	23,443,200	1	23,443,200	5,760.0	18.2
	3ton truck rental	480.0	$/month	"	12.0	months	"	23,443,200	1	23,443,200	5,760.0	18.2
	2ton truck rental	370.0	$/month	"	12.0	months	"	18,070,800	1	18,070,800	4,440.0	14.0
	fuel oil	2,400.0	R/lit	"	2,340.0	lit	12lit/day*195days	5,616,000	1	5,616,000	1,379.9	4.4
	lubricant	12.0	$/month	"	12.0	months	actual quantity	586,080	1	586,080	144.0	0.5
	maintenance	12.0	$/month	same as lubricant	12.0	months	"	586,080	1	586,080	144.0	0.5
	Pickup rental (50%)	210.0	$/month	420$/month*50%	12.0	months	"	10,256,400	1	10,256,400	2,520.0	8.0
	fuel oil (50%)	2,400.0	R/lit	actual cost	877.5	lit	9lit/day*195days*50%	2,106,000	1	2,106,000	517.4	1.6
	lubricant (50%)	5.0	$/month	10$/month*50%	12.0	months	actual quantity	244,200	1	244,200	60.0	0.2
Equipment	Blue sheet	12.0	$/piece	actual cost	5.0	pieces	"	244,200	3	81,400	20.0	0.1
	Tool set	215.3	$/set	"	1.0	set	"	876,271	15	58,418	14.4	0.0
	200kg scale	360,000.0	R/unit	"	1.0	unit	"	360,000	1	360,000	88.5	0.3
	150kg scale	240,000.0	R/unit	"	1.0	unit	"	240,000	1	240,000	59.0	0.2
	100kg scale	120,000.0	R/unit	"	4.0	unit	"	480,000	1	480,000	117.9	0.4
	Moisture meter	391.2	$/unit	actual cost	5.0	units	"	7,960,920	7	1,137,274	279.4	0.9
	battery	0.2	$/piece	"	80.0	pieces	4pieces/unit/3months*5units*12months	65,120	1	65,120	16.0	0.1
	maintenance				5.0	%	supposition	398,046	7	56,864	14.0	0.0
Staff	Assistant manager	20,000.0	R/person/day	"	1.0	person	"	313	days/year	6,260,000	1,538.1	4.9
	Labor chief	10,000.0	R/person/day	"	1.0	person	"	360	days/year	3,600,000	884.5	2.8
	Driver	12,000.0	R/person/day	"	2.0	persons	"	195	days/year	4,680,000	1,149.9	3.6
	Loading/unloading	8,000.0	R/person/day	"	7.0	persons	"	195	days/year	10,920,000	2,683.0	8.5
Total of Expenditure										128,902,466	31,671.4	100.0
Service	Basic fee	3,500.0	R/ton	=3.5R/kg	5,642.3	ton	3,359ton*1.68(annual conversion)			19,748,064	4,852.1	36.2
	Distance fee	392.0	R/ton/km	=0.392R/kg/km	84,634.6	ton*km	5,642ton*15km(annual conversion)			33,176,748	8,151.5	60.7
Fertilizer	Basic fee				1,694,572.8	R/year	706,072R/5month*12months			1,694,573	416.4	3.1
Total of Income										54,619,384	13,420.0	100.0

3) Expenditure and Income of Drying Srervice Rate: 4,070 R/$

		Unit Price			Quantity			Amount	Life	Annual Cost/Benefit		
			Unit	Sources		Unit	Sources	R	years	R/year	$/year	%
Facilities	Land	3.3	$/sq.m	local constructor	2,275.0	sq.m	1,675+600	30,555,525	100	305,555	75.1	0.7
	Drying bed	16.1	$/sq.m	actual cost	2,275.0	sq.m	"	149,073,925	10	14,907,393	3,662.8	32.5
	maintenance				5.0	%	supposition	7,453,696	10	745,370	183.1	1.6
	Drainage system	2,755.0	$/unit	actual cost	1.0	unit	actual quantity	11,212,850	20	560,643	137.8	1.2
	maintenance				5.0	%	supposition	560,643	20	28,032	6.9	0.1
Machine	Forklift rental (40%)	320.0	$/month	800$/month*40%	12.0	months	actual quantity	15,628,800	1	15,628,800	3,840.0	34.1
	fuel oil (40%)	2,400.0	R/lit	actual cost	912.0	lit	190lit/month*12months*40%	2,188,800	1	2,188,800	537.8	4.8
	lubricant (40%)	4.0	$/month	10$/month*40%	12.0	months	actual quantity	195,360	1	195,360	48.0	0.4
	maintenance (40%)	20.0	$/month	50$/month*40%	12.0	months	"	976,800	1	976,800	240.0	2.1
	Medium generator (10%)	202.6	$/unit	2,026.1$/unit*10%	1.0	unit	actual quantity	824,623	7	117,803	28.9	0.3
	maintenance (10%)				5.0	%	supposition	41,231	7	5,890	1.4	0.0
	battery (10%)	4.7	$/unit	47$/unit*10%	1.0	unit	actual quantity	19,129	7	2,733	0.7	0.0
	fuel oil (10%)	2,400.0	R/lit	actual cost	298.1	lit	6.9hrs/day*1.2lit/hr*360days*10%	715,392	1	715,392	175.8	1.6
Equipment	4 wheel cart	58.3	$/unit	actual cost	4.0	units	"	949,124	10	94,912	23.3	0.2
	Silver bowl	25,000.0	R/piece	"	8.0	pieces	"	200,000	2	100,000	24.6	0.2
	Basket	13,000.0	R/piece	"	5.0	pieces	"	65,000	2	32,500	8.0	0.1
	Rake	16,000.0	R/piece	"	13.0	pieces	"	208,000	10	20,800	5.1	0.0
	Leveler	8,000.0	R/piece	"	8.0	pieces	"	64,000	3	21,333	5.2	0.0
	Shovel	10,000.0	R/piece	"	4.0	pieces	"	40,000	10	4,000	1.0	0.0
	2 wheel cart	29.2	$/unit	"	9.0	units	"	1,067,765	10	106,776	26.2	0.2
	1 wheel cart	29.2	$/unit	"	1.0	unit	"	118,641	10	11,864	2.9	0.0
	Blue sheet	48.0	$/piece	"	12.0	pieces	"	2,344,320	3	781,440	192.0	1.7
	Water filter	48.0	$/unit	"	1.0	unit	"	195,360	5	39,072	9.6	0.1
	Tool set	42.0	$/set	"	1.0	set	"	170,940	15	11,396	2.8	0.0
Staff	Assistant manager	20,000.0	R/person/day	"	1.0	person	"	313	days/year	6,260,000	1,538.1	13.7
	Drying	6,000.0	Riel/day/person	"	2.0	persons	"	163	days/year	1,951,179	479.4	4.3
Total of Expenditure										45,813,844	11,256.5	100.0
Service	Fee	6.0	Riel/kg	actual fee	2,276,376	kg/year	1,674ton*1.36(annual conversion)			13,658,256	3,355.8	100.0

4) Expenditure and Income of Cleaning Srervice Rate: 4,070 R/$

		Unit Price			Quantity			Amount	Life	Annual Cost/Benefit		
			Unit	Sources		Unit	Sources	R	years	R/year	$/year	%
Facilities	Land	3.3	$/sq.m	local constructor	262.0	sq.m	Building A-1 (40%)	3,518,922	100	35,189	8.6	0.2
	Warehouse	12.8	$/sq.m	"	262.0	sq.m	"	13,649,152	40	341,229	83.8	2.0
	maintenance				5.0	%	supposition	682,458	40	17,061	4.2	0.1
Machines	Cleaning machine	14,376.3	$/unit	actual cost	1.0	unit	actual quantity	58,511,541	15	3,900,769	958.4	23.4
	maintenance				5.0	%	supposition	2,925,577	15	195,038	47.9	1.2
	Sorting machine	300.0	$/unit	actual cost	3.0	unit	actual quantity	3,663,000	10	366,300	90.0	2.2
	maintenance				5.0	%	supposition	183,150	10	18,315	4.5	0.1
	Handy sewing machine	29.5	$/unit	actual cost	1.0	unit	actual quantity	120,065	10	12,007	3.0	0.1
	maintenance				5.0	%	supposition	6,003	10	600	0.1	0.0
	Forklift rental (20%)	160.0	$/month	800$/month*20%	12.0	months	"	7,814,400	1	7,814,400	1,920.0	46.9
	fuel oil (20%)	2,400.0	R/lit	actual cost	456.0	lit	190lit/month*12months*20%	1,094,400	1	1,094,400	268.9	6.6
	lubricant (20%)	2.0	$/month	10$/month*20%	12.0	months	actual quantity	97,680	1	97,680	24.0	0.6
	maintenance (20%)	10.0	$/month	50$/month*20%	12.0	months	"	488,400	1	488,400	120.0	2.9
	Medium generator (10%)	202.6	$/unit	2,026.1$/unit*10%	1.0	unit	actual quantity	824,623	7	117,803	28.9	0.7
	maintenance (10%)				5.0	%	supposition	41,231	7	5,890	1.4	0.0
	battery (10%)	4.7	$/unit	47$/unit*10%	1.0	unit	actual quantity	19,129	7	2,733	0.7	0.0
	fuel oil (10%)	2,400.0	R/lit	actual cost	298.1	lit	6.9hrs/day*1.2lit/hr*360days*10%	715,392	1	715,392	175.8	4.3
	Small generator (20%)	364.0	$/unit	1,820$/unit*20%	1.0	unit	actual quantity	1,481,480	5	296,296	72.8	1.8
	maintenance (20%)				5.0	%	supposition	74,074	5	14,815	3.6	0.1
	fuel oil (20%)	2,400.0	R/lit	actual cost	194.4	lit	3.0hrs/day*0.9lit/hr*360days*20%	466,560	1	466,560	114.6	2.8
Equipment	Tool set	14.9	$/set	"	1.0	set	actual quantity	60,643	15	4,043	1.0	0.0
Staff	Cleaning	6,000.0	Riel/day/person	actual cost	2.0	persons	"	54	days/year	647,716	159.1	3.9
					Total of Expenditure					16,652,637	4,091.6	100.0
Service	Fee	6.0	Riel/kg	actual fee	485,787	kg/year	371ton*1.31(annual conversion)			2,914,722	716.1	100.0

5) Expenditure and Income of Storing Srervice Rate: 4,070 R/$

		Unit Price			Quantity			Amount	Life	Annual Cost/Benefit		
			Unit	Sources		Unit	Sources	R	years	R/year	$/year	%
Facility	Land	3.3	R/sq.m	local constructor	1,535.0	sq.m	Building C-1	20,616,585	100	206,166	50.7	0.8
	Warehouse	12.8	R/sq.m	"	1,535.0	sq.m	"	79,967,360	40	1,999,184	491.2	7.3
	maintenance				10.0	%	supposition	7,996,736	40	199,918	49.1	0.7
	Floor	12,237.1	$/unit	actual cost	1.0	unit	Building C-1	49,804,997	50	996,100	244.7	3.6
	maintenance				10.0	%	supposition	4,980,500	50	99,610	24.5	0.4
	Electricity	2,845.7	$/unit	actual cost	1.0	unit	Building C-1	11,581,999	30	386,067	94.9	1.4
	maintenance				10.0	%	supposition	1,158,200	30	38,607	9.5	0.1
Machine	Forklift rental (20%)	160.0	$/month	800$/month*20%	12.0	months	"	7,814,400	1	7,814,400	1,920.0	28.6
	fuel oil (20%)	2,400.0	R/lit	actual cost	456.0	lit	190lit/month*12months*20%	1,094,400	1	1,094,400	268.9	4.0
	lubricant (20%)	2.0	$/month	10$/month*20%	12.0	months	actual quantity	97,680	1	97,680	24.0	0.4
	maintenance (20%)	10.0	$/month	50$/month*20%	12.0	months	"	488,400	1	488,400	120.0	1.8
Equipment	Round wood	9,200.0	$/unit	actual cost	1.0	unit	"	37,444,000	15	2,496,267	613.3	9.1
	maintenance				5.0	%	supposition	1,872,200	15	124,813	30.7	0.5
	waste oil	78,100.0	R/unit	actual cost	1.0	unit	actual quantity	78,100	5	15,620	3.8	0.1
	Tag for paddy sack	214,000.0	R/unit	"	1.0	unit	"	214,000	1	214,000	52.6	0.8
Electric power	Fee (10%)	5.7	$/month	57$/month*10%	12.0	months	"	278,388	1	278,388	68.4	1.0
Staff	Labor chief	10,000.0	R/person/day	actual cost	1.0	person	"	360	days/year	3,600,000	884.5	13.2
	Storing (women)	6,000.0	Riel/day/person	"	2.0	persons	"	360	days/year	4,320,000	1,061.4	15.8
	Watchman	8,000.0	R/person/day	"	1.0	person	"	360	days/year	2,880,000	707.6	10.5
					Total of Expenditure					27,349,619	6,719.8	100.0
Service	Fee				8,575,081	R/year	2,492,756R*3.44(annual conversion)			8,575,081	2,106.9	100.0

6) Expenditure and Income of Threshing Srervice Rate: 4,070 R/$

		Unit Price			Quantity			Amount	Life	Annual Cost/Benefit		
			Unit	Sources		Unit	Sources	R	years	R/year	$/year	%
Facilities	Land	3.3	$/sq.m	local constructor	131.0	sq.m	Building A-1 (20%)	1,759,461	100	17,595	4.3	0.3
	Warehouse	12.8	$/sq.m	"	131.0	sq.m	"	6,824,576	40	170,614	41.9	3.3
	maintenance				10.0	%	supposition	682,458	40	17,061	4.2	0.3
Machines	Thresher	1,100.0	$/unit	actual cost	4.0	unit	actual quantity	17,908,000	15	1,193,867	293.3	23.1
	maintenance				5.0	%	supposition	895,400	15	59,693	14.7	1.2
	fuel oil	2,400.0	R/lit	actual cost	398.0	lit/year	7.5lit/day*53days	955,203	1	955,203	234.7	18.5
	lubricant	1,800.0	R/lit	"	13.9	lit/year	3.5lit/100lit(fuel)	25,074	1	25,074	6.2	0.5
	Tiller	2,000.0	$/unit	"	1.0	unit	actual quantity	8,140,000	15	542,667	133.3	10.5
	maintenance				5.0	%	supposition	407,000	15	27,133	6.7	0.5
	fuel oil	2,400.0	R/lit	actual cost	238.8	lit/year	4.5lit/day*53days	573,122	1	573,122	140.8	11.1
	lubricant	1,800.0	R/lit	"	8.4	lit/year	3.5lit/100lit(fuel)	15,044	1	15,044	3.7	0.3
Equipment	Blue sheet	12.0	$/piece	"	3.0	pieces	actual quantity	146,520	3	48,840	12.0	0.9
	Container	10,000.0	Riel/unit	"	6.0	units	"	60,000	10	6,000	1.5	0.1
	Tool set	80.0	$/set	"	1.0	set	actual quantity	325,600	15	21,707	5.3	0.4
Staff	Threshing (operator)	8,000.0	Riel/day/person	"	2.0	persons	"	53	days/year	849,069	208.6	16.5
	Threshing (assistant)	6,000.0	Riel/day/person	"	2.0	persons	"	53	days/year	636,802	156.5	12.3
					Total of Expenditure					5,159,492	1,267.7	100.0
Service	Fee	15.0	Riel/kg	actual fee	318,401	kg/year	289ton*1.10(annual conversion)			4,776,015	1,173.5	100.0

1) Basic service

3) Drying service: The largest expense item is the rental of 2,520 dollars (15%[1]) for the pickup truck following by the rental of 1,920 dollars (11%) for the forklift. These rentals are classified into the basic service by the above-mentioned classification ratio of common expenses; and operational costs are not included (listed separately). For example, the pickup truck consumes 517 dollars (3%) for fuel and 60 dollars (0.3%) for lubricant per year to provide the basic service. These related expenses are classified into the basic service using the above-mentioned classification ratio of common expenses.

2) Transportation service

The largest expense item is the rental of 11,520 dollars (36%) for the 3 ton truck. The next is the rental of 4,440 dollars (14%) for the 2-ton truck. The item of personnel expenses includes the salary of assistant manager in the marketing section and wages of one foreman, two drivers and 7 male workers.

3) Drying service

The largest expense item is the rental of 3,840 dollars (34%) for the forklift and the next is the depreciation of 3,663 dollars (33%) for the drying field. The reason the depreciation of dying field is high is that its service life is short, i.e. only 10 years. The drying field was constructed for 2 years of the pilot project and its endurance is limited.

4) Cleaning service

The largest expense item is the rental of 1,920 dollars (47%) for the forklift and the depreciation of 958 dollars (23%) for the cleaning machine follows. The classification ratio of rental for the forklift to the cleaning service is 20%. It accounts for almost half of the total expenses as the cleaning service is relatively small in scale.

5) Storage service

The largest expense item is the rental of 1,920 dollars (29%) for the forklift and the next is the female worker wages of 1,061 dollars (16%). The OPM uses 2 storage houses to store paddy and the item of facilities includes the depreciation of C-1 building, one of the storage houses. The depreciation of another storage house (C building) is included in the basic service as it is used mainly for short-term (within one month) transactions.

6) Threshing service

The largest expense item is 293 dollars (23%) for the threshing machine and the next is diesel oil of 235 dollars (19%) for fuel. The price of diesel oil per litter is applied 2,400 riel[2] (0.56

[1] This figure is a percentage to the total annual expenses of 17,332 dollars.

[2] The price of commodities in the rural area feels to be 1/10 of the price in Japan, but the price of diesel oil and electricity is almost the same as in Japan.

dollars) per litter, which is the average unit price for 6 months of the second phase. The highest price was 2,883 riel (0.71 dollars) per litter marked in October and the lowest price was 2,250 riel (0.55 dollars) per litter recorded in January and February.

(d) Ratio and profitability of each service

The total income and total expenses of the whole OPM are listed in the following table. The transportation service accounts for 45% and the basic service accounts for 30% of the total income. Each service of cleaning, storage and threshing accounts for less than 10%. The ratio of expenses is almost similar to the one for the income.

The Benefit/Cost ratio is a standard indicator to express the profitability of project. To cover all costs by all benefits B/C ratio must be more than 1. The B/C ration for the whole OPM in the second phase was calculated at 0.41. The profitability of cleaning service in particular is low. This is because the rental of forklift and the depreciation of the cleaning machine, whose service life is 15 years, are high.

The threshing service shows relatively high profitability. It appears that this is attributable to the fact that the threshing fees are relatively high so to speak in order to respond to the low rate of operation due to the limited area and time of operation for a thresher in general. The thresher of the OPM is able to enhance its profitability by increasing the rate of operation as possible[3] around a wide area for users.

Table 8-8: Profitability of Each Service

	Service	Ba	Tr	Dr	Cl	St	Th	Total
Total Benefit	USD	8,986	13,420	3,356	716	2,107	1,173	29,758
	%	30.2	45.1	11.3	2.4	7.1	3.9	100.0
Total Cost	USD	17,332	31,671	11,256	4,092	6,720	1,268	72,339
	%	24.0	43.8	15.6	5.7	9.3	1.8	100.0
B/C		0.52	0.42	0.30	0.18	0.31	0.93	0.41

[3] One tiller is used to move the thresher to areas around the market. For distant places, the pickup truck is used tow it.

Chapter 9 Action Plan of Project on Establishment of Open Paddy Market

9.1 Purpose of the project

The purposes of the open paddy market development project are as follows:

1) To achieve equitable weighing and fair quality inspection test and to materialize fair pricing in the paddy transaction, and to disseminate market price information;
2) To increase the profit of paddy producers and dealers through the uniformity of paddy and the quality improvement by establishing the wholesale market for paddy transactions; and
3) To enhance the international competitiveness of rice export by facilitating streamlining of paddy distribution.

9.2 Outline of the project

(1) Management form

Potential market of the open paddy market (market scale)

There are two kinds of paddy movement in the present paddy distribution in Cambodia: paddy for domestic consumption moving from farmers to commercial rice mills and paddy for export moving from farmers to traders. The former moves mainly within the province where paddy was produced or in the range of neighboring provinces, while the latter moves beyond the border. Based on the annual production, domestic consumption and actual conditions of distribution, it is roughly estimated that paddy for self-consumption of farmers is 2 million tons; paddy for domestic consumption in the market is 1.5 million to 2 million tons; and paddy for export is 1 million to 2 million tons. The potential market of the open paddy market is, therefore, targeted at a maximum of about 2 million tons of paddy for domestic consumption and 2 million tons of export paddy. In addition, Exporting paddy will be able to be partly in brown rice.

Business model of an open paddy market

Chapter 8 investigated the business model of an open paddy market from the various aspects according to the implementation of pilot project. The investigation has clarified the following business model that is advantages for an open paddy market as the result.

- Open paddy market forms fair price that depends on quality inspection and quality improvement by uniformity, drying and cleaning.
- Open paddy market is able to keep evenhanded position to provide equitable weighing at any time as it is neither a seller nor a buyer.
- Open paddy market improves the traditional transaction habits that merely exchange paddy with cash, by providing written records (evidence) in a form of quality inspection, invoice, re-

ceipt and so on, describing date, production area, variety, weight and amount.

- Open paddy market differentiates paddy quality by supplying dry and clean paddy with uniformity. But price deference should be within the affordable range by stakeholders and markets.
- Open paddy market handles actual paddy that gives powerful advantage to buyers because buyers need to confirm actual paddy and quality for their transactions, as quality inspection skills and quality standards have not established yet so far. And open paddy market is capable to deliver paddy at once as all paddy exists in stock.

Function of the open paddy market

As the open paddy market conducts transactions of actual paddy in the premises between sellers and buyers, it is to be the function of loading, measuring, quality test and settlement. Also, in order to store paddy free from rain, the storage houses require facilities. Other various functions such as drying and cleaning are for the needs of the users. They can be optional functions in view of the open paddy market to assist the quality improvement of paddy. Even though paddy mortgage scheme and fertilizer supply service is the user's requirement achieved through the pilot project, a management of the OPM shall be formulated, focusing in around the basic functions.

Management body

The management body of an open paddy market can be classified into governmental or private or semi-official. How the management body is classified does not matter, however, if it can guarantee fair and equitable transactions. In the case of management body attributing territorial principle, e.g. a provincial chamber of commerce and a provincial rice millers association, it is important for the management body to select a target area along their will.

On the other hand, in order for the open paddy market to fulfill the mission as public facilities to guarantee fair and equitable transactions, it is not appropriate, considering the present conditions of Cambodia, that it is managed by a private commercial enterprise. Personal profits may be sought and the social good may be neglected. Furthermore, the direct involvement of a government agency in the management of the market is not realistic from a financial/human resource perspective. Also, it will not be accepted by the sentiments of the open paddy market users. This is attributable to the concern on the lack of transparency to the management by the government agency.

The management body of the open paddy market thus should be, under the present condition, NGO/NPO, cooperative or association as the Social Enterprise. The management body will be an independent management organization and the external audit by the disclosure of management information including accounting will be pursued. Monitoring the OPM management by outsiders should be brought forward.

Raising funds

Necessary funds for the OPM management are initial investment of facilities and equipment, and operating cost. The OPM as a wholesale market can be recognized as public utility. Compound/ building/ facilities of the OPM should be established by the public fund; however, it is difficult to achieve it in Cambodia. It also is difficult to realize it without support of external fund if the OPM management considers actively promoting the use of private fund.

Management cost should be managed to rise from service fee that the OPM provides with service(s) as compensation. The OPM should review local market price to set service fees (transportation/ loading/ unloading/ drying/ storing). On business activities, putout (outgoings) occurs earlier than income. The management body has to prepare a fund for operating the OPM. The fund of the main users of the OPM (rice millers/ traders) expects to be cooperated.

Comparison of the types of open paddy markets

Types of open paddy market are typified on the basis of position of distribution process, sellers and buyers as criteria. Intermediate type possesses the features of productive area type that handles paddies collected directly from farmers in the surrounding limited area due to geological conditions, in conjunction with wide-area type that handles paddy transported from other distance provinces. Paddies come to the intermediate type open paddy market mainly from other provinces in terms of volume. Table below shows the comparison of typified open paddy markets.

Table 9-1: Comparison of the types of open paddy markets

Item	Production area type	Intermediate type	Wide-area type
Beneficiary area	Surrounding limited area	Surrounding limited area and other easy-collection provinces	Almost of the country
Main sellers	Farmers	Collectors>farmers	Primary/secondary collectors
Main buyers	Rice millers>traders	Traders>rice millers	Traders>rice millers
Paddy to be handled	Paddy shipped by farmers in principle	Paddy mainly collected by collectors	Paddy currently delivered by collectors
Operation body	Chamber of commerce/ association/ NGO	Chamber of commerce/ association/ NGO	Chamber of commerce/ association
Main facilities	Warhouse(2,000-3,000m2)/drying yard(4,000-5,000m2)/cleaning equipment/truck-scale	Warhouse(2,000-3,000m2)/drying yard(4,000-5,000m2)/cleaning equipment/truck-scale/parking space	Warehouse(5,000m2)/drying yard(1ha) /cleaning equipment/ truck-scale/ parking space(0.5ha)/boat loading facility
Paddy handling amount	Expecting 10% of surplus in target area (10,000t/year)	Expecting 10% of current distribution amount (50,000t/year)	Expecting 10% of current distribution amount (100,000-200,000t/year)
Initial investment cost	$500,000-1,000,000, including land cost	$500,000-1,000,000, including land cost	$1,000,000-2,000,000, including land cost
Operation funds	$50,000-100,000, excluding paddy procurement cost by buyers	$50,000-100,000, excluding paddy procurement cost by buyers	$100,000-200,000, excluding paddy procurement cost by buyers
Staff: permanent casual labor	 3-5 10-20	 3-5 10-20	 5-10 40-50

Item	Production area type	Intermediate type	Wide-area type
Income/ expenditure plan	• Public funding for initial cost • Balance of income/expenditure	• Public funding for initial cost • Balance of income/expenditure	• Public funding for initial cost • Balance of income/expenditure
Expected impacts	• Fair/equitable trade in target area • Income increase by farmers • Promotion of quality improvement by farmers • Quality improvement for target paddy • Supply of uniform paddy to buyers	• Fair/equitable trade • Profit return to farmers • Quality improvement for target paddy • ・Supply of uniform paddy to buyers	• Fair/equitable trade • Profit return to farmers • Quality improvement/added value increase for large amount of paddy • Supply of uniform paddy to buyers • Enhancement of official export/ export competitiveness of paddy
Technical/managerial risks	• Uncertain of cooperative shipment by farmers group • Uncertain collection of necessary amount for paddy transaction • Lack of ownership by staff in public business/ low retention rate • Repetition of injustice and theft	• Quality regardless by collectors • Difficulty in differentiation with other open paddy markets by geographic reason • Lack of ownership by staff in public business/ low retention rate • Repetition of injustice and theft	• Uncertain participation by a large number of collectors/ rice millers/ traders • Lack of ownership by staff in public business/ low retention rate • Repetition of injustice and theft

(2) Plan of operation for each management model

Production area type

【Bakan, Pursat Province】

The northern part of Pursat Province is the production area where a large amount of paddy surplus is produced. Paddy had been exported from this area mainly to Thailand several years ago, but in recent years to Vietnam towards the direction of Takeo and Prey Veng with a large size truck (30 to 50 tons) by the secondary paddy collectors. Bakan has the geographical advantage for paddy export to the both markets in Thailand and Vietnam as just described.

The existing facilities constructed as rice bank in 2004 by the Rice Mill Association has an excellent access for transportation facing the National Road 5 (total area 20,000 m², warehouse 2,560 m², large-size drying yard). By only adding office and some equipment, it can be used as an open paddy market, which is rather economical. Therefore, it possibly requires $100,000 for additional facilities and $50,000-100,000 as operation funds.

It is possible that the management body will be Pursat Provincial Chamber of Commerce that some local rice millers becomes members; or another organization that can rent facilities from the association will be established jointly. However, if the association manages the market in a way to profit only its members, then it might shut out the participation of public users.

In any case, it is important to explore the reason why it was not functioned as rice bank. The truth should be revealed and the project plan needs to be reexamined. The reasons have raised so far the low finance repayment from farmers and a few users for drying/ storage services.

Under the circumstances where local primary paddy collectors are conducting business, there is an issue whether farmers take paddy to the open paddy market or collectors take paddy to the open paddy markets as if collectors presently take paddy to rice mills (actually, secondary paddy collectors). On the other hand, traders have a great merit that they can buy selectively what they want from a large amount of actual paddy and they can negotiate prices with more than one seller in the open paddy market. However the open paddy market may reduce by half its function if traders convey their purchase order by phone, and they check quality and weigh again while unloading paddy at the destination as they do nowadays.

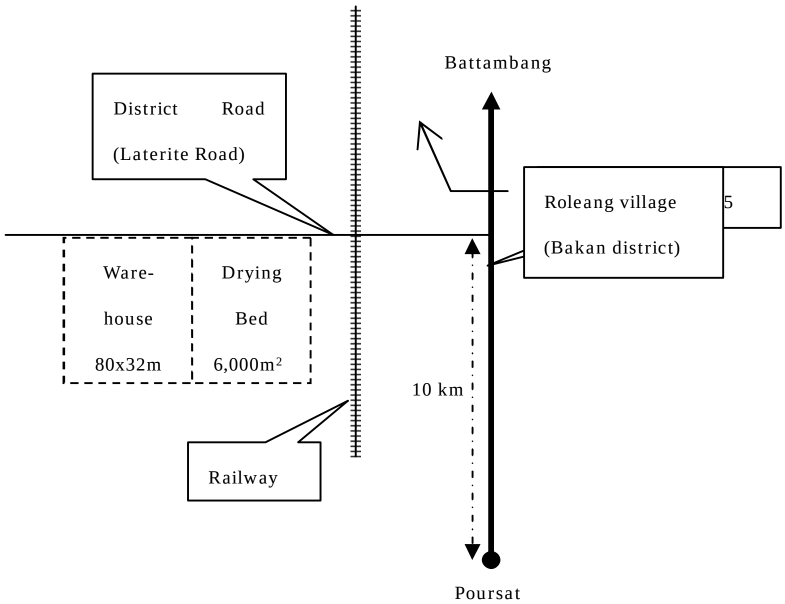

Fig9-1: Map of Bakan

【Svay Antor, Prey Veng province】

Here is a site which was performed the pilot project. The project continues in at the same place by NGO Svay Antor OPM. Conditions of site/ facilities/ equipment/ handling amount/ staff condition/ financial balance were mentioned in Chapter 5.

Svay Antor open paddy market needs the additional operation funds $20,000-30,000 in the days ahead for revolving paddy bag and fertilizer since the appraised value for operation was estimated around $25,000 at the termination of pilot project. After the termination of the pilot project the open paddy market has roughly balanced income and expenditures, not including depreciation cost for facilities, by eliminating rental truck and personnel reduction. In order to sustain the operation of Svay Antor open paddy market, it needs to take actions of reserving internal funds for renewal of equipment and expanding business volume, and application for “grass root grant”, and further to improve the operation by simplified office work, efficient paddy collection and prevention from injustice and thieves.

Svay Antor locates in the same province as Peam Ro/ Kampong Traback from where Vietnamese boats start on a voyage. Svay Antor open paddy market is required to enhance efficiency of loading and unloading because it is betwixt and between Svay Antor and Peam Ro/ Kampong Traback in order to compensate disadvantage of the location.

Intermediate type

【Ankor Borei, Takeo Province】

Takeo is the largest production area of rice like Prey Veng. Local rice mills are not thriving as the area borders with Vietnam and paddy is exported to Vietnam. Paddy to be exported to Vietnam is transported by truck from Phnom Den, the end of National Road 2, or transported by boat from Ankor Borei through the Pasak River. In both cases, there are no paddy transactions for the domestic market and the paddy transactions are specialized in the export to Vietnam. It is difficult to shift to other destinations. Paddy is mainly brought from other provinces by the secondary paddy collectors rather than collected by local paddy collectors. In case the bridge over the Mekong River is completed in the future, whether the paddy transportation trucks through the National Road 5 will be headed to Takeo or Prey Veng needs to be ascertained under almost the same transportation cost.

In Phnom Den the site for paddy transaction is located at the place, 2km from the boundary, inside of Vietnam; so there should be disadvantage of transaction negotiation to Cambodian side as once the paddy is brought across the border to Vietnam would hardly be returned to Cambodian side.

Ankor Borei is not easy accessible because of traveling about 40 km through unpaved rural road from National Road 2 There is an aging warehouse owned by MOC/PDOC (800 ㎡) and drying yard. However, they are not so big enough for using to house the OPM. Its extension possibility should be confirmed. Other necessary facilities are parking lot(s) for trucks, loading facility for boats, a truck scale and an office. Initial investment cost will be estimated around $500,000 though it depends on facilities/ scale, and operation funds will be minimum $100,000

The Takeo Chamber of Commerce has decided to take the initiative in establishing the open paddy market and to prepare the project plan in collaboration with MOC/DTD. The Chamber was established on April 24, 2006 and has 15 members.

Wide-area-type

【Peam Ro, Prey Veng Province】

The exit for Vietnam of Cambodian paddy is at Takeo, Kandal, Prey Veng and Svay Rieng. The largest amount of paddy goes to Vietnam from Prey Veng, where good river transportation facilities are. Prey Veng Province borders with Dong Thap Province of Vietnam. Dong Thap Province is the distribution base of rice going from the west (An Giang and other provinces) to the east (Hochi Minh) in Vietnam.

Agricultural products (soybean, maize, cassava, cashew nut and other products) are collected at Prey Veng from the direction of Siem Reap, Kampong Thom and Kampong Cham through the National Road 6 and 11. The route through the National Road 5 and 1 has to cross the Mekong River by ferry at the moment.

The potential site is better being the river side place where the National Road 1 and 11 are directly connected, and besides, where boat (100 ton capacity) can land throughout the year. Although traders set up the each loading place at the moment, there are no existing facilities which can be used for the open paddy market. The advantage of boat transportation is the fact that paddy transportation in Vietnam is done through developed canals. Even paddy was transported to the border by truck, it is transshipped to boat immediately after it reached Vietnamese. As just described the open paddy market at Peam Ro requires not only warehouse/ drying yard but also paddy loading facilities to boats. The initial investment cost is possibly estimated $1,000,000-2,000,000 including land procurement cost (4-5 ha).

Furthermore, it is important that the potential site is easy to gather for the sellers and buyers (Cambodian and Vietnamese traders) besides the transportation advantage. The transactions of paddy for the domestic market and paddy for Vietnam can be conducted at some distance into Cambodian territory not at the border. Measures need to be discussed to enable local residents to easily go in and out of the country by establishing the agreement among bordering local governments in both countries and the simple and easy export procedure for shipment.

It is estimated that hundreds of thousands of tons of paddy are shipped to Vietnam from Prey Veng in 2005/06. Also, dozens of rice mills in Prey Veng and Svay Rieng are purchasing paddy in order to supply milled rice mainly to the metropolitan area. The plan of operation will be prepared targeting these paddies.

Sellers are assumed to be paddy collectors in principle. Paddy is brought from the Prey Veng province and neighboring provinces by the primary paddy collectors and from distant provinces by the secondary paddy collectors. Buyers are Cambodian traders and rice millers in the open paddy market. Vietnamese traders might purchase paddy directly as a force to cut costs of distribution, which is usually working in transactions. In addition the wide-area type open paddy market at

Peam Ro is able to expect efficient operation by linking with cooperative shipment by farmers group at Kanchiriech and production type open paddy market at Svay Antor.

Peam Ro open paddy market operates on the premise that users will be dealers such as paddy collectors, rice millers, Cambodian traders and Vietnamese traders, who are handling currently distribution paddy in and around Peam Ro. It is important that distribution rationalization and quality improvement contribute to make profits for public and an individual dealer as well. PDOC/PDAFF/the provincial government needs to take initiative in order to develop consensus among the dealers.

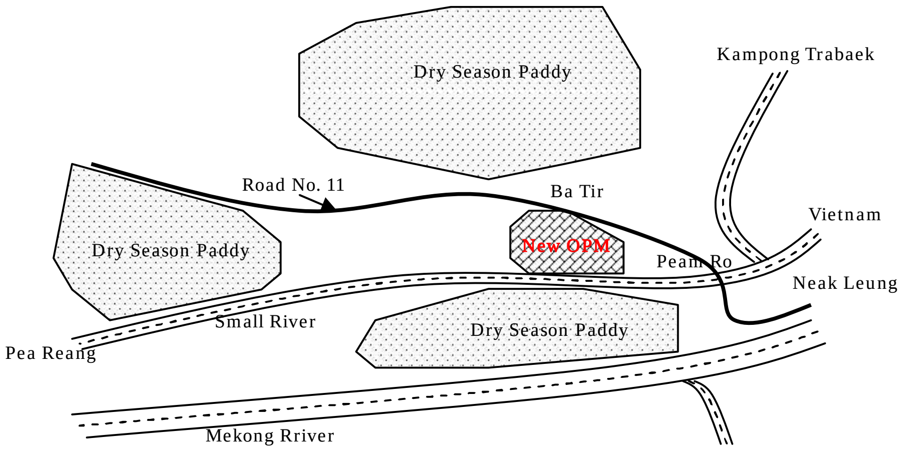

Fig9-2: Map of Peam Ro

【Poipet, Banteay Meanchey province】

Poipet is located at the west side of Banteay Meanchey province waiting in the wings of production area, Banteay Meanchey, Siem Reap, Battambang. There is an important international gate to Thailand at the end of national road No.5, along which many people and goods move. At the moment, paddy is unofficially exported not through the gate but through side-roads few score kilometers distant from the gate. Thai buyers nowadays demands to purchase brown rice other than paddy. In the case of paddy transaction, the sellers are collectors located at the neighboring provinces, and the buyers are Thai rice millers/ traders. In case of brown rice transaction, the sellers are rice millers located at the neighboring provinces, and the buyers are Thai rice millers/ traders. In addition Ministry of Commerce of the government of Thailand is hoping that import of paddy and milled rice as the items of agricultural products, on the occasion of recent trade conference with Ministry of Commerce of the government of Cambodia.

There is a large-sized wholesale market vision, Wholesale and Export Marketplace including Agricultural Marketplace, which the Ministries of Commerce of the Governments of Cambodia and Thailand are planning. They have finished the basic study for them. According to the report of the basic study, compound area is to be 82.6 ha with the related facilities, warehouses, silos, processing factories. Rice is one of the main target commodities. Its action plan was suggested by BOT (Built-Operate-Transfer) method. Some private developers have purchased the land and partly established infrastructure for it. As it is the projects of MOC, a new OPM should be integrated into the project. The chamber of commerce in Banteay Meanchey is interested in having an OPM be its management body. However, swings and roundabouts to proceed with it are supposed to happen due to the big projects by BOT method, remaining in balance for a certain time.

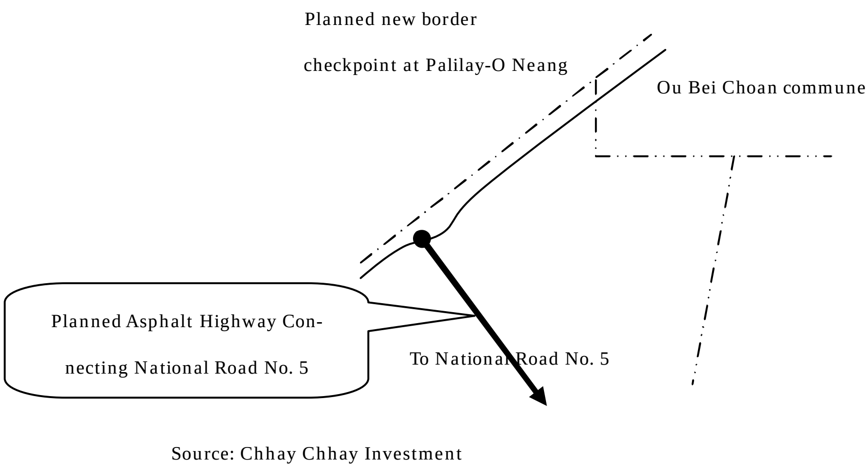

Fig9-3: Map of Poipet

The list of nominal open paddy markets by type

On OPMs by type, the list showing site condition/ targeted handling amount of paddy/ necessary functions/ plan of financial management/ management body/ plan of fund for five nominal sites of the OPM is attached to the end of this chapter.

9.3 Plan of operation

(1) Operation-support system

<u>Government agencies</u>

In order to implement the open paddy market development plan as a wholesale market in Cambodia, the wide range of support in the policy, finance, technology and other fields is required. MOC issued a PRAKAS (the notification of the Minister) concerning the open paddy market in March 2006, and DTD/PDOC are supposed to promote the expansion of the open paddy market. PDOC of the open paddy market planned area is supposed to organize seminars/workshops and to conduct an enlightening campaign for users.

With regard to the functions of the open paddy market, as the operation of Svay Antor OPM, which succeeded in the pilot project, has been continued, specific instructions on the operation can be received from the staff of the market.

MAFF is requested to promote cooperation shipment for paddy by farmers' group/ agricultural cooperative, as one of countermeasures to increase the handling amount of open paddy markets especially in the planned area of open paddy markets. This relates to decrease unfair and inequity transaction on paddy and improves quality by exploring bargain power of farmers themselves. In addition it is advisable to promote group purchase for fertilizer and quality seed from the point of view of developing farmers group and agricultural cooperative.

Local support of the market location (Chamber of Commerce, Rice Millers Associations)

The open paddy market is expected to be the core of the regional economic development. A leader in the area of establishment is, therefore, essential to promote the implementation. However, the open paddy market, which is a new concept for Cambodia, is yet to be rooted. To create a new open paddy market, support is needed.

Donor countries

MOC has planned the development of open paddy market in the 6 major production areas in the plan for 2006 - 10 and requested 3 million dollars to ITC for the financial and technical assistance. Also, MOC is requesting donor countries for technical assistance on the support to create the project of the open paddy market, the management after the establishment and distribution/quality fields.

(2) Implementation process

Time and order of implementation

The life span of an open paddy market for creating the environment of fair and equitable transaction could be limited around 30 years based on the experience in Thailand. The development of socio-economy caused the improvement of fair rule/public order and morals as de facto standard.

As mentioned already, the open paddy market is susceptible to the influence of business environment. Although to make predictions is necessary, the swift implementation and to adapt to changes are called for as the market conditions under the market economy change by various factors. The price of paddy in 2000 was almost half of the present price (2006) and paddy excluding for domestic consumption was unofficially exported mainly to Thailand. However, 6 years later, the price of paddy soared and the major export destination is Vietnam. The steady increasing trend of rice production of the country and the rice exporting ability of Vietnam seem to be continued for a while. In other words, the implementation of the plan is preferably to be completed until around 2010 as the plan MOC makes.

It is estimated that OPM that will be funded in five years is only a few, considering financial situation of the Cambodian Government and the structure of policy-implementation.

Accordingly, establishment of OPM should be started from area that has high demand for OPM, and synergy between wide-area and - production-area type should be worked. Therefore, a few OPM of production-area type, which can ship to OPM of wide-area type, should be established in accordance with the establishment of the wide- area type in the distributional foothold.

This cooperation between the marketplaces is not a network, which covers a local area with a plan, but a chain, which links the production and marketing footholds with a line. Therefore, an important criterion in the selection of places is distributional routes that link the production area to a distributional foothold. The distributional chain in the first stage can be established with existing main (national) roads and main rivers.

Planning and discussion of the plan of implementation

The process of the establishment of individual open paddy market development preparation committee with a focus on each local chamber of commerce, the preparation of the plan of operation and the government approval can be considered. A preparatory committee can be the base of management body once implemented. The plan of operation will be prepared mainly by the preparation committee, and the technical assistance is required in this stage. And the draft plan of operation will be discussed at the Board of Directors of DTD for the plan on Establishment of the OPM, and then it will proceed to the implementation once approved.

Implementation procedures for each establishment plan

Implementation procedures to be tackled in the days ahead for each establishment plan are mentioned below.

【Poipet, Banteay Mean Chey province】

- Banteay Mean Chey PDOC creates Open Paddy Market Establishment Committee (3-5 members) in the cooperation with provincial chamber of commerce.
- Committee examines the study report on Project of Wholesale Market in Cambodia/ Thai, and prepares the report that is submitted to MOC/ DTD.
- MOC/DTD examines the report, and incorporates the proposals into open paddy market project.
- Committee studies on the feasibility of production area type open paddy market at Mongkol Borei.

【Bakan, Pursat province】

- Pursat PDOC organizes Open Paddy Market Establishment Committee (3-5 members) under combined effort with provincial chamber of commerce.
- Committee studies on the result of Rice Bank activities and evaluates it.
- Committee prepares the detailed renewing plan for open paddy market, and submits it to MOC/DTD.

- MOC/DTD examines the detailed plan under stipulations of PRAKAS.

【Angkor Borei, Takeo province】
- Takeo PDOC organizes Open Paddy Market Establishment Committee (3-5 members) in the cooperation with provincial chamber of commerce.
- Committee studies on the feasibility including alternative sites, and prepares the report for submitting to MOC/DTD.
- MOC/DTD examines the report, and incorporates the proposals into open paddy market project.

【Peam Ro, Prey Veng province】
- Prey Veng PDOC organizes Batir/Peam Ro Open Paddy Market Establishment Committee (3-5 members).
- The Committee is consisted of members from paddy traders, rice millers, PDOC, PDAFF and the provincial office.
- The Committee holds study session, and prepares detailed plan for submitting to MOC/DTD.
- MOC/DTD examines on the detailed plan under stipulations of PRAKAS

【Svay Antor, Prey Veng province】
- Responsible personnel in management need to increase the amount of funds in order to expand the transaction volume (fertilizer funds, mid-trader funds).
- Responsible personnel need to recruit competent staff for the stable development in operation to enhance the organization.
- Responsible personnel applies for “Grass Root Grant” for replenishing facilities and equipment.

(3) Financial plan

In order to maintain financial independence of the project, funds are from the private capital in principle. In other words, if the management body can not find necessary funds, then it can not play the role of management body. If the balance of operation can not be expected, then it can not start the implementation of the project. Keeping that in mind, whether a part of funds can depend, as a social enterprise, on the public funds or the support from donors can be considered. The management body needs to prepare the financial plan including that consideration. With regard to the operational funds, the investment from the members of operation body or low interest loan from financial institutions will be studied.

(4) Example of Action Plan (Transporting Service)

An example of action plan for the transporting service is proposed. Transporting service is one of the biggest services in the OPM. This plan based on the actual result of the Pilot Project is assumed to collect 5,600 tons per year.

Transporting vehicles and related facilities and equipment

A new 5-ton truck and a used 2-ton truck are purchased and a 2-ton truck is borrowed. Original investment should be planned in accordance with the raising condition of funds though the purchase of new trucks is advantageous since they are basic machines. Although the cost is small, tools and places are necessary for the maintenance. A part of the warehouse is applied for the maintenance place in this example plan.

Other materials

A stand-scale, a moisture meter and blue sheets, which protect paddy, are necessary for each truck.

Work force

Drivers of the trucks will carry paddy sacks. Three male laborers and two male laborers are assigned for the 5-ton-truck and the 2-ton truck, respectively.

Table 9-2: Transporting plan

	Collecting & Deliver			Laborers			Ton/	Distance		Fuel	
							person	unit	per day	efficiency	quantity
	ton/time	times/day	ton/day	Driver	Stevedore	Sum	/day	km/time	km/day	km/lit	lit/day
5ton truck	5.0	4	20.0	1	3	4	5.0	30.0	120.0	5.4	22.2
2ton truck rental	2.0	4	8.0	1	2	3	2.7	30.0	120.0	9.0	13.3
2ton truck (used)	2.0	4	8.0	1	2	3	2.7	30.0	120.0	9.0	13.3
Total / Average	3.0	12	36.0	3	7	10	3.6	30.0	360.0	7.4	48.8

Every truck trips four times a day for collection or delivery. The average distance of the transport is assumed 15 km per one way. The staff has to consider increasing the trip times a day, decreasing the number of the laborers, and extending the mileage in order to improve the profitability. Regarding the trip times, the trip of four times a day at an average is considered though it is possible to increase in a short term. Regarding the mileage, the target is set as 80 percent high as the actual result in the Pilot Project because much improvement can be expected through avoiding getting stuck and useless run.

Financial plan

Original investment is 88,236 thousand Riel (22 thousand US dollars). The investment excluding the land and the warehouse is 71,068 thousand Riel (17 thousand US dollars). The annual income is 54,619 thousand Riel (13 thousand US dollars). Although the annual expenditure with depreciation expenses including the land and the warehouse is 64,043 thousand Riel (16 thousand US dollars) (B/C = 0.85), the expenditure without depreciation expenses is 54,839 thousand Riel (B/C = 1.00). Accordingly, self-supporting operation of the service is possible for the moment.

Table 9-3: Financial Balance of the Example of Transporting Service

Transporting								Rate:	4,070	R/$	Annual Expend./Income		
			Unit Price			Quantity			Amount	Life			
				Unit	Sources		Unit	Sources	R	years	R/year	$/year	%
Expend.	Facilities	Land	3.3	$/sq.m	local constructor	262.0	sq.m	Building A-1 (40%)	3,518,922	100	35,189	9	0.1
		Warehouse	12.8	$/sq.m	"	262.0	sq.m	"	13,649,152	40	341,229	84	0.5
		maintenance				5.0	%	supposition	682,458	40	17,061	4	0.0
	Machines	5ton truck	13,250.0	$/unit	actual cost	1.0	unit	actual quantity	53,927,500	10	5,392,750	1,325	8.4
		fuel oil	2,400.0	R/lit	"	3,485.4	lit	22.2lit/day*157days	8,364,960	1	8,364,960	2,055	13.1
		lubricant	12.0	$/month	"	12.0	months	actual quantity	586,080	1	586,080	144	0.9
		maintenance	12.0	$/month	same as lubricant	12.0	months	"	586,080	1	586,080	144	0.9
		2ton truck rental	370.0	$/month	actual cost	12.0	months	"	18,070,800	1	18,070,800	4,440	28.2
		fuel oil	2,400.0	R/lit	"	2,088.1	lit	13.3lit/day*157days	5,011,440	1	5,011,440	1,231	7.8
		lubricant	10.0	$/month	"	12.0	months	actual quantity	488,400	1	488,400	120	0.8
		maintenance	10.0	$/month	same as lubricant	12.0	months	"	488,400	1	488,400	120	0.8
		2ton truck (used)	2,600.0	$/unit	actual cost	1.0	units	"	10,582,000	4	2,645,500	650	4.1
		fuel oil	2,400.0	R/lit	"	2,088.1	lit	13.3lit/day*157days	5,011,440	1	5,011,440	1,231	7.8
		lubricant	10.0	$/month	"	12.0	months	actual quantity	488,400	1	488,400	120	0.8
		maintenance	10.0	$/month	same as lubricant	12.0	months	"	488,400	1	488,400	120	0.8
	Equipment	Blue sheet	12.0	$/piece	actual cost	3.0	pieces	"	146,520	3	48,840	12	0.1
		Tool set	215.3	$/set	"	1.0	set	"	876,271	15	58,418	14	0.1
		200kg scale	360,000.0	R/unit	"	1.0	unit	"	360,000	1	360,000	88	0.6
		150kg scale	240,000.0	R/unit	"	1.0	unit	"	240,000	1	240,000	59	0.4
		100kg scale	120,000.0	R/unit	"	1.0	unit	"	120,000	1	120,000	29	0.2
		Moisture meter	391.2	$/unit	"	3.0	units	"	4,776,552	7	682,365	168	1.1
		battery	0.2	$/piece	"	48.0	pieces	4pieces/unit/3months*3units*12months	39,072	1	39,072	10	0.1
		maintenance				5.0	%	supposition	238,828	7	34,118	8	0.1
	Staff	Driver	12,000.0	R/person/day	actual cost	3.0	persons	plan	157	days/year	5,652,000	1,389	8.8
		Loading/unloading	8,000.0	R/person/day	"	7.0	persons	"	157	days/year	8,792,000	2,160	13.7
Total with Depreciation											64,042,942	15,735	100.0
Total without Depreciation											54,838,652	13,474	
Income	Service	Basic fee	3,500.0	R/ton	=3.5R/kg	5,642.3	ton	3,359ton*1.68(annual conversion)			19,748,064	4,852	36.2
		Distance fee	392.0	R/ton/km	=0.392R/kg/km	84,634.6	ton*km	5,642ton*15km(supposition)			33,176,748	8,152	60.7
	Fertilizer	Basic fee				1,694,572.8	R/year	706,072R/5month*12months			1,694,573	416	3.1
Total											54,619,384	13,420	100.0
B/C with Depreciation												0.85	
B/C without Depreciation												1.00	
												: Depreciation	

Table9-4: List of nominal open paddy markets by type

Place-name/ Type	Location	Annual Transaction Volume	Major Functions	Size of Facilities	Major Equipment	Balance Plan	Management Body	Financial Plan
Poi Pet (Banteay Mean Chey)/ wide area	Near the international gate of National Road 5, Near to the production area such as Banteay Mean Chey, Siem Reap and Battambang. There is a project of Wholesale and Marketplace for agricultural products.	Paddy 50-100 thousand tons, Brown rice 100-200 thousand tons	Business promotion, weighing/loading (truck unloading /loading)/ drying/cleaning/storage/ husking/quality test, Settlement, information provision	Planned site 81.35ha, warehouse/silo, parking lot	Truck scale, loader/forklift, drying/cleaning/husking facilities, quality test equipment	FIRR11-16%、 ROE 24-34% (Ref. the report)	PFI/BOT (Thai business enterprise and other countries)	PFI/BOT (low interest loan of foreign funds)
Bakan (Pursat)/production area	Along the National Road 5, center of the production area.	Paddy 10-20 thousand tons	Business promotion, paddy collection/ weighing/loading (truck unloading/loading)/drying/cleaning/ storage/quality test, settlement/information provision	Existing site 2ha, storage house 80x32m,drying field 0.6ha	Truck, truck scale, loader/forklift, cleaning facilities, quality test equipment	Business balance (excluding depreciation) will be proportionate from the beginning	Pursat chamber of commerce/ rice millers association	Operation by own funds (technical assistance is requested)
Ankor Borei (Takeo)/ intermediate	River port of branch river of the Pasak River, surrounded by the production area, paddy from the northwest part/the central part gathers, there are small-scale existing facilities.	Paddy 50 thousand tons	Business promotion, weighing/loading (truck unloading/boat loading)/ drying/cleaning, quality test, settlement/information provision	Minimum 1 ha required	Truck scale, forklift, loading facilities for bagged and bulk paddy, cleaning facilities, quality test equipment	Business balance (excluding depreciation) is in red at the beginning and later it is balanced	Takeo chamber of commerce/ rice millers association	Initial investment is covered by outside support and own funds. Operated by own funds.
Peam Ro (Prey Veng)/ wide-area	River port of the main and branch river of the Mekong River, paddy gathers from nationwide through paddy collectors and is exported mainly by boat by Cambodian/ Vietnamese traders	Paddy 100-200 thousand tons, Brown rice 10-20 thousand tons	Business promotion, weighing/loading (truck unloading, loading and boat loading)/ drying/cleaning/quality test, settlement/information provision	Planned site 4-5ha, storage house 5,000m², drying field 1ha, parking lot 0.5ha	Truck scale, loader/ forklift, drying/ cleaning/ husking mach., loading facilities for bagged and bulk paddy, quality test equipment	Business balance (excluding depreciation) may be positive from the beginning	BOT (business enterprise of Vietnam and other countries)	BOT (low interest loan of foreign funds)
Svay Antor (Prey Veng)/production area	Center of the production area, site of the pilot project	Paddy 5-10 thousand tons	Business promotion, paddy collection/ weighing/ loading (truck unloading and loading)/drying/ cleaning/ storage/ quality test, settlement/ information provision	Existing site, existing storage house 3,200m², drying field 1,800m²	Truck, truck scale, forklift, cleaning facilities, quality test equipment	It expects to be balanced from the red	NGO Savy Antor OPM	MOC/ JICA covers initial investment. Started with only partial operation funds.

Chapter 10 Evaluation on Plan of Establishment of Open Paddy Market

10.1 Relevance

For evaluation of project relevance, we will examine whether the project is appropriate from the viewpoint of needs, priority, and properness of measures.

It was confirmed through the pilot project that the OPM matches the needs of the target group (producers, rice millers/middlemen). Considering that nearly 70% of the rice production is in the market[1], fair paddy transactions can be said as the needs of the whole Cambodian society.

To increase the income of paddy sale is a national goal directly linked to the poverty alleviation. In order to achieve this goal, improvement of product distribution is an essential issue in addition to that of the issue on rice cultivation including post-harvest treatment. The MOC considers this plan as important and is eager to operate the Svay Antor OPM after completion of the pilot project.

As similar studies, such as the value chain project funded by Aus AID, have been conducted with support of donor countries upon the request from the Cambodian government, technical assistance from donor countries is expected in implementation of this development plan. Besides, the transaction target and project size of the OPM can be adjusted to the actual condition of the area, and the local staff can fully utilize its operation/management techniques.

10.2 Effectiveness

For evaluation of project effectiveness, we will examine whether the project purpose is clear, how and to which extent the project will be achieved and how (what) its external factors will be.

It was confirmed through the implementation of the pilot project that if the activities result in success, the objectives can be immediately achieved. There is a clear-relation between immediate achievement of the objectives and satisfying outputs . The problem is, however, whether the project can keep its balance of revenue with expense. Under present circumstances, the OPM must be financially free-standing but in the pilot project, there was pointed out that it could be only able to balance its budget. When an individual financial plan is prepared, its feasibility must be sufficiently high, reflecting on the results of the pilot project.

Another issue is to secure funds for the initial investment. Even if land and storage houses can be offered for

[1] According to the baseline survey of the pilot project, in the annual paddy production of 5.3 tons/household, 2.6 tons (49%) are sold, 1.8 tons (34%) are used for self-consumption and 0.9 tons (17%) for the payment of production materials.

free as the case of the Svay Antor OPM, repair of facilities, purchase of project equipment and operation funds are still required. While this issue, as that of the balance of revenue with expense, can be reviewed quite realistically through the results of the pilot project, we could still face difficulty with manage this, considering the financial situations of the Cambodian government. To put it the other way around, if the Cambodian side can secure the funds for the initial investment including the donor support, implementation of the development plan can be started in the part where funds are secured.

As external factors, fall in the paddy price and steep rise of the diesel oil price are of particular concern. In the case that the demand in the domestic market declines and the price of paddy falls significantly, decreases in income of producers and dealers will be unavoidable. At the moment, the Cambodian side follows the purchase conditions of the Vietnamese and Thai sides and consequent fluctuations of domestic demand might severely affect the country. It is expected that the development of the OPM will progress and the shipment adjustment function will have an effect on market stabilization in the future. Until then, the protection policy of the Cambodian government is necessary at the situation of drastic decline in the paddy price.

In the case that the price of diesel oil rises due to the soaring oil price, the local-level paddy distribution which has low transportation efficiency will berestricted; and it is expected that the distribution may be concentrated on the main routes that have high efficiency. In this case, it is hard to expect the measures of the government as the soaring oil price will affect every activity; and the production-area-type OPM in particular is likely to face drastic decline in transaction volume.

10.3 Efficiency

For evaluation of project efficiency, we will examine whether the project can produce results corresponding to inputs to it and how the project will be promoted.

The outputs of the pilot projectwere well worth the inputs as far as the whole area is concerned. However, in order that the OPMmay be able to achieve financially self-standing, further enhancement of the efficiency is required. As the limit of its productivity was pointed out in the pilot project, it is proposed in the development plan to start the development activity in a wide-area-type OPM that can fully utilize the existing paddy flow.

The reason of the low productivity of the pilot project is because it was only at the "first-step" stage. If the activities proceed further, then substantial improvement can be expected. As the price goes down drastically with increasing advantage of the scale when new products are penetrating into the market, popularization of the OPM and improvement of the project productivity are interrelated. If the OPM is popularized while the initial investment is still sufficient, it can survive in the market. The difficulty of implementing the development planis that this period is quite short.

Therefore, operation of the OPM which can easily penetrate into the market should be started first in the whole plan, and it is important that its enlightening effects are fully utilized for the success of the other OPM. Cost-cutting to the limit is necessary in the individual plan. There are two points to be reminded: 1) to narrow activities to the minimum required; 2) to promptly respond to seasonal changes.

10.4 Impact

For evaluation of project impact, we will examine long-term and far-reaching effects from the viewpoint of policy, economy, system, technology, and society.

As the paddy distribution is a main distribution in Cambodia, improvement of paddy distribution through the OPM might directly affect other business transactions. It can be applied to the distribution of other grains and products and processed goods of agriculture, forestry and fisheries.

The present paddy distribution is done from domestic producers to the border only through private business transactions in principle. Expansion of its scale has already passed the stage where paddy distribution control with the policy and deliberate efforts are required.Considering that rice is the main product of Cambodian people, that it is their staple food, and the response of neighboring countries, improvement of paddy distribution using the OPM is one of the most important issues of the nation concerning safety assurance of citizens' .

As long as "cheating-each-other" transactions currently conducted between farmers and paddy collectors continue, it is impossible for them to build up trustful relations each other and it is clear that they will be left behind considerably by the global market. What is necessary now is to show concretely how the distribution should be and that it can be managed only through good administration.

10.5 Sustainability

For evaluation of project sustainability, we will examine whether the project can sustain and expand its activities from the viewpoint of policy, economy, organization, technology, and society.

For operation of the OPM, creation of an independent organization and well-balanced budget are prerequisite. If these conditions are cleared, then possibility of continuing the operation will be relatively high. This is because that the operation of the OPM is conducted as business for not only paddy transactions but also securing of staff and all other activities. Here, we see the difficulty of business lying and its necessity existing.

In the pilot project, activities to improve paddy quality were carried out as the centerpiece for improving the whole paddy distribution. Although even in existing circumstances, many farmers recognize the importance of quality improvement for income increases, this has hardly led to concrete activities for that. It was proved through the pilot project that this is not because of a technical reason but whether the market of high-quality articles exists or not. Under the situation that well-dried paddy can be sold with higher riels than usual, farmers will dry paddy if they consider such riels worth the work. The OPM can change the negative activity that discounts poor-quality paddy into the positive one that gives higher prices to better-quality paddy.

In order to improve the farmers' income through paddy sale, enhancement of the productivity is considered as the best way but this requires long-term efforts. On the other hand, improvement of paddy distribution can be done in short and medium terms as it is a measure based on the present production. Although the development plan proposes an approach from the downstream of paddy distribution, the OPM activities can make an impact on the upstream of the distribution.

Chapter 11 Conclusions and Recommendations

11.1 Conclusions

Cambodia had achieved the self-sufficiency of rice in 1995, and since then, it has produced more than 1 million tons (paddy base) of surplus every year. The surplus is exported to Thailand and Vietnam where the export competitiveness in the international market is increasing substantially in recent years. For Cambodia, the paddy export means achieving the goal of the expansion of agricultural production, export promotion and poverty alleviation in the national development plan.

On the other hand, the traditional domestic market of rice has not been changed substantially remaining unchanged as a whole although there is a shift towards better taste of rice as a result of the improvement of diet in general. In these circumstances, receiving the impact of aforementioned paddy export to neighboring countries, some already over-populated rice millers have turned themselves into paddy traders

Under such circumstances, the distribution policy of the government has been liberalized completely under the market economy policy. However, the disorderly business has been spreading under the immature social economic system. A large amount of paddy export is an unofficial export without the official export procedure, and the export volume is unable to grasp. Even the domestic supply and demand of paddy could not be understood precisely. Besides, it remains being low value-added paddy as the raw materials of milled rice and it is not uniform quality, and drying and cleaning have not been done properly yet. This is because bad practices against fair transactions such as cheating at weighing, intentional mixing of foreign matters, tendency to neglect drying and cleaning and so forth are rampant.

This large export of paddy to neighboring countries has been done under the condition which is completely against the improvement of distribution as unclear fee collection by the local authorities is done during transportation or at the border, the use of bypaths resulting in the transshipment to small size trucks and the transportation on bad roads. However, without the export of the surplus paddy, it is clear that the domestic price of paddy will sharply fall, the eagerness to produce rice by farmers will decline and the production will fall.

As the open paddy market had been expected to be the promising measures to solve these problems, the pilot project was implemented. The users have been increased due to the accuracy in weighing, scientific-quality inspection, pricing by quality difference and quality improvement by various services. Uniform, dried and cleaned paddy has provided rice millers and traders, who are the buyers, with the improvement of milling rate and processing efficiency; and as a result, it has been recognized by them.

This, as the demand of the market, proves to be the demand on quality including post-harvest practices to farmers; and ultimately leads to the quality improvement. It can be said that the quality improvement cannot be facilitated without motivating the parties concerned. The quality improvement is worthwhile if it is done as an actual business not as mere technology transfer.

On the other hand, the concept of the open paddy market has been spreading among local residents and the number of users has been on the rise. The number of users reaches about 5% of paddy selling farmers, and the use by nearby rice millers and traders are also increased. The aforementioned impact has been confirmed. It is proved that to stimulate farmers from the distribution side is effective for the quality improvement. The cases in the advanced rice-exporting country of Thailand have shown that the approach from the downstream is efficient and effective to the quality improvement and distribution streamlining.

The pilot project was handed over to the Cambodian side in March 2006 and it has been operated voluntarily by the Cambodian side. Under the situations of high risks of unfair and pilferage loss, as far as the balance is concerned, it faces managerial difficulties to achieve the public benefit and economic independence. It is in a situation that any types of assistances are necessary.

In the implementation of the open paddy market development plan in Cambodia, to organize the voluntary shipment of farmers and group shipment will take time. Therefore, in the open paddy market development plan, it appears to be realistic to deal with the wide-area distribution, and at the same time, consider mainly paddy collectors as sellers and rice millers and traders as buyers, which can be said to be the downstream of paddy distribution. Considering the feasibility and the urgency based on the real transaction/ distribution streamline, the implementation of the wide-area-type OPM should be considered on a parallel with the productive-area-type OPM. For this achievement, as a nation, as a local government and in the relation with Thailand and Vietnam, efforts to make the export official are required

MOC has prepared the mid-term plan (2006 - 2010) to spread the results of the pilot project to other areas and to develop the open paddy market. It has specifically started to request the donor countries and to discuss with the Chambers of Commerce of the targeted provinces about the introduction of the vitality of the private sector. Although funds and technology are lacking, it has been started towards the materialization. In order to improve the distribution according to the change of the distribution environment, speedy reform is called for. The yield of Cambodian rice is a little more than 2 tons per hectare; with proper infrastructure development and the motivation for producers, more production increase is expected and the rice industry can be developed.

11.2 Recommendations

(1) Necessity of the improvement of paddy quality and distribution

For Cambodian people, rice is the staple food; and at the same time it is an important reproducible export product. However, as most of paddy is exported as low quality raw materials, the selling price of farmers is kept low. Cambodia should provide, to cope with the demand of international market, not only quality improvement but also integrated export ability including rice quantitative preparation and management. It is necessary of rethinking farmers themselves and improvement of business custom in rural society, and the government is also necessary to formulate and implement the national trade policy without delay.

With regard to the paddy quality, in case paddy has high moisture content and foreign matters, its weight will be deducted, but not vice versa. It, therefore, is said that the quality improvement is meaningless. The price of milled rice, however, has price differences by quality. As paddy is dried and cleaned after being imported to Vietnam, it means that Cambodian side is selling paddy deducting the costs of drying and cleaning. Additional transportation costs are also born. Dealers of Cambodian side must understand that the quality differences will result in price differences, and need to tackle with the quality improvement.

The Vietnam side says Cambodian paddy must be cheap as its quality is low. That makes Cambodian side to neglect the quality improvement. Brown rice/rice mill plants in Vietnam are wishing the improvement of paddy quality in order to improve milling rate and working efficiency. Cambodian traders must listen to the request of the Vietnamese side.

As mentioned above, the close linkage of marketing improvement and quality improvement make impacts. It is proven that proper quality evaluation and price formation apparently leads to quality improvement according to the experience of pilot project.

(2) Establishment of the open paddy market

The plots of 31 Districts have the annual surplus of more than 10 thousand tons each, and they are gathered in each area. The MOC has selected the provinces of Takeo, Pursat, Banteay Mean Chey and Prey Veng as potential sites for the open paddy markets in the production areas. Meanwhile, for the open paddy market for wide-area distribution, Banteay Mean Chey and Prey Veng, which are large-scale-distribution centers, can be considered. Sellers and buyers are specified according to the locations of the establishment. The transaction volume in particular differs depending on whether sellers are farmers or paddy collectors. It also differs widely depending on whether buyers are local rice millers or traders coming from outside of the province. The targets area needs to be selected by defining not only the surplus of paddy and distribution volume, but also sellers and buyers (target).

The production-area type of open paddy market depends on the voluntary shipment by farmers to the open paddy market. According to the experience of the pilot project in Kanhchriech district, it takes time to be spread. On the other hand, the wide-area type depends on the present collection by paddy collectors.

The government must take necessary domestic measures to prevent illegal revenue collection against exported paddy from the wide-area-type open paddy market in addition to work on Vietnam and Thailand not to accept unofficial exported paddy. That leads to reducing unofficial export and the increased use of the wide-area-type open paddy market.

(3) Management and operation body of the open paddy market

If the users have no confidence in the open paddy market and the management body as a place where fair transactions can be conducted, then the users will not participate. Considering neutrality toward sellers and buyers, an NGO (social enterprise), no matter what type of organization it is, is most suitable for the job in the present condition of Cambodia.

If the interest of concerned parties is involved, the coordination will take time. Even the management body is established through preparation of a committee, it has to be confirmed again by MOC if it satisfies necessary conditions for fair and equitable transactions.

(4) Function of the open paddy market

Loading, weighing, inspection, settlement and storage are essential functions. Other functions depend on the needs of users. As the users must bear a service fee, functions other than essential ones must be started from the minimum and then they have to be expanded gradually with producing results. The collection of paddy for the production-area-type open paddy market will be a heavy burden as voluntary shipment by farmers is difficult. Also, keeping in mind that paddy collected by paddy collectors in the wide-area-type open paddy market is apt to mix varieties; so, the functions must be reviewed.

(5) Operation of the open paddy market

In order to sustain the operation, service fees need to be set at the level to cover the actual costs and the balance needs to be kept. In order to keep a service fee low, efforts need to be made to receive tax preferences.

In Cambodia, computers have also been used in various fields. The pilot project has used the computer for the storage of survey data, warehouse management for paddy, accounting and sales record. Unstable and costly power supply by the generator and the program trouble have been continued. The operation of the open paddy market should, at the initial stage, simplify processing drastically; and once the system has been stabilized, then the computerization should proceed according to the expansion of the transaction volume.

Concerned operational risks will be unfair procedures and accident. Unfair procedures not only damage the financial condition, but also lose the confidence of users. Accounting falsified loss, pilferage and vehicle accident must be avoided entirely.

(6) Fund raising for the open paddy market

In order to stabilize management, the injection of public funds is preferable. To borrow funds creates the tensions of management as it has to have the monitoring of the lender. Also, by including the investment of management body members, a sense of ownership will be created. Operation funds are demanded besides initial investment cost. The government land/ existing facilities need to be utilized as much as possible as the procurement of initial investment funds is hard task.

(7) Support system of the open paddy market

As MAFF concerns with the paddy production and MOC concerns with the paddy distribution, both ministries need to cooperate. The committee of aforementioned PRAKAS is chaired by MOC and MAFF is a member to implement the PRAKAS surely concerning the open paddy market. To enlarge an effectiveness of cooperative paddy collection/ shipping system by farmer group in Khan Chhriech district on the pilot project, the agriculture extension work of PDAFF/MAFF is important for OPM management. Also, both ministries have collected and distributed separately the market price information of agricultural products. In order to improve the quality of information, the role should be coordinated.

The chambers of commerce in each province gathers strength for them to join the OPM management. It feels confident in proceeding with the OPM sustainability. The opportunity to take OPM management is not only simple business chance, but also a business chance for social contribution as public facility to improve local economic development. On the other hand, The Rice Mill Association must address the reform of industry with recognition that the development of rice mill industry will not happen unless milled rice is exported from Cambodia.

The open paddy market is a new concept for Cambodia, and it, thus, takes time to be understood widely. Also, considering possible issues that have not been experienced by the pilot project, new establishment is desirable to have continued technical assistance from donor countries in the future.