



Program Concept Notes

Conservation Agriculture: the Sustainable Cropping Solutions 1. Introduction

SmartAgro Sustainable Innovations Co., Ltd. was formally set up in 2018 with a license as a private limited company from Ministry of Commerce on 15th January 2018, with registration number 00028899. SmartAgro focal businesses are supplies of the organic inputs and wide range of crop seed that is supporting to diversification, designs the innovative cropping systems, regenerates soils and makes crop and livestock production more resilient against climate change and market fluctuation. The company offers a variety of crops such as legumes, grasses and other species, and closely works with clients to develop solutions that help agricultural producers to maximize opportunities and reduce production costs while increasing the sustainability of their operations and minimizing risks. The chemical-free input products are for crop and livestock production and preservation agents that will extend the shelf-life of organic food products, whether liquid, fruit/vegetable, meat or processed food.

The Conservation Agriculture Services Center of the Department of Agricultural Land Resources Management (DALRM) is recognized as a research institution for the development and evaluation of agricultural techniques in accordance with the principles of conservation agriculture (CA) techniques, the sustainable intensification, with extensive testing station on the rainfed cropping system. In collaboration with the French Agricultural Research Centre for International Development (CIRAD), the research activities focus on agroecological crop management, sustainable land use, the dynamics of the physical, chemical and biological characteristics of the soil, the development of non-tillage farming systems, the use of appropriate machinery, crop and livestock diversification, pest management and preservation of the germplasm, and the economic analysis of production. The Center has played an important role in the field of research and as a potential regional training school for role models for farmers and farms.

Through the project of Conservation Agriculture Services with Fee that is the joined implementation of DALRM, CIRAD, and SwissContact Organization, that aim at promoting the conservation agriculture practices standard that one of their interventions is the engagement of the private sector to the element of the CA. SmartAgro have been partnered with the project and expanded the business of cover crops seed production and distribution across the country. In the dissemination of the sustainable agriculture, specifically the CA technique, SmartAgro has proposed to organize a short training course with the Conservation Agriculture Service Center under the theme "Conservation Agriculture: the Sustainable Cropping Solutions" which aims to raise the awareness and provide opportunities for farmers to participate among the small-scale farmer network of agricultural communities, organic rice farmers, the farmer of the sustainable rice platform (SRP), agricultural extension officers of development institutions, researchers, students and all stakeholders in crop production.

2. Objective of the training

- Raising the awareness on the agroecological cropping management through the conservation agriculture techniques.
- Improving technical skills of the farmers/resource persons on the implementation the cropping sequences, efficient resource utilization and mechanization for CA.
- Extension of the CA farmer's networks.









3. Training Schedule

- Date: Monday 28th to Tuesday 29th September 2020
- Venue: The Conservation Agriculture Service Center, Phumi Thlok Kravan, Bosknor commune, Chamkar Leu district, Kompong Cham province.

4. Target Attendees

This course is designed to be attended by 35 participants who are farmers who have problems with increasing pest infestation, soil degradation, decreasing yields and are looking for safe solutions and maintaining organic values of production. Farmers in the organic rice production network and sustainable rice platform will be invited through partner organizations. For general farmers, agricultural extension officer, students and researchers can also register, which can be done through the Facebook Agriculture page of the Conservation Service Center and SmartAgro or via link (https://forms.gle/t29BzVS7px6nP3pcA). All participants are required to pay a contribution of 20,000 Riels for supporting the program.

Time	Session	Activities & methodology	Resources			
Day 1: September 28, 2020						
7:00-8:00	Registration		Organizing team			
8:00-8:05	Plenary	Introduction of the training (objectives, contents and agenda)	МС			
8:05-8:10		National Anthem	All			
8:10-8:30	Plenary	Open remarks by Head of CASC/DALRM/GDA & Group photo	Head of CASC/DALRM			
8:30-9:00	Plenary	 To raise the awareness of the trainees about the soil resources. What is soil? Cambodia's soil resources Current land use & land cover changes Challenges and issues on soil resources management. Q & A session 	Official of DALRM			
9:00-9:15	Travelling to	B.K conservation agriculture research station	Organizing team			
9:15-10:00	Technical	 To raise awareness of trainees about the technical principles and concepts of CA/SI. Overview of CA/SI R4D through the collaboration between GDA & CIRAD History of B.K conservation agriculture research station Principles & concepts of CA/SI CA based-cropping innovative systems (Cassava, soybean, maize, organic management, improve pasture,) Cover crops, species, their functions, utilizations, 	CASC/DALRM & SmartAgro			

5. Tentative Course Program









10:00-10:15	Coffee break		Organizing team
10:15-11:00	Technical	 Introduce the appropriate scale machineries for CA/SI Demonstration of roller, roller crimpers, NT planters, 	
11:00-12:00	Technical	 Impacts of tillage systems on soil health Demonstration of land management on soil aggregate stability Soil clod dispersion test Boots of SmartAgro's products (CC seeds, bioproducts, marketing tools,) 	
12:00-13:30	Lunch at Ph	um 3 restaurant	Organizing team
13:30-14:20	Plenary	 Soft remind, via presentation, the trainees on: Review the technical principles & concepts of CA/SI Cover crops? Species, functions, utilization, accessibility Q & A 	CASC/DALRM & SmartAgro
14:20-15:00	Plenary	 CA/SI-based innovative cropping systems Annual upland crops (maize, soybean, cassava) Q & A 	
15:00-15:15	Coffee break		Organizing team
15:15-16:15	Plenary	 CA/SI-based innovative cropping systems (continue) Rice production system + video clips Fruit trees & industrial crop production system Livestock production : trail & farmers' network Q & A 	
16:15-16:30	Plenary	Recap of day 1	МС
Day 2: Septer	nber 29, 202	0	
8:00-8:30	Technical by group	At the B.K station, split the trainees into small groups based on their own activities at their farms/interest and/or positions (public officials, students,) & guideline of the assignment • Annual crop production • Orchards & industrial crop production • Livestock production • Organic value chains • Public officials, students, extension workers,	МС
8:30-10:00	Technical by group	 Each group, discussion among their group members, to: Identify their current issues and challenges (those could be soil fertility management, water & nutrient use efficiency, weed infestation, pest & diseases attacks, climate 	









		 associated hazards, inaccessible to appropriate scale machineries,) Based on the activities of Day 1, what are the elements of CA/SI that can be applied to overcome those challenges & issues? Their trajectory of their future farming What are the elements that they will try on their farm/site after return? 	
10:00-10:15	Move to Campus		Organizing team
10:15-10:30	Coffee break		Organizing team
10:30-11:30	Technical by group	Preparation of the group discussion results and findings for the presentation	Group facilitators
11:30-13:00	Lunch at Bosknor Market		Organizing team
13:00-15:00	Plenary	Presentation the result of each group work + Q & A	Representative of each group
15:00-15:15	Coffee break		Organizing team
15:15-15:30	Plenary	Recap of the 2-day training	MC
15:30-16:00	Plenary	Certification & closing remarks	Head of CASC/DALRM

6. Expected Outcome

The short course, which will include theoretical studies and practical visits, will provide a wealth of new knowledge and experience that can provide a foundation for sustaining their farming. Participants will gain a better understanding of the principles to implement the agroecological based techniques that adjust the use of environmental services as the resources to improve production and the benefits of biodiversity to better soil health and crop yield. Base on the detailed discussion in applying the techniques of conservation agriculture, participants will understand the relationship between soil health and crop productivity and they will practice the farming that is more preserving for soil structure and know-how to protect the soil from nutrient leaching and erosion. The demonstration of the rotational cropping system with the group works on designing a resilient cropping pattern will impose an understanding of the advantage of biodiversity and able to integrate the system through cover crops while they will get access to SmartAgro, a seed supplies company with clear information of the products. The displays of the types of machinery will bring the participant to a new-level of utilizing the machines where the soil is less disturbed or broken the natural structure when operating any sequences. A clear explaining of the features and functionality will help to bring ideas to the participants on how to adopt for their farm. Furthermore, the short course wills created a network of the agroecology farmer that bring together the producers, and possible stakeholders in the production for future follow up and sharing.



