# KPZ #1.

1. **Project Title:**

**The development of natural-based integrated farming model for adaptation to climate change**

1. **Contact person(s) and email(s)**

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1. **Catchy Caption/Slogan:**

**Working Together for Our Village’s Green and Safe Products and Better Change**

1. **Location(s) of project (google map link)**

**Soung District, Tbaung Khmum province**

**Will send later**

1. **Project Summary (110 words)**

The vegetable has not been largely grown in Cambodia including Tbaung Khmum province, it is a small-scale vegetable growing by farmers in several villages, and it also remains a main source of income for their families. Currently, large amount of vegetable remains is imported from the neighbouring countries. The growing techniques, water source and irrigation system for vegetable, disaster calamity, vegetable market links, vegetable information system are the main constraints affecting the vegetable production. Moreover, most farmers still heavily use chemical insecticide and fertilizer inputs for vegetable growing.

Under ADB TA8163 through LoA, PDA Tbaung Khmum selected the vegetable growing area which is heavily used chemical pesticides, chemical fertilizer to demonstrate the natural vegetable production technologies and in adaptation to climate change in 19 communes of 4 districts in Tbaung Khmum province. The agreement was signed between the Provincial Department of Agriculture in Tbaung Khmum Province and National Secretariat Support Unit of Working Group on Agriculture, MAFF on 23 April 2015 to implement the project namely the Development of Natural Based Integrated Agriculture Model for Adaptation to Climate Change for the period of 15 months of implementation until 30 June 2016.

The project aims at (i) increasing awareness of farmers on climate friendly agriculture and natural based integrated farming model for adaptation to climate change; (ii) building up capacity of model farmers to become farmer trainers on climate friendly agriculture and natural based integrated farming model, in order to transfer knowledge to farmers and local authorities; (iii) promoting farming system on non-chemical agriculture products through demonstration site in the targeted areas; and (iv) improving market of non-chemical agriculture products through establishing mobile stores for non-chemical agriculture products locally. 650 households have been directly benefited from the project including smallholder farmers, local authorities, technical officers, university students, through training course, study tour, meeting, workshop and demonstration. The natural vegetable model farmers were established and strengthened their capacities in order to increase knowledge of natural vegetable production and market access. At least two natural markets in Phnom Penh have initiated formal marketing link with project farmers.

1. **Any other text should be kept in short paragraphs (maximum 500 words in total)**

The main outcomes of the project are (i) knowledge adoption on climate friendly agriculture and natural based integrated farming model for adaptation to climate change and (ii) income increase through low input cost, production increase and better market. There are six expected outputs under the project as follows:

1. At least 650 farmers (40% women) will have knowledge and be able to practice farming system related to non-chemical agriculture products;
2. At least 80 farmers received training on natural based integrated farming system model and at least 80 tone of compost fertilizer will be produced by trained farmers;
3. 60 internship students, 96 local authorities (20% women) will gain knowledge on farming system related to non-chemical agriculture products.
4. 25 demonstration farms on non-chemical agriculture farming system have been implemented in the target areas
5. 3 mobile stores for non-chemical agriculture products have been established and functioned;
6. 500 short technical brochures on non-chemical agriculture farming system have been published for dissemination and video spots will be produced and broadcasted in the national TV programs.

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**Results:**

The project increased awareness on natural based integrated farming for climate change adaptation concept to 581 farmers (228 women) in 4 districts in Tbaung Khmum province where agro-chemical was fully used in the past for agricultural production. The 80 smallholder farmers (32 women) were selected to support and strengthen capacity on organic vegetable production and climate change adaptation and market linkages. After the training, the trained farmers expressed interest to implement the project and were willing to adopt the new technologies.

25 demonstration farms were successfully established as a model farm in compliance to the technique of natural based integrated farming for adaptation to climate change. Exchange visit for 50 model farmers (14 women) and 20 local authorities (4 women) were organized to the most successful demonstration farms to visit and learn about farm’s production, income, technology, and social and environmental benefit. Additionally, 25 model farmers were organized to visit organic markets and shops in Phnom Penh in order to learn the current demand of safe food products and how to link products from farms to shops.

As organic products from demonstration farms and farmer’s plots instantaneously increased, project helped to promote and link organic products to market through community awareness, set up of three mobile stores for selling organic vegetable in local market, and discussion and facilitation on contract farming arrangement with markets and shops in Phnom Penh. The mobile stores, namely “organic and safe vegetable product store”, were managed by women farmers with supports from PDA and aggregating products in the community for market, this mobile store was interested by farmers and consumers. Even these project target farmers sub-contracted with some big super markets, such as Aeon, Lucky super market, natural garden company and village natural agriculture shop in Phnom Penh etc. but these farmers could deliver still only small amount of vegetable to those super markets as most of vegetables have been sold to local customers, at the field or at the local mobile vegetable shops.

In addition, study tours have been organized for 60 university students (26 women) to visit the model farm on Development of Natural-Based Integrated Farming Model for Adaptation to Climate Change. These students learnt overall project activities and the implementation results especially the model farmers who are practicing process of compost preparation mixing with bio-slurry and biochar and the production of the liquid compose and natural pesticide.

The project made video spot during the implementation that focuses on the success of the demonstration farms. This video has broadcasted in the national TV programs. The project also prepared technical brochure on the free chemical agriculture farming, in close consultation with the NSSU. There were 500 copies of the brochure be published and disseminated.

During the project final workshop there were 120 participants (35 women) from the provincial department of agriculture, district agriculture office, district and commune authorities, agriculture university and vegetable growing farmers participated. Each participant received technical brochure and a video (DVD). The participants have shared knowledge, experience and lessons learnt related to the natural-based vegetable growing for adaptation to climate change, as well as to collect feedbacks from all the participants for any future projects.

1. **At least 5 images, optimum are 10 images (each image with a description). Images should be high-resolution JPG**
2. **Quotes and images of partners (optional) (Example: Quotes and Testimonies from Farmers and other stakeholders)**

The case of farmer, Ms. Puth Khiev in Suong commune, she has grown vegetable for a long time with using chemical fertilizer and pesticide and paid a lot of money for health treatment, as of now she stopped using chemical at all and replaced by organic inputs. She has reported that even though, she is very hard working with organic farm (applying cover crops and rice straw, liquid organic fertilizer, compost and botanical pesticides making) from the beginning to the end of the project by doing well with demonstration on cabbage, but she is so happy with the result with increased income, improved environment and enjoyed social interaction within her family.

Please see the story of Ms. Khiev.

1. **Graphs and statistics and/or fast facts (optional)**

*Note: Project Summary and other text should at least very briefly present/discuss on the project’s contribution towards “a more integrated, climate-friendly agricultural sector in the GMS”:*

* *Key findings with firm results shown*
* *Impacts to beneficiaries*
* *Potential for upscaling*
* *Policy implications/direction*

*Key Outcome:*

In relation to the TA 8163’s outputs and outcomes, the projects responded to output 3 on promotion CFA application and gender responsive and some part of output 2 on improving market access and links for smallholder farmers. The projects has built capacity to 581 farmers (228 women = 39%), 80 government officers (30 women = 38%), 60 Agriculture University Student (26 women = 43.3%) and 4 privates (2 women = 50%) on natural-based integrated farming model for adaptation to climate change, market linkages and income generation. The farmers who have increased knowledge and adopted technology is shown in Table 1 below.

Project could observe that the target farmers could understand on natural based integrated farming and adaptation to climate change. It also noted that successful demonstration farmers have increased income around 30% (Table 2) if compares with before project implementation and they start to realize the organic vegetable growing provides financial profit all year-round similarly or even better comparing with the chemical application. Moreover, customers that daily come to buy products from demonstration farm, in the area realize that these organic vegetables ensure food safety and good health. These target farmers and surrounding farmers have indicated their changing some attitude, as increasing more people to pay attention on free chemical vegetable and safe food even much higher price comparing with the normal vegetable selling in the local markets. However, some target farmers also have not much been willing to continue to grow organic vegetable by following the techniques introduced due to the challenges with lack of farm labor, availability of local resources for producing biochar, compost and organic fertilizer and pesticide, lack of irrigation especially in the dry season, cost of transportation and quantity of production. The result of project is linked to current development of organic agriculture policy and PGS policy. The lesson learnt from the project has been used in these two policies.