



CONTRACT FARMING BETWEEN GOLDEN RICE AND FOS FOR PRODUCTION OF *PHKA KRAVAN* PADDY

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ACRONYMS

AC	Agricultural Cooperative	FWN	Farmer Water Net
ADG	<i>Aide au Développement - Gembloux</i>	MAFF	Ministry of Agriculture, Forestry and Fisheries
AFD	<i>Agence Française de Développement</i>	NGO	Non-Governmental Organization
AVSF	<i>Agronomes et Vétérinaires Sans Frontières</i>	PDAFF	Provincial Department of Agriculture, Forestry and Fisheries
CIRD	Cambodian Institute for Research and Rural Development	PSG	Paddy Selling Group
DACP	Department of Agriculture Cooperatives Promotion (/MAFF)	PTP	Paddy Trading Platform
DAI	Department of Agro-Industry (/MAFF)	RDB	Rural Development Bank
FAEC	Federation of farmer associations promoting family Agriculture Enterprises in Cambodia	SCCRP	Support to the Commercialization of Cambodian Rice Project
FCFD	Federation of Cambodian Farmer Organizations for Development	SNEC	Supreme National Economic Council
FO	Farmer Organization	SoA	Signatures of Asia

¹ www.avsf.org ; www.cird.org.kh ; www.ong-adg.be

UNITS AND MEASURES

ha	Hectare
kg	Kilogram
KHR	Cambodian Riel (Approximately 4,000 KHR for 1 USD).
t	Ton (metric ton)
USD	United States Dollars

1. OVERVIEW / SHORT DESCRIPTION OF THE CASE

Golden Rice (Cambodia) Co., Ltd. introduced a new rice variety called “*Phka Kravan*”, a non-photoperiodic fragrant rice variety that brings high yield and commands high demand in the international markets. Between 2014 and 2015, three Agricultural Cooperatives (ACs) namely Chey Chumnas AC located in Kampong Chhnang province and Ampil Meanchey AC and Sromok Soksenchey AC located in Takeo province were identified and interested to grow this variety. Contract Farming agreements have been negotiated, signed and implemented with the support of SCCRP project with counterparts from the Ministry of Agriculture, Forestry and Fisheries (MAFF), notably from the Department of Agro-Industry (DAI) which has endorsed the contracts.

The three ACs were engaged to produce and supply between 280-510 tons of *Phka Kravan* paddy from 57 farmers² with total land size of 107 ha. As a result, 444.3 tons of *Phka Kravan* paddy (i.e. 158.7% of the minimum quantity committed) with high quality were supplied by all contracted ACs to Golden Rice.

This case is an interesting and a very successful case of contract farming in terms of price, quality and quantity as the producer can sell its paddy with the price agreed in the contract and the buyer can buy the paddy with high quality and reach the quantity agreed in the contract. Unfortunately, due to an issue with the homologation of the new rice variety introduced by Golden Rice, replication and scaling up of these contract farming agreements for *Phka Kravan* had to be suspended. Hopefully it can be resumed after the varieties are approved by MAFF.



Delivery of seeds of Phka Kravan variety to farmers △

2. THE ORIGIN OF THE ACTION

On September 24, 2013, Golden Rice has signed with Proparco³ a 10 million USD loan agreement. As part of the conditions of the loan, Golden Rice took the commitment to source a small portion of its paddy supply from Farmer Organizations. AFD had invited Golden Rice to establish a relation with SCCRP project in order to take the opportunity of the project to support the implementation of this objective.

Then, the first workshop between Golden Rice and potential Farmer Organizations (FOs) was organized at Golden Rice factory on 2nd of December 2013 to explore contracting partnership. After that workshop, some potential FOs were identified and then the negotiation of contract farming agreements between Golden Rice and FOs was facilitated. Negotiations started for classical varieties (Jasmine Rice such as Phka Roudoul) and were not

² As the variety is new, only some members of ACs have decided to make the contract with Golden Rice and for the other members, they just waited to see the results of the first contract.

³ Proparco is the branch of AFD providing loans to private sector companies.

immediately fruitful. But finally an agreement was reached between Golden Rice and few Farmer Organizations and Contract Farming agreements were signed for the production and supply of two different fragrant and non-photosensitive rice varieties, including “*Phka Kravan*”. A few tons of the foundation seeds were imported from Vietnam, and then multiplied at Golden Rice’s paddy seed fields in Cambodia in order to distribute to the FOs.

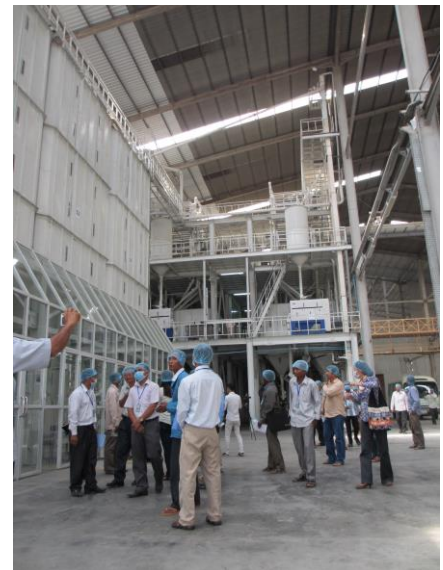
3. THE STAKEHOLDERS INVOLVED

There are 3 main stakeholders involved in the process of the contract farming negotiation, implementation and monitoring such as Golden Rice (BUYER), Agricultural Cooperatives (PRODUCER) and external supporters such as SCCR project including Department of Agro-Industry (DAI-MAFF), Department of Agricultural Cooperative Promotion (DACP-MAFF) and Provincial Department of Agriculture, Forestry and Fisheries (PDAFF) of MAFF.

3.1. GOLDEN RICE (CAMBODIA) CO., LTD.

Golden Rice is a Cambodian rice milling company who has the capacity to process more than 200,000 tons of paddy rice per year and specialized in exporting high-quality rice products since 2009 for international markets such Europe, USA, Asia, Africa and Oceania. This company is specialized in producing Long Grain Fragrant Jasmine Rice and its products also include fragrant rice and long grain white rice.

FO leaders visiting Golden Rice mill ▷



3.2. AGRICULTURAL COOPERATIVES

Three agricultural cooperatives had involved in the contract farming for *Phka Kravan* variety as follows:

- **Sromok Soksenchey Agricultural Cooperative:** it is a cooperative located in Sromok village, Ponley commune, Angkor Borei district, Takeo province, established and legally registered by PDAFF-Takeo since 2012. So far, there are 44 members and total capital of the cooperative is 17,000,000 KHR (100,000 KHR/share). One of the objectives of the cooperative is purchasing and selling paddy rice.
- **Ampil Meanchey Agricultural Cooperative:** it is a cooperative located in Ampil village, Ponley commune, Angkor Borei district, Takeo province, established and legally registered by PDAFF-Takeo since 2012. So far, there are 35 members and total capital of cooperative is 3,500,000 KHR (100,000 KHR/share). One of the objectives of the cooperative is purchasing and selling paddy rice.
- **Chey Chumnas Agricultural Cooperative:** it is a cooperative located in Kork Banteay village, Kork Banteay commune, Rolea B’ier district, Kampong Chhnang province, established and legally registered by PDAFF-Kampong Chhang since 2008. So far, there are 1110 members and total capital of the cooperative is 311,760,000 KHR (10,000 KHR/share). Total production land size is 750 ha. One of the objectives of the cooperative is purchasing and selling paddy rice.

In all involved target areas of the three cooperatives, the fluctuation of price of paddy rice and the market are the main issues for the farmers. Therefore, the contract farming was playing a very important role in order to ensure about the price and market.

3.3. EXTERNAL SUPPORTERS

SCCRP project, DAI, DACP and PDAFF played roles as external supporters under the contract farming between Golden Rice and FOs. (See details in Table 1 next page).

FO Federations also took part in supporting the identification of potential FOs.

3.4. SUMMARY OF MAIN ROLES AND RESPONSIBILITIES

Below are main roles and responsibilities of stakeholders involved:

Table 1: Roles and responsibilities of stakeholders

Stakeholders	Role	Main responsibility
Golden Rice	Buyer	Buy paddy rice from producer based on agreed price and quantity Provide seeds and technical supports to the producer (See details in the terms of the Contract, in Box 1).
AC/FO	Producer	Produce and sell paddy to the buyer based on agreed price and quantity. All production cost is in charged by the producer. Permit the staff of the buyer or technical partnership to access the rice fields. Make sure about participation of contracted farmers to participate in technical trainings. Facilitate the organization of the paddy collection and delivery to the buyer.
DAI	Facilitator and Monitor	Facilitate Contract Farming preparation and follow up the implementations of the contract based on all agreements mentioning in the contract.
DACP	Facilitator and Monitor	Support the identification of potential FOs to make the contract with Golden Rice and make sure that they have enough capacity in term of budget and knowledge to manage and implement the agreements defined in the contract.
FO Federations	Identification of FOs	Existing Federations of Farmer Organization such as FWN FAEC and FCFD also took part in the initial stages and helped to identify some potential FOs among their members and mobilize them for business matching meeting or introduce those potential FOs to Golden Rice.
PDAFF	Facilitator and Monitor	PDAFF also played an important role as they have close communication with FO(s) and can know and intervene in case of having any issue.
SCCRP	Supporter	Support to counterparts of the project (DAI and DACP) in term of financial and technical support such as contract farming negotiation, implementation, rice production techniques and assessment and rice production cost analysis.

4. IMPLEMENTATION PROCESS

There are 7 key stages in facilitating and implementing the contract farming as follows:

4.1. BUSINESS MATCHING WORKSHOP

Preliminary discussions took place between Golden Rice and SCCR project team about the opportunity and the principle of support to Contract Farming, and to organize a business matching workshop. At this stage, FO Federations and DACP have also helped to identify and mobilized some FO representatives to join the workshop. After that the workshop was organized at Golden Rice factory with participation of representatives of FOs, management team of Golden Rice and other stakeholders on 2nd December 2013. Through this initial meeting, Golden Rice can meet directly with leaders of FOs and know about the capacity of FOs to make contract farming for producing and supplying paddy that the company needs for processing and their markets. Reciprocally, the leaders of FOs could also know about all the requirements needed by the company and can see possibility to cooperate with the company to supply the paddy. At this stage, the leaders of FOs could not decide whether FOs can make the contract farming with the company as they needed to organize meeting with the management committee of their respective FO and then members. Also the conditions that the company could offer were not yet fully clarified...

4.2. IDENTIFICATION OF POTENTIAL AND INTERESTED PRODUCERS

After the business matching workshop, the meeting of the management committee of each FO was organized with participation of the facilitator who know very well about the needs, requirements or expectation of Golden Rice in order to clarify unclear points with the committee. Then, the meetings with members of FO were organized in order to present the results of the meeting with Golden Rice including kind of rice variety, quantity, quality and price and also start collect feedbacks from the farmers and data related to interested farmers and total land size to be contracted with Golden Rice. At this stage, FOs can decide whether it is be able to make the contract with Golden Rice and can get feedbacks from the farmers to negotiate with Golden Rice during the contract farming development and negotiation. As the results, all the 3 FOs were interested and could be identified at this stage.

4.3. CONTRACT DEVELOPMENT

After meeting between Golden Rice and management committee of FOs, key information could be gathered and shared (for example regarding the cropping calendar, the surface to be mobilize, etc.) and the main content of the contract farming agreements could be discussed. Based on these exchanges, a draft contract was developed by the facilitator, integrating the important information discussed in order to present to involved stakeholders during further meetings to finalize negotiation.

4.4. CONTRACT NEGOTIATION

Further meetings to finalize Contract Farming negotiation were organized at two levels: the first level was the negotiation between the management team of Golden Rice and leaders/representatives of FOs and the second level was the meeting between leaders/representatives of FOs with their members (sometime with participation of representative of the company in case needed). At all levels, the facilitator joined the meetings in order to make sure that all the stakeholders had the same understanding. The facilitator has also updated the draft contract between the two parties as required to reflect the results of discussions. At this stage, all the attachments to the contract such as list of farmers/members of FO who intend to participate in the present contract farming scheme and technical specification/recommendation of production of *Phka Kravan* were prepared, to be annexed to the contract.

Box 1: Terms of the contract signed

As the rice variety was new, there was not reference price. Therefore, the two parties had decided to have fix price, set at 1,000 KHR/kg. As the *Phka Kravan* was generally as a substitute for non-fragrant non-photoperiodic short cycle varieties (IR types) farmers were comparing the price offered by Golden Rice to the price they would get for such IR varieties, which was significantly lower (with relatively similar costs of production and productivity). The fix price was set at 1,000 KHR/kg of wet paddy.

All the production cost had been covered by the contracted farmers themselves. In addition to this, the farmers needed to cooperate and to allow Golden Rice staff(s) or its technical partner(s) to monitor their fields and provide them technical advices.

As *Phkar Kravan* was new rice variety, the farmers needed to join the training on rice production techniques provided by Golden Rice. AC had important role to invite all contracted farmers to join the training.

The rice seeds had been provided for free for the first case (first AC engaged). For the other ones, farmers had to reimburse the value of seeds to Golden Rice after harvest and delivery to Golden Rice (amount deducted from the payment to receive for the paddy delivered).

In case that Golden Rice did not buy paddy, Golden Rice did not have right to get payment on the rice seeds and in addition to this, Golden Rice needed to pay compensation to the farmers. However, if the farmers did not respect the contract, they also needed to pay the compensation to Golden Rice.

Golden Rice was responsible for the transportation costs from the collection point to the rice mill.

4.5. AGREEMENT AND SIGNING CONTRACT WITH ENDORSEMENT BY PDAFF

After getting full mutual agreement, the contracts were signed by the two parties with witness, and then endorsed by PDAFF.

4.6. IMPLEMENTATION OF CONTRACT FARMING AGREEMENTS

The two parties have implemented their commitments in compliance with the terms defined and agreed in the contract. The follow up and support from the facilitator was very important to make sure that the two parties implemented what they had agreed and to solve any issues that could happen during implementation. For instance: Ampil Meanchey AC faced difficulties with water shortage in February 2015. Then, one meeting was organized on 25th of February 2015 with participation of local irrigation supplier (a private company), PDAFF and local authorities (village chief and commune leaders) to discuss about the issue. The issue was also reported to Golden Rice and after that Golden Rice visited the rice fields with participation of SCCRP project team in order to discuss with leaders of AC as well as assess the situation. Then, the company could understand the situation especially the

damages caused by drought and even though some farmers could not supply paddy to Golden Rice following the contract agreement, there was not any sanction.

Box 2: Practical details on the organization of paddy collection, delivery to the mill and management of payments

Before harvesting, the staff of Golden Rice visited the rice fields of contracted farmers in order to assess whether it could be harvested. After getting agreement from Golden Rice during the visit, the farmers could harvest their paddy. All the paddy harvested has to be transported to the road where the truck could be accessed. The paddy had been weighted and all relevant records such as name of farmer, quantity of paddy and delivery date had been recorded before transporting to the factory of Golden Rice located in Oudong district, Kampong Speu. Few days after receiving the paddy at the factory, Golden Rice paid to the farmers through bank transfer to the bank account of AC. Once received the payment, AC withdrawn the money and paid to all contracted farmers based on the records.

4.7. MONITORING AND EVALUATION

SCCRP project team including DAI and DACP conducted the monitoring and evaluation of the contract in order to evaluate the success or failure of the contract. Some main criteria were considered and used to evaluate such as quantity, quality, price and commitment of the two parties to continue making the contract in the following season(s). Some contracted farmers, leaders of ACs and also Golden Rice were interviewed to get their feedback on the implementation of this contract.

5. OPERATIONAL RESULTS AND SITUATION

All the agreements mentioning in the contract were implemented by the two parties. Golden Rice bought all the paddy produced by the farmers with agreed price. The quantity and quality of the paddy could be reached following the contract agreement. There was very strong interest for the farmers to make such contract farming as in their farming system, the new variety is a substitute to white rice (IR types) with similar productivity and cycle duration, but a price about +25% higher. For miller, it was also interesting since the price was still quite affordable for fragrant rice, especially out of peak season. Even though it was a very strong success and there were interests from the two parties, the issue of homologation of *Phka Kravan* by MAFF has prevented the parties to officially renew the contracts in the following seasons.

6. ECONOMIC ANALYSIS

6.1. ACTUAL BENEFITS AT THE SCALE OF PILOT IMPLEMENTATION

Through making this contract, the two parties including the farmers, members of cooperative can get benefit and below are brief description about benefits of all involved stakeholders:

BENEFITS FOR FARMERS

Based on the contract agreement, all the production was covered by all contracted farmers themselves and the transportation cost from the collection point to the rice mill was covered by the company. The agreed price of *Phka Kravan* was 1,000 KHR/kg. As some contracted farmers grown *Phka Kravan* instead of IR 504, the economic analysis can be done based on this reference. If the price of IR 504 was 850 KHR/kg, it means that the price of *Phka Kravan* is about +18% higher than the price of IR 504. Referred to the contract farming between Golden Rice and Chey Chumnas AC in Kampong Cham, the contracted volume was between 120-245 tons and volume sold to Golden Rice was 213.92 tons (about 178.27% comparing to the minimum commitment). Based on economic analysis of SCCR project, the farmers can get a net income of approximately 307.50 USD/ha, compared to 278.75 USD/ha if they had grown IR 504 (based on an estimated yield of 5 t/ha). For instance, one of the contracted farmer said that “I want to make the new contract with Golden Rice as I can get higher benefits than growing IR504”. See Box 3A and 3B below.

Box 3A: Costs and incomes for *Phka Kravan* Production

Operational Costs (one cycle of production)	Unit	Amount (\$)
FIXED COSTS		
Rice field belongs to member		
VARIABLE COSTS per one hectare of surface land		
Seeds (200 kg per hectare of surface land)	Kg	150.00
Soil preparation	Lump sum	75.00
Pump water	Lump sum	100.00
Fertilization	Lump sum	175.00
Pesticides	Lump sum	50.00
Harvest	Lump sum	70.00
Monitor rice field	Lump Sum	100.00
TOTAL VARIABLE COSTS		720.00
TOTAL COSTS OF PRODUCTION		720.00
Income from selling paddy (average yield 4,110 kg per hectare)		
Sell paddy to Golden rice mill (1,000 KHR/kg for fresh paddy)		1,027.50
TOTAL GROSS MARGIN		1,027.50
NET PROFIT		307.50

Box 3B: Costs and incomes for *IR 504* Production

Operational Costs (one cycle of production)	Unit	Amount (\$)
FIXED COSTS		
Rice field belongs to member		
VARIABLE COSTS per one hectare of surface land		
Seeds (300 kg per hectare of surface land)	Kg	63.75
Soil preparation	Lump sum	75.00
Labor for sowing rice seeds and spraying fertilizers and pesticides	Lump sum	100.00
Pump water	Lump sum	100.00
Fertilization	Lump sum	175.00
Pesticides	Lump sum	100.00
Harvest	Lump sum	70.00
Monitor rice field	Lump Sum	100.00
TOTAL VARIABLE COSTS		783.75
TOTAL COSTS OF PRODUCTION		783.75
Income from selling paddy (average yield 5,000 kg per hectare)		
Sell paddy to Golden rice mill (850 KHR/kg for fresh paddy)		1,062.50
TOTAL GROSS MARGIN		1,062.50
NET PROFIT		278.75

BENEFITS FOR FARMER ORGANIZATIONS

For the first year of Contract, the AC mainly had to mobilize its human resources (AC leaders) to negotiate the contract, mobilize farmers, facilitate the distribution of seeds and the paddy collection, etc. but the AC was not remunerated for this role.

Yet, in the perspective of the replication of the contract in the following year, members of ACs have decided to contribute 5,000 KHR/ton to cover the cost for the coordination and facilitation work of AC leaders (AC will propose to increase the contribution if it is not enough). But, due to the issue of homologation of the new rice variety, the two parties were not yet able to renew their Contract Farming agreement.

BENEFITS FOR GOLDEN RICE

At the small scale of pilot implementation, the benefits for Golden Rice are marginal. But with a potential upscaling the miller could secure a source of quality paddy in order to produce rice that has a high potential in the market, with the possibility to improve the supply planning of the mill and to buy paddy throughout the whole year.

6.2. POTENTIAL BENEFITS OF REPLICATION / SCALING-UP

Benefits for farmers: if *Phka Kravan* is registered by MAFF, Golden Rice could scale up contract farming for production of *Phka Kravan* with an objective of sourcing approximately 20,000 tons/year. If price conditions remain the same, the additional benefit generated for farmers would reach 575,000 USD (28.75 USD/t of additional profit per ton for *Phka Kravan* compared with IR 504 × 20,000 tons).

Benefits for millers: Moreover, if the introduction of this variety allows more regular supply of the rice mill, and thereof helps to maximize the use of the existing milling capacity (and/or to reduce storage duration and thereof capital immobilization and financial costs), the profitability of the mill can be significantly improved.

7. STRENGTH, WEAKNESSES AND FORESEEN FUTURE OF THE INITIATIVE

Main strengths and weaknesses of these pilot contract farming cases can be summarized as follows:

STRENGTHS

- Source of paddy can be guaranteed: the company can make sure that all the paddy grown will be supplied to the company;
- The price can be guaranteed;
- The quality of paddy is high;
- The farmers can access to new rice variety that they cannot buy from another supplier than Golden Rice and the new rice variety is currently the only fragrant non-photosensitive variety that the farmers can grow on a 95 days cycle, so it can substitute to IR504 without a major change in cropping calendar.

WEAKNESSES

- No homologation from MAFF: normally, it take time to conduct the trial on new rice variety before getting approval from MAFF and the company needs the paddy of the new rice variety for a period only as there is high demand from the market.
- Risk of poor adaptation of the new variety to the Cambodian environment (as it has not been properly tested before through the process of homologation – which normally includes on-field trials)
- Risk of contamination of pests and disease (including to neighboring farms) if SPS and quarantine procedures for import of seeds are not properly observed (which is under the responsibility of the importer of seeds).

As the two contracted parties can get benefits from this contract, the economic stakeholders involved would be willing to renew (and scale up) the contracts, but this has not been possible because if the pending homologation of the variety.

To proceed with the formal homologation is highly recommended, as the process (which would include field trials in different zones) would permit to check the adaptation of the variety to Cambodia. Even so, it is recommended to start to grow *Phka Kravan* on limited surfaces first in order to know better on the performance of the varieties. Farmers are actually cautious and willing to limit the surfaces on which they use such a new variety: this is why the first pilot contracts signed were only for relatively small surfaces and volumes.

Still because the variety is new, the farmers may need technical support need to know well how to grow this new variety.

Price determination: as the contract is made for producing and supplying paddy of new rice variety, there is no reference price during the harvesting season, so the two parties should know and discuss how to determine the price during contract farming negotiation. The price can be fixed or can be based on other rice variety during the harvesting season for instance. It has to be noted that these contracts with Golden Rice were the only cases of fixed-price contracts among all the Contract Farming agreements supported by the SCCR project. As the variety was new and not known from other buyers, there was not much risk of side selling. But the situation could change as other buyers could get to know the variety and could get interested and try to offer higher prices for the paddy produced, increasing the risk of side selling.

Moreover, if other buyers are interested, and since the variety is an inbred variety⁴, farmers might be able to save seeds and may not remain dependent from seeds provided by Golden Rice. This benefit for farmers which is to get supplied with seeds of the new variety could be progressively eroded after a few years.

Based on experiences of SCCR project, besides the challenges, the two parties should consider about some necessary supports (from the two parties or outside) such as inputs (seeds, fertilizers, pesticides ...etc.) , financial support (loan without interest rate or loan with low interest rate ...etc.), technical supports (training on rice production techniques, paddy quality assessment ...etc.). Among all kinds of supports, some external supports are necessary such as contract farming facilitator supported by MAFF or competent institution.

8. REPLICABILITY AND CONDITIONS FOR REPLICABILITY WITHOUT SCCR PROJECT SUPPORT

This model of contract farming can be replicated by other stakeholders who are interested for making contract farming for producing and supplying paddy of new rice variety. Anyway, the interested stakeholders should consider and identify who are the stakeholders involved in the process and what kinds of their supports needed to make sure that the contract farming can be successful as their roles and kinds of supports are also the main factors to make the contact successful.

Below are possible stakeholders involved and kinds of their supports that can be provided:

Table 2: Possible institutions involved in replication of contract farming for new varieties

Stakeholders	Role	Main responsibility
DAI/PDAFF	Facilitator and Monitor	Facilitate for making contract farming between the two parties. Follow up the implementations of the contract based on all agreements mentioning in the contract. Intervene in case of having any issues.
DACP and/or FO Federations	Identification and support to relevant FOs	Help the buyer to identify potential FO(s) to make contract. Train/coach FO leaders on management at the FO level. ..
Bank (RDB and other banks)	Financial support	Provide loan with low interest rate.

⁴ Information provided by Golden Rice.

