HUMANITARIAN INNOVATION FUND
Seed Funding Final Report

Please try not to exceed 8 pages (Arial, 12pts) excluding attachments

Lead organisation name	**YAKKUM Emergency Unit (YEU)**

Project title	**Climate Adaptive Farming in Drought Prone Areas**
Partner 1 name	**District Agriculture and Food Agency**
Partner 2 name	**Technical Implementation Unit for Seeds and Nursery Office – District Agriculture Extension Agency**
Location of activities	**Gunungkidul District in Yogyakarta Province**
Start Date	**1 November 2017**
End Date	**28 February 2018**

Total funding(please specify any other contributions to the project)	£ 9,999
Total spent	£ 9,990.20 (excluding bank administration fees)

ACHIEVEMENTS AND ACTIVITIES

1. Please describe the planned outcomes of this seed funding grant.

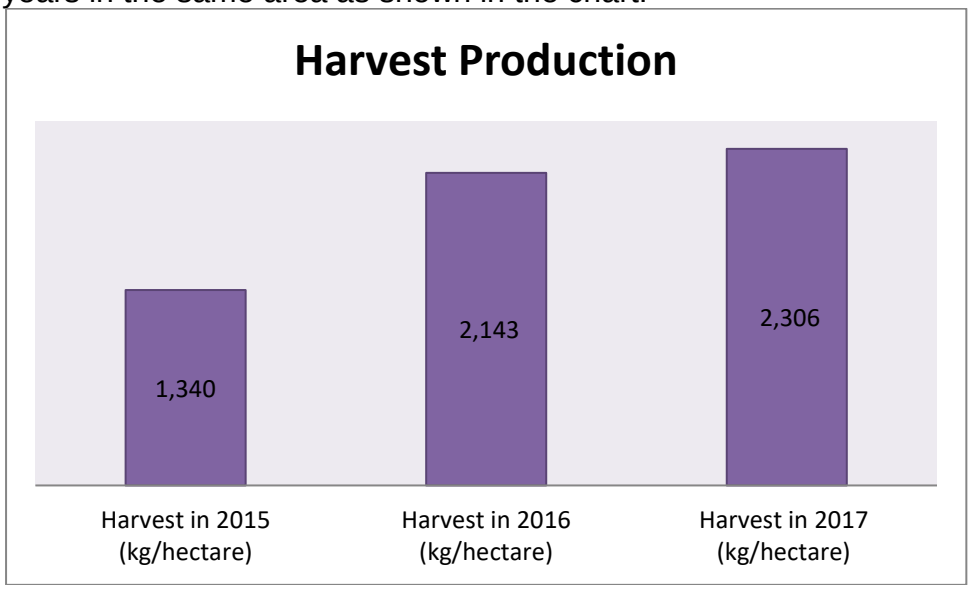
The project aimed to address the skills and knowledge gaps of marginalize farmers affected by climate change by improving farmers' capacity in the adoption of climate adaptive farming and providing necessary equipment to support the climate adaptive technology in farming and community seeds bank in order to ensure the food security initiative in the area. The expected outcome is the decline of food production losses due to extreme climatic events and climate change.

2. Was the project successful in achieving its planned outcomes?

☐ Completely successful
☐ Significantly successful
☑ Partially successful
☐ Completely unsuccessful

Please explain further, considering whether your project has succeeded in demonstrating the feasibility or effectiveness of the innovation, and what evidence you have generated (eg results from a proof of concept or pilot).

The project initiated 8 demonstration plots of organic farming with total 1.43 hectares. The results showed that 7 demonstration plots (0.99 hectares) were successfully harvested and 1 demonstration plot (0.44 hectares) failed to harvest due to tropical cyclone "Cempaka" which hit the south coast of Java Island in November 2017. However, the average harvest production in December 2017 until February 2018 indicated an increase when compared to the data from previous years in the same area as shown in the chart:



In addition, the farmers also practiced breeding high quality seed in 7 demonstration plots with total 0.97 hectares which produced 2,734 kg. The farmers agreed to breed the variety of Inbred Irrigated Lowland Rice (INPARI) "Sidenuk" which is suitable in the lowland rice ecosystem until 600 above sea level, in rain-fed rice fields and more resistant to pests and disease. Based on the observation by YEU team and the farmers, Sidenuk rice variety survived the tropical cyclone in November 2017 when the rain water was relatively high. However, one demonstration plot did not survive the tropical cyclone since the location was close to the communal pond and the demonstration plot was fully submerged for several days. As consequence, the excess water damaged the seeds.

3. Please describe the activities carried out as part of this seed funding grant, and attach the last approved workplan. Describe any changes or amendments to the

planned activities that have not been detailed in an *Agreement Amendment Form*, and explain why the changes were implemented.

Under HIF project, YEU distributed 13 kg sesame seeds, 142.5 kg superior corn seeds and 120 kg superior rice seeds Sidenuk. When the HIF project was approved in November 2017, the farmers had already started the planting season (first planting season of 2017/2018), therefore the seeds distributed to farmers were considered as stock seeds for the next farming season. During the first planting season of 2017/2018, YEU distributed 189 kg superior rice seeds Sidenuk and 6 kg corn seeds through support from ICCTF (Indonesia Climate Change Trust Fund) project.

Prior to the planting phase, 8 farmers' groups were trained by the Provincial Seed Certification Agency on seed breeding and certification process. The farmers learned that the breeding standards and the certification process required big efforts and fully-equipped resources, which became a challenge for small farmers. The requirements for certification can only be met by large-scale farming companies. For illustration, the use of overflow drying principle with blower to allow for suitable drying air condition and avoid any manual drying method. Storing of seeds should also meet with the national logistics standards where farmers should provide permanent building for storage.

Considering the circumstance and challenges of the small-farmers, the groups decided that the seeds from the breeding plots will be sold to the members of the groups and in the meantime will not proceed to the certification process as they need to have a long preparation to it. The seeds from the breeding plots were 2,734 kg of supreme rice, 2,306 organic rice, and 12,550 kg supreme corn.

For tools to support climate adaptive farming, YEU supported farmers to design and assemble their own tools for farming and post-production activities. The farmers decided to make 1 *tugal* (traditional farming tool, long wooden stick to make a hole in the soil to put the seeds during planting), 12 corn shellers and threshers with simple and lightweight machine for mobile uses, and 5 manual rice threshers which did not require for fuel.

The last regular meeting for all farmers groups was conducted in September 2017 and it was scheduled to be conducted again in December 2017 and March 2018. Because the funding from ICCTF ended in November 2017 and the next project phase will start in April 2018, the joint farmers' groups meeting was cancelled and carried out in each group.

4. Please describe how the activities carried out led to the outcomes achieved.

The trainings and direct assistance to climate adaptive farming have benefitted the farmers that they are able increase the farming production through the following actions:

1) Using seed variety which is suitable with the geographical and climate conditions in Gunungkidul District which is dominated with karst and long dry

season. The selected variety also has other qualities such as suitable in rain-fed rice fields, more resistant to pests and disease and has short duration from seeds to mature plants (±103 days).

2) Composting cow manure, which often become the breeding place for endemic pests *uret* (*Lepidiota Stigma*), into organic fertilizers. It significantly reduces the *uret* population as well as reduces the costs for purchasing chemical fertilizers.
3) Increasing the crops population by applying seed row spacing by measuring the distance of the crops, manipulate the nutrient placement, ensuring enough sunlight and reduce weed competition. Consequently, there are fewer weeds competing with the crops for moisture and nutrients. Based on the study conducted by IRRI (International Rice Research Institute), the findings suggested that "proper spacing can increase the yield by 25%-40% over improper spacing".

5. All projects should have the needs of affected people at the forefront of their planning and development. Please describe how your project has engaged affected people to date, and/or how you have ensured that the needs of affected people are fed into your project.

YEU held meeting with the farmers' groups and Agricultural Extension Agency to consult and select the seeds variety for breeding and planting, the type of farming equipments and the trainings suitable to develop the skills and knowledge of the farmers. All decisions were consulted and made by farmers' consent.

6. On reflection, was your approach, project design or methodology appropriate? What would you do differently if you were starting again?

Collective agreement with the village authorities and the farmers on the provision of demonstration plots, where they will appoint one plot in each group to be used for climate adaptive program for 5 years. The farmers should not move the plots in the next planting season to allow for the soil to produce optimum harvest.

OBSTACLES AND CHALLENGES

7.Please list up to three significant obstacles or challenges faced during the project, describe how they impacted the project plans and activities, what steps were taken to address them, and whether the solutions were effective.

	Obstacle/challenge	Impact/solution/result
1	In the previous practice, the demonstration plots changed locations for different planting seasons. The reasons were: - to ensure equality amongst the groups' members to contribute in the program	As consequence, the harvest results from the previous organic farming cannot be compared with the current planting season because they move the location for the demonstration plots. In the future, it is expected that the project can facilitate the leasing

	- land conversion from agriculture to plantation (teak wood) - the groups was not able to lease the land in a longer term.	of farm land for demonstration plots for at least 5 years.
2	The cow manure was not sufficient to be applied in large-scale farming.	Consequently, the organic farming cannot be implemented in a larger farm land. It is expected that the government's policy allows for the provision of incentives for organic farmers and facilitates the small-scale farmers in fulfilling basic materials for organic farming initiatives.
3	The duration of project is too short for an adaptation and food security programs.	The results from the trainings and assistances for adaptation cannot be measured immediately. It requires for follow up resources/actions.

PARTNERSHIPS AND COLLABORATION

8. Please describe the value that different members of your partnership brought to the project, and the ways in which your combined skill set has helped to address the problem.

There is local knowledge in controlling the pests' infestation, like rodents, by installing nesting boxes with poles near fields. But, based on the research from UPTD BPTP (office of Technical Implementing Unit of the Central Agriculture Technology Institute) in Yogyakarta, the action is not sufficient. It requires more than nesting boxes, because farmers have to be able to attract the barn owls to stay in the nesting boxes. In order to create an enabling environment/ecosystem for the barn owls, farmers should be able to incorporate the spatial pattern barn owl predation pressure on rodents, the nesting choice and agricultural output. In order to attract the barn owls, there are several steps; (1) night observation to decide on the flying tracks, install perching poles on the owl flying track in order to help them preying the rodents, and (3) the best time to install nesting boxes is near the mating season.

Farming expert from IPPHTI (Farmers' Association on Integrated Pests Management) shared the knowledge on predicting the seasonal calendar, rainfall rate, moisture level, and water evaporation in the respective areas. Farmers also learned on how to use and install the ombrometer (rain gauge) in the right locations. The Agriculture Extensions Workers also trained the farmers on how to use the android application called KATAM (Integrated Agriculture Calendar), accessible technology for farmers to provide assistance and information to increase the crops productions based on the current climatic condition. Farmers even get specific information on farming calendar, fertilisers needed during particular planting season,

agricultural machine tools for specific area, and crops varieties prone to specific hazards.

9. Did any members leave or join the partnership during the course of the project? If so, why?
NO

DISSEMINATION AND NEXT STEPS

10. Please provide links to any articles, blog posts or reports about this project that you have published.
Here is a link of learning process during the review of the innovation proposal by YEU which was also facilitated by ADRRN Tokyo Innovation Hub (ATIH).
http://adrrninnovationhub.org/case/writing-a-successful-proposal-case-study-of-yeu-from-indonesia/

And links on the previous project summary and update on climate adaptive farming:
http://adrrninnovationhub.org/case/climate-adaptive-farming-in-indonesia/
HTTPS://WWW.YOUTUBE.COM/WATCH?V=XEE_HNK0S2I&FEATURE=SHARE

Other publication can bee seen in our FB page: YAKKUM Emergency Unit, Twitter: @YEUJogja and website www.yeu.or.id

11. Do you have current plans to take the project forward?

☑ Yes
☐ No
☐ Maybe

- Develop an eco-friendly agricultural policy paper in Gunungkidul District.
- Develop the capacity of farmers to cultivate other local seeds varieties to allow different choices in the adaptation actions for agriculture.
- Conducting Feasibility Study on the distribution of ground water with of solar panel in order for the citizens to have awareness and capacity to manage water independently.

12. For the project to move forward, please list the three most important issues that will need to be addressed, in order of importance.

1) Agreement with the village authority and farmers' groups on the provision of demonstration plots and able to facilitate the leasing of farm land for demonstration plots for at least 5 years.
2) The political will of the head of district in the ensuring the climate adaptation policies.
3) Long-term funding to ensure the farmers' commitment in practicing and continuing the climate adaptive agriculture program.

YOUR FEEDBACK

We are always thinking about ways that we might improve our processes and extend the support that we offer to innovation teams. We would welcome your thoughts in responding to the following questions.

13. Please describe your experiences of the HIF's seed funding process from the initial workshop application to date, including our processes and general accessibility, what we have done well, and what we might improve.

The initial workshop gave YEU direct feedback to improve the proposal, better articulate the program design and strengthen linkage of the intervention with the resilience initiatives. The feedback particularly emphasized the sustainability and the value for replication to different areas of context in Indonesia as well as focusing on disaster preparedness especially for slow-onset disaster (drought) with resilience indicators. In addition, the panellists reminded us during the workshop on the need for cost-efficiency aspects, such as direct contribution from the target groups and the partners.

On revising the proposal, YEU already incorporated the inputs accordingly and based the proposal from actual risks assessment which gave much information and consideration on the design.

The due diligence process and the online proposal application was helpful in preparing for concise and clear proposal. However, YEU found it challenging when bringing our partners who cannot speak English in the initial workshop application, since it delivered primarily in English. On the other hand, we want our partners also to speak on behalf of them.

14. What further forms of support might you have found helpful? Please select up to three in order of importance, including your own suggestions if applicable.

- ☐PDFtoolkit or guidance for managing innovation projects
- ☑Video explainers for managing innovation projects
- ☐Webinars on seed funding application process
- ☑Online community for peer-to-peer support
- ☑Mentoring by previous HIF grantees
- ☐Other

If you have selected "other", please specify: