



PADDY SELLING GROUP OF BARAY FWUC

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ACRONYMS

AFD	<i>Agence Française de Développement</i>	ISC	Irrigation Service Center
FO	Farmer Organization	SNEC	Supreme National Economic Council
FWN	Farmer Water Net	SCCRP	Support to the Commercialization of Cambodian Rice Project
FWUC	Farmer Water User Community		
GRET	<i>Groupe de Recherche et d'Echanges Technologique</i>		

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

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¹ www.gret.org



1. OVERVIEW: SUMMARY OF THE EXPERIENCE OF PADDY SELLING GROUP IN BARAY FWUC

Baray Farmer Water User Community (FWUC) is located in Kouk Trach village, Khnat Commune, Puok district, Siem Reap province. Baray FWUC has organized a “Paddy Selling Group (PSG) with the support of the Irrigation Service Center (ISC) marketing team and Farmer Water Net (FWN). The activity was implemented in August and September 2016.

The main objective of the PSG is to sell paddy with higher price than what farmers usually get and to have the same price for members in different area in the village if they have the same paddy quality and almost the same price between first harvesting and last harvesting.

PSG in Baray FWUC had 17 members who sold their paddy. 58,326 kg of paddy were sold through PSG to one buyer only: Rice mill “1688” located in Kampong Thom province.

Based on the economic analysis, PSG members have received a price for their paddy 9.04% higher than local farmers outside of the PSG, and the FWUC and Farmer Water Net could also generate some incomes, yet not sufficient to cover the costs they engaged in supporting this operation.

PSG in Baray FWUC that cooperated with rice mill 1688 was run smoothly because there was good participation from FWUC committee members, local authority, and members. There was good collaboration between members and FWUC committee members and rice miller. Furthermore, PSG members have strong confidence on FWUC committee which was a key point for success especially concerning the payment process as the payment was not immediate after paddy delivery.

Even with this pilot experience, Baray FWUC committee members do not feel ready to replicate the operation without support (from FWN and ISC) in the following year. They believe they will need additional support and backstopping for one or two years more.

Box 1: Analysis of risks in case of PSG with rice miller

When FWUC organized PSG and cooperated with rice miller, the risks for the FWUC were analysed as follows:

- FWUC may face a risk concerning transportation of members’ paddy to rice mill because rice miller provides paddy price at rice mill gate.
- FWUC may face a risk concerning paddy quality control of members’ paddy because rice miller makes paddy quality control at rice mill gate.
- FWUC may face a risk concerning payment for members’ paddy because rice miller doesn’t pay immediately to PSG members after members’ paddy is loaded on hired truck.
- But FWUC could generate significant incomes from this activity with rice miller because the miller pays a price significantly higher than farm gate price usually obtained by farmers locally.

2. THE ORIGIN OF THE ACTION AND THE STAKEHOLDERS INVOLVED

2.1. THE ORIGIN OF THE ACTION

SCCRP is funded by AFD. Its purpose is to contribute to support the implementation of the National Strategy of Promotion of Paddy Production and Rice Exports approved by the Council of Ministers in July 2010, with an objective of maximization of the added value and of the share of this added value reaching producers as a part of the overall goal of rural poverty alleviation.

Based on the MoU (No.CKH-1077-C#3-S-16-01) between SNEC as coordination agency of SCCRP and FWN on 31st of August 2016 with the objectives of supporting the involvement of FWUCs in paddy commercialization and developing the FWN supporting capacities, ISC (through contract between FWN and ISC) created PSG in Baray FWUC with the variety of Sen Kraob from August to September 2016. PSG in Baray FWUC had cooperated with rice mill 1688.

2.2. MAIN STAKEHOLDERS INVOLVED

BARAY FARMER WATER USER COMMUNITY

Baray FWUC was registered at MOWRAM in 2003 and MOWRAM transferred it to APSARA authority in 2014. Baray FWUC is located in Kouk Trach village, Khnat Commune, Puok district, Siem Reap province. Baray irrigation scheme has a command area of 4,000 ha of paddy fields. It covers 64 villages in 9 communes in Puok District, Siem Reap province. For the harvesting period of September 2016, the total surface of rice production is 700 ha with the variety Sen Kraob.

THE IRRIGATION SERVICE CENTER (ISC)

The Irrigation Service Center (ISC) is a Cambodian organization specialized in the provision of services, capacity building and support to Farmer Water User Communities and projects involved in the irrigation sector. As part of this project, ISC implements two types of activities: 1) Direct support to FWN committee member and secretary and 2) support services to FWUCs engaged in PSG model.

FARMER WATER NET (FWN)

Farmer Water Net (FWN) is a representative Federation of FWUCs in Cambodia registered with the Ministry of Interior in 2011. It has now 26 members (26 FWUCs, gathering 34,958 households, with a total rice land surface of 41,980 in 11 provinces).

RICE MILL 1688 (THE BUYER)

The buyer is a rice miller (named “Rice mill 1688”), located in Pralay Koul, Staung district, Kampong Thom province. He has the capacity to buy around 100 tons of paddies per day. From the Paddy Selling Group of Baray FWUC, this rice miller can absorb only 2 trucks per days (i.e. between 50 and 60 tons per day).

3. THE IMPLEMENTATION PROCESS

The main steps of the implementation of pilot “Paddy Selling Group” operation in Baray FWUC are presented below (detailed calendar of implementation is shown in Annex 1).

STEP 1: CREATION OF PSG

- ISC organized meeting with FWUC committee members in order to prepare schedule for village meeting on PSG in Koepor and Samroung Yea communes.
- ISC and FWUC committee members organized meetings with farmers at village level in Koepor commune in order to find interested farmers.
- ISC and FWUC committee members made individual planning and ISC made data entry.

STEP 2: MARKET FINDING

- ISC made survey price inside and outside the command area and find buyers and find loading labor and find truck for transporting paddy.
- ISC organized meeting with FWUC (Koepor and Samroung Yea communes and village chief in Samroung Yea) in order to discuss and select best buyer.
- ISC and FWUC committee members continued to make individual planning and ISC made data entry and prepare schedule for paddy sale in each day.

STEP 3: PREPARATION BEFORE PADDY SALE

- ISC prepared documents and tools for using in the selling operation with rice mill 1688.

STEP 4: OPERATION DURING PADDY SALE

- During the selling operation, ISC made paddy quality control of members before balancing paddy truck. After completing one truck, one person from FWUC with the support of ISC went to rice mill 1688 with the paddy truck in order to follow-up the transportation.
- When the paddy truck arrives at the rice mill 1688, ISC and one person from FWUC follow-up the paddy quality control and the process of paddy buying of rice miller. Finally, the rice miller provided the real buying price for FWUC and issued cheque to FWUC.

STEP 5: OPERATION AFTER PADDY SALE

- Few days after paddy selling day, three or four people among FWUC committee members with the support of ISC went to the bank in order to withdraw money. When they arrived at FWUC, they prepared money and paddy payment voucher for each member based on each paddy weight voucher. The group representatives informed members about the paddy payment of FWUC. ISC started preparing the activity report on PSG on September 2016.
- FWUC with the support of ISC paid money to PSG members and presented the result finding and lesson learnt from PSG during the payment day to PSG members.

4. OPERATIONAL RESULTS

During the village meeting on PSG with farmers in order to find interested farmers, the advantage of PSG was presented and explained clearly as follows:

- PSG members can sell paddy with higher price than market price in the area;
- PSG members can get the same price, regardless of their location within the village;
- PSG members who harvest first and those who harvest after get the same price;
- PSG members build confidence and are better considered by buyers;
- PSG members can get market information and new technical advices for rice production.

After making individual planning for PSG with interested farmers, there were 17 farmers (i.e. 9 farmers in Keopor commune and 8 farmers in Samroung Yea commune) who wanted to sell their paddy through PSG. They started harvesting the variety *Sen Kraob* between 17th and 19th September 2016. Only part of Baray FWUC members are part of the PSG, for the following reasons:

- Some FWUC members have different varieties other than *Sen Kraob*;
- Some FWUC members have rice land for their own consumption only;
- Some FWUC members migrated to other areas;
- Some FWUC members cannot make rice production in this period because of insufficient water availability;
- Some FWUC members didn't trust PSG or PSG ability to actually implement the sale planning.

After assessing different potential buyers, PSG in Baray FWUC has decided to cooperate with "Rice mill 1688". The rice miller is setting paddy price based on the paddy quality control. He has standards and equipment for paddy quality control at mill gate. He used sampling probes ("Daek chham") to take paddy samples. Then, he checked moisture, purity, and foreign matter. Based on this assessment, he sets his price offer for the paddy brought by FWUC and checked.

The paddy selling period was the same as the paddy harvesting period because PSG members sold their paddy in wet condition (wet paddy). The rice miller price offer for FWUC at mill gate was higher than farm gate price farmers could get in Puok district. The margin between the mill gate price offered to the FWUC and farm gate price farmers can get in Puok (outside of PSG) was 190 Riels per kg (i.e. for the first truck on 17th September 2016, he provided the price 920 Riels per kg. For the second truck on 19th September 2016, he provided the price 890 Riels per kg. At farm gate, the price was 730 Riels per kg on 17th September 2016 and 700 Riels per kg on 19th September 2016).

Then, FWUC paid a flat price of 780 Riels/kg for the 58.3 tons of paddy delivered by PSG members. The difference between the price for PSG members and the price obtained by farmers outside of the group (for similar

paddy) was thereof between +50 Riels and +80 Riels per kg. During the paddy selling period, the paddy price at farm gate was varied between 700 Riels per kg and 730 Riels per kg.

As result, 58,326 kg of wet paddy (i.e. 31,556 kg of 9 members in Keopor commune and 26,770 kg of 8 members in Samroung Yea commune) were sold through PSG in Baray FWUC. Moreover, Baray FWUC paid 10 Riels per kg (i.e. total amount was 145.83 USD for total quantity 58,326 kg) to FWN for the support provided by FWN and ISC.

PSG in Baray FWUC that cooperated with rice mill 1688 was run smoothly because there was good participation from FWUC committee members and members. There was good collaboration between members and FWUC committee members and rice miller. Furthermore, PSG members have strong confidence on FWUC committee members especially concerning the payment process of FWUC (i.e. not pay immediately).

On the other hand, it has to be noted that few problems also occurred: for instance the committee members did not always respect the priority (at the time of paddy collection and weighting) that was given to PSG members (who had previously took the commitment to sell through PSG in the planning phase) over new members trying to sell through PSG whereas they were not initially registered.

5. ECONOMIC ANALYSIS

The economic analysis for PSG activity in Baray FWUC was focused on FWUC, members of PSG, normal farmers, and ISC/FWN.

5.1. ANALYSIS OF ECONOMIC RESULTS AT FWUC LEVEL

Baray FWUC got total incomes of 13,269.50 USD from PSG activity (paddy selling) in September 2016. On the other hand, expenditures made for this paddy selling activities (paddy purchase, labor costs, transportation, payment to FWN, and other expenses) reached a total of 12,206.08 USD.

So, the profit of Baray FWUC from PSG activity is 1,063.43 USD or 8.71% of its total costs. The operation costs of Baray FWUC for PSG on September 2016 are 686.73 USD (not including the payment for paddy members and payment to FWN). Details are provided in the Table 1 below.

Table 1: Incomes and expenses of Paddy Selling Group operation at FWUC level in Baray

I.	Incomes of FWUC from PSG in USD	13,269.50 \$
1.1.	1 st paddy sale-Sen Kraob (29,750 kg × 920 riels)	6,842.27 \$
1.2.	1 st surplus of paddy weight (101 kg × 920 riels)	23.23 \$
1.3.	2 nd paddy sale-Sen Kraob (28,576 kg × 890 riels)	6,357.94 \$
1.4.	2 nd surplus of paddy weight (207 kg × 890 riels)	46.06 \$
II.	Expenses of FWUC for PSG in USD	12,206.08 \$
2.1.	Labor costs	227.50 \$
2.1.1.	<i>Labor for planning</i>	35.00 \$
2.1.2.	<i>Labor for loading</i>	142.50 \$
2.1.3.	<i>Labor for balancing</i>	25.00 \$
2.1.4.	<i>Labor for follow-up truck</i>	25.00 \$
2.2.	Transportation costs	435.00 \$
2.3.	Purchase of members' paddy	11,373.53 \$
2.4.	Payment for FWN	145.83 \$
2.5.	Other expenses	24.23 \$
2.5.1.	<i>Drinking water & snack</i>	7.25 \$
2.5.2.	<i>Food</i>	12.50 \$
2.5.3.	<i>Bank service</i>	4.48 \$
III.	Profits of FWUC from PSG in USD	1,063.43 \$

5.2. ANALYSIS OF ECONOMIC RESULTS FOR PSG MEMBERS

The members of PSG in Baray FWUC sold their wet paddy of the variety Sen Kraob in total quantity of 58,326 kg. They got total incomes 11,373.53 USD through PSG.

If they sell the same quantity of their wet paddy individually to local collectors, it is estimated that they would have received only 10,430.18 USD. The additional incomes for farmers reach +943.35 USD (approximately +65 Riels/kg), i.e. an increase of +9.04 % compared to local farm gate prices.

Details are provided in Table 2 below.

This table only analysis the difference of price obtained by farmers selling through the FWUC's Paddy Selling Group compared to the price they would obtain from local collectors (farm gate). An analysis of paddy cropping costs, incomes and profit (based on local collector price) is shown in Annex 2.

Table 2: Price obtained by farmers in PSG and comparison for price that they would have obtained out of PSG

I.	Amount obtained by PSG members for their paddy (<i>Sen Kraob</i> = 58,326 kg)	11,373.53 \$
1.1.	1 st sale operation (29,750 kg × 780 riels)	5,801.15 \$
1.2.	2 nd sale operation (28,576 kg × 780 riels)	5,572.38 \$
II.	Amount farmers would have obtained for the same paddy (<i>Sen Kraob</i> = 58,326 kg) outside PSG (based on unit price offered by collector locally on the same day)	10,430.18 \$
2.1.	1 st sale operation (29,750 kg × 730 riels)	5,429.38 \$
2.2.	2 nd sale operation (28,576 kg × 700 riels)	5,000.80 \$
III.	Profits of members on paddy sales (<i>Sen Kraob</i> = 58,326 kg) in PSG in USD	943.35 \$

5.3. ECONOMIC ANALYSIS FOR ISC/FWN

ISC used 4 staff (i.e. one marketing specialist, one marketing officer, and two field facilitators) in order to support Baray FWUC on PSG activity from August to September 2016. The total man-days spent for this activity were 36 man-days. The operation costs of ISC for supporting PSG in Baray FWUC are 1,553.39 USD for total man-days.

6. VIABILITY: STRENGTH, WEAKNESSES AND FORESEEN FUTURE OF THE INITIATIVE

6.1. ANALYSIS OF BREAKEVEN POINT IN BARAY FWUC

For making the analysis of breakeven point of PSG in Baray FWUC, we need to know the total fixed costs, variable costs per ton, incomes per ton, and total paddy quantity sold.

The operation costs of ISC for this PSG activity were 1,553.39 USD including total fixed costs (547.60 USD, it came from all costs for supporting the PSG activity in Step 1, Step 2, Step 3, and Step 5) and variable costs (1,005.79 USD, it came from all costs for supporting the PSG activity in Step 4 "Operation during paddy sale. Then, it was divided by paddy volumes sold for finding variable costs per ton) and variable costs per ton (17.24 USD per ton). Moreover, total fixed costs of FWUC are 35.00 USD and variable costs of FWUC are 13.67 USD per ton.

- Total fixed costs = 582.60 USD
- Variable costs per ton = 30.91 USD
- Incomes FWUC per ton = 32.51 USD
- Paddy quantity sold in ton = 58.326 tons

Table 3: Detail analysis of breakeven point for PSG in Baray FWUC

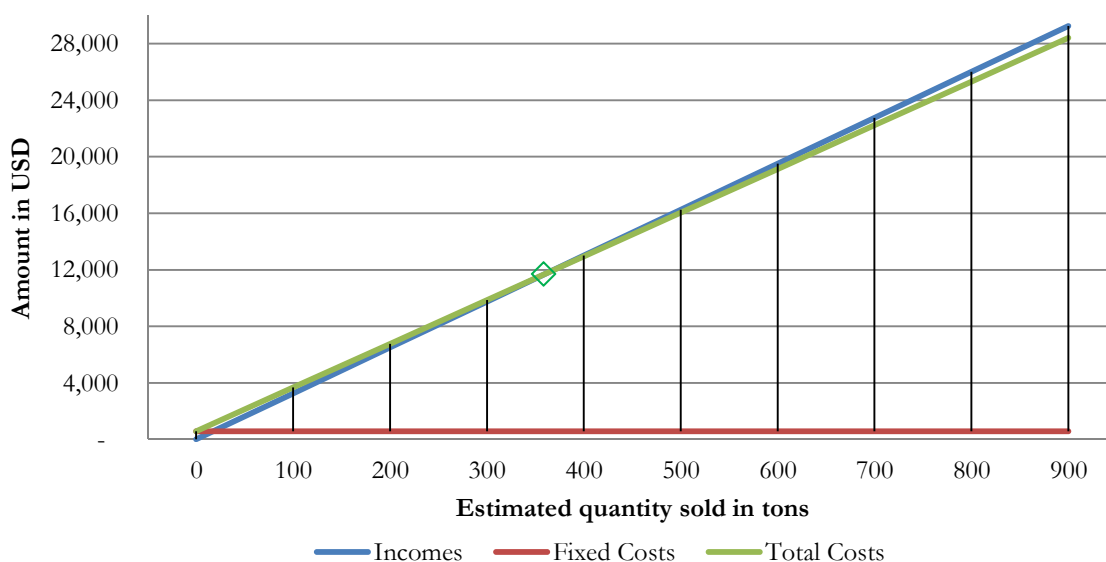
Volumes sold (tons)	FWUC incomes	Variable Costs	Fixed Costs	Total Costs	Operating Profit
0 t	0 \$	0 \$	582.60 \$	582.6 \$	-583 \$
58.326 t	1,896 \$	1,803 \$	582.60 \$	2385 \$	-489 \$
100 t	3,251 \$	3,091 \$	582.60 \$	3674 \$	-423 \$
200 t	6,502 \$	6,182 \$	582.60 \$	6765 \$	-263 \$
300 t	9,753 \$	9,273 \$	582.60 \$	9856 \$	-103 \$
364.123 t	11,838 \$	11,255 \$	582.60 \$	11838 \$	0.00 \$
400 t	13,004 \$	12,364 \$	582.60 \$	12947 \$	57 \$
450 t	14,630 \$	13,910 \$	582.60 \$	14492 \$	137 \$
500 t	16,255 \$	15,455 \$	582.60 \$	16038 \$	217 \$
550 t	17,881 \$	17,001 \$	582.60 \$	17583 \$	297 \$

→ Actual figures for Year 2016

→ Breakeven

Based on the Table 3 above, we observe that the breakeven point for PSG in Baray FWUC is 364 tons. If volumes sold are under this quantity, Baray FWUC will lose money. If it can sell more than this quantity, the FWUC can get profits.

Figure 1: Graph representation of breakeven point



6.2. STRENGTH AND WEAKNESSES

After finishing the PSG activity in Baray FWUC, FWN and ISC has reviewed the implementation and have noted the main strengths, weaknesses and challenges listed below:

STRONG POINTS

- Good participation from FWUC committee members, local authority, and members;
- Members had strong confidence on FWUC concerning the late payment for PSG;
- Good collaboration between FWUC committee members and members and buyers.

WEAK POINTS

- FWUC committee members didn't respect the principle of PSG.
- Members didn't respect the principle of PSG.

For members that didn't respect the principle of PSG, this effect can be limited as follows:

- Improve the condition to be a member of PSG and explain clearly about the advantages of PSG and some factors (such as honesty, solidarity, strong position,...) that cause PSG to be successful.
- Go to meet members regularly to inform about planning updates.
- Withdraw farmers who didn't follow the recommendation of PSG. And try to demonstrate the capacity to successfully implement with members committed to follow the rules collectively established.

CHALLENGES

- Seed used by PSG members and farmers in the command area was not good quality.
- Rain during harvesting period.

7. REPLICABILITY AND CONDITIONS FOR REPLICABILITY WITHOUT SCCRП PROJECT SUPPORT

7.1. CAPACITIES AND LIMITS OF FWUCS BARAY TO REPLICATE THE IMPLEMENTATION OF PSG

ISC has had already tools and experiences on PSG. Even if Baray FWUC already had this first experience of collective paddy selling, it is assessed that the FWUC is not yet fully capable to operate Paddy Selling Group activity alone for the next paddy production seasons. Details of what FWUC is now able to implement, and what still need external support are provided below:

WHAT BARAY FWUC CAN DO ALONE IS AS FOLLOWS:

- Organize meeting at village level in order to find interested farmers;
- Communicate with buyers;
- Find labor force for loading paddy on truck;
- Find truck for transporting paddy to rice mill.

WHAT BARAY FWUC CANNOT DO ALONE IS AS FOLLOWS:

- Make data entry for individual planning by using template in Excel file;
- Update planning with members;
- Prepare schedule and truck for paddy sale in each day.

PROPOSED RESOLUTION FOR WHAT BARAY FWUC CANNOT DO ALONE IS AS FOLLOWS:

- FWUC could be able to outsource some services (pay for the implementation of some tasks by a service provider);
- FWUC could possibly hire staff to undertake the activity.

The feasibility of these two options would still have to be assessed in details.

7.2. TENTATIVE REPLICATION OF THE ACTIVITY IN 2017 UNDERLINES THE REMAINING FRAGILITY OF THE MODEL

Whereas the results of the implementation of the Paddy Selling Group of Baray FWUC were very positive in term of increased added value captured by farmers for their paddy, the replication of the activity in 2017 has rather been a failure, and shows that the model remains fragile.

In 2017, the FWUC did not manage to obtain a better price while selling paddy directly to miller. One of the reason identified for that was the poorer quality of the paddy harvested, with a lower varietal purity.

ANNEX 1: DETAILED CALENDAR OF IMPLEMENTATION OF THE ACTION

Date	Activities
29-31/08/17	Prepare method for finding interested farmers and prepare documents and tools for meeting with FWUC committee members and local authority
01/09/17	Meeting with FWUC committee members and local authority
07/09/17	Prepare documents and tools for making planning and paddy selling group
08-10/09/17	Provide training on paddy quality control to FWUC committee members and meeting with local authority at village level in order to find interested farmers for PSG
12-13/09/17	Make data entry of planning of members
14/09/17	Make data analysis of planning of members
14/09/17	Discuss with ISC director about the result of data analysis
15/09/17	Prepare documents and tools for PSG process and meeting with FWUC committee members on buyer selection
16/09/17	Update planning of members for PSG
17/09/17	Process of paddy sales at FWUC
18/09/17	Process of paddy sales at rice mill and continue to update planning
19/09/17	Process of paddy sales at FWUC and get cheque from rice miller
20/09/17	Process of paddy sales at rice mill and get cheque from rice miller and withdraw money from the bank and continue to update planning
21/09/17	Prepare money for providing to members for paddy payment first truck
22/09/17	Withdraw money from the bank and make paddy payment for the second truck and meeting on lesson learnt from PSG with FWUC committee members

ANNEX 2: ANALYSIS OF PADDY PRODUCTION COSTS AND INCOMES FOR FARMERS IN BARAY FWUC, FOR SEN KRAOB PADDY HARVEST IN 2016 (BASED ON SELLING TO LOCAL COLLECTORS)

Based on the interview of farmers on rice production Sen Kraob in the command area of Baray FWUC, they said that the average yield is 3 tons per ha. The average price is 730 Riels per kg for wet paddy. The total incomes are 547.50 USD per ha (i.e. we take 3,000 kg multiplied by 730 Riels and divided by 4,000 Riels).

The production costs for rice production of the variety Sen Kraob is 421.88 USD per ha.

So, the profit of normal farmers for rice production of the variety Sen Kraob is 125.63 USD per ha for one cycle (around 105 days) or 29.78% of the production costs.

Economic result of paddy production in Baray FWUC, for Sen Kraob variety, in 2016, and when selling at farm gate to local collectors (for one hectare)

I. Incomes per ha for one cycle in USD	547.50 \$
1.1. Average yield-Sen Kraob (3 tons per ha × 730 riels)	547.50 \$
II. Production costs per ha for one cycle in USD	421.88 \$
2.1. Seed- <i>Sen Kraob</i> (180 kg)	135.00 \$
2.2. Plowing (2 times)	65.00 \$
2.3. Herbicide (1 time)	20.00 \$
2.4. Fertilizers	112.50 \$
2.5. Labor cost	25.00 \$
2.6. Harvest machine	62.50 \$
2.7. Irrigation service fee (15,000R/ha/year/2 cycles)	1.88 \$
III. Profits per ha for one cycle in USD	125.63 \$

