Darwin Initiative Main and Post Project Annual Report

To be completed with reference to the "Writing a Darwin Report" guidance: (http://www.darwininitiative.org.uk/resources-for-projects/reporting-forms). It is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)

Submission Deadline: 30th April 2020

Darwin Project Information

Project reference	26-015
Project title	Traditional African vegetables strengthen food and nutrition security in Madagascar
Country/ies	Madagascar
Lead organisation	World Vegetable Center
Partner institution(s)	World Vegetable Center, Centre National de la Recherche Appliquée au Développement Rural (FOFIFA), Université d'Antananarivo (UA), SEMANA
Darwin grant value	£ 319,800
Start/end dates of project	16 May 2019 – 15 May 2022
Reporting period (e.g. Apr 2019 – Mar 2020) and number (e.g. Annual Report 1, 2, 3)	16 May 2019 – 31 March 2020, Annual Report 1
Project Leader name	Sognigbe N'Danikou
Project website/blog/social media	-
Report author(s) and date	

1. Project summary

Madagascar, a historic cross-road of African and Austroasian settlers, is home to many traditional African vegetables (TAVs), such as African eggplant, African nightshade, and *Vigna* legumes. TAVs have the potential to diversify Malagasy farming systems and therefore secure benefits of biodiversity for the poor. TAVs are nutritious, easy to grow, are often hardy, and well adapt to changing climates. Recognizing this potential, the Darwin Initiative supported the scoping study DARSC182 led by WorldVeg that aimed to understand the diversity of TAVs used by Malagasy farmers; their conservation status and explore opportunities for income and increased consumption. The scoping study resulted in two major findings: i) Malagasy farmers still maintain a high diversity of traditional vegetables but production and consumption of these TAVs are low. Low usage makes traditional vegetables vulnerable to local or national extirpation under pressure of land-use change and crop replacement; ii) A modest investment in seed systems and increased awareness of benefits for nutrition, income, and climate change adaptation would lead to greater utilization of traditional vegetables. During the scoping study women farmer groups expressed great interest to grow TAVs. This confirms WorldVeg experience in other African countries about the potential of traditional vegetables to empower women in farming businesses. This project aims to secure benefits of agrobiodiversity (ABD) for poor farmer households in two vegetable producing regions: Itasy and Antsirabe (Figure 1). The project is supporting Malagasy women farmers with practise-oriented research to grow traditional vegetables. This will make

farming systems more climate-resilient, secure increased income for women farmers, and improve food and nutrition security of Malagasy households. To sustain current and future use of traditional vegetables, the genetic resources of traditional vegetables will be protected *ex-situ* and grown in school gardens together with other food plants to raise awareness about Malagasy food plant diversity.

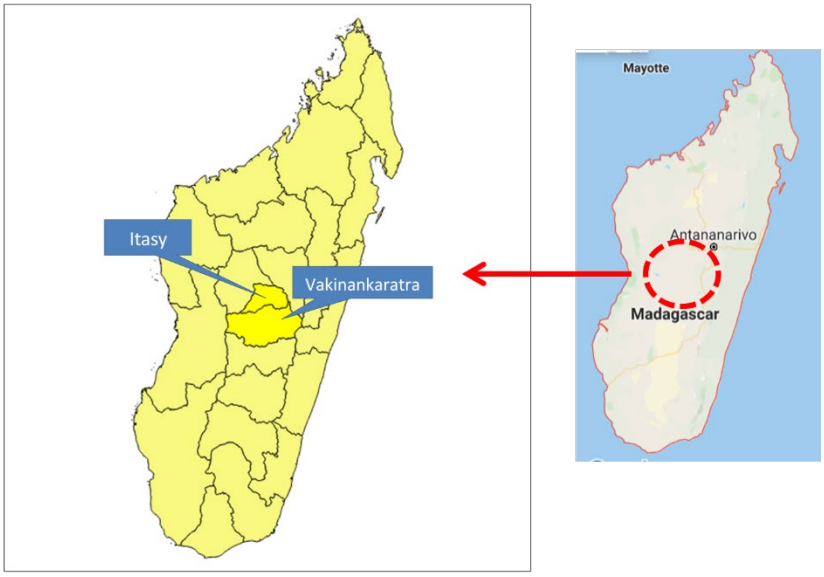

Figure 1. Map of project sites in Itasy and Vakinankaratra (Antsirabe) regions in Madagascar

2. Project partnerships

The partners include the World Vegetable Center, FOFIFA, University of Antananarivo which are public research and development institutions, and a private partner SEMANA. During the scoping study women farmers expressed high interest to grow traditional vegetables. Therefore, the partnership was based on a demand stemming from the host country in order to safeguard the genetic resources and to increase production and consumption of TAVs. Through the partnership, awareness was raised among the stakeholders on the importance of TAVs, through the stakeholders' workshop and farmers trainings and capacity building for university students in year 1. The partnership has also gained from the support of the plant genetic resources policy makers (e.g. the former and current focal points of the ITPGRFA and Nagoya Protocol), who are involved with project activities as resource persons.

3. Project progress

3.1 Progress in carrying out project Activities

Output 1: Good understanding of the status of agro-biodiversity in Malagasy food systems.

- Hotspots of traditional vegetable diversity were mapped in year 1. A GIS analysis of Madagascar was part of a continental analysis of patterns of the distribution of 126 selected vegetable crops following van Zonneveld et al. (*in prep.*). At country level, Madagascar has a relatively low observed richness of 44 species on the basis of GBIF herbarium records of food plants herbarium samples and genebank accessions, while ecological niche modelling resulted in 83 species. This indicates a collecting gap in Madagascar of 39 species (83- 44) to better understand the vegetable diversity in this country and to improve the conservation of the available diversity. Hotspots of diversity (blue colour) on this island can be found in the Northern, Southern and Eastern part of Madagascar (Figure 2).

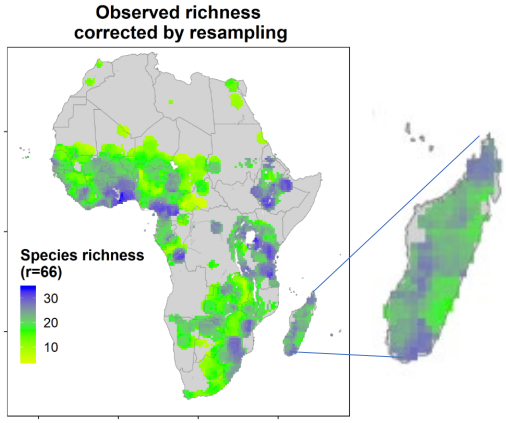

Figure 2. Map indicating hotspots of vegetable biodiversity in Madagascar. Source: van Zonneveld M, Kindt R, Solberg SØ, Dawson IK. Diversity and conservation of traditional African vegetables: priorities for action, *in prep.*

- The Agrobiodiversity (ABD) four-cell assessments were initially planned to take place in at least six communities in different agroecological zones (AEZs). Because of the high diversity of AEZs within each region, project partners have decided to increase to eight communities (Figure 3). Data have been collected in four communities in the first year and will be completed in the other four communities in year 2. The data collected in year 1 is being processed, and the preliminary results from the first four sites indicated an important diversity of plant genetic resources utilized by the communities for household food consumption, medicine, and sales to generate income. Four MSc students were involved in the ABD four-cell assessments and will use the data to write their theses.

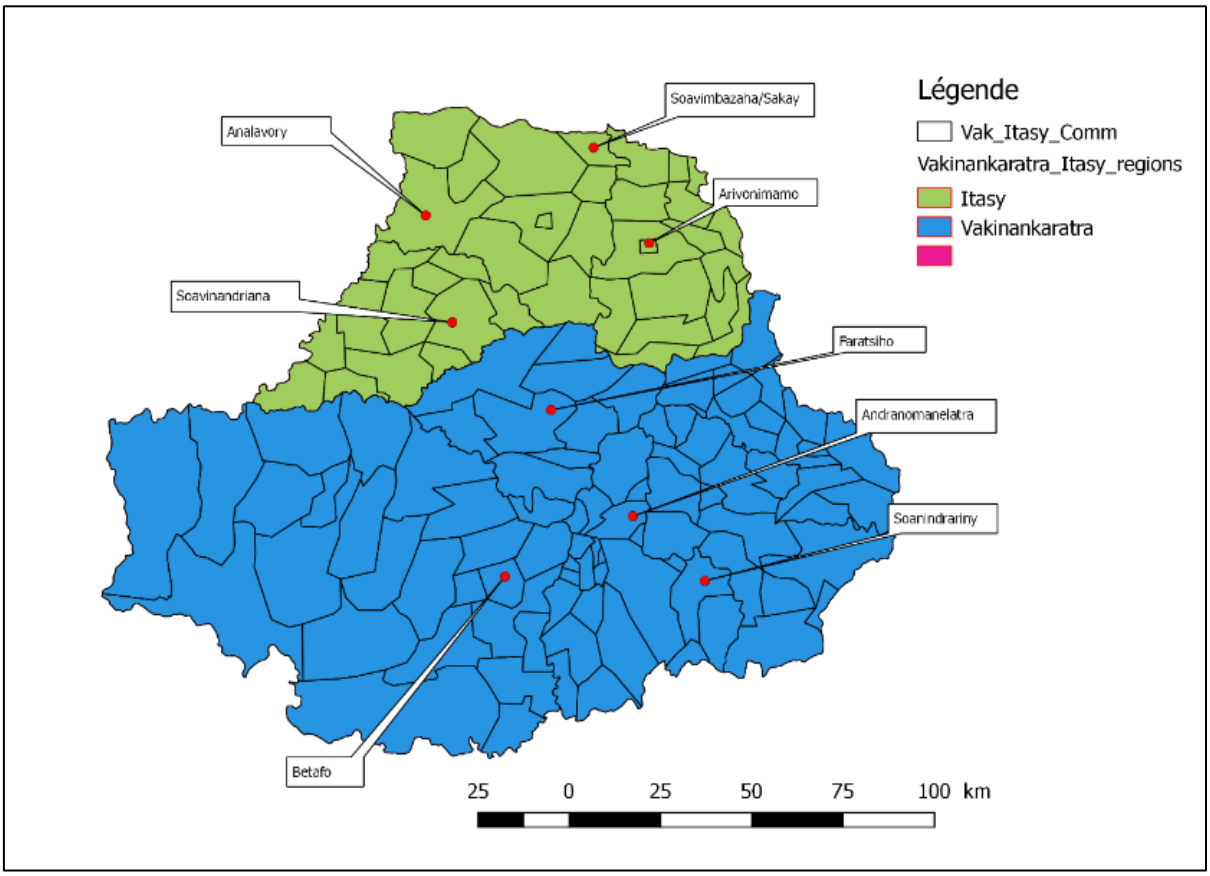

Figure 3. Selected sites for ABD assessments in Itasy and Vakinankaratra regions

Output 2: Protected and characterized genetic resources of vegetable diversity.

- Collecting of vegetable germplasm is planned to start in year 2. In preparation for this activity, the project team organized several meetings in Antananarivo with the former and the new National Focal Points of the ITPGRFA and the Nagoya Protocol, to discuss the administrative procedure and learn about the paperwork for the permits for the germplasm collection and export to the WorldVeg genebank in Tanzania. An application was then prepared and

submitted to the national competent authority in the last quarter of 2019, and the authorization to collect germplasm was granted to the project in March. The project team is now preparing to start the field work planned for August-September.

- Seed multiplication: 250 seed kits (4 crops, 12 varieties, 10 kg seeds) developed by WorldVeg and sent to FOFIFA for on-station characterization by FOFIFA and also for the on-farm evaluation by trained beneficiary women farmers. The imported WorldVeg seeds were sampled by the national Plant Quarantine Service (SIQV) for laboratory tests, and the results revealed no diseases. The plants are growing under controlled environment and are also being monitored by the national SIQV. The recent report indicated that seeds are disease-free and have been authorized for distribution to the beneficiary farmers (see Annex 4).
- Characterization and evaluation of genetic resources of 12 varieties of African vegetables (Amaranths, African nightside, African eggplant, and Ethiopian mustard) is on-going in FOFIFA's research station in Antsirabe (Table 1, and Figure 4).

Table 1. List of the traditional African vegetables' crops under evaluation by FOFIFA

Entry Variety	Crops	Species	Entry Name
V1	African nightshade	*Solanum villosum*	RC 18-ES13-3
V2	African nightshade	*Solanum scabrum*	RC 10-ES13-3
V3	African nightshade	*Solanum scabrum*	BG 16-Sel
V4	African nightshade	*Solanum scabrum*	SS 49-Sel
V5	Amaranth	*Amaranth cruentus*	PARIS (A) – Sel
V6	Amaranth	*Amaranth hypochondriacus*	AH-TL-Sel
V7	Amaranth	*Amaranth dubius*	UG- AM -9-ES13-2
V8	Amaranth	*Amaranth cruentus*	Ex Zim –Sel
V9	Amaranth	*Amaranth cruentus*	AM 38-Sel
V10	African eggplant	*Solanum aethiopicum*	DB3-Sel
V11	Ethiopian mustard	*Brassica carinata*	ML EM 1-Sel
V12	Ethiopian mustard	*Brassica carinata*	ST 3-Sel

Figure 4. Traditional African vegetables under evaluation by FOFIFA, in Antsirabe, Madagascar

Output 3: Malagasy extension workers and women farmers trained on seed saving and production of traditional vegetables.

- 25 extension workers (68% women) attended a 3-day training-of-trainers course in Itasy and Antsirabe regions (Figure 5). Prior to the training, the project sites were selected and the contact persons were identified in each region. A field visit was then organized by the project team to meet and discuss the project objectives and activities with the project beneficiaries. Some of the communities were already visited during the scoping study and farmers were very enthusiastic to be trained and to receive WorldVeg varieties. Participants were trained by FOFIFA project staff on seed saving and vegetable production, using WorldVeg developed training materials, i.e. videos and leaflets which were translated into Malagasy (Figures 6 and 7). A training report is available.

Figure 5. Training of 12 extension workers in Antsirabe (left), and 13 in Itasy region (right)

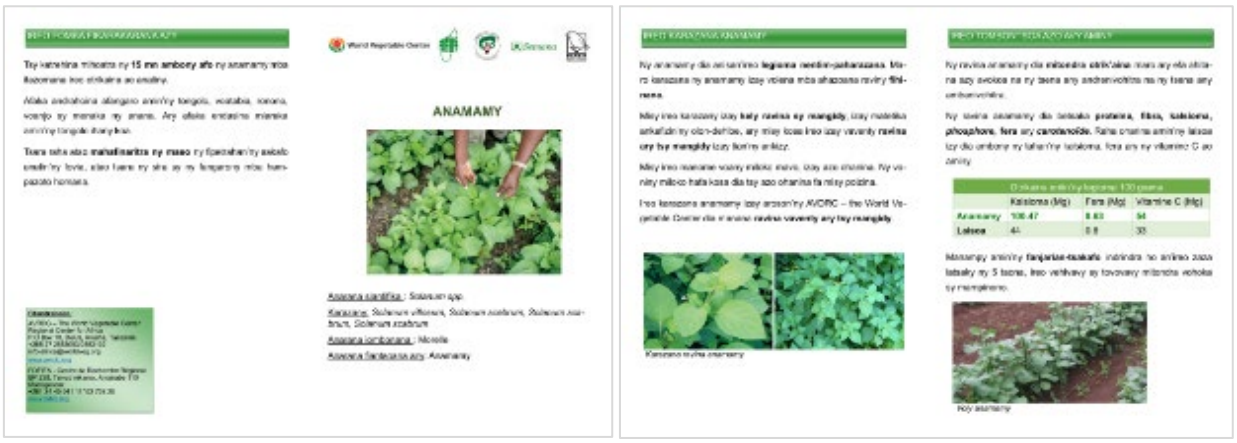

Figure 6. Sample leaflet for African nightshade home gardening, in Malagasy.

Figure 7. Sample leaflet on African nightshade seed saving, in Malagasy.

- 200 small-scale women farmers received one 2-day training in year 1. The 200 beneficiary women farmers were trained by the trained 25 extension workers, under the supervision of FOFIFA, on seed saving and home gardening of African vegetable crops promoted by the project. A training report is available.
- 250 seed kits (40g per kit) of promising 12 improved lines of Amaranths, African eggplant, African nightshade and Ethiopian mustard were developed, imported to Madagascar and distributed to the 200 beneficiary women farmers, school gardens and for on-farm evaluation. The farmers have raised the nurseries and the crops have been transplanted in the field, under the supervision of extension workers and FOFIFA (Figures 8 and 9).
- Participatory evaluation by 200 women farmers: the trained women farmers are scoring the 12 varieties that they received. In addition to the WorldVeg varieties, each farmer is including their own local landraces for comparisons.

Figure 8. Training of a group of women farmers (left), and distribution of seed kits after the training (right)

Figure 9. A beneficiary women farmer receiving the follow up visits and advices of the extension worker (amaranth left, African nightshade right).

- Baseline household surveys were conducted with 400 women farmers (200 women farmers involved in the project and 200 who are not involved). The baseline survey collected data on the current status and utilisation of TAV species by households, and identified the opportunities and challenges associated with TAVs production and utilization in Itasy and Antsirabe regions. The results indicated that consumption of African vegetables in the surveyed households is overall low with an average of 445 grams, 632.75 grams, 600.25 grams and 440.25 grams of amaranth leaves, black jack, African nightshade and African eggplant consumed in the last week prior the interviews, respectively. Two MSc students were involved in the M&E baseline survey and will use the project data for their final MSc thesis. The data analysis is ongoing and baseline survey report will be developed.

Output 4: Regional school garden programs strengthened to promote conservation and use of agro-biodiversity.

- Focus-group discussions with school children and care takers in year 1. It was planned five schools in total, but eight primary public schools were finally selected (four in each region) to be involved in the regional school garden program (Table 2). The number of schools has increased because of the high interest shown by school teachers and the. The project team estimates that resources can support eight school gardens for reaching a greater impact. The focus group discussions (FGDs) started in March 2019, but only one FGD was completed in Itasy region. The other FGDs have to be postponed due to the closure of schools as a government measure to halt the spread of the Covid-19 and subsequent closure of schools by government. The FGD was conducted with four school teachers and 12 school children, separately. The FGD identified the crop varieties currently grown in the school garden, the seed sources used and the working arrangements with the children. In summary, the school grows mainly exotic vegetables (common bean, cucumber, lettuce) and some roots and tuber crops (potatoes and yams). The seeds are provided by parents to the children, but sometime purchased from the market using the income from the sales of produce from the school garden. The school has a canteen, which serves food only twice a week.

Table 2. List of selected schools for the regional school garden program in project sites

Betafo district (Antsirabe region)	Arivonimamo district (Itasy region)
EPP Andranomafana	EPP Tsaramiakatra
EPP Anjazafotsy	EPP Fonenana (Imerintsiatosika)
EPP Ampamelomana	EPP Antsahalava
EPP Ambohijatovo	EPP Antaboaka

Output 5: Malagasy women farmers trained on seed production for commercialization.

- The training of 10 progressive women farmers on seed production and commercialization could not start in year 1 due to the late start of project (as reported to the Darwin Initiative in October 2019). The start of the training has been postponed to 2020, when the trained 200 women farmers (output 3) have finished the first cropping season. The 10 women farmers to be trained will be selected among the 200 women farmers.

3.2 Progress towards project Outputs

Output 1: Good understanding of the status of agrobiodiversity in Malagasy food systems.

Baseline: Limited information on the biodiversity, geographical patterns and the conservation status of traditional vegetables in Madagascar

Change to date: A GIS analysis was conducted which estimated the biodiversity of TAVs in Madagascar at 83 species and identified a collecting gap of 39 species. The ABD four cells analysis is ongoing and has been already completed at 4 out of six planned project sites. It is expected to reach 8 sites in year 2. The ABD assessments data collected in year 1 provide information on the TAV species used by communities, and the levels of threats, which will help to identify popular promising vegetable species on one hand, and prioritize food plant conservation actions on the other hand.

Source of evidence: refer to Figure 2 (in: van Zonneveld et al., *in prep*), database and field report of the ABD four-cells assessments on TAV biodiversity conducted at four project sites.

Output 2: Protected and characterized genetic resources of vegetable diversity.

Baseline: There is a gap in the conservation and characterization of traditional vegetable genetic resources.

Change to date: A permit has been granted to the project team by the Malagasy National Competent Authority to collect vegetable germplasm in year 2 as planned. Seeds of 12 WorldVeg varieties of Amaranths, African nightshade, African eggplant and Ethiopian mustard have been multiplied and sent to partners in Madagascar for evaluation. The national partner FOFIFA has established a trial is evaluating the 12 varieties.

Source of evidence: Copy of the authorization to collect granted by the NCA; copy of seed import permit; photos of the trials.

Output 3: Malagasy extension workers and women farmers trained on seed saving and production of traditional vegetables.

Baseline: Lack of technical capacity of Malagasy women farmers in Itasy and Antsirabe regions on seed multiplication and production of African vegetables.

Change to date: The existing WorldVeg seed saving and vegetable production videos and leaflets were translated into Malagasy and used in trainings and also disseminated to farmers. The capacity in quality seed saving and vegetable production of 25 extension workers (68% of women) and 200 beneficiary women farmers were strengthened in year 1. 250 seed kits have been developed and 200 of them were distributed to the 200 women farmers for seed and vegetable production and on-farm evaluation. The other 50 kits are maintained by FOFIFA for on-station characterization/evaluation trials and for the establishment of the school gardens. The women trained in home gardening and seed saving have already started the on-farm evaluation of 12 promising varieties mentioned above; plus popular landraces of their choice, which was originally planned for year 2.

Source of evidence: Lists of training participants; copies of signed receipts of leaflets by farmers; copy of training report, copy of seed import permit; photos of the trials.

Output 4: Regional school garden programs strengthened to promote conservation and use of agro-biodiversity.

Baseline: School children and their care takers have limited knowledge on the production of TAVs, and there is low biodiversity of TAVs in school gardens in Itasy and Antsirabe regions.
Change to date: A national stakeholders' workshop was organized in year 1 to sensitize actors to the role of TAVs to combat child malnutrition and to the importance of educating the young generation through school garden programs. Eight schools have been selected in Itasy and Antsirabe regions for strengthening the school garden program. One FGD was conducted to understand the current context of school gardens in terms of the cultivated crops, their use, the sources of seeds, level of involvement of the school children, role of the parents of the school children in the school garden, linkages with school feeding programs if any, knowledge of school children and their care takers about the value and production of TAVs, and the willingness of the schools to grow TAVs and to incorporate them in the school feeding programs where they exist. After this situation analysis, the establishment of school gardens and the training of school children and their care takers, the development of a regional agrobiodiversity catalogue and the regional school gardens program workshop are planned for year 2 and 3.
Source of evidence: List of selected schools; FGD report

Output 5: Malagasy women farmers trained on seed production for commercialization.
Baseline: Malagasy women farmers are willing to invest in vegetables but lack technical capacity in seed production and business skills.
Change to date: 200 women farmers have received an initial 2-day intense training in year 1 and are currently evaluating 12 promising vegetable varieties. The 10 progressive women farmers to receive commercial seed production and seed business development trainings will be selected among the 200 trained women farmers at the end the first season of on-farm evaluation. SEMANA, the private partner seed enterprise is monitoring the beneficiary farmers together with FOFIFA and WorldVeg and will be in charge of the business development training in year 2.
Source of evidence: Training report; photos from on-farm evaluation plots.

3.3 Progress towards the project Outcome

Baseline: Genetic resources of TAVs are threatened and have very minor contribution to food consumption and income for the smallholder households in the project sites.
Change to date:

- In year 1, 200 women farmers received one 2-day training on seed saving and production of 12 promising TAV varieties. The trained women farmers are evaluating the varieties in their farms and the produce will feed their families and surplus will be sold within and beyond their communities. Each beneficiary farmer is encouraged to share the harvested seeds with at least 5 other farmers in the community after the first growing season and to document the sharing (200 x 5 = 1,000 farmers). Assuming an average size of 5 household members, the project will provide African vegetables for at least 5,000 Malagasy people every year in the project area.
- Authorization to collect TAV germplasm in Madagascar has been granted to the project team by the national competent authority, and collecting missions will take place in year 2 as initially planned. The target is to collect and conserve at least 400 accessions.
- Eight schools have been selected for the regional school garden program, and the baseline studies are ongoing. The school gardens will be established in year 2.

Source of evidence: Report of baseline survey; Participants list to the trainings on seed saving and vegetable production; Authorization to collect in Madagascar granted by the NCA.

3.4 Monitoring of assumptions

Assumption 1: The project estimates to indirectly impact 15,000 Malagasy people on the basis of the following assumptions: For each of 1,000 farmers growing traditional vegetables in the Itasy region, at least 3 households with on average 5 household members will increase their consumption of traditional vegetables because of improved access to the vegetables. 3 households x 5 members x 1,000 farmers = 15,000 Malagasy people
Comments: Assumption 1 still hold true.
Assumption 2: Communities can be accessed for, and are willing to participate in the agro-biodiversity four-cell assessments.
Comments: Assumption 2 held true in year 1. Communities were accessible to conduct baseline socio-economic surveys, ABD four-cell assessments and training of the extension workers and farmers. However, the situation has evolved with the Covid-19 pandemic and there is a lockdown in Madagascar since March 2020. This lockdown did not yet impact the activities but a prolonged

lockdown by the government in Madagascar will likely affect accessibility to the project sites in year 2.
Assumption 3: FOFIFA will obtain permits with the corresponding national authorities in consultation with the ITPGRFA focal point to collect and ship seeds to the WorldVeg genebank of traditional African vegetables in Arusha, Tanzania.
Comments: Assumption 3 still hold true and the permit to collect has been granted.
Assumption 4: Communities can be accessed by extension workers and MSc students to support capacity development of women farmers and to support school gardens and other agro-biodiversity activities in primary schools.
Comments: Refer to the comments above on Assumption 2.
Assumption 5: School directors give permission to establish school gardens. School directors and care takers give permission to interview school children. Students and teachers maintain school gardens.
Comments: Permissions were only given by directors and care takers of public schools. In private schools, parents do not allow the school to engage their children in farm activities. While the project will attempt to demonstrate to these parents the importance for children being involved in school garden programs, only the public schools have been selected for the program.
Assumption 6: Progressive women farmers are interested to develop seed businesses.
Comments: The Assumption 6 still old true.

3.5 Impact: achievement of positive impact on biodiversity and poverty alleviation

As indicated above, in year 1 the project team was able to get the permit to collect traditional African vegetable germplasm. This permit will allow the project to collect and conserve in genebanks at least 400 accessions of vegetable species in year 2 and 3. The 200 trained beneficiary women farmers are already growing and evaluating 12 promising varieties of African vegetables for household consumption and for commercialization. This will contribute both to improving household nutrition but also increasing income.

4. Contribution to the Global Goals for Sustainable Development (SDGs)

The project is helping Madagascar to deliver on the SDGs on “No poverty (1); Zero hunger (2); and Climate action (13).
SDG 1 on “No poverty”: Itasy and Antsirabe are the most populated regions of Madagascar, and the baseline indicates that smallholders live on less than $2.00 a day. The project has trained 200 smallholder women farmers, provided them seeds and providing them with extension services on the production of traditional African vegetables. The produce from their gardens will serve for household consumption and the surplus can also be sold to generate additional income for the households. The project sites are close to Madagascar’s main cities, which provides opportunities to poor farmer families for selling vegetable and developing seed businesses.
SDG 2 on “Zero hunger”: The trained 200 farmers have established their vegetable gardens which include a diversity of nutritious traditional African vegetables. With the seed kits provided by the project, the trained beneficiary farmers will grow more vegetables and have enough food to eat, but also will diversify their diet. This will contribute to reduce undernourishment, especially between November to March which coincides with the lean season in the project sites.
SDG 13 on “Climate action”: The project introduced 12 promising varieties of amaranths, African eggplant, African nightshade and Ethiopian mustard to the production systems in the Itasy and Antsirabe regions. This provides options for farmers to diversify their farming systems, dominated by rice production. Vegetables are hardy and short cycle crops and can are well fitted in a rice-vegetable rotation. On-farm diversification with traditional African vegetables is thus a promising adaptation strategy to manage risks under climate change while sustaining income.

5. Project support to the Conventions, Treaties or Agreements

International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA): By distributing 250 seed kits of 12 vegetable varieties bred by the World Vegetable Center (using material transfer agreement) to FOFIFA and to 200 farmers in Madagascar in year 1 for evaluation and direct use by farmers, the project is contributing to Article 7 on national commitments and international cooperation, and to Article 10 of the ITPGRFA on the Multilateral System of Access and Benefit Sharing.
Convention on Biological Diversity (CBD): A GIS analysis in year 1 identified a collection gap of 39 species, and three African vegetable biodiversity hotspots in Madagascar. The Malagasy

Ministry of Environment, through the Directorate of Renewable Natural Resources and Ecosystems has issued a permit to collect TAVs to the project team. By issuing this permit, the Malagasy government gives the necessary administrative support to collect and safeguard TAVs in Madagascar. By organizing ABD assessments in four communities in different agroecological zones to identify the threatened TAVs for conservation, the project is contributing the Article 13 of the CBD.

Nagoya Protocol on Access and Benefit Sharing (ABS): Prior informed consent was obtained from local communities before conducting the ABD assessments and the baseline household survey on the current status and utilization of the TAVs. The permit to collect TAV germplasm issued by the Malagasy NCA contributes to the implementation of the policy framework that was supported by the successful Darwin Initiative project titled "Mutually supportive implementation of the Nagoya Protocol and Plant Treaty", ref 22017. The permit provides that collectors obtain prior informed consent and negotiate mutually agreed terms with local authorities.

6. Project support to poverty alleviation

As stated under Section 4 above, the project is contributing to poverty alleviation by training smallholder women farmers and providing them with seeds of promising varieties of TAVs. In year 2 and 3, capacity of the 200 women farmers will be strengthened in business development to seize market opportunities in Antananarivo to increase and stabilize their income from the sales of African vegetables and seeds. The household baseline data collected in year 1 provides a reference to determine the impact of the project on poverty alleviation.

7. Consideration of gender equality issues

The baseline surveys in year 1 indicated that in more than 70% of households, women are the ones who take decisions about the choice and consumption of vegetables while men decide on staple and other commercial crops. This confirm the results of the scoping study prior to the project and also justifies the importance of strengthening smallholder women's capacities on the production of African vegetables. By targeting the women farmers, the project builds gender equality by providing new income opportunities for the women while strengthening food and nutrition security in their households.

8. Monitoring and evaluation

A project Steering Committee is created and comprises project focal persons at the World Vegetable Center, FOFIFA, University of Antananarivo, and SEMANA. The Steering Committee monitors and evaluates progress of the project activities and deliverables, and takes important decisions about how to address the challenges as they arise during implementation. The project Steering Committee meets every two months to monitor progress. Ad-hoc meetings were also organized to discuss and take decisions regarding some challenges needing urgent action, e.g. when a request for change in the partnership arrangement to the Darwin Initiative was needed or to assess the impact of the Covid-19 pandemic on project activities and discuss mitigation strategies. An Experts Guidance Group has also been created and includes, in addition to the Steering Committee members, WorldVeg's agrobiodiversity expert, TAV breeder and impact evaluation expert, and the national focal points of ITPGRFA and the Nagoya Protocol as resources persons. The Experts Guidance Group gives technical backstopping to the project steering committee. A total of seven online and one face to face meetings were organized by the Steering Committee during year 1.

A genebank review by the Crop Trust was part of the monitoring and evaluation to ensure safe conservation of the vegetable collection held at WorldVeg, including the accessions to be received from Madagascar (see Annex 4).

9. Lessons learnt

The project started with some delays, in first instance, due to the delayed announcement of the award and to administrative constraints at the partner institutes. An important learning point is that the flexibility offered by the Darwin Initiative allowing for a rearrangement of the partnership agreement is essential to overcome administrative bottlenecks.

The importance of the timely involvement of national focal points of the ITPGRFA and the Nagoya Protocol as resource persons in the Expert Guidance Group was essential for the project progress. The focal points understand better the project activities and expected impact. This has facilitated communications with the national competent authority for access to collect the germplasm of TAVs.

Unexpected challenges appeared concerning the buy-in of private schools in regional school garden program. The project will attempt to involved more the parents of children in private schools in this activity. This could increase the awareness among the parents to encourage their kids to participate with school garden programs, while the children may promote what they learnt to their parents.

10. Actions taken in response to previous reviews (if applicable)

No previous issues to address.

11. Other comments on progress not covered elsewhere

A major risk the project could face is the Covid-19 pandemic, if the country lockdown takes longer than expected. The project team will continue monitoring the situation on the ground and will take necessary actions as things unfold.

12. Sustainability and legacy

The project organized a national stakeholders workshop in Madagascar in October 2019 to present the project and to discuss how to unlock the potential of TAVs (follow this link for more details). This workshop held in Antananarivo brought together stakeholders from the Ministry of Agriculture, Environment, Higher Education and Scientific Research, Health, NGOs active in agriculture, food security and nutrition, and farmer organizations (Figure 10). Six MSc students were involved in the project activities in year 1, with four of them trained on the four-cell methodology to assess ABD, and the two others trained on impact evaluation research. The project was also publicized outside Madagascar and experiences shared in other meetings, e.g. in the stakeholders workshop organized by another Darwin Initiative funded project on the conservation of African crop wild relatives biodiversity in the Southern African Development Community (SADC) region.

The planned exit strategy remains unchanged.

13. Darwin identity

The project uses the Darwin Initiative logo on all training and communication materials developed by the project (e.g. the training leaflets, project posters and banners, etc.). Promotion of project activities were done through web articles, blogs and tweets with hashtag to the Darwin Initiative. The project has gain visibility with the stakeholders workshop organized in year 1 in Antananarivo and the subsequent activities and meetings with national focal points of ITPGRFA and the Nagoya Protocol. The regional meetings with extension services in Itasy and Antsirabe, the organization of the training sessions for 200 women farmers in 10 villages, and the celebration of 8 March in Antsirabe have also increased the visibility the Darwin Initiative (Annex 4).

14. Safeguarding

The World Vegetable Center has a Safeguarding Policy in place to protect vulnerable people. This policy guides project implementation at the institute and includes review of all research and development projects involving human participants by the Institutional Biosafety and Research Ethics Committee (IBREC). Only projects approved by IBREC can be implemented.

15. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2019 – 31 March 2020)

Project spend (indicative) since last annual report	2019/20 Grant (£)	2019/20 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Monitoring & Evaluation (M&E				
Others (see below)				
TOTAL				

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2019-2020

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
Impact Traditional vegetable production is culturally and commercially attractive for small-scale vegetable growers in Madagascar, offering a wide range of vegetables to improve food and nutrition security of Malagasy households.		200 women small-scale farmers were trained on seed saving and vegetable production, and have received quality seeds of 12 promising WorldVeg-bred varieties for on-farm evaluation. The cropped vegetables will improve food and nutrition security in the beneficiary households.	
Outcome *Protection and enhancement of genetic resources of traditional vegetables in Madagascar resulting in increased access to vegetables for 15,000 Malagasy people, climate-resilient farming systems, and improved protection of vegetable biodiversity.*	**0.1.** At least 1,000 farmer households in the Itasy and Antsirabe regions report a 25% increase of their overall income and an 25% more stable income by growing traditional vegetables (survey sample = 200 farmers participating directly in the project and 200 randomly selected farmers not participating directly) **0.2.** Farmer families that grow traditional vegetables are food and nutrition secure through the whole year. **0.3.** At least 400 accessions of vegetable landraces from Madagascar are protected *ex-situ.* **0.4.** School children in the participating primary schools increased their knowledge and improved their attitude regarding consumption, nutrition, and taste of traditional vegetables **0.5.** 100% increase in sales of traditional vegetable seeds.	**0.1.** The trained 200 small scale farmers are producing traditional African vegetables for their households and will share seed within the community to impact more households. **0.3** The national competent authority has issued the collecting permit to the project team. **0.4.** Eight schools selected for the school garden program and FGDs ongoing	**0.1.** Intensify the training of the 200 women farmers on seed saving, vegetable production and seed business in year 2 and 3. **0.2.** Monitor production and consumption of TAVs in farmer families **0.3.** Collect at least 400 TAV accessions in year 2 and 3 **0.4.** Finalize the FGDs, train school children and care takers in vegetable gardening, and establish the school gardens **0.5.** Monitor the sales and income earned from vegetable farming in beneficiary households in year 2 and 3.
Output 1. Good understanding of the status of agro-biodiversity in Malagasy food systems	**1.1.** Hotspots of Malagasy crop diversity in **year 1** determined on the basis of GIS analysis and GBIF herbarium records of food plants listed to grow in Madagascar. **1.2.** Agro-biodiversity four-cell assessments in at least six communities in different agroecological zones to understand the use and consumption of vegetables and other cultivated and wild food plants in Madagascar in **year 1 and 2.**	**1.1.** Three hotspots of traditional African vegetable crop diversity determined in Madagascar: in the Northern, Southern and Eastern part of Madagascar (evidence provided in section 3.1. of report, and in Annex 4) **1.2.** Agrobiodiversity four-cell assessments conducted in four communities in different agroecological zones, in year 1 (evidence provided in section 3.1. of report).	

Activity 1.1. Hotspots of traditional vegetable diversity in year 1 determined with GIS		Completed.	The identified biodiversity hotspots will give collecting missions in year 2.
Activity 1.2. Agro-biodiversity four-cell assessments in at least six communities in year 1 and 2.		Activity is on-going and will be completed in year 2.	Assessments will be completed in year 2 with an additional four communities to understand the use and consumption of vegetables and other cultivated and wild food plants in Madagascar.
Output 2. Protected and characterized genetic resources of vegetable diversity	**2.1.** Germplasm collection of traditional vegetables and their wild relatives in different agroecological zones in collaboration with farmer groups in **year 2.** **2.2.** Seed multiplication and characterization of collected vegetable landraces in Madagascar and Arusha in **year 1, 2 and 3.** **2.3.** At least 1 publication submitted on morphological characterization of landraces of traditional vegetables in **year 3.**	**2.1.** Authorization to collect has just been granted to the project. The collecting will start in year 2. (evidence provided in Annex 4). **2.2.** Seeds of 12 varieties of amaranths, African nightshade, African eggplant and was multiplied in year 1 (10 kg) and 250 seed kits were developed and distributed to FOFIFA and farmers in Madagascar (evidence in Section 3.1 and in Annex 4). Evaluation of the distributed germplasm is on-going (evidence provided in section 3.1.). **2.3.** Publication is planned for year 3.	
Activity 2.1. Germplasm collection in year 2.		Not started, Planned for year 2	Germplasm will be collected in year 2
Activity 2.2. Seed multiplication and characterization in year 1, 2 and 3.		Seed multiplication completed in year 1 and evaluation is ongoing A genebank review conducted by the Crop Trust (evidence provided in Annex 4)	Seed multiplication and characterization will continue in year 2
Activity 2.3. At least 1 publication submitted on morphological characterization of landraces of traditional vegetables in year 3.		Not started, Planned for year 3.	N/A
Output 3. Malagasy extension workers, trained on seed saving and production of traditional vegetables.	**3.1.** 25 extension workers, of which at least 60% women, attend a 3-day training-of-trainers course on seed saving of traditional vegetables and vegetable growing in **year 1, 2, and 3.** **3.2.** Seed saving videos translated into Malagasy **in year 1.** **3.3.** 1 seed saving leaflet in Malagasy developed **in year 1.** **3.4. 1** home garden guide in Malagasy developed **in year 1.** **3.5.** 200 small-scale women farmers receive five 2-day trainings during the project duration by extension workers on seed saving of traditional vegetables and vegetable growing. **3.6.** 250 seed kits developed per year of promising varieties of African nightshade, African eggplant, amaranth, Ethiopian mustard	**3.1.** A 3-day training was conducted for extension workers (68% women) in year 1 (evidence provided in section 3.1. and in Annex 4.) 3.2. Three seed saving videos were translated into Malagasy in year 1 (to be uploaded into YouTube) **3.3.** Four leaflets on seed saving were translated into Malagasy in year 1 (evidence provided in section 3.1.) 3.4. Four leaflets on home gardens were translated into Malagasy in year 1 (evidence provided in section 3.1.) **3.5.** 200 small-scale women farmers received one 2-day trainings in year 1 by extension workers on seed saving of traditional vegetables and vegetable production. (evidence provided in section 3.1. and in Annex 4) **3.6.** 250 seed kits (10 kg) developed in year 1 for 12 promising varieties of African nightshade, African eggplant, amaranth, Ethiopian mustard among other crops and distributed to the 200 women farmers for varietal evaluation and to the NGOs that will participate in regional school and	

	among other crops to provide seeds to the 200 women farmers for varietal evaluation and NGOs that participate in regional school and home garden programs in **year 1 and 2.** **3.7. Participatory evaluation** by 200 women farmers of promising introduced and local varieties of traditional vegetables in **year 2 and 3.** **3.8. Two network analyses** in respectively the Itasy and Antsirabe regions to understand flow of seeds supplied to women farmers within communities **in year 3**. **3.9. Household surveys for monitoring and evaluation** with 200 women farmers involved in the project and 200 who are not involved.	home garden programs. (evidence provided in section 3.1. and in Annex 4.) **3.7.** The participatory evaluation of vegetable varieties by the 200 women farmers has started in year 1. (evidence provided in section 3.1. and in Annex 4.) **3.8.** Not started, planned for year 3 **3.9.** Baseline household surveys conducted in year 1 among 200 women involved and another 200 not involved in the project. (evidence provided in section 3.1. and in Annex 4.)	
Activity 3.1. 25 extension workers farmers attend a 3-day training-of-trainers course in year 1, 2, and 3.		The planned training for year 1 is completed	Intensify the training for extension workers in year 2
Activity 3.2. 1 seed saving video translated into Malagasy in year 1		Completed	Completed
Activity 3.3. 1 seed saving leaflet in Malagasy developed in year 1.		Completed	Completed
Activity 3.4. 1 home garden leaflet in Malagasy developed in year 1.		Completed	Completed
Activity 3.5. 200 small-scale women farmers receive five trainings during the project duration in year 1, 2, and 3.		The planned training for year 1 is completed	Intensify the training for extension workers in year 2
Activity 3.6. 250 seed kits developed per year of promising varieties for 200 women farmers in year 1, 2, and 3 and NGOs that coordinate regional home and school garden projects.		The planned multiplication and seed kits for year 1 completed.	Multiply and distribute the same amount of seed kits to the Malagasy partners and farmers.
Activity 3.7. Participatory evaluation by 200 women farmers in year 2 and 3.		Started in year 1	Continue the participatory evaluation in year 2 by including new landraces that will be collected in year 2 in Madagascar.
Activity 3.8. Two network analyses in respectively in respectively the Itasy and Antsirabe regions to understand flow of seeds supplied to women farmers within communities in year 3.		Not started, planned for year 3	Planned for year 3
Activity 3.9. Household surveys for monitoring and evaluation with 200 women farmers involved in the project and 200 who are not involved.		The baseline surveys were completed in year 1.	Endline surveys planned for year 3
Output 4. School garden programs strengthened to promote conservation and use of agro-biodiversity	4.1. Biodiversity-rich school gardens established in five primary schools in year 2 and 3. 4.2. Focus-group discussions with school children and care takers to understand their awareness, knowledge, perceptions about traditional vegetables in year 2 and year 3. 4.3. Agro-biodiversity catalogue of Malagasy vegetables year 2. 4.4. Conference organized with NGOs, regional authorities, and school directors organized on how to incorporate local food plant diversity in regional school garden programs in year 3.	**4.1.** Not started yet, the establishment of the school gardens is planned for year 2 **4.2.** Planned for year 2, however 8 beneficiary schools have been identified in year 1 and the FGDs ongoing. **4.3.** not started yet, planned for year 2 **4.4.** not started yet, planned for year 3	
Activity 4.1. Biodiversity-rich school gardens established in five primary schools in year 2 and 3.		Not started, planned for year 2 and 3	Establish the biodiversity-rich school gardens in year 2

Activity 4.2. Focus-group discussions with school children and care takers in year 2 and year 3.		One FGD complete with school children and care takers in year 1	Complete the remaining FGDs in the other seven schools
Activity 4.3. Agro-biodiversity catalogue published in year 2.		The agrobiodiversity assessments are ongoing and the results will be used to develop the catalogue in year 2	Develop the agro-biodiversity catalogue in year 2.
Activity 4.4. Conference organized with NGOs, regional authorities, and school directors organized about the value and benefits of growing traditional vegetables for income generation and nutrition in year 3.		Planned for year 3, however an initial stakeholders workshop was organized in year 1 to raise awareness on the nutritional values of traditional African vegetables and also to establish contacts with the main actors including policy makers, NGOs, and farmer organizations.	Start planning for the regional school gardens program conference in year 2.
Output 5. Malagasy women farmers trained on seed production for commercialization.	**5.1.** At least 10 progressive women farmers attend a 3-day training course on seed production, storage, and commercialization of promising varieties of traditional vegetables in **year 1, 2, and 3**. **5.2:** At least 10 progressive farmers will develop seed business to sell seeds of traditional vegetables in local markets or as part of collaboration with the seed company SEMANA in **year 2 and 3**.	**5.1.** The 10 progressive women farmers could not be trained in year 1, because of a delay in project start but also because selection of trainees among the 200 women farmers should be done after the first cropping season. **5.2.** Not started yet, planned for year 2 and 3	
Activity 5.1. At least 10 progressive women farmers attend a 3-day training course on seed production and commercialization in year 1, 2, and 3.		Not started yet	Training of 10 progressive women farmers on seed production and commercialization will start in year 2
Activity 5.2. At least 10 progressive farmers will develop seed businesses in collaboration with the vegetable seed company SEMANA in year 2 and 3.		Not yet started	SEMANA will start development of the seed business collaboration with the trained 10 progressive women farmers in year 2

Annex 2: Project's full current logframe as presented in the application form (unless changes have been agreed)

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact: Traditional vegetable production is culturally and commercially attractive for small-scale vegetable growers in Madagascar, offering a wide range of vegetables to improve food and nutrition security of Malagasy households. (Max 30 words)			
Outcome: Protection and enhancement of genetic resources of traditional vegetables in Madagascar resulting in increased access to vegetables for 15,000 Malagasy people, climate-resilient farming systems, and improved protection of vegetable biodiversity. (Max 30 words)	**0.1.** At least 1,000 farmer households in the Itasy and Antsirabe regions report a 25% increase of their overall income and an 25% more stable income by growing traditional vegetables (survey sample = 200 farmers participating directly in the project and 200 randomly selected farmers not participating directly) **0.2.** Farmer families that grow traditional vegetables are food and nutrition secure through the whole year. **0.3.** At least 400 accessions of vegetable landraces from Madagascar are protected *ex-situ.* **0.4.** School children in the participating primary schools increased their knowledge and improved their attitude regarding consumption, nutrition, and taste of traditional vegetables **0.5.** 100% increase in sales of traditional vegetable seeds.	**0.1.** Development outcome household survey developed by WorldVeg socio-economist is used as baseline and monitoring at the beginning and end of the project. These assessments allow to measure improvements in livelihoods of women farmers and their households in the project intervention sites during and after project. **0.2.** A survey report about growing, consumption, and selling of traditional vegetable crops at the beginning and end of the project allows measuring the increase in utilization of traditional vegetables by farmers in the Itasy and Antsirabe regions. **0.3.** Passport data of at least 400 accessions are uploaded to the Genesys Webpage, the global portal to genetic resources https://www.genesys-pgr.org/ so that people can access the information and contact details to access germplasm. **0.4.** Focus-group discussions with school children and their care takers in year 2 and 3 of the project allows to understand increase in knowledge and appreciation of traditional vegetables by school children and their care takers. **0.5.** Statistics on the seed sales of traditional vegetables by progressive women farmers and the seed company SEMANA at the beginning and end of project allow measuring the increase in seed commercialization.	The project estimates to indirectly impact 15,000 Malagasy people on the basis of the following assumptions: For each of 1,000 farmers growing traditional vegetables in the Itasy region, at least 3 households with on average 5 household members will increase their consumption of traditional vegetables because of improved access to the vegetables. 3 households *x* 5 members *x* 1,000 farmers = 15,000 Malagasy people
Outputs: **1**. Good understanding of the status of agro-biodiversity in Malagasy food systems	**1.1.** Hotspots of Malagasy crop diversity in **year 1** determined on the basis of GIS analysis and GBIF herbarium records of food plants listed to grow in Madagascar. **1.2.** Agro-biodiversity four-cell assessments in at least six communities in different agroecological zones to understand the use and consumption of vegetables and other cultivated and wild food plants in Madagascar in **year 1 and 2.**	**1.1.** Species diversity maps developed to identify geographic patterns of the diversity of traditional vegetable crops. **1.2.** Report made available about the agro-biodiversity four-cell assessments.	Communities can be accessed for, and are willing to participate in the agro-biodiversity four-cell assessments.

2. Protected and characterized genetic resources of vegetable diversity	**2.1.** Germplasm collection of traditional vegetables and their wild relatives in different agroecological zones in collaboration with farmer groups in **year 2.** **2.2.** Seed multiplication and characterization of collected vegetable landraces in Madagascar and Arusha in **year 1, 2 and 3.** **2.3.** At least 1 publication submitted on morphological characterization of landraces of traditional vegetables in **year 3.**	**2.1.** Passport data of at least 400 collected vegetable landraces is being uploaded to the Webpage of the Genesys, the global gateway to plant genetic resources https://www.genesys-pgr.org/. **2.2a.** Report with characterization data of the collected vegetable landraces is made available. **2.2b.** External review of seed multiplication and conservation done by the Crop Trust. **2.3.** Confirmation of journal of receipt of manuscript.	FOFIFA will obtain permits with the corresponding national authorities in consultation with the ITPGRFA focal point to collect and ship seeds to the WorldVeg genebank of traditional African vegetables in Arusha, Tanzania.
3. Malagasy extension workers, trained on seed saving and production of traditional vegetables.	**3.1.** 25 extension workers, of which at least 60% women, attend a 3-day training-of-trainers course on seed saving of traditional vegetables and vegetable growing in **year 1, 2, and 3.** **3.2.** Seed saving videos translated into Malagasy **in year 1.** **3.3.** 1 seed saving leaflet in Malagasy developed **in year 1.** **3.4. 1** home garden guide in Malagasy developed **in year 1.** **3.5.** 200 small-scale women farmers receive five 2-day trainings during the project duration by extension workers on seed saving of traditional vegetables and vegetable growing. **3.6.** 250 seed kits developed per year of promising varieties of African nightshade, African eggplant, amaranth, Ethiopian mustard among other crops to provide seeds to the 200 women farmers for varietal evaluation and NGOs that participate in regional school and home garden programs in **year 1 and 2.** **3.7. Participatory evaluation** by 200 women farmers of promising introduced and local varieties of traditional vegetables in **year 2 and 3.** **3.8. Two network analyses** in respectively the Itasy and Antsirabe regions to understand flow of seeds supplied to women farmers within communities **in year 3**. **3.9. Household surveys for monitoring and evaluation** with 200 women farmers involved in the project and 200 who are not involved.	**3.1.** Minutes and five photos per training course. **3.2.** YouTube link to seed saving video. **3.3.** Signed receipt by women farmers of seed saving leaflets. **3.4.** Signed receipt by women farmers of home garden leaflets. **3.5.** Minutes and five photos per capacity development event. **3.6.** Signed receipt by farmers of received seed kits. **3.7.** Data deposited on WorldVeg repository. **3.8.** Report on network analyses made available. **3.9.** Household survey data deposited on WorldVeg repository	Communities can be accessed by extension workers and MSc students to support capacity development of women farmers and to support school gardens and other agro-biodiversity activities in primary schools.
4. School garden programs strengthened to promote conservation and use of agro-biodiversity	**4.1. Biodiversity-rich school gardens** established in five primary schools **in year 2 and 3.** **4.2. Focus-group discussions with** school children and care takers to understand their awareness, knowledge, perceptions about traditional vegetables **in year 2 and year 3.**	**4.1.** Reports available on the school garden establishment. **4.2.** Report available on the focus-group discussions. **4.3.** Agro-biodiversity catalogue in Malagasy and English **4.4.** Workshop proceedings.	School directors give permission to establish school gardens. School directors and care takers give

	4.3. Agro-biodiversity catalogue of Malagasy vegetables **year 2.** **4.4.** **Conference** organized with NGOs, regional authorities, and school directors organized on how to incorporate local food plant diversity in regional school garden programs **in year 3.**		permission to interview school children. Students and teachers maintain school gardens.
5. Malagasy women farmers trained on seed production for commercialization.	**5.1.** At least 10 progressive women farmers attend a 3-day training course on seed production, storage, and commercialization of promising varieties of traditional vegetables in **year 1, 2, and 3.** **5.2:** At least 10 progressive farmers will develop seed business to sell seeds of traditional vegetables in local markets or as part of collaboration with the seed company SEMANA **in year 2 and 3.**	**5.1.** Minutes of and five photos of capacity development events. **5.2.** Amount of seed sold by women seed producers in collaboration with the seed company SEMANA.	Progressive women farmers are interested to develop seed businesses

Activities

Activity 1.1. Hotspots of traditional vegetable diversity in year 1 determined with GIS
Activity 1.2. Agro-biodiversity four-cell assessments in at least six communities in year 1 and 2.
Activity 2.1. Germplasm collection in year 2.
Activity 2.2. Seed multiplication and characterization in year 1, 2 and 3.
Activity 2.3. At least 1 publication submitted on morphological characterization of landraces of traditional vegetables in year 3.
Activity 3.1. 25 extension workers farmers attend a 3-day training-of-trainers course in year 1, 2, and 3.
Activity 3.2. 1 seed saving video translated into Malagasy in year 1
Activity 3.3. 1 seed saving leaflet in Malagasy developed in year 1.
Activity 3.4. 1 home garden leaflet in Malagasy developed in year 1.
Activity 3.5. 200 small-scale women farmers receive five trainings during the project duration in year 1, 2, and 3.
Activity 3.6. 250 seed kits developed per year of promising varieties for 200 women farmers in year 1, 2, and 3 and NGOs that coordinate regional home and school garden projects.
Activity 3.7. Participatory evaluation by 200 women farmers in year 2 and 3.
Activity 3.8. Two network analyses in respectively in respectively the Itasy and Antsirabe regions to understand flow of seeds supplied to women farmers within communities in year 3.
Activity 3.9. Household surveys for monitoring and evaluation with 200 women farmers involved in the project and 200 who are not involved.
Activity 4.1. Biodiversity-rich school gardens established in five primary schools in year 2 and 3.
Activity 4.2. Focus-group discussions with school children and care takers in year 2 and year 3.
Activity 4.3. Agro-biodiversity catalogue published in year 2.
Activity 4.4. Conference organized with NGOs, regional authorities, and school directors organized about the value and benefits of growing traditional vegetables for income generation and nutrition in year 3.
Activity 5.1. At least 10 progressive women farmers attend a 3-day training course on seed production and commercialization in year 1, 2, and 3.
Activity 5.2. At least 10 progressive farmers will develop seed businesses in collaboration with the vegetable seed company SEMANA in year 2 and 3.

Annex 3: Standard Measures

Table 1 Project Standard Output Measures

Code No.	Description	Gender of people (if relevant)	Nationality of people (if relevant)	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
2	MSc students involved in project activities	Male (66.67%) Female (33.33%)	Malagasy	6				8
6A	Training of extension workers on seed saving and vegetable production trainings	Male (32%) Female (68%)	Malagasy	25				25
6A	Training of women farmers on seed saving and vegetable production trainings	Female	Malagasy	200				200
6.B	Training of extension workers	Female (68%) Male (32%)		3				9 days
6.B	Training of 200 women beneficiaries	Female		2				10 days
7	Leaflets and videos on general nutritional information, and home gardening for four TAV crops (see a sample signed receipt of leaflets in Annex 4)			15				12
11B	The GIS analysis to identify hotspots, submitted for peer-review			1				1
14B	Stakeholders workshop to raise the profile of TAVs			1				1
20	Computers, field cameras and accessories							

The materials are being compiled and will be reported in the next report once uploaded online.

Table 2 Publications

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)

Annex 4 Onwards – supplementary material (optional but encouraged as evidence of project achievement)

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	Yes
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	No
Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	Yes
Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	No
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	