CEPF SMALL GRANT PROJECT Final REPORT

Organization Legal Name:	CIRD- Cambodian Institute for Research and Rural Development
Project Title:	Improved agricultural productivity and capacity building for income generation amongst farmer households reliant on the Kampong Trach Sarus Cranes Conservation Area in the province of Kampot, Cambodia
Date of Report:	07 may 2012
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CEPF Region: Indo-Burma Biodiversity Hotspot

Strategic Direction: Safeguard priority globally threatened species in Indochina by mitigating major threats.

Grant Amount: USD 19995

Project Dates: November 2010 to December 2011

Implementation Partners for this Project (please explain the level of involvement for each partner): CIRD is part of a partnership comprising, WWT, Mlup Baitong, CCK and CIRD. But the present project has been designed by this partnership to be implementad only by CIRD.

Conservation Impacts

Please explain/describe how your project has contributed to the implementation of the CEPF ecosystem profile.

The above titled project is the agricultural component of the CEPF complementary project plans to establish long-term sustainable management of Kampong Trach and Boeng Prek lapouv , two key sites representative of the Cambodian lower Mekong floodplain wetlands with priority non-breeding populations of Sarus Cranes. These complementary project plans are developed by a partnership comprising the Wildfowl&Wetlands Trust, Mlup baitong, Chamroeun Chiet Khmer and CIRD.

This agricultural capacity building component will allow increased rice production and improved quality product permitting to increase income which will contribute to reduce poverty and improve the community livelihood. Improving communities livelihood and reducing poverty activities have proved to be a necessary good practice in sustaining conservation activities. In compensation for this provision of technical capacity building, the cooperating farmers reliant on this conservation area pledge to support the conservation efforts and stop adverse activities.

The above project is thus a contribution in strengthening the conservation of sarus Cranes and other globally and nationally threaten species in Kampong Trach Sarus Cranes reserve through improved community agro-ecology sustainable development initiatives. The project, through its objective one, has built the capacity of 88 farmer households, whose livelihoods are reliant on the conservation of the site, enabling them to increase their family agricultural production and income, especially through improved rice production. Through its objective two, the project has conducted a feasibility study for increasing the value of rice produced by farmers reliant of the Kampong Trach Sarus Cranes protected area. This feasibility study has demonstrated that valuing

the rice produced by the project farmers is possible and has provided a proposal outline on how to do it. The feasibility study proposed that a proportion of the increased income generated by the rice valuation activities may be used as source of income in contributing to support the future conservation efforts of the Kampong Trach sarus cranes reserve.

Please summarize the overall results/impact of your project against the expected results detailed in the approved proposal.

The overall objective of this project is to strengthen conservation of Sarus Crane and other globally and nationally threaten species in Kampong Trach Sarus Crane reserve, through improved community agro-biodiversity sustainable development initiatives. There are two specific objectives:

- To build the capacity of at least 100 farmer households, whose livelihoods are reliant on the conservation of the site, enabling them to increase their family agricultural production and income, especially through improved rice production.
- To carry out feasibility study for increasing the value of rice produced by farmers reliant on the Kampong Trach Sarus Crane protected area.

To achieve both the overall and the two specific objectives, the following activities were implemented and achieved as mentionned below:

1. Baseline survey

The data collection for baseline survey was started since 26 December2010 and finished in 06 January, 2011. During the baseline, 120 households were interviewed.60 households were selected from Koh Chamkar village, 39 households were from Chres village and 21 households were from Koh Tnout village. Moreover, 3 focus group discussions had been organized with the participation of 36 participants to collect general village data in the three target villages. 3 staff members of CIRD, one project officer and two surveyors, conducted the baseline survey.. As the result, the data collection and report writing for the baseline survey was drafted by the end of January 2011. (For more details please see the baseline survey report that was sent to all partners).

2. Monthly training on biodiversity friendly agricultural techniques

2.1. Project introduction meeting

Five project introduction meetings were organized at four villages such as Koh Tnout and Preas Trohing villages in Prek Kres commune and Koh Chamkar and Chres village in Beung Sala Kang Tbong commune in Kampong Trach district, Kampot province. In Koh Chamkar village, the project organized two project introduction meetings at two separated places because this village is big and is inhabited by more than 800 households. Many households of that village live close to the bird protected area. During this meeting, the commune council, village heads and villagers were invited. At the same time, the trainings on soil fertility improvement were also provided to self help group members and other cooperating farmers who came to the meeting as well. Below are the main agendas of the meeting:

- Introduce to each other
- Introduce CIRD and the project and well as other projects under funding of CEPF
- Introduce the factors of soil degradation and alternatives for soil fertility improvement
- Identify self help group members and other cooperating farmers who wish to regularly participate in the training organized by the project.

For Preas Tror Hing village and Koh Chamkar village (group II), are the extra target villages that the project selected in March and April after project staffs saw that the total numbers of participants in the trainings are less than the expected number set by the project.

Table 1: Number of participant in each village and the date

N0	Village	Commune	Participant		Date
			Total	Women	
1	Chres	Beung Sala Kang Tbong	34	19	Feb 04, 2011
2	Koh Chamkar (group I)		32	17	Feb 07, 2011
	Koh Chamkar (group II)		25	09	March 03, 2011
3	Koh Tnout	Prek Kres	32	17	Feb 10, 2011
4	Preas Tror Hing		24	10	April 22, 2011
Total			**147**	**72**	

2.2. Training on natural fertilizer and compost making

One training sessions on natural fertilizer and compost making was provided to SHG's members and other cooperating farmers in three target villages by the project. This training was organized in February, 2011. The objective of the training is to introduce alternative solutions for farmer in case they don't want to use chemical fertilizer and to select key farmers, 2 farmers per village, for developing compost demonstration places. Through this training, 6 key farmers were selected, 2 key farmers per village, to develop compost demonstration place as the learning place for other farmers in the three target villages.

Table 2: Number of participant in each village for first training

N0	Village	Commune	Participant		Date
			Total	Women	
1	Chres	Beung Sala Kang Tbong	33	22	Feb 18, 2011
2	Koh Chamkar		15	8	Feb 17, 2011
3	Koh Tnout	Prek Kres	14	13	Feb 16, 2011
Total			**62**	**43**	

2.3. Selection of interesting farmers to joint with project

As we can see the total number of participants in the training on natural fertilizer and compost making mentioned above, there are only 62 participants. This number is less than the expected number mentioned in the project document, 100 beneficiaries. So, to get more farmers to participate in the training organizes by the project, CIRD's staff spent 2 days to meet farmer individually at Koh Chamkar village to select interesting farmers. We selected Koh Chamkar village because the population in this village is very high, 803 households, if compare to other village around Sarus Crane conservation site. This activity was done from on 23-24 February 2011. As the result, project staff met 44 farmers and there are only about 14 participants who interest in participation with project.

2.4. Training on compost and negative impact of chemical fertilizer

Two training sessions on compost and negative impact of chemical fertilizer were provided to self help group members and other cooperating farmers in four target villages such as Koh Tnout, Preah Trohing, Koh Chamkar and Chres village. First training was organized in March 2011. The objective of the training is to make a comparison between the advantages and disadvantages of compost and chemical fertilizer, in term of soil fertility improvement, soil degradation, economics jeopardy ...etc. Below is the table of calculation of expenses on chemical fertilizer usage in each village per year and table of participants:

Table 3: Expenses on chemical fertilizer usage

Koh Chamker village:	**Koh Tnout village:**	**Chres village:**
- Total households is 803 - Average use is 4 bags/HH - Average price per bag is 120000 Riels - Total number of bag used = 803*4 = 3212 bags - Total expenses/village = 3212 bags * 120000 riel = 385,440,000 riel **= 95,170 $/year**	- Total households is 215 - Average use is 8 bags/HH - Average price per bag is 120000 Riels - Total number of bag used = 215*8 = 1720 bags - Total expenses/village = 1720* 120000 riel= 206,400,000 riel **= 50,962 $/year**	- Total households is 537 - Average use is 4 bags/HH - Average price per bag is 120000 Riels - Total number of bag used = 537 * 4 = 2148 bags - Total expenses/village = 2148 bags * 120000 riel= 257,760,000 riel **= 63,644 $/year**

Table 4: Number of participants in each village

N0	**Village**	**Commune**	**Participant**		**Date**
			Total	**Women**	
1	Chres	Beung Sala Kang Tbong	15	09	March 09, 2011
2	Koh Chamkar		15	08	March 04, 2011
3	Koh Tnout	Prek Kres	14	11	March03, 2011
Total			**44**	**28**	

The second training was the refresh trainings. It was organized in 3 villages, 04 groups, with the participation of 45 participants, 26 women. The objective of the training is to make participants know the way to make compost, be able to compare compost and chemical fertilizer and know how to use both fertilizer effectively. There are 3 main points have been introduce to the participants such as the way to make compost, the component of compost and chemical fertilizer and the appropriate method of compost and chemical fertilizer usage on rice crop.

Usually, there are 04 target villages, 5 groups that have to provide the training in each topic but because of farmers in Chres village are too much busy in growing rice so we missed the refresh training on this topic in Chres village. Below are the tables of participant in both time of training:

Table 5: Number of participants in each village for second training

N0	**Village**	**Commune**	**Participant**		**Date**
			Total	**Women**	
1	Koh Chamkar (Group I)	Beung Sala Kang Tbong	11	05	19 July, 2011
	Koh Chamkar (Group II)		10	06	20 July, 2011
2	Chres				
3	Koh Tnout	Prek Kres	11	08	21 July, 2011
4	Preas Trohing		13	07	20 July, 2011
Total			**45**	**26**	

2.5. Training on chemical pesticides and its negative impact

Two training sessions on chemical pesticide and its impact were provided to SHG's members and other cooperating farmers in three target villages with the participation of 59 participants, 36 women (see the table below). This training was organized in aim at providing

understanding of farmer on type of chemical pesticide and its impact on environment and human wellbeing. Below is the table of participants in the first training

Table 6: Number of participant in each village

N0	Village	Commune	Participant		Date
			Total	Women	
1	Chres	Beung Sala Kang Tbong	19	14	March 17, 2011
2	Koh Chamkar (Group I)		12	6	March 17, 2011
	Koh Chamkar (Group II)		14	6	March 18, 2011
3	Koh Tnout	Prek Kres	14	10	March 16, 2011
Total			**59**	**36**	

The second training was the refresh training. There are five refresh training on chemical pesticide and other pollution factors to environment were organized by which 03 refresh training were organized in June and July. There are 02 main topics that have been introduced in these training. First, focus on the other pollution factors and its impact on human health and environment, especially air pollution, land pollution and water pollution. Second, focus on chemical pesticide and it impact on human health and environment. Below is the table of participants in the second training:

Table 7: Number of participants in each village

N0	Village	Participant		Date
		Total	Women	
1	Koh Chamkar (Group I)	07	03	23 June, 2011
	Koh Chamkar (Group II)	17	06	24 June, 2011
2	Preas Trohing	13	06	24 June, 2011
3	Koh Tnout	07	06	04 July, 2011
4	Chres	21	14	05 July, 2011
Total		**65**	**35**	

2.6. Training on System of Rice Intensification (SRI)

Six training sessions on rice productivity improvement techniques were provide to self help group members and cooperating farmer in the four target village, 5 places/trainings per session.

The first training session was provided in April 25-28, 2011 with the participation of 66 participants, 40 women. The main topics are focus on the rice history, morphology of rice, life cycle of rice crop and introduce some SRI technique. The key farmers for developing the SRI have been selected in this training as well. Below is the table of participants in first training session:

Table 8: Number of participants in first session on SRI and key farmer selected

N0	Village	Commune	Participant		N. Kay farmer	Date
			Total	Women		
1	Chres	Beung Sala Kang Tbong	24	16	2	28 April, 2011
2	Koh Chamkar (Group I)		08	06	2	25 April, 2011
	Koh Chamkar (Group II)		10	04	3	25 April, 2011
3	Koh Tnout	Prek Kres	10	09	2	27 April, 2011
4	Preas Trohing		14	05	3	26 April, 2011
Total			**66**	**40**	**12**	

The second training session was organized from 09-13 May, 2011 with the participation of 74 participants, 48 women. The second training session focuses on the history of SRI, the 12 SRI techniques, 5 principle of SRI and the importance of SRI. Below is the table of participants in second training session:

Table 9: Number of participants in second session

N0	Village	Commune	Participant		Date
			Total	Women	
1	Chres	Beung Sala Kang Tbong	20	16	13 May, 2011
2	Koh Chamkar (Group I)		12	07	l0 May, 2011
	Koh Chamkar (Group II)		14	06	09 May, 2011
3	Koh Tnout	Prek Kres	13	10	11 May, 2011
4	Preas Trohing		15	09	10 May, 2011
Total			**74**	**48**	

The third training was organized from 23-26 May, 2011 with the participation of 67 participants, 40 women. This training session focuses on the review of SRI techniques, life cycle of rice crop, the speed of rice tiller and the interaction between rice leaf and root.

Table 10: Number of participants in third session

N0	Village	Commune	Participant		Date
			Total	Women	
1	Chres	Beung Sala Kang Tbong	21	15	26 May, 2011
2	Koh Chamkar (Group I)		11	05	23 May, 2011
	Koh Chamkar (Group II)		13	08	24 May, 2011
3	Koh Tnout	Prek Kres	11	08	24 May, 2011
4	Preas Trohing		11	04	25 May, 2011
Total			**67**	**40**	

Fourth training sessions on SRI was organized from 08-14 June, 2011 with the participation of 65 participants, 41 women. This session focus on the four strategies to make the rice yield increase forever. These strategies are:

First strategy: Focus on fertility improvement of up soil by using many simple activities
Second strategy: Focus on seed section or seed improvement
Third strategy: Focus on making a good quality of seedling
Fourth strategy: Focus on good condition of transplanting

Table 11: Number of participants in each village

N0	Village	Participant		Date
		Total	Women	
1	Chres	21	16	14 June, 2011
2	Koh Chamkar (Group I)	06	03	08 June, 2011
	Koh Chamkar (Group II)	16	09	10 June, 2011
3	Koh Tnout	09	06	13 June, 2011
4	Preas Trohing	13	07	09 June, 2011
Total		**65**	**41**	

Fifth training session is about IPM (Integrated Pest Management) on rice. It was provided to SHG's members and other cooperating farmer at the four target group. There are 83 participants, 45 women, attended this training. The objective of the training is to let all participants know clearly and can differentiate the harmful insects and useful insects on rice crop and the measure for killing the harmful insects. The trainees were allowed to go to the rice field to observe the insects and its damages and come back to the class to discuss about it.

Table 12: Number of participants in each village

N0	Village	Participant		Date
		Total	Women	
1	Koh Chamkar (Group I)	13	08	20 August, 2011
	Koh Chamkar (Group II)	13	07	21 August, 2011
2	Preas Trohing	15	06	29 August, 2011
3	Koh Tnout	25	13	19 August, 2011
4	Chres	17	11	18 August, 2011
Total		**83**	**45**	

Sixth trainings is about post harvest processings. I was organized in the four target villages with the participation of 88 participants, 46 women. The main objective of the training is to let all participants know about the amount of paddy rice lost each year and remind them to pay much more attention on reduction of the lost. Generally, the farmers did not pay attention on this point, but actually the lost of paddy rice by any factor is very big, from 10-30%. There are 6 main points that have been introduced during the training as mentioned below:

- What is the importance of the best quality of paddy rice?
- How do we identify the good quality of paddy rice and milled rice?
- When is the appropriate time to harvest the rice?
- What is the appropriate method for threshing rice?
- What is the best way for drying paddy rice?
- How to stock the paddy rice safety?

Table 13: Number of participants in each village

N0	Village	Participant		Date
		Total	Women	
1	Koh Chamkar (Group I)	19	09	25 November, 2011
	Koh Chamkar (Group II)	11	06	25 November, 2011
2	Preas Trohing	17	10	13 November, 2011
3	Koh Tnout	21	10	12 November, 2011
4	Chres	20	11	26 November, 2011
Total		**88**	**46**	

3. Support farmers to experiment and develop farm demonstration plots

3.1. Demonstration place establishment

As mentioned in the project document, CIRD project is to support key farmers to develop 2 kinds of demonstration places, compost and SRI. 6 compost demonstration places were established in three target villages such as Koh Tnout, Koh Chamkar and Preas Tror Hing village. CIRD also assists key farmers to develop SRI demonstration places at all target villages. Totally, we have 12

SRI demonstrations. All demonstration places were follow up and coached by the project monthly to make sure that the farmers organized them appropriately.

3.2. 18 key farmers have been selected by CIRD's project from the four target villages. Amongst selected farmers , 06 are key farmers to develop compost demonstration sites and 12 are key farmers to develop SRI demonstration plots. CIRD's project built the capacity of all of them to be key persons for other farmers to consultand learn from in the villages, in term of rice production improvement techniques. To build the capacity of key farmers, 08 meetings were organized in different topics as mentioned below:

First meeting was organized on 28 April, 2011 at Thmor Baerk pagoda in Koh Chamkar village with the participation of 13 participants, including 04 women. They were selected from the four target villages (five groups) such as Koh Tnout, Preas Trohing in Prek Kres commune and Koh Chamkar and Chres village in Beung Sala Khangtbong commune.

Second monthly meeting with key farmer was organized on May 27, 2011 at Thmor Baerk pagoda in Koh Chamkar village with the participation of 15 participants, including 5 women. The objective of the meeting is to discuss about the preparation of SRI demonstration plots such as the objective of the demonstration, methodology and data collection sheet introduction.

Third monthly meeting with key farmer was organized on June 27, 2011 at Thmor Baerk pagoda in Koh Chamkar village with the participation of 14 participants, 3 women. The objective of the meeting is to follow up the preparation of SRI demonstration, introduce the concept of quality of life and its importance, and the bad habit change method.

Fourth meeting with key farmer was organized on July 26, 2011 at Thmor Baerk pagoda in Koh Chamkar village with the participation of 17 participants, 5 women. The objective of the meeting is to follow up the preparation of SRI demonstration and calculate the cost of rice production.

Fifth meeting with key farmers was organized on 24 August, 2011 at Thmor Baerk pagoda with the participation of 18 participants, 07 women. The objective of the meeting is to follow up SRI demonstration place preparation, refresh training on SRI techniques and reflection on the roles and responsibilities of key farmers.

Six meeting with key farmers was organized on 21 September, 2011 at Tmor Beark pagoda with the participation of 18 participants, 09 women. The objective of the meeting is to follow up SRI demonstration farms and compost demonstration places and provide the training on soil fertility improvement.

Seventh meeting was organized on 01 November, 2011 at Thmor Baerk pagoda in Koh Chamkar village with the participation of 22 participants, 12 women. The main objective of the meeting is to follow up SRI demonstration farms, situation of the flood and its impact on the project beneficiaries and finding solution for the project beneficiaries who were affected by the flood.

The last meeting was organized on 27 November, 2011 at Thmor Baerk pagoda in Koh Chamkar village with the participation of 20 participants, 10 women. The main objective of the meeting is to follow up SRI demonstration farms, review what been done so far and discuss about the organization of the rice field forum .

Table 14: Number of participants in each training

No	Meeting	Number of Participants		Date
		Total	Women	
1	First meeting	13	04	28 April, 2012
2	Second meeting	15	05	27 May, 2012
3	Third meeting	14	03	27 June, 2012
4	Fourth meeting	17	05	26 July, 2012
5	Fifth meeting	18	07	24 August, 2012
6	Sixth meeting	18	09	21 September, 2012

7	Seventh meeting	22	12	01 November, 2012
8	Eighth meeting	20	10	27 November, 2012

4. Thematic workshop on compost

Two thematic workshops were organized. Many topics were introduced during these workshops by using several kinds of facilitation methods.

The first thematic workshop on compost was organized on July 27, 2011 at Thmor Baerk pagoda in Koh Chamkar village with the participation of 29 participants in which 16 women. This workshop was organized with the aim of sharing experiences from key farmers who developed compost demonstration places to other farmers and to do reflection on compost making so far.

The second thematic workshop was organized on September 22, 2011 at Thmor Baerk pagoda with the participation of 23 participants, 09 women. The objective of this thematic workshop is to let all key farmers who developed compost demonstration places share the situation of their compost site to all participants.

Table 15: Number of participants in each workshop

No	Workshop	Number of participants		Date
		Total	Women	
1	First workshop	29	16	27 July, 2012
2	Second workshop	23	09	22 September, 2012

5. Thematic workshops on SRI

Two thematic workshops on SRI were organized. These workshops were organized to let all farmers share their experiences on rice growing technique, challenges and solutions. Group discussions and group presentations were held.

The first thematic workshop was organized on August 25, 2011 at Thmor Baerk pagoda in Koh Chamkar village with the participation of 16 participants in which 08 women. This workshop was organized with the aim of sharing experiences from key farmers who had established SRI demonstration plots to other farmers and to do reflection on SRI implementation so far.

The second thematic workshop was organized on September 14, 2011 at Thmor Baerk pagoda in Koh Chamkar village with the participation of 25 participants in which 10 women. The aim of this workshop is to share experiences on rice seed purification and germination testing. Generally, after the workshop all participants learnt a lot on the topic introduced because they have discussed and shared and presented what they have learnt and known.

Table 16: Number of participants in each workshop

No	Workshop	Number of participants		Date
		Total	Women	
1	First workshop	16	08	25 August, 2012
2	Second workshop	25	10	14 September, 2012

6. Thematic workshops on IPM (Integrated Pest Management) on rice

Two thematic workshops on IPM on rice were organized. These workshops were organized to let all farmers representative share their experiences to each other on how to manage their rice crop effectively. Several topics were discussed and many good experiences have been shared among the participants and the facilitator as well. During the workshop, they also share from each other on

what they have met and seen on the negative impact of chemical pesticide used in their villages. Finally, through this workshop, all participants know clearly about the core factors that make their rice field damage more and more from year to year by the insect and they also know clearly on the negative impact of the chemical pesticide.

The first one was organized on August 30, 2011 at Thmor Baerk pagoda with the participation of 20 participants, 09 women. The objective of the meeting is to let all participants know about the eco-system of rice and the importance of its interaction.

Second thematic workshop on IPM on rice and chemical pesticide was organized on September 13, 2011 at Thmor Baerk pagoda with the participation of 23 participants, 08 women. The objective of the meeting is to let all participants know about the eco-system of rice and the importance of its interaction.

Table 17: Number of participants in each workshop

No	Workshop	Number of participants		Date
		Total	Women	
1	First workshop	20	09	20 August, 2012
2	Second workshop	23	08	13 September, 2012

7. Rice seed distribution to project cooperating farmers victims of destructive flood

One rice seed distribution was organized on 18 November, 2011 at Thmor Baerk pagoda by inviting 68 project beneficiaries from the four target villages. The rice seed variety distributed by the project was the IR 504 seed which takes only 75-80 days for maturing. Each farmer received 15 kgs of the seed. The project invited all relevant stakeholders to participate in this rice seed distribution event such as village chiefs, commune councils of both communes, Preak Kres and Beung Sala Kang Tbong, chief of district of agriculture office and the district governor.. As planned, all 68CIRD project beneficiaries were provided the IR 504 seed for using the water receding rice technique after the flood started to recede. 20 households of the total 88 project beneficiaries decided not to take the IR seeds because their rice fields were not affected by the flood. It is to be noted that we had first planned to distribute at least 20 kgs of rice seeds per household but because of the seed price increase during that exceptionnal flood we were able to distribute only 15 kg per household. This quantity is considered sufficient for their rice field surfaces.

The objective of the seed distribution was to provide rice seeds to farmers who had lost their crops in the destructive flood, to allow them to have seeds to harvest in order to secure food and income for next rice growing session. This will allow them to reduce their vulnerability and reliance from the Birds reserve and give them a new chance to continue growing rice and not to sell their lands due to the deficit of income caused by this exceptional flood.

17 households were able to use the receding water technique to grow their received seeds. The remaining recipients decided to use their seeds for the next raining season because they have more chance to succeed with a good harvest.

Table 17: Result of rice seeds distribution

No	Village	Number of seed recipients	Total amount of seed (Kg)	Number of farmer growing the seed
1	Koh Tnout	23 Households	345	11
2	Preas Tror Hing	16 Households	240	5
3	Koh Chamkar	07 Households	105	0
4	Chres	22 Households	330	1
Total		**68**	**1020**	**17**

8. Organization of rice field forum

One rice field forum was organized on 28 November, 2011 at Koh Chamkar village with the participation of 46 participants, 26 women. The main objective of the rice field forum is to measure the yield of rice which has been experimented, SRI plot versus conventional plot. Through theobtained result, all participants had noticed clearly on the difference between SRI and conventional method for growing rice. In the rice field forum, 2 places, 4 m^2 per place, were harvested in SRI plot and 2 places were harvested in conventional plot. 1 place is a good production place and another place is medium. Below is the result of the rice field forum:

Conventional plot:	**SRI plot:**
- Good place = 1,85 kg - Medium place = 1,45 kg **Total = 3.3 kg** So, in 1 m^2 = 3.3 kg/ 8 m^2 = 0.4125 kg - 1 ha = 0.4125 * 10000 = 4125 kg we have to take out 10% of moisture from the grain, so finally 1 ha = 4125 *0.90 **= 3712 kg**	- Good place = 2.35 kg - Medium place = 2.10 kg **Total = 4.45 kg** So, in 1 m^2 = 4.45 kg/ 8 m^2 = 0.5562 kg - 1 ha = 0.5562 * 10000 = 5562 kg we have to take out 10% of moisture from the grain, so finally 1 ha = 5562 *0.90 **= 5006 kg**

If we compare the yield per ha, we see that the SRI plot is **1294 kg** higher than conventional plot. Base on the recent price of paddy rice, 1200 riel/kg, farmers will earn **1,552,800 riels** more from applying SRI (equivalent to USD382 when using 1USD=4065 KHR conversion rate).

9. Project end workshop held on 27th december 2011 in Kampong Trach city

All stakeholders decided that a project end workshop should be organized on 27 december 2011 to (I) show the achievements of the project (ii) to restitute the findings of the feasibility study on valueing the rice produced by the farmers reliant on the Sarus Crane reserve and (iii) to propose activities to continue the project with a phase two. All stakeholders, authorities and civil societies were invited. The following had attended the workshop: The National Director of the Forest and biodiversity department of the Ministry of Agriculture and its close collaborators, the National Officer in charge of the Anlung Pring Sarus Crane reserve,The kampong trach governor representative, the head of the District Agriculture Office, the commune council representative of Boeng sala Khangtbaung and Prek Kroeus communes, Birdlife Cambodia, CEPF-RIT Cambodia, WWT, Mlup Baitong, and the project cooperating farmers.

Mlup Baitong, WWT and CIRD presented their achievements. CIRD project Director presented the key findings of the Feasibility study on valueing the rice produced by the farmers. He also presented a proposal on how to value the rice that is produced in the area and provided some hints about the income generated to support the conservation of Sarus Cranes. A few pictures illustrating the rice standard, the labels of the rice were shown. Rice packaged in plastic bags with labels and standard were distributed to the audience for their appreciation oh how the future rice produced in the Anlung Pring area will reach urban, national and international markets. This packaged and labelled rice was much appreciated and sollicited by the audience.

The government and the local authorities representatives had opportunities to explain their current policies and were pleased by the achievements of the project which objectives fit nicely with the government priorities strategy. They all wished that the project phase two they strongly support will find a funding and will allow the project to continue its phase two. The full audience was strongly in favour of the continuation of the project. The project was evaluated as successful by most participants.

Achievements of project impacts

(covering November 2010 to December 2011 activities)

Achievement of project goal (long term)	
Planned vs. Actual Performance	
Indicator	Actual
To strengthen conservation of Sarus Crane and other globally and nationally threaten species in Kampong Trach Sarus Crane reserve, through improved community agro-biodiversity sustainable development initiatives	Improved community agro-biodiversity sustainable development initiatives were implemented through building the capacity of farmers reliant on the conservation area to use SRI techniques, organic fertilizers and biodiversity friendly integrated pest management to grow rice. This eco and wildlife friendly farming system participated in strengthening the conservation of Sarus Cranes and other globally and nationally threaten species in Kampong Trach.

Achievement of specific objective 1 (short term)	
Planned vs. Actual performance	
Indicator	Actual
To build the capacity of at least 100 farmer households whose livelihoods are reliant on the conservation area, through improved rice production	Capacity building was successfully provided as planned. 88 farmers reliant on the conservation area, had been trained in SRI rice growing techniques and their capacity developed. 88% of the objective 1 has been achieved.

Achievement of expected results of objective 1	
Planned vs. Actual Performance	
Indicator	Actual at mid-term
The capacity of at least 100 farmers households is increased after learning and adopting an innovative agro-biodiversity (= agro-ecology) system and new sustainable agricultural production techniques.	88 farmers were trained to adopt an innovative agro-ecology/biodiversity system and new sustainable agricultural production techniques. Their capacity was raised. 88 % achieved.

Achievement of proposed activities in objective 1	
Planned vs. Actual Performance	
Indicator	Actual at mid-term
a. Base-line Survey: A baseline survey will be conducted in 3 target villages at the beginning of the project. 3 discussion groups will be established for data collection. At least 120 households selected from the 3 target villages will be individually interviewed.	A baseline survey had been conducted. 120 households were selected from the 3 target villages and were individually interviewed. 3 focus groups discussion totalizing 36 participants had been organized. A report containing the findings was released. 100% achieved
b. Training sessions in Rice Intensification technique, compost making and good practices for chemical fertilizer &pesticides usage and its negative impact for self-help groups and cooperating farmers will be organized on monthly basis. Technical support sessions will be provided to key farmers to assist them to apply the new agriculture techniques learned into their demonstration farms.	Rice intensification trainings: 100% achieved Compost making & natural fertilizer trainings: 100% achieved Chemical pesticides and its negative impacts trainings: 100% achieved Technical support sessions had been provided to assist key farmers to apply the agriculture techniques learned into their demonstration farms : 100% achieved
c. Support farmers to experiment and develop farm demonstration: 15 volunteer key farmers will be selected to transform their farms into an agriculture demonstration farm for other farmers to learn agricultural innovations. 15 demonstration farms (9 SRI and 6 compost making) will be established per village.	18 key farmers (instead of 15 as indicated in the propject proposal) were selected to experiment and develop demonstration farms. (120% achieved). The 3 additional key farmers were selected from the fourth target village (preah trohing village). A total of 18 demonstration farms (only 15 planned) were established: 6 compost and 12 SRI rice demonstration farms. (120% achieved)
d. Organize 6 thematic workshops: 2 workshops for each of the following thematic group will be organized: 1) Improved rice production techniques; 2) Compost making and negative impact of chemical fertilizer&pesticides usage, 3) Integrated pest management and pesticides and its impact.	6 thematic workshops were organized: 2 workshops for each of the following thematic group were organized: 1) Improved rice production techniques; 2) Compost making and negative impact of chemical fertilizer&pesticides usage, 3) Integrated pest management and pesticides and its impact. 100 % of the objective has been achieved
e. Organization of the rice field forum: This forum will be organized in the rice harvest season (November 2011 to January 2012) with the purpose of offering a comparison between the SRI yield and traditional rice production.	A rice field forum gathering 46 participants had been organized to compare the yield produced by an SRI plot (5006 Kg/Ha) and a traditional plot (3712 Kg/Ha). The SRI plot produces 1294 Kg more of paddy.

Achievement of project objective 2	
Planned vs. Actual Performance	
Indicator	Actual
To carry out a feasibility study for increasing the value of rice produced by farmers reliant on the	A feasibility study for increasing the value of rice produced by farmers reliant on the kampong Trach

Kampong Trach Sarus Crane protected area.	Sarus Cranes protected area had been conducted. The key findings were restituted in the project end workshop held on the 27th of december 2011 during which all stakeholders were invited and had attended. A report was released.

Achievement of expected results of objective 2	
Planned vs. Actual performance	
Indicator	**Actual**
a) A study report listing the findings, expressing recommendations for action is produced. b) A project outline proposing activities leading to the establishment of a rice quality standard with a labeled brand product for the national and international market is proposed to provide long-term support to the Sarus Cranes Conservation site.	a) A study report listing the findings, expressing recommendations for action was produced and released. **b)** A project outline proposing activities leading to the establishment of a rice quality standard with a labelled brand product for the national and international market was proposed to provide long-term support to the Sarus Cranes Conservation site.

Please provide the following information where relevant:

Hectares Protected: 217 Ha

Species Conserved: Sarus Cranes and other globally threaten species

Corridors Created: After adoption of an agro-ecology system, farmers will develop eco-biodiversity friendly practices on their rice fields, thus developing a biodiversity conservation conducive environment surrounding the Anlung Pring Sarus Cranes Reserve. No corridor is created but a "zone tampon" between human activities and the birds reserve.

Describe the success or challenges of the project toward achieving its short-term and long-term impact objectives.

The project was successful in achieving its short-term objectives and expected activities according to its project workplan. The specific objective 1 dealing with building capacity of the farmers is achieved as planned. Only the recruiting of cooperating farmers, farmers who voluntarily accept to follow the training sessions, met some difficulties. Although we have added one more village as target village number 4 (Preah Trohoeng village because this latter is also adjacent to the birds reserve), we were able to recruit only 88 farmers instead of 100, accepting to be trained in agro-biodiversity/ecology system. Many small holder farmers and particularly the landless farmers stated they are too poor, they cannot attend trainings because they need to find immediate income by working in the construction industry in the nearby growing cities of Kep (Cambodia) and Hatien (Vietnam), this latter is just across the border.

The feasibility study on rice valuation had been conducted successfully. The only difficulty met was about getting the information on the organization of the Ibis rice production and its marketing under the wildlife friendly rice label. The organization who is producing that rice stated that marketing this rice has been quite challenging, the organization and information on the production and marketing of this product are critical for them so they wish to keep their production process confidential to any competitor on this market niche.

Despite the above difficulty, the rice valuation feasibility study was successfully conducted and had delivered its finding as needed.

Were there any unexpected impacts (positive or negative)?

The only unexpected impact to the project was the impact of the very exceptional flooding that hit the Sarus Cranes reserve and its riparian villages in october and November 2011. This flood had affected and impacted severely the project area and its communities. It was estimated that 70 percent of the rice crops were destroyed by the one month plus flooding and by the rats.

Many of our project farmers lost their rice seeds and were not in the situation of growing the next rice crops. Such situation will lead to farmers losing their annual income and facing a subsequent food shortage. Following their request for an emergency assistance in providing rice seeds and after a positive approval from CEPF/BirdLife, the project had arranged an emergency distribution of rice seeds to 68 project farmers in needs on 18 november 2011.

Lessons Learned

Describe any lessons learned during the design and implementation of the project, as well as any related to organizational development and capacity building. Consider lessons that would inform projects designed or implemented by your organization or others, as well as lessons that might be considered by the global conservation community.

The difficulty in recruiting farmers accepting to attend capacity building trainings is a hard lesson learned. We had not anticipated that poor and vulnerable landless or very small holder farmers may refuse to attend capacity building trainings. Because they are too poor, they have to work everyday to earn money on a day to day basis. Without land they cannot grow and generate agricultural incomes like land holder farmers. These landless or very small holder farmers need to sell their labor on a daily basis in order to secure their livelihood. This vulnerable group belongs to a group of about one hundred households identified by the feasibility study as households who have 4 to 5 months rice deficit in a year. A solution to get them to build their capacity is to pay them for the time they are attending trainings. Thus budgeting this expense is difficult and adopting this solution may be challenging the good spirit of the farmers who volunteer for capacity building without being remunerated.

The second lesson learned concerns the project duration. The CEPF small grant is intended for one year (12 months) project duration. The once per year rainfed rice production cycle requests that trainings schedule on SRI techniques is in coherence with the raining season and respects the rice production cycle. Therefore this project had to last 14 months instead of 12.

The third lesson learned is the unexpected flooding/disaster. The severe flood that hit the project site in October and November 2011 had impacted on and upset our project planned activities. Rural development Project in this project area should take into consideration the Climate change issue and particularly flooding and drought.

Project Design Process: (aspects of the project design that contributed to its success/shortcomings)

The project design was designed with activities to fit approximately the one year project duration. The project design process took into consideration the rice production cycle. Proposed project activities were designed approximately in coherence with that cycle. The project duration of 14

months contributed to the project success.

Project Implementation: (aspects of the project execution that contributed to its success/ shortcomings)

One aspect of the project execution that contributed to its success is adapting implementation activities to produce the expected results. We had to recruit additional trainers in order to provide appropriate technical trainings to the cooperating farmers at the appropriate time in order to respect their rice production cycle. The only shortcoming in the project is the recruitment of farmers to attend trainings. We have over-estimate the number of farmers we can recruit per each village. We had to recruit in a fourth village in order to obtain a total of 88 cooperating farmers. Subsequently we had to increase the number of trainings sessions from 36 as proposed to 60 sessions. Understandably we had to spend additional time and money for these additional training sessions. This was made possible by dedicated CIRD project staff and consultants providing their over-time free of charge.

Other lessons learned relevant to conservation community: We have noted that Conservation awareness raising is well suited with capacity building training sessions. Trainees are in a suitable position to better understand conservation issues.

ADDITIONAL FUNDING

Provide details of any additional donors who supported this project and any funding secured for the project as a result of the CEPF grant or success of the project.

Donor	Type of Funding*	Amount	Notes
N/A	N/A	N/A	N/A

Additional funding should be reported using the following categories:

A) *Project co-financing (Other donors contribute to the direct costs of this CEPF project)*
B) *Grantee and Partner leveraging (Other donors contribute to your organization or a partner organization as a direct result of successes with this CEPF project.)*
C) *Regional/Portfolio leveraging (Other donors make large investments in a region because of CEPF investment or successes related to this project.)*

Sustainability/Replicability

Summarize the success or challenge in achieving planned sustainability or replicability of project components or results.

The sustainability of any project depends very much on how the target beneficiaries will continue to get the same benefit after the project phasing out. 18 demonstration farms have been established and 18 key farmers have their capacity enhanced so they can play an important role in continuing to disseminate what they have learnt from the project to other cooperating farmers or to other local farmers of the protected area.

The project trained key farmers to be future trainers, trainers of trainers (TOT). This is the good sustainability factor. We have trained the project key farmers in agro-ecology/biodiversity system, after the project end the key farmers will transmit this knowledge to other local farmers.

The 88 households had benefited from learning about the agro-biodiversity system and will continue to apply the new and innovative agricultural techniques in the long run. They can also teach this new technology to other farmers.

CIRD had initiated ownership and participatory approaches from the start of the project. At the end of the project, responsibilities and ownership were handed over to all beneficiaries under the witness of local authorities when they visited our activities in the field and during the project end workshop held on 27 the december 2011..
CIRD had collaborated closely with all partners and stakeholders including WWT, BirdLife International, Mlub Baitong who are working in Kampong Trach IBA to develop a site management plan and develop milestone project for longer term conservation and communities livelihood improvement activities. A monthly coordinating meeting was held to allow every partner to follow-up the implementation activities progress of each organization and to adopt eventual corrective action leading to a smooth construction of a management plan for the birds reserve.

Summarize any unplanned sustainability or replicability achieved.

18 demonstration farms (6 compost and 12 SRI rice demonstration farms) have been established. 18 key farmers received effective practical savoir faire and 88 cooperating farmers have learnt the agro-biodiversity/ecology system. These 88 farmers now have the capacity to continue their wildlife friendly rice growing practices in the future. These constitute the replicability achieved. These 88 cooperating farmers will apply their newly acquired capacity to improve their livelihood and support the conservation efforts after the project end..

Safeguard Policy Assessment

Provide a summary of the implementation of any required action toward the environmental and social safeguard policies within the project.
The project has no adverse activities toward the CEPF environmental and social safeguard policies.

Additional Comments/Recommendations

Information Sharing and CEPF Policy

CEPF is committed to transparent operations and to helping civil society groups share experiences, lessons learned, and results. Final project completion reports are made available on our Web site, www.cepf.net, and publicized in our newsletter and other communications.

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Picture 1-2: Training on natural fertilizer and compost making at Koh Thnout and Chres village.

Picture 3-4: Training on negative impact of chemical fertilizer at Koh Chamkar and Koh Thnout village

Picture5-6: Training on SRI at Koh Chamkar and Preas Tror Hing village

Picture 7-8: Compost demonstration place at Koh Chamkar village

Picture 9: SRI rice demonstration field during a key farmers study visit ; Picture 10: First Focal Group Discussion of the Rice Valuation feasibility study.

Picture 12-SRI rice demonstration site SRI plot and the traditional plot.

13: Rice Forum to compare the yield of the

Picture 14: Rice seeds distribution with local authorities Picture 15: Rice seeds recipients

Picture 16: EndProject and Feasibility study findings restitution workshop 27 december 2011; Picture 17: Proposed rice standard

Picture 18: Mention of funding source

Picture 19: Anlung Pring Sarus Cranes reserve's rice: Jasmine variety