

Annual Activities Report of The System of Rice Intensification (SRI) Secretariat

January to December 2005



Implemented by: Department of Agronomy and Agricultural Improvement (DAALI) in cooperated with Centre d'Etude et de Développement Agricole Cambodgien

Supported by: Food Security and Nutrition Policy Support Project (FSNPSP/GTZ)

**Compiled by: Chey Tech and Heang Rattana,
SRI Secretariat at DAALI/MAFF**

Table of Content

	<i>page</i>
List of Acronyms.....	2
I. Background to the SRI Secretariat.....	4
II. Key Responsibilities of the SRI Secretariat.....	4
III. Main Activities and Results.....	5
1. Organize SRI Working Group Meetings.....	5
2. SRI inter-provincial dissemination workshops.....	5
3. Production of SRI Documents and Learning Materials.....	6
4. SRI data collection.....	6
5. SRI Website development.....	7
6. SRI Field Visit Organization.....	7
7. Annual Country Progress Report on SRI.....	8
IV. Impact of SRI Secretariat.....	8
V. Lessons Learned and Recommendations for Further Action.....	9
VI. Conclusions.....	10
VII. Annexes.....	11
Annex 1: 2004 SRI Data.....	11
Annex 2: Minutes of 1st SRI Working Group Meeting in 2005.....	12
Annex 3: Minutes of 2nd SRI Working Group Meeting in 2005.....	15
Annex 3: Minutes of national Debate meeting on SRI.....	17
Annex 4: Minutes of 4 th SRI Working Group Meeting.....	22

List of Acronyms

ADB	Asian Development Bank
ADOVIR	Association for Development and Our Villager Right, based in Battambang province
AFD	Agence Francaise de Developpement (French Development Agency)
AQIP	Agricultural Quality Improvement Project
AS	Aphiwat Satri, NGO based in Battambang province.
AustCARE	Austcare, NGO
AusAID	Australian Agency for International Development
BDASE	Buddhist Development Association and Supporting Environment, NGO based in Pursat province
BS	Banteay Srei, based in Phnom Penh
CAAEP	Cambodia Australia Agricultural Extension Project
CARDI	Cambodian Agricultural Research and Development Institute
CARD	Council for Agricultural and Rural Development, Council of Ministers
CCK	Chamroeun Cheat Khmer, NGO based in Takeo province
CT	Chet Thor, NGO based in Prey Veng province
CEDAC	Centre d'Etude et de Développement Agricole Cambodgien (Cambodian Centre for Agricultural Studies and Development)
CRS	Catholic Relief Services, NGO based in Svay Rieng province
DAALI	Department of Agronomy and Agricultural Land Improvement, MAFF
DAE	Department of Agricultural Extension, MAFF
DKC	Development Khmer Community, NGO based in Kampong Cham province
FAO	Food and Agriculture Organization of the United Nations
FIDAC	Federation Integrated Development Agriculture in Cambodia, NGO based in Siem Reap province
FLD	Farmer Livelihood Development, NGO based in Kandal province
FLI	Farmer Livelihood Improvement, NGO based in Svay Rieng province
FODA	Farmer Organic Development Association, NGO based in Battambang province
FSNIS	Food Security and Nutrition Information System
FSNPSP	Food Security and Nutrition Policy Support Project
GAA	German Agro Action
GTZ	German Technical Cooperation
HEKS	Hilfswerk der Evangelischen Kirchen Schweiz, NGO based in Phnom Penh
IO	International Organization
IPM	Integrated Pest Management
JICA	Japan International Cooperation Agency
JVC	Japan Volunteer Cooperation
KAWP	Krom Aphiwat Phum, NGO based in Battambang province.
KFA	Khmer Farmer Association, NGO based in Kandal Province
KNKS	Koma Ney Kdey Sangkhem, NGO based in Pursat
KNT	Kunathor, NGO based in Battambang
LWF	Lutheran World Federation, NGO based in Kampong Speu province
MAFF	Ministry of Agriculture, Forestry and Fisheries
MB	Mlup Baitong, NGO based in Phnom Penh
NAPA	National Prosperity Association, NGO based in Kampong Speu province
NAS	Neak Aphiwat Sahakum, NGO based in Kampong Cham province.
NGO	Non Governmental Organization
Oxfam GB	Oxfam Great Britain
PADEK	Partnership for Development in Kampuchea
PDA	Provincial Department of Agriculture
PDAO	Peace and Development Aid Organization, NGO based in Takeo province
PNKS	Punleu Ney Khdey Sangkhem, NGO based in Prey Veng province
PRASAC	Support Program for the Agricultural Sector in Cambodia
PTEA	Po Thom Elder Association, NGO based in Svay Rieng province
RDA	Rural Development Association, NGO based in Battambang province.
RDP	Rural Development Project

RUA	Royal University of Agriculture
SRI	System of Rice Intensification
SS	Sante Sena NGO based in Svay Rieng province
Srer Khmer	Srer Khmer Organization
TWGAW	Technical Working Group on Agriculture and Water
USAID	United States Agency for International Development
VSG	Village Support Group, NGO based in Battambang

I. Background to the SRI Secretariat

The System of Rice Intensification was originally developed in Madagascar. It is a set of sustainable rice farming technologies that can help small farmers to significantly increase their rice yields without depending on hybrid seeds, chemical fertilizers and pesticides. It is a low-input technology, which can be flexibly applied based on the enabling factors (farm condition etc.).

Since 2000 a number of organizations and local NGOs¹ have implemented the SRI approach on a pilot level to investigate how these techniques work under different agro-climatic and soil conditions as well as to further develop SRI methods in the Cambodian context. In 2002, approximately 2600 farmers were working with SRI elements on various scales. By late 2005, an estimated 34,000 farmers were using elements of SRI methods.

In order to facilitate the systematic analysis of experiences with SRI in Cambodia, GTZ/FSNPSP in cooperation with DAALI, CEDAC and GTZ/RDP supported an independent consultancy mission in early 2004 to carry out a study on the impact of SRI in Cambodia.

The findings of the study were presented and discussed in a national workshop, organized by the Council for Agricultural and Rural Development (CARD) in April 2004, in cooperation with the Department of Agronomy and Agricultural Land Improvement (DAALI) of MAFF.

The findings of the study showed that despite several positive impacts of SRI such as higher yield with low inputs, and higher land and labor productivity, many open questions such as water management, nutrition balance, adaptability and sustainability of yields remain. Although the number of stakeholders and farmers implementing SRI has increased, coordination and networking among stakeholders, and documentation of experiences with SRI in Cambodia, remain insufficient.

Therefore, to encourage SRI promotion, strengthen coordination and better document best practices and lessons learnt with regard to the enabling and constraining factors of SRI, a working group on SRI was formed under the chairmanship of MAFF/DAALI as a thematic sub-group under the umbrella of the Technical Working Group on Agriculture and Water (TWGAW). The members of the SRI working group subsequently agreed to establish a Permanent Secretariat to support their activities.

II. Key Responsibilities of the SRI Secretariat

The key responsibilities of the SRI Secretariat are to coordinate, disseminate, document and facilitate information and knowledge management with regard to SRI, as well as promote networking among stakeholders (implementing agencies, policy and donor institutions, etc). This includes organisation of SRI Working Group meetings, SRI workshops, field visits and an annual national conference; support to MAFF for data collection on SRI-related topics; maintenance and update of the SRI website; production of promotional/educational material for print and broadcast media; and a number of other activities.

¹ CEDAC, Oxfam GB and Oxfam America, GTZ-RDP and PRASAC

III. Main Activities and Results

1. Organize SRI Working Group Meetings

SRI Working Group meetings were organized four times by the SRI Secretariat. The aims of the meetings were to bring together all concerned national and international institutions and donors to discuss the role of SRI and of the SRI Secretariat, and share information related to SRI (please see Annexes 1-4 for more details).

Table 1: SRI Working Group meetings

Date	Topics	Participants	Institutions
04 Feb 05	<ul style="list-style-type: none"> - Discuss and comment on SRI Secretariat Action Plan for 2005. - Discuss and comment on SRI national workshop concept; - Discuss and comment on SRI research proposal. 	22	DAALI, GTZ/RDP, GTZ/FSNPSP, JVC, RUA, ADB, PADEK, FAO, AFD, CARD, CEDAC, JICA, DAALI, AustCARE, MAFF
21 Mar 05	<ul style="list-style-type: none"> - Presentation by Prof. Norman Uphoff from CIIFAD on SRI's Potential for Food Security in Cambodia. - Presentation of Dr Yang Saing Koma from CEDAC on "Progress of SRI in Cambodia". - Questions & answers, discussion 	31	DAALI, DED, GTZ/RDP, GTZ/FSNPSP, JVC, RUA, ADB, PADEK, FAO, AFD, CARD, CEDAC, JICA, UMC, SRI Farmers, AustCARE, CIIFAD, CARDI, AQIP, ACIAR
07 Jul 05	<ul style="list-style-type: none"> - Presentation and comment on the SRI Website - Presentation and comment on progress of SRI Secretariat activities. - Discuss and comment on SRI research. 	23	PADEK, AQIP, DAE, JVC, CAAEP, AustCARE, CARD, GTZ/RDP, CEDAC, AusAID, RUA, CBRDP, DAALI, MAFF, GTZ/FSNPSP, ADB, CARDI
19 Oct 05	<ul style="list-style-type: none"> - Presentation of rotary weeder by Mr Kunihiro Tokida, Battambang Agricultural Productivity Enhancement Project (BAPEP). - Discussion and comment on the proposed work plan and budget of SRI Secretariat for 2006. 	18	DAALI, JICA, GTZ/FSNPSP, PTW, CEDAC, GTZ/RDP, AQIP, IWMI, GAA, AusAID, CARDI, AFD, MAFF, IPM

The SRI Working Group meetings made a lot of progress in supporting SRI promotion and SRI development. The Working Group also brought together stakeholders with differing views on SRI to discuss SRI-related issues. One of the major achievements of the meetings included the initiation of two long-term research studies on SRI by the Royal University of Agriculture (RUA) and Mohareusey Vet University (MVU).

2. SRI inter-provincial dissemination workshops

SRI inter-provincial dissemination workshops were organized on three separate occasions by the SRI Secretariat in cooperation with Provincial Departments of Agriculture (PDAs) in Battambang, Takeo and Kampong Cham province. The workshops brought together 305 participants including government officials, IOs, NGOs, researchers, and SRI/non-SRI farmers. The main purposes of the workshops

were to review SRI Progress in 2004; strengthen SRI knowledge and SRI dissemination, share SRI experience, best practice and lessons learnt; and discuss SRI activities planned for 2005.

Table 2: SRI inter-provincial workshops

Date	Venue	Participants	Institutions
18 March 05	Rural Development Committee Office, Takeo province	85	MAFF, DAALI, CEDAC, NAPA, MB, HEKS, CIIFAD, IPM, PDA Takeo, PDA Kampot, PDA Kampong Speu, PDA Kandal, FLD, CCK, Rachana, PDAO, GTZ and Farmers
30 May 05	Phnom Pros Hotel, Kampong Cham province	95	MAFF, PDA Kampong Cham, PDA Kampong Thom, PDA Svay Rieng, PDA Prey Veng, CEDAC, GRET, CRS, GTZ, DAALI, PNKS, NAS, IPM, and Farmers
30 Jun 05	PDA Battambang province	125	MAFF, PDA Battambang, PDA Banteay Meanchey, PDA Kampong Chhnang, PDA Pursat, PDA Siem Reap, BS, VSG, RDA, Kunathor, KAWP, AS, Chivit Thmey, FODA, KNKS, CEDAC,

The SRI inter-provincial workshops brought many participants from 13 provinces². A total of 305 people from different institutions took part in the workshops, including experienced SRI farmers, non-SRI farmers, and officials of Provincial Departments of Agriculture (PDAs), IOs and NGOs.

The workshops enabled participants to more clearly understand the progress of SRI, and its principles and techniques, through presentations by farmers, technical advisers, and discussion among workshop participants.

As a result of the inter-provincial workshops, non-SRI farmers started to apply SRI techniques in wet season 2005. Moreover, SRI farmers are increasing the amount of land devoted to SRI and all PDAs are promoting SRI in their communities.

3. Production of SRI Documents and Learning Materials

For the training on SRI, learning materials were needed to facilitate the learning and understanding of farmers/trainees. The Secretariat produced SRI documents and learning materials such as 20,000 SRI leaflets, 200 SRI VCDs, and 60 sets of SRI posters. We also distributed these to all implementing agencies and other interested stakeholders.

4. SRI data collection

The Secretariat collected data on SRI in 2004 from more than 32 NGOs/institutions, and found that in 2004 there were approximately 17092 farmers who applied SRI in 1397 villages, 318 communes, 128 districts and 17 provinces around Cambodia

² Takeo, Kampot, Kampong Speu, Kandal, Svay Rieng, Prey Veng, Kampong Cham, Kampong Thom, Siem Reap, Battambang, Banteay Meanchey, Pursat and Kampong Chhnang.

(please see Annex 1 for more details). SRI coverage data for 2005 is being updated and will be completed in February 2006.

5. SRI Website development

The SRI Secretariat cooperated with the Food Security and Nutrition Information System website team to develop an SRI Website, in Khmer and English, hosted on the FSNIS website. The website was launched in September 2005. There are many kinds of documents put on the website such as principle and techniques of SRI, article quoted from other media, SRI photo gallery, news and events and link to other website address. Documents continued to be added in both English and Khmer, and articles were written on various events organized (for more detail, please go to SRI website at www.foodsecurity.gov.kh/sri).

6. SRI Field Visit Organization

The SRI Secretariat directly organized two SRI field visits and collaborated with MAFF PDAs³ to organize eight other field visits. The participants (including farmers, local authorities and other stakeholders) gained more understanding on the opinion of SRI and non-SRI farmers regarding the SRI approach and on SRI components applied by farmers with different socio-economic status and agricultural conditions. The participants had a lot of opportunity for discussion and sharing experience with each other. After learning from SRI farmers both in theory and in practice, those without previous experience in implementing SRI started to actively implement SRI in their own communities.

Table 3 : SRI Field visits

No	Date	Organizer	Venue	Participants	Institutions
1	12 Aug 05	SRI Secretariat in cooperation with MAFF	Tramkak district, Takeo province	250	Line ministry officials, MAFF officials, 16 PDAs
2	31 Sept 05	SRI Secretariat	Somrong district Takeo province	30	CEDAC, CARDI, DAALI, CAAEP, GAA, Oxfam GB JICA, AQIP, AustAID
3	30 Sept 05	SRI Secretariat in cooperation with PDA Siem Reap	Tramkak district, Takeo province	35	Officers from PDA Siem Reap and key Farmers
4	7 Oct 05	SRI Secretariat in cooperation with PDA Svay Rieng	Tramkak district, Takeo province	27	Officer from PDA Svay Rieng and key Farmers
5	9 Oct 05	SRI Secretariat in cooperation with PDA Kampong Chhnang	Rolea Oear district, Kampong Chhnang province	15	Officer from PDA Kampong Chhnang and key Farmers
6	17 Oct 05	SRI Secretariat in cooperation with PDA Banteay Meanchey and AS	Ek Phnom district, Battambang province	35	Officer from PDA Banteay Meanchey, AS staff and key

³ PDA Siem Reap, PDA Svay Rieng, PDA Kratie, Banteay Meanchey, Kampong Chhnang, Kampot, Kampong Cham and Pursat.

					Farmers
7	20 Oct 05	SRI Secretariat in cooperation with PDA Phnom Penh	Tramkak district Takeo province	28	Officers from PDA Phnom Penh and key Farmers
8	26 Nov 05	SRI Secretariat in cooperation with MAFF	Tramkak district, Takeo province	200	Officials of line ministries, 5 PDAs

Note: two more field visits are planned for December 2005

7. Annual Country Progress Report on SRI

An annual country progress report on SRI was produced in Khmer and distributed to interested stakeholders, especially relevant MAFF staff. The report included a history of SRI, SRI principles and techniques, implementing agencies in Cambodia, the number of farmers applying SRI elements, land size, SRI yields, conventional rice yields, the potential and constraints of SRI, and the progress of SRI activities from 2000 to 2004⁴.

IV. Output of SRI Secretariat

- SRI has been integrated into the National Strategic Development Plan (NSDP)⁵ and policy frameworks to reduce food insecurity and poverty of rural households.
- The SRI inter-provincial workshops have improved knowledge on SRI and disseminated SRI among 11 PDAs, and numerous IOs, NGOs and farmers.
- MAFF has been very committed to promoting SRI, as evidenced by organization of SRI field visits, the national forum on SRI at the Royal University of Agriculture, preparation of a spot on SRI for broadcast on TV and distribution and screening in the provinces, and the high demand for the SRI Secretariat's technical assistance in preparing activities, speeches, supporting documents, etc. The Secretariat's involvement of middle and senior MAFF management in SRI-related activities quickly increased their interest in, and motivation to promote, SRI.
- The SRI Working Group meetings brought together all concerned national and international institutions and donors to discuss SRI-related issues. The main achievements, among many achievements of the meetings, included: the conduct of two long-term research studies on SRI by the Royal University of Agriculture (RUA) in Phnom Penh and Battambang province, and other research by Mohareusey Vet University (MVU) in Prey Veng province⁶.
- Cooperation and information-sharing among donors, policy-makers and stakeholders has increased through the organization of regular meetings of the SRI Working Group, field visits and inter-provincial workshops, the preparation and distribution of reports.. The impact of the SRI website is not yet known, as usage statistics are not yet available.
- A number of ministers now support and disseminate SRI, such as HE Chan Sarun (Minister of MAFF), HE Mok Mareth (Minister of Environment), HE Hor Namhong

⁴ The annual country progress report on SRI is available at the SRI Secretariat office in DAALI/MAFF.

⁵ See Rectangle 1: Enhancement of agricultural factors.

⁶ Both SRI research proposals are available at the SRI Secretariat office in DAALI/MAFF

(Minister of Foreign Affairs and International Cooperation), HE Sok An (Minister of the Council of Ministers), HE Tao Seng Huor, HE Nouv Kanun from CARD. This is the result of the MAFF Minister's presentation of his report to the September 2005 meeting of the Council for Agricultural and Rural Development. SRI also received strong support from the Prime Minister, who recommended that SRI field visits continue to be organized to further promote SRI to farmers.

- The SRI Secretariat has documented and compiled farmers' SRI best practices; and SRI documents have been printed and distributed which are important vehicles for disseminating SRI information and improving people's SRI-related knowledge.
- The number of farmers implementing SRI in Cambodia increased from 17,092 in 2004 to more than 34,000 SRI farmers in 2005, and the number of NGOs, IOs and government agencies promoting SRI increased from 32 to more than 45 from 2004 until the end of 2005.

V. Lessons Learned and Recommendations for Further Action

After 11 months of SRI Secretariat operations, the following lessons were learned:

- SRI Field visits involving donors, policy-makers and implementing agencies strengthened their support for SRI and improved their knowledge about SRI which enabled them to more effectively disseminate SRI.
- SRI inter-provincial workshops should be organized over two days because in the one-day workshops participants have not been able to get a deep enough understanding of SRI as they did not have the chance to observe in-depth the way SRI farms are operated nor to discuss the issues in depth with SRI farmers..
- Many people still misunderstand the SRI concept—they tend to focus mainly on single-seedling transplanting. In fact, SRI is a set of rice management practices and is very flexible, and can help small farmers to increase their rice yields significantly by removing dependency on hybrid seeds for productivity gains, as well as help to reduce the use of mineral fertilizers and pesticides. The SRI Secretariat thus continues to have an important role in providing advice and guidance to MAFF management and staff to ensure that they have a clear understanding of the SRI concept and can share accurate information with target audiences.
- The SRI Secretariat has limited impact in promoting SRI among PDAs without the involvement of MAFF senior management. Experience during the past year has shown that close cooperation between the Secretariat and MAFF in organizing SRI promotion activities such as meetings, field visits, workshops and other important events has been very effective in achieving good participation and strong commitment by PDA staff. The support of high-level MAFF management, especially the Minister, has been instrumental in this regard.
- The national SRI database is a very important tool for research and lobbying, and provides the main evidence of the progress of SRI adoption, its yield benefits, and the relative potential of SRI in different areas. However,

developing the national database has been very difficult—especially collecting data from implementing agencies—because their work does not focus only on SRI dissemination. Presently very little accurate data is available at village level on the number of SRI farmers, the area of land covered by SRI, and yield. Next time the data will be collected by asking the different implementing agencies of SRI using questionnaires or direct interviews. Yield data could be collected by developing an independent structure for measuring crop-cuts at harvesting time.

- An annual country progress report should be available in Khmer and English and distributed to all interested stakeholders as well as being made available on the SRI website. The annual report is very important as a reference document especially for researchers, the media, decision-makers, and donors, and provides useful data and information on the SRI situation in Cambodia.
- SRI was supported and disseminated by MAFF and PDAs, but they do not yet have a clear understanding of SRI approaches. Therefore, TOT training should be organized for selected MAFF and PDA staff from up to 16 provinces, to enable them to conduct SRI farmer-trainings in their provinces.
- The SRI VCD and SRI training materials should be updated and further developed. The SRI training materials are very necessary for trainings and workshops. The SRI VCD should be updated to include the latest information, best practices and data available.

VI. Conclusions

- Generally, the SRI Secretariat is progressing well in terms of meeting its objectives and activities plan.
- The interested implementing agencies, donors, national-level officers and SRI farmers have steadily been increasing in number.
- The SRI Secretariat has fulfilled a very useful role in coordinating SRI-related activities and in disseminating, documenting and facilitating information and knowledge management with regard to SRI, involving implementing agencies, national-level policy-makers, donors and other stakeholders.
- The SRI Secretariat has helped to strengthen ownership in MAFF through delegating more and more responsibility to MAFF and PDAs in managing SRI-related activities. The SRI Secretariat is confident that the commitment of MAFF to promoting and supporting SRI implementation will continue to grow. However, further technical assistance is needed for the medium term to ensure that MAFF and PDA staff have an accurate understanding of SRI principles and techniques and share this knowledge with SRI implementers.

VII. Annexes

Annex 1: 2004 SRI Data

No	NGO/ Institution	Num- HHs	Num- villages	Num- communes	Num- districts	Provinces
1	CEDAC	10838	853	139	52	Kg.Cham, Kg.Chhnang, Kg.Speu, Kandal, Takeo, Prey Veng, Svay Rieng, Kg.Thom, Rattanakiri, Pursat, Kampot
2	AS	195	36	7	3	Battambang
3	KAWP	475	24	11	7	Battambang
4	CCK	83	5	3	1	Takeo
5	MB	25	3	2	1	Kampong Speu
6	RDA	6	3	2	1	Battambang
7	KNT	6	1	1	1	Battambang
8	VSG	55	7	1	1	Battambang
9	NAS	101	11	4	2	Kampong Cham
10	NAPA	38	15	4	2	Kampong Speu
11	FLD	150	17	8	2	Kandal
12	KNKS	127	9	6	1	Pursat
13	PNKS	128	11	2	2	Prey Veng
14	SRER KHMER	230	8	4	4	Kandal, Battambang, Banteay Meanchey, Takeo
15	KADRA	3	2	1	1	Svay Rieng
16	CHET THOR	30	4	2	1	Svay Rieng
17	BANTEAY SREI	77	15	6	6	Battambang, Siem Reap
18	PTA	7	7	2	1	Svay Rieng
19	SANTE SENA	8	3	2	1	Svay Rieng
20	AustCare	20	4	3	1	Odor Meanchey
21	GTZ	2900	182	55	15	Kampot, Kampong Thom
22	CRS	420	35	6	3	Svay Rieng
23	OCAA	84	16	7	3	Takeo, Kratie, Stung Treng
24	YWAM	25	5	2	1	Stung Treng
25	WATANAKPHEAP	150	7	2	2	Pursat
26	ADRA	60	12	2	1	Siem Reap
27	CARE	200	60	12	1	Prey Veng
28	LWF	25	5	2	1	Kampong Speu
29	NTFP	60	6	3	2	Rattanakiri
30	PADEK	135	13	6	3	Siem Reap, Prey Veng, Kg.Speu
31	PDAFF	414	10	9	4	Takeo
32	Rachana	17	8	2	1	Takeo
Total:		17092	1397	318	128	17

Note: Data collected by phone and follow-up visits

Annex 2: Minutes of 1st SRI Working Group Meeting in 2005

Time : 8:30 AM -11:30 AM
Date : 4th February, 2005
Venue : DAALI-MAFF
Minute taker : SRI Secretariat

On 04th of February, 2004, SRI working group meeting was organized by SRI Secretariat at DAALI meeting room in MAFF. The meeting started at 8:30 am and ended at 11:30 am. The meeting was chaired by Mr. Ngin Chhay, Deputy Director of DAALI and National Coordinator of the National IPM program. The aim of the meeting was to bring together all concerned national and international institutions and donors to discuss the role of SRI and SRI Secretariat Cambodia. The participants were from different national and international organizations and funding agencies (see annex 1 for list of participants).

At the start of the meeting Mr. Ngin Chhay has excused for not being able to share and participate in the meeting of H.E. It Nody, and Mr. Pen Vuth due to their busy schedule. Mr. Ngin Chhay expressed his warm welcome and deep thanks, on behalf of the director of DAALI, to all participants for making themselves available and spending the valuable time to attend the meeting.

The discussion was focused mainly on three main issues as below:

1. Discuss and comment on Action Plan of SRI Secretariat in year 2005;
2. Discuss and comment on the concept of SRI national workshop;
3. Discuss and comment on the SRI research proposal;
4. Other issues

In response to the above mentioned issues, certain concerns, comments and recommendation were being raised and actively discussed and the results are summarized as below:

1. Discuss and comment on action plan of SRI Secretariat in year 2005

After presentation on action plan of SRI Secretariat in year 2005 by Mr. Chey Tech, SRI Secretariat-DAALI (see annex 2 for action plan of SRI Secretariat in year 2005), participants have provided following suggestions and comments:

- The mandate of the SRI secretariat is to assist and support the SRI working group in coordinating its work and to facilitate information and knowledge management (documentation) with regards to SRI as well as networking among stakeholders (implementing agencies, policy and donor institution). Therefore, some activities mentioned in the action plan such as "conduct research, survey and experiment on SRI and carrying out training, organic rice marketing trading etc." are not the tasks of the Secretariat.
- The SRI secretariat should be a neutral coordination body (not pro SRI body) and information center on SRI open for all (pro and against SRI) and should also act as a platform to encourage open discussion for people to express their opposing view on SRI. This is an important way to get useful information with regard to SRI for encouraging further research.
- It is important that the SRI secretariat as a neutral body should try to get more information (carry out survey) on the issue such as "what are the main misunderstandings and different ideas and what need to do further research in Cambodia in order to respond to and clarify the remained questions" and provide these information to the Working Group and all interested stakeholders.
- **SRI is not organic agriculture!!** It is a domain of technical elements, which could be flexible, applied based on the enabling factors of farmer condition.

- Dr. Yang Saing Koma had raised that there are researches on SRI, which are being carried out by students at the present. He suggested that SRI secretariat should also collect information and documents on that.
- In general SRI Secretariat should carry out an inventory on SRI activities in Cambodia.
- All participants expressed their concerns about limited human resource for only 2 persons in SRI Secretariat with many tasks and activities. Therefore, it was suggested that the Secretariat should consider reducing some activities and making realistic work plan.

In conclusion all participants in the meeting were agreed that the action plan of SRI Secretariat should be reviewed and updated by incorporating the comments and suggestions and then circulate it to the working group members for finalization.

2. Discuss and comment on the concept of SRI national workshop and inter-provincial workshop

• National workshop

Dr. Yang Saing Koma (CEDAC Director) made a briefly summary of SRI activities in Cambodia and the drafted concept of SRI national workshop proposed by CEDAC (see annex 3 for draft concept of SRI national workshop).

The objectives of the workshop are to:

- 1) Present the achievements of SRI in last year
- 2) Discuss the coming activities
- 3) Get feedbacks from the participants.

Dr. Yang Saing Koma also clarified that the objective of the national workshop is to have more discussion on SRI activities and achievements in order to provide inputs to the inter-provincial workshop. And the national workshop will focus more on dissemination. Dr. Koma mentioned that Prof. Dr. Dorman Uphoff from CIIFAD will be invited to participate in the workshop as a recourse person. Based on his schedule the workshop should be organized in March.

Due to the time constraint to organize a national workshop and in order to use the opportunity to discuss more on SRI with Prof. Norman Uphoff and to clarify the debate on SRI the participants had suggested and agreed to organize a debate meeting instead of a national workshop. The meeting should be organized by MAFF and chaired by H.E. It Nody, under secretary of state. The meeting is open for all interested people (pro and again SRI). It is also important to clarify the vision and objectives of SRI during the debate meeting.

Dr. Yang Saing Koma is going to contact Prof. Norman Uphof and MAFF to set up the date for the meeting and will inform to the Secretariat and the working group members.

Mr. Ngin Chhay on behalf of DAALI agreed and will report to H.E. It Nody to host a debate meeting. He mentioned that this meeting is very good opportunity for key relevant stakeholders to seat and talk and come up with common view, ideas and understanding and it will help promoting SRI in Cambodia in the right direction. He emphasized that it is very essential to have representatives from CARDI and department of agricultural extension involved in this meeting.

• Inter-provincial workshop

There will be 3 inter-provincial workshops planned to organize in this year. The overall objective of the workshop is to disseminate good practices and results of SRI

to the provincial departments for agriculture and other concerned organizations. The workshop should be chaired by the Director of DAALI. If it is possible the workshop should be linked with field visit. The first workshop will be conducted in March in Kampot province, probably in Chhouk District and the participants will come from Takeo, Kampot, Kompong Speu and Kandal provinces.

The targeted participants of the workshop are NGOs and government extension staffs.

SRI national workshop will be postponed from March to later month toward the end of the year. The secretariat asked GTZ to provide financial support for the organization of the workshop and MAFF to host the workshop. CEDAC is still looking for financial assistant to organize the workshop.

3. Discussion and comment on the SRI research proposal

A SRI research proposal was presented by Mr. Sip Pagnasoley from the Royal university of Agriculture (see annex 4 for SRI research proposal). The suggestions and comments on the proposal are as follows:

- It was suggested that the research should be clarified by soil type not by the location.
- It is important to include CARDI and MAFF to participate in this research.
- In the research proposal it mentioned that the research will carry out in cooperation with GTZ-Staff, this should also be clearly clarified who (GTZ-local staff or GTZ-partners staffs)?
- Research question on the effect of SRI monoculture? The idea is to look more deeply in term of the effect of SRI on Nutrition Depletion in the soil in the long term.
- The participants also suggested that any research with regard to SRI in Cambodia need to be coordinated with each other in order to avoid overlapping and make it also transparent.
- The SRI research proposal will be submitted to AUSAID for financial support.
- Mr. Ngin Chhay informed that FAO Regional Vegetable IPM Program has already developed and submitted a regional research proposal on SRI with farmers in Cambodia, Laos and Vietnam to AUSAID as well and is now waiting for approval.

4. Discussion on other issues

- In order to ensure that the information with regard to SRI in Cambodia is transparent and reachable for every body the participants had suggested to have own SRI website, but due to financial constraint the participants agreed that SRI web-page should be hosted under Food Security Website.
- Even the Technical Working Group for Agriculture and Water is not yet officially established, it is proposed that the SRI working group is formed as a thematic technical sup-group of TWGAW. Therefore, the Secretariat should inform its activities such workshop, meeting etc. to the members of the TWGAW.

Annex 3: Minutes of 2nd SRI Working Group Meeting in 2005

Time : 8:30 AM -11:30 AM
Date : 07th July, 2005
Venue : DAALI-MAFF
Minute taker : SRI Secretariat

On 07th of July, 2005, SRI working group meeting was organized by SRI Secretariat at DAALI meeting room in MAFF. The meeting started at 8:30 am and ended at 11:30 am. The meeting was chaired by Mr. Pen Vuth, Director of DAALI. The aim of the meeting was to bring together all concerned national and international institutions and donors to discuss on SRI research proposed by AusAid and GTZ and finding on the progress activities of SRI Secretariat. The participants were from different national and international organizations and funding agencies (see annex 1 for list of participants).

At the start of the meeting Mr. Pen Vuth has expressed his warm welcome and deep thanks to all participants for making themselves available and spending the valuable time to attend the meeting.

The discussion was focused mainly on three main issues as below:

1. Presentation and comment on the SRI Website;
2. Presentation and comment on the progress activities of SRI Secretariat;
3. Discuss and comment on the SRI research;
4. Other issues

In response to the above mentioned issues, certain concerns, comments and recommendation were being raised and actively discussed and the results are summarized as below:

1. Presentation and comment on the SRI Website

Mr. Chey Tech (SRI Secretariat) made a briefly summary of SRI Website (www.foodsecurity.gov.kh/sri) that established by SRI Secretariat in cooperated with the Team of food security Website.

The contents of the SRI Website are to:

1. Home content: we can see the information related SRI history in Cambodia
2. About Us content: we can see the history to establish SRI Secretariat and contact person
3. What's SRI content: we can find out the definition of SRI, principle and techniques on SRI and SRI photo gallery to describe on SRI practiced by farmers.
4. Document content: we can find out the report on SRI and case study on best practice on SRI by farmers in Cambodia
5. News content: we go into news content to see some announcement and evens that will be happened very soon
6. Working Group content: we can see all information related SRI Working Group establishing and see the name and organization of the SRI Working Group
7. Related Link content: we can't search other information related SRI information and agriculture from other website in the world.

2. Presentation and comment on the progress activities of SRI Secretariat

After presentation on the progress activities of SRI Secretariat from January to June 2005 by Mr. Chey Tech, SRI Secretariat (see annex 3 for progress activities of SRI Secretariat)

3. Discussion and comment on the SRI research

A SRI research proposed by AusAid and GTZ and notes from meeting of SRI Research advisory group was presented by Mr. Grahame Hunter from the AQIP (see annex 3 for notes from meeting of SRI Research advisory group). The suggestions and comments on the tender selection for the SRI Research are as follows:

4. Overview of MAFF on the SRI

Mr. Lor Reasmey, Deputy Director General of MAFF was shared his opinion and overview of MAFF on the SRI in Cambodia. Our discussed are very interested and very necessary to MAFF. I always saw the SRI information in the newspapers and TV. Minister and me are very supported SRI because SRI answered to first rectangular of government of intensification.

The Minister of MAFF known clearly about CEDAC through his field visit, workshop, meeting, farmer magazine and so on. He asked me to prepare a slide presentation on SRI for him to present in SRI conference. I proposed me to organize a SRI conference in MAFF and he will chair this workshop by himself. I also ask all of you for financial support this SRI conference.

Mr. Peter Kaufmann, I am very appreciating for your supported SRI. GTZ/FSNPSP will give some financial support to this SRI conference.

5. Discussion on other issues

- Dr. Yang Saing Koma (Director of CEDAC) proposed to give the prize to best SRI farmers and he ask to put this task is a part of SRI Working Group/SRI Secretariat. Mr. Peter Kaufmann (Team Leader of FSNPSP) agreed with this idea and he also asked the interested Working Group members to find the time to discuss on this idea.
- Dr. Yang Saing Koma, I went to Myanmar and met the staffs of National Research Institute. After they got a successful SRI research, now is time for them to disseminate SRI in their country
- Mr. Chey Tech, I will organized field visit to see SRI in August 2005 and I will send the program of field visit to all members of SRI Working Group, interested stakeholders and also announce in the SRI Website.

Annex 3: Minutes of national Debate meeting on SRI

TIME : 8:30 AM -12:00 AM
DATE : 21 MARCH, 2005
VENUE : DAALI-MAFF
MODERATOR : MR. NGIN CHHAY
MINUTE TAKER : SRI SECRETARIAT

On 21 of March, 2005, Debate meeting on SRI was organized by SRI Secretariat at DAALI meeting room in MAFF. The meeting started at 8:30 am and ended at 12:00 am. The meeting was chaired by Mr. Pen Vuth, Director of DAALI and facilitated by Mr. Ngin Chhay, Deputy Director of DAALI and National Coordinator of the National IPM program. The aim of the meeting was to bring together all concerned national and international institutions and donor to discuss on the different points of view of SRI (pro and con stakeholders). The participants were from different national and international organizations, government institutions and funding agencies (see annex 1 for list of participants).

At the start of the meeting Mr. Pen Vuth has excused for not being able to share and participate in the meeting of H.E. It Nody due to their busy schedule. Mr. Pen Vuth expressed his warm welcome and deep thanks to all participants for making themselves available and spending the valuable time to attend the meeting.

At the start Mr. Ngin Chhay said that the event would not exactly be a debate because there was nobody willing to present the skeptical issues about SRI.

The Meeting was follow by agenda as below:

1. Presentation of Prof. Norman Uphoff from CIIFAD on SRI's Potential for Food Security in Cambodia.
2. Presentation of Dr, Yang Saing Koma from CEDAC on "Progress of SRI in Cambodia"
3. Question, answer and discussion

1. Presentation on SRI's Potential for Food Security in Cambodia

During his presentation, Prof. Dr. Norman Uphoff had emphasized that SRI is a holistic approach to encourage the potential of natural growth of the plant to increase yield by using difference techniques. SRI is not organic agriculture that means SRI-Practitioners could also use external inputs to balance the soil nutrition. Nevertheless, experiences in China had shown that SRI is contributed to hybrid seeds. (For more information on the presentation, please find appendix)

2. Presentation on the progress of SRI in Cambodia

Dr. Yang Saing Koma made a briefly presentation on the progress of SRI in Cambodia. He also mentioned that experiences from last harvest year shown that SRI could also better resistance to drought then conventional practices. He also raised two main constrain issues to promote SRI, first, it is difficult to promote SRI to the farmers in conversion period due to the low understanding of the farmers on the agro-ecosystem. Second, as the main principle of SRI is to transplant the young seedling (13 days old seedling), therefore farmers need to have skill on how to transplant seedling in order to avoid debilitating to the seedling.

Experiences had also shown that SRI-Farmers have become more open and gained more self-confidence to carry out other on-farm experiment on innovative ideas with regards to agricultural diversification. This could be great potential for farmer to farmer extension approach. (For more information on the presentation, please find appendix).

3. Question, Answer and Discussion

- Mr. Kep Coughlon, an Australian Advisor to CARDI, raised questions about maintaining nutrient balances in the soil if increased yields are taken off the field, removing nutrients.

➔ Prof. Uphoff responded that soil nutrients could be replaced by nutrients mobilized from organic matter (Bio-Cycle) put back on the soil. These can be mobilized through process by soil organisms. He also mentioned that SRI is not necessarily or ideologically "organic

agriculture". Where nutrient shortages or deficiency is occurred, these can be corrected by using external nutrient inputs. What SRI does not do is to try to maximize yield by using external inputs.

- Mr. Wolfram Jaeckel from ADB said that his view on SRI is neither pro nor con. He said that there are some reports mentioned about disadoption of SRI in Madagascar, and in Laos SRI implantation had been failed. He also added that some people are still skeptic and confusing with SRI, therefore he asked what would be important to carry out further research with regard to SRI in Cambodia.

→Prof. Uphoff commented that the much-cited study by Moser and Barrett (2003) was in fact supported by CIIFAD, and was probably correct in what it reported. It had usefully called attention to the constraint on adoption of SRI that can arise from its initial increase in labor requirements. Really poor households might not be able to afford to invest their labor to get greater rewards some months later because they lead a daily hand-to-mouth existence. However, these results did not appear to be representative of the overall situation in Madagascar, and they certainly were not representative of what is being seen in other countries, where farmers are less traditional and more open to trying out innovations. He pointed that he has asked about disadoption in India, and it has not been happening there.

The problem of low SRI yields in Laos is one we have thought about and been following. It may be due to increases in soil nematode populations when there is no continuous flooding. This is something we have identified as a constraint for SRI in Thailand, which may have soil conditions similar to Laos.

Prof. Uphoff suggested that one should not judge SRI just by its performance in Madagascar any more than it would be correct to judge the success and merits of Christianity by looking only at how widely it has been adopted in Palestine, the land of its origin. I noted that SRI now (finally) has support from the government in Madagascar, not the case for most of the past 20 years.

→Mr. Koma added that SRI trials could be done without proper water control. It is predictable that if young seedlings are used and they are flooded, the results will be poorer than otherwise. He said that in Cambodia, when the methods are used properly, they see a lot of evidence of earthworm activity in the soil which is beneficial to plants.

Dr. Koma commented on how SRI principles are being modified in Cambodia to apply them to upland rice production, particularly among the ethnic minorities in the north. Instead of putting 20, 30, even 40 seeds in a hill, as has done for a long time, farmers can be up to 50% more yield if they just reduce seed number to 5-7. However, this has to be done carefully because as in Madagascar, farmers in these traditional societies are not supposed to offend the spirits of their ancestors by deviating from past practices. If done tactfully, changes can be made.

→Prof. Uphoff suggested that the limitations we see on yield in lowland plots attributable to saturated soil and its effect on soil microbial populations might be offset by more use of the rotating weeder and by experimenting with raised beds. These would be worth evaluating systematically in Cambodia.

- Mr. Hem Sovannarith from AQIP said that this was his first exposure to SRI, but he saw some similarities in objectives with his project, aiming to improve food security and farmers' incomes. His concern is that Khmer farmers are using low-quality seed; 80% do not assess their seed and are really using "grain instead of seed." He discussed how their project is improving farmers' access to good quality seed, which can add 350 kg/ha to wet-season yields, and as much as 1,200 kg/ha in the dry season. They recommend 40 kg/ha of seed with transplanting, and 60-70 kg/ha with direct seeding. He asked the SRI Secretariat if a trip could be organized to see some SRI rice in the field.
- Mr. Georg Deichert from GTZ-Kampot asked What is SRI farmer and how can we define it?. He pointed out that there are many kinds and degrees of 'SRI farmers.' We discussed the importance, when assessing SRI results, of differentiating between those who are using SRI methods only partially, or not correctly, compared with those who utilize all the practices well.

→Dr. Koma said that we could define it in three steps based on the degree of of SRI implementation of the farmers.

1st basis step, which focus on transplanting young seedling and wide spacing.

2nd step, which focus on water management.

3rd step, which focus weeding

Dr. Koma added that just reducing the number of seedlings per hill, with shallow transplanting, put in a row or square pattern -- even without using compost or good water management -- is giving yield increases of 30%. This is a greater gain than usually achieved by changing varieties but not practices.

- Mr. Graham Hunter from AUSAID had announced that his agency and GTZ have agreed to jointly fund research SRI in Cambodia.
- Dr. Seng Var from CARDI and head of soil management research in Cambodia raised questions with regard to SRI, which reflecting to the skepticism within the rice research community in Cambodia. He noted that rice has a long history in Cambodia and that "rice grows best under flooded conditions." and much of Cambodia's rice land is very flat, and that most of the soil used for rice is not well-drained. So he was skeptical whether SRI could be made to work on a very large scale in Cambodia. He noted further that water scarcities are growing in the world, and many are trying to save water, by planting 'aerobic rice varieties,' using alternate wetting and drying of paddies, etc. He asserted that rice under flooded conditions is more sustainable. He noted that historically rice has had shallow rather than deep rooting and has nevertheless given favorable yields. He was concerned that "imposing a deeper rooting system" with SRI may not be advantageous. Rice grown with a long aerobic phase causes rapid mineralization of crop residues, and SRI stimulates soil organic matter mineralization as well as crop nutrient extraction. We need replenishment of soil nutrients, otherwise soil fertility will decrease in the long run. Promoting a big root system will lead to greater soil nutrient extraction. The long-term consequences of SRI are not known. We should do research on SRI first before promoting its use.

Dr. Seng Var then raised concern about the adoption of SRI in Cambodia, whether it could succeed given that so many farmers are poor and poorly educated. Also, there are insufficient extension workers to disseminate the technology. He was also concerned about possible disadoption rates.

→ Prof. Uphoff noted that the number of SRI users had gone from 28 to 16,884 in just four years' time, with relatively little expenditure because this has been mostly an NGO activity, assisted by a number of donor projects, but with no project support of its own. While there may have been disadoption reported in other countries, little has been seen in Cambodia. Perhaps this is because Khmer farmers are more willing to work hard than Malagasy farmers. What has impressed him is how willing Khmer farmers are to themselves spread SRI to other farmers like themselves. This is quite remarkable and could give optimism about SRI extension in Cambodia.

→ Prof. Uphoff responded that while there is a lot that we do not know about SRI, there are no good reasons evident so far for now making it available to farmers. If there are eventual nutrient depletions, these can be offset by exogenous amendments, since SRI does not reject these. It does suggest that these are less necessary than previously thought by soil scientists who neglect the biological processes and potentials in the soil. Already we know that in irrigated rice that is grown with chemical fertilizer, still 60-70% of the nitrogen taken up by the plant comes from endogenous soil processes rather than the exogenous supply of N provided. Rice plants only take up 20-30% of the N fertilizer added to their soil, as most is lost through volatilization or leaching. There is no reason to deny farmers the opportunity to improve their yields and incomes with SRI. This will give them the resources they may need at some time in the future, maybe several decades, to afford investments in soil nutrient improvement.

→ Dr. Koma added that Rice can survive and grow in water, but it is not water plant. In order to increase yield in a sustainable way we should consider the 3 aspects "Soil, Plant and Nutrient".

Concerning to the adoption rate of the farmers Dr. Koma clarified that SRI was introduced by CEDAC and lots of development partners by using farmer to farmer extension approach.

Concerning to the difficulty of water management due to flooding condition of most Cambodia rice land in rainy season, Dr. Koma said that Cambodia has monsoon season. The monsoon rainy season divided in to 3 phases (early monsoon, short drought period and late monsoon). To avoid that young seedling is transplanted in field before it is flooded and to avoid that the young seedlings are not immersed in water; farmers need to transplant their rice in early monsoon or in the short drought period of monsoon.

In conventional farmer practices, farmers normally transplanted rice in the flooded rice field in late monsoon.

- Mr. Jerry Sullivan from Cambodian-Australian extension project asked questions about the SRI results that IRRI has gotten, only 2.1 t/ha yield on its research farm at Los Baños.

→Prof. Uphoff responded that soils at the farm has almost no soil microorganism any more due to long time heavy chemical applications, and the effects of long-term rice monoculture. The researchers did not consider on the soil biologic.

- Mr. Julien Calas from AFD said that he has served in Madagascar from 1998 to 2002, and had learned about SRI there. He was interested to see the uptake of SRI in Cambodia, more rapid than in Madagascar. He asked why the SRI trials which the French supported at Marovoay, a rice-growing area in Madagascar, had not been successful. He confirmed that the government had not really been interested in SRI, but SRI had been promoted through a World Bank-funded program called PNVA that was very top-down.

He noted that there was a lot of controversy whether SRI was good only on small, garden-size plots.

→ Prof. Uphoff cited a case in India, where one farmers who planted 100 contiguous acres to SRI in the winter season 2003-2004 and had averaged 11.15 t/ha for the whole extent, another Indian farmer had a harvested yield of 17.25t/ha from his 9 acre rice farm.

- Mr. Julien said that data generated in Madagascar had been mostly inconclusive. There was slow uptake in most places, though also some evident successes. Donors have not been involved there in a serious, sustained way, so they had not been much help. He raised many good points, which Prof. Uphoff tried to respond to with wherever data we now have.

→Prof. Uphoff responded that probably he satisfied most if not all of his concerns, but we should have had an hour or two to discuss them all.

- Peter Kaufmann from GTZ noted that the evaluation of SRI by a team led by Dr. Juergen Anthofer had satisfied most of the doubts and questions about SRI in Cambodia, and these results had been shared in a national workshop that GTZ supported, and then GTZ had begun funding an SRI secretariat in the Ministry of Agriculture, Forestry and Fisheries. We do not know exactly all the details of how it works, but it evidently works, and we should be doing some research to "reveal what is in the black box." That is why GTZ is cooperating with AusAid (and another donors are welcome to join) in pursuing this matter. Meantime, there is good reason to make SRI available more widely.

GTZ wants to work at the policy level, Peter said. It is important that SRI move beyond NGO and donor project sponsorship, to have government understanding and support. For this it is important to have a national strategy, based on good analysis that identifies which zones, which methods, etc. can be most successful. Also, social issues have to be addressed; how best can SRI be brought to the poor. This is a big challenge to the extension service. SRI will be most successful if farmers are closely involved in the dissemination process, also if SRI is integrated within improved farming systems rather than being promoted by itself.

- Mr. Jim Gulley, agricultural advisor for the United Methodist Church program in Cambodia, asked about the role of compost in SRI, and whether there was enough biomass material available for large-scale applications. Will this be a limiting factor?

→Prof. Uphoff responded that it could be, but that we have just begun to apply our best thinking and imagination to finding ways that biomass can be produced and acquired from non-arable areas and can be processed and applied on fields. For this, we should be developing more efficient cutters,

shredders, wheelbarrows, etc. to raise labor productivity in this process. The higher yields that are possible with SRI when compost is added will make such efforts and modest capital investments very profitable.

- The chairman Mr. Ngin Chhay invited the farmers present to share some of their experiences. A woman farmer, Phim Rann, spoke first. In her first year with SRI, she tried it on just 5 acres (500 m²) and got 8 baskets where she had gotten 4 baskets before. Now she uses SRI on all 50 areas (0.5 ha) and gets a yield of 3.5 t/ha, compared with the maximum she had gotten before of 2 t/ha. Actually, she got 1-2 t/ha before, depending on weather conditions. Before her family did not have enough to eat, but now they have a surplus. She uses this surplus to feed their pigs and improve this supplementary line of production.

Mrs. Phim said that she strongly believes that with SRI it is possible to get more from less. Hers is a small household, she said. With SRI it is no longer necessary to hire any labor for the rice production, so this saves them money. Also, she added, "SRI rice tastes better, it is more delicious." She has no difficulty finding enough plant material in her village to make the compost needed for SRI. She requested everyone present to help support farmers to further refine, spread and improve SRI methods in order to reduce poverty.

Mr. Phim Sophai spoke next, from Tropaing Khon village in Tramkok district of Takeo province. He reported that using conventional methods, and 4 bags of fertilizer, he had gotten 2080 kg of rice from his 2 hectares of rice land in 2001, a little over 1 t/ha. In 2002, he tried SRI methods on 15 acres and got 325 kg, or 2.166 t/ha, more than double his usual yield.

In 2003, he used SRI on all 2 hectares and got 3,587 kg (almost 1.8 t/ha) using 4 oxcarts of compost. In 2004, despite the drought, he got 5,900 kg on this same area (minus 200 m²), with 6 oxcarts of compost. This was a yield of 2.95 t/ha, with a compost rate of about 600 kg/ha. In 2003, he had not done a raised-bed nursery and he used 20-30 day seedlings, with weeding 1-2 times. In 2004, he went to 10-12 day seedlings, as recommended, and did 2-3 weedings. He could see the difference. In 2003 he used just 2 bags of fertilizer, reducing his cash costs, and in 2004, he cut back to just 1 bag. In 2003 he transplanted in late July-early August, whereas in 2004, he advanced this by about a month. All of these changes boosted his yield by over 1 t/ha.

At the end of the meeting Mr. Ngin Chhay expressed warmly thanked to all the participants, and especially the donors "who have been supporting and who are going to support" the Ministry's efforts on SRI. He said there are pros and cons still to be sorted out with SRI. In general, they need to build on the positive aspects and investigate any negative ones, finding solutions. From the MAFF point of view, he said that they are agreed in principle to support SRI work in Cambodia. They want to apply SRI carefully recognizing the need for location-specific and condition-specific adaptations, and they will continue to do research and evaluation. His Department, he said, is keen to work with the new SRI Secretariat, and it looks forward to further cooperation and development, to reduce poverty and improve livelihoods.

Annex 4: Minutes of 4th SRI Working Group Meeting

Time : 8:30 AM -12:00 AM
Date : 19th October, 2005
Venue : DAALI-MAFF
Minute taker : SRI Secretariat

SRI working group meeting was organized by SRI Secretariat. The meeting was chaired by Mr. **Lor Reasmey**, Deputy Director General of MAFF and moderated by Mr. **Ngin Chhay**, Deputy Director of DAALI and National Coordinator of the National IPM program. 18 participants were from different national and international organizations and funding agencies (see annex 1 for list of participants).

The discussion was focused mainly on two main issues as below:

1. Presentation on notary weeder from Philippine;
2. Discuss and comment on the proposal of SRI Secretariat for 2006;
3. Other issues

At the start of the meeting Mr. Ngin Chay has excused for not being able to share and participate in the meeting of Mr. Pen Vuth due to their busy schedule. Mr. Ngin Chhay expressed his warm welcome and deep thanks, on behalf of the director of DAALI, to all participants for making themselves available and spending the valuable time to attend the meeting.

Mr. **Lor Reasmey**, Deputy Director General of MAFF was shared progress information with regard to the progress of interested from junior government officer of SRI for Cambodia. His also present result of the meeting of CARD was chaired by Samdech **Hun Sen**, Prim Minister, the meeting was holding on 25 September 2005. After meeting, the council of minister was released an announcement letter, number 1220 Sor Cho Nor Sor Ro, date of issue 29 September 2005. Has one point in letter recommended to MAFF and department line of MAFF to bring farmer, agriculture officer from anywhere around Cambodia to learned on SRI in Tramkak district, Takeo province.

He expressed that SRI approach is an appropriated strategy which responses to the first rectangular of strategies of the Government to reduce poverty and ensure food security of rural poor households.

Moreover, H.E **Chan Sarun**, Minister of MAFF just organized and facilitated a SRI Field visit to Tramkak district, Takeo province. SRI Field visit was holding on 12 August 2005 with 250 participants from the line of MAFF. During field visit, H.E Chan Sarun also presentation on SRI concept and recommended to all PDA take these experience and techniques to disseminate in their community.

Mr. Lor Reasmey will try all his effort to put SRI in the National Strategy Development Plan (NSDP) of MAFF and he asked Mr. Ngin Chhay to make a letter on this and send to him, he will bring to Minister.

1. Presentation on Notary Weeder

Mr. Kunihiro Tokida, Chief advisor of Battambang Agricultural Productivity Enhancement Project (BAPEP) made a presentation on the notary weeder. First time he presentation on how to transplanting in row by farmer used string. He show a difference between rice field not weeding and other rice field weeded by notary weeder and him also show activities of farmer used notary weeder. He said that this notary weeder just took from Phillipine but in Japan they used it along year ago. Price of a notary weeder in Phillipine about 100 Pesu, equal 8 USD. In the future he wants to cooperate with factory in Phillipine to build a factory in Cambodia to produce this notary weeder. I have been seen a notary weeder of CEDAC take from Japan it's very heavy but this one is very lighter than that one (see in annex 3 for his presentation slide).

- Mr. Julien Calas from AFD mention that we should asked first that farmer they transplanting in row or not, if not transplanting in row, we can't not introduce this

notary weeder to them. The notary weeder should be more flexible to spacing transplanting.

- Yang Saing Koma, mention that we also explain to farmer about on time of weeding, we weeding before weed come, more better we should weeding around 8-10 days after transplanting. CEDAC's experienced by compare with rice field transplanting in row, regularly weeding between not transplanting in row and not regularly weeding. We found that the rice yield more increase from 20-25%.
- Georg Deichert from GTZ/RDP, Notary weeder is useful for SRI Farmer and seed producer.

2. Presentation and discuss on Proposal of SRI Secretariat for 2006

Mr. Chey Tech, SRI Secretariat at DAALI/MAFF made a presentation on the proposal of SRI Secretariat for 2006 (see annex 2 for presentation slide). After presentation all the participants was suggested as below:

- Mr. Julien Calas: What are the long lasting of the SRI Secretariat and should to write more on the commitment of government???
- Do we consider supporting SRI Secretariat as a project???
- Mr. Ngoin Chhay: DAALI has some distribution to support such as an office space, electricity and provide a care for field work and so on. I think SRI Secretariat isn't a project because they are only two person, they key work only coordination. As you known MAFF, DAALI have less money. DAALI don't have any project but we are linked with other projects as APIP, AusAID, DANIDA, EU, etc.
- Mr. Julien Calas: I will take this to discuss with my colleague in January 2006, I think for the operation cost isn't much problem and I will reply you after my discussion.
- Mr. Georg Deichert from GTZ/RDP: I think SRI Secretariat should produce a report of SRI Secretariat in 2005 and we want to see last activities and achievement of SRI Secretariat. Proposal should be submitted along with the report of SRI Secretariat.

3. Other issues

- Mr. Ngoin Chhay express that intensification isn't only to build irrigation system and variety. In fact, we talking of change on conceptual and behavior to improve rice production.
- Dr. Yang Saing Koma (Executive Director of CEDAC) said that SRI isn't supported and disseminated by Council of Minister, MAFF but Deputy prime minister Hor Nam Hong, (Minister of Foreign Affair and International Relation) He introduced SRI to farmer in Kampong Cham province, but he focus only one seedling transplanting (misunderstand on SRI concept). SRI concept isn't difficult to understand, we just recommend farmer to use all principle to improve rice production and don't do anything that barrier of potential of rice growth. Moreover, we can explain by Katayama theory to explain on potential of rice. Our dissemination will be failed like CRS in 1999 that trained farmer to do this to do that but not explained on potential
- Mr. Georg Deichert: show a report of SRI rice marketing survey that conducted by Christina from Germany (see in annex 4 for report of SRI Rice marketing survey).
- Dr. Yang Saing Koma: presented on reason that they conducted this survey that during he received a prize of seed conservation in New York, USA. I got suggestion from UN to conduct a survey on SRI Rice market to looking for feasibility to export quantity rice.

Conclusion

Mr. Ngoin Chhay made a wrap up on achievement of discussion of a half day meeting are below:

- We seen that MAFF, Council of Minister, and other junior government officer are very supporting on SRI and also introduction on SRI.
- There some people always misunderstanding on SRI “One seedling transplanting”. In fact, SRI isn’t focus only one seedling for transplanting.
- Notary weeder is very important but we are concerned on the demand and possibility to produce in Cambodia.
- Proposal of SRI Secretariat for 2006 proposed many activities such as organize field visit, facilitate to conduct TOT training to 16 PDA, Organize SRI inter-provincial workshop, regularly update website, organize SRI national workshop, develop a national database on SRI, organize SRI working Group meeting, etc.
- SRI Secretariat will produce a report of SRI Secretariat in 2005 and send it along with proposal to support SRI Secretariat for 2006.

At the end of the meeting Mr. Ngin Chhay expressed warmly thanked to all the participants, and especially the donors “who have been supporting and who are going to support” the Ministry’s efforts on SRI. He looks forward to further cooperation and development, to reduce poverty and improve livelihoods.