

CEPF FINAL PROJECT COMPLETION REPORT

Organization Legal Name:	Global Diversity Foundation
Project Title:	037 Sustainable livelihoods and community management of medicinal plants and important plant areas of the High Atlas Mountains
Date of Report:	15 February 2015
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CEPF Region: Mediterranean Biodiversity Hotspot

Strategic Direction: 3. Improve the conservation and protection status of 44 priority key biodiversity areas; with a particular focus on 3.2 Develop financial mechanisms that support protected areas while enhancing sustainable livelihood and promoting community management of priority key biodiversity areas.

Grant Amount: USD \$19,900

Project Dates: 1 May 2013 - 31 October 2014

Implementation Partners for this Project (please explain the level of involvement for each partner):

Our partner in plant nursery establishment and fruit and nut tree production was the Moroccan NGO, High Atlas Foundation. They provided their expertise in tree-planting, conducting community participatory planning, and in establishing working relationships with communities in the High Atlas region. They arranged for land to be dedicated to the plant nurseries, and assisted in their creation, allowing the sowing of thousands nut trees in communities near Moroccan Key Biodiversity Areas including Toubkal National Park, and specifically through this project in the rural communes of Ait M'hamed and Imegdale.

We collaborated with Hassan Rankou, an Anglo-Moroccan IUCN Red List Authority Officer at the Royal Botanic Gardens, Kew. Hassan is experienced in preparing conservation assessments, running workshops, training new assessors and implementing conservation action and management plans with local communities. He conducted conservation status assessments that included the study area, and trained local community researchers and postgraduate students in conservation botany techniques, and spearheaded a number of publications that presented results. In addition, he provided legacy for the project by leading the creation of a Moroccan NGO, the Moroccan Biodiversity and Livelihoods Association, that will build on the achievements of this project.

Two academic partners in Morocco contributed botanical and ecological expertise to the project through input on community-based ecological monitoring and floristic inventories that contributed to the identification of local plant species. The first is the Regional Herbarium (MARK) of Marrakech's Cadi Ayyad University. Prof. Ahmed Ouhammou, the director of MARK and a member of the Plant Ecology Team of Cadi Ayyad University, is a long-term GDF collaborator. He not only curates the voucher specimens, but is also responsible for awareness raising, education and research on regional flora. As part of the legacy of the CEPF project, Prof. Ouhammou and his team have committed to follow up on the Red List Assessments and stakeholder workshop insights by continuing ethnofloristic surveys and launching ecological monitoring of targeted plant populations in community conserved areas, forest domains and protected areas. The second is the Department for Botany and Plant Ecology (DBPE) of Mohammed V-Agdal Rabat University's Institut Scientifique. The Institut houses the National Herbarium, and its Director, Dr. Mohamed Fennane, leads the dynamic "Moroccan Flora" research team. He is the National Focal Point for the GSPC and heads up the Moroccan committee on Important Plant Areas. Dr. Fennane and Dr Mohamed Ibn Tattou (an eminent Moroccan flora specialist) – with the support of Dr. Jalal El Oualidi, DBPE director, and Dr. Mohamed Sghir Taleb, a specialist in the flora of the Atlas Mountains – supported to floristic surveys in the study region, identification of specimens, and assessment of the conservation status of the target plants.

Conservation Impacts

Please explain/describe how your project has contributed to the implementation of the CEPF ecosystem profile.

Our project established nurseries to increase income from sustainable harvesting of medicinal and aromatic plants (MAPs) and develop alternative livelihoods – the cultivation of fruit trees and MAPs – in communities adjacent to high-priority key biodiversity areas. It assessed Moroccan medicinal plants against the IUCN Red List Categories and Criteria as a foundation for taking action on the conservation of endangered species, including enabling effective stewardship and cultivation by local communities that contributes to biodiversity and ecosystem conservation.

Specifically in the rural communes of Ait M'hamed and Imegdale, the project addressed threats to the sustainable harvest of vulnerable plant resources in the unique biodiverse Moroccan Mediterranean ecosystems that span the High Atlas. This success and scalability of the work is essential in maintaining the ecological integrity of Important Plants Areas (IPAs), ensuring the subsistence of herbal remedy users, and sustaining commercial trade that contributes to the livelihoods of collectors, vendors and traditional practitioners. The project assists Morocco, a growing exporter of medicinal and aromatic plants (MAPs) in the world, to face the challenge of encouraging rural peoples to benefit economically from wild-crafting and value-adding activities while mainstreaming biodiversity conservation throughout the value chain.

We believe this project contributes to achieving the CEPF strategy in the Mediterranean Basin Hotspot, especially in its intention "to work with all actors engaged in conservation and development activities in Mediterranean Basin countries to foster partnerships in priority corridors and sites ... to reduce impacts of these developments on natural resources and systems". Furthermore, we explored

“opportunities to increase the benefits and reduce upland use by the communities within these landscapes.”

shifts in land

Please summarize the overall results/impact of your project.

The project focused on two rural communes: (1) Ait M'hamed, in Azilal Province, has a population of nearly 21,742 people in 3190 households in 47 douars, spread over approximately 300 km² and (2) Imegdale, in Tensift-Al Haouz Province, with a population of over 5,500 people in more than 1,044 households distributed in 17 douars, distributed over 278 km² of communal lands. More accurate and updated population counts will be available once the 2014 census is compiled, but we can say that the project potentially impacts more than 27,000 people in more than 420 households in a total of 64 villages. The communal lands potentially affected constitute 58,000 hectares.

Both livelihood diversification and the species assessment components of the project have resulted in clear successes. Community, NGO and academic partner collaboration developed well and remain strong, and the project integrated effectively with co-funded components of larger projects.

Nurseries were established, with well-designed infrastructure and high production capacity. Of the 20,000 seeds (10,000 almonds and 10,000 walnuts) planted in the Ait M'hamed plant nursery, just over 78% survived the first year. The Imegdale plant nursery was established, and we are in the process of planting an even larger amount of seeds this year to increase the number of trees promised to the community. Saplings will be grafted in coming months using germplasm from healthy and optimally productive trees. We have largely exceeded the number of plants promised in the original proposal. The community of Ait M'Hamed has selected an additional nursery site, which is now under development and will be dedicated primarily to medicinal plants.

In line with his life-long ambition to create a Red List of Moroccan plant species, Hassan Rankou completed species assessments and IUCN Red List profiles in a timely and professional fashion. He attended the initial stakeholders workshop in May 2014, and the subsequent assessment, according to IUCN Red List Categories and Criteria, of endemic and medicinal plants found in the central part of the Atlas Mountains conservation corridor, including the priority sites of Tiradine and Takherhort Hunting Reserves and Toubkal National Park. In addition, he has spearheaded numerous publications that provide results on key plants assessed for the Red List.

The entire project team continues to work actively with the community researchers and post-graduate students engaged in plant conservation and livelihood work established in the project, ensuring a strong legacy. The Moroccan Plant and Livelihood Specialist Group is securely established, with enthusiastic participation from stakeholders from Cadi Ayaad and Mohammed V-Agdal Rabat University, and continued government interest. Just after the project ended, Hassan Rankou submitted the required paperwork to create a Moroccan NGO, Moroccan Biodiversity and Livelihoods Association, that will build on the success of this and related projects.

Given the relative paucity of available socio-economic baseline data discovered in the first year of the larger project, we have been exploring innovative ways of assessing the potential impact of the project on livelihoods. We sponsored Laura Boyd-Clowes, an MSc student in ethnobotany at the University of

Kent, to conduct her masters' research in Imegdale. Her thesis on "Land, Inequality and Community: livelihoods and the transition toward fruit arboriculture in a Moroccan High Atlas Village", completed in September 2014, provides insights on using ethnographic approaches such as household surveys, rankings of livelihood strategies over time, participant observation and semi-structured interviews to document the change in a community that benefitted from distribution of fruit trees by the High Atlas Foundation before the project started. We plan to build on this methodological approach in both Ait M'hamed and Imegdale over the next 18 months of the larger project of which the CEPF Small Grant was an important component, replacing our proposed focus on simply measuring annual income increase with a more insightful ethnographic assessment of poverty alleviation and livelihood improvement.

Please provide the following information where relevant:

Hectares Protected: This could be calculated on a variety of scales. As noted above, the entire catchments of the two rural communes contain about 58,000 hectares. While we cannot claim to have protected all of this surface area, our conservation actions have an indirect impact on this area and the potential to become more direct over time. The immediate direct impact is limited to the few hectares where fruit and nut trees and medicinal and aromatic species will be planted. The nurseries themselves cover less than a hectare. Residents will have increased household access to fruit and nut trees and medicinal species on their parcels, diminishing the necessary recourse to wild plant resources and supporting their continued stewardship throughout community lands.

Species Conserved: The project was successful in its goal of assessing 11 Moroccan medicinal plants against the IUCN Red List Categories and Criteria as a foundation for taking action on the conservation of endangered species, including enabling effective stewardship and cultivation by local communities that ensures biodiversity and ecosystem conservation. Broader project efforts to document the overall plant diversity of communal lands, forest domains and protected areas near two rural townships is proceeding well, as the community researchers in Ait M'hamed and Imegdale have made more than 800 collections of local plants, and have growing 'free lists' of plants used locally. Community researcher coordinator Fadma Aït Ilich is entering the collection data in a Brahms database, following instructions from Hassan Rankou and under the supervision of Mohamed El Haouzi.

In addition, as part of the larger project, three stakeholders have been chosen to help collect seeds and extract fresh roots of pellitory (*Anacyclus pyrethrum*) for transplantation in the spring. Abderrahim Ouarghidi notes that it has been very hard to collect mature seeds of pellitory, as the species continues to dramatically decline in the wild.

Corridors Created:

Work conducted under the grant enhanced the sustainability of community-managed areas, called *agdals*, which represent an important potential contribution to the survival of Moroccan flora and Important Plant Areas under intense threat. *Agdals* can act as *de facto* conservation corridors between the principal protected areas in the High Atlas, complementing the establishment of new protected areas and promoting improved management of existing ones. A key goal of assessing and increasing the nursery-grown population of rare, commercially valuable medicinal plant species is to support wild populations.

Describe the success or challenges of the project toward short-term and long-term impact objectives.

achieving its

The project successfully achieved its short-term impact. In the initial Workshop on Plant Conservation and Livelihoods in Morocco we formed the Moroccan Plant and Livelihoods Specialist Group (MPLSG), later recognized officially as part of the Mediterranean Plant Specialist Group, which is part of the IUCN Species Survival Commission. The number of medicinal and marketable fruit and nut tree species seeds and seedlings promised were delivered, despite slight initial delays in planting to enable full infrastructure development. The project team worked respectfully in concert with the community-based institutions for these conservation areas, strengthening and equipping them with additional resources and skills for monitoring, assessment, and livelihood diversification. Species assessments and Red List rankings were completed, and postgraduate student and community researchers were trained.

The project thereby contributed to the long-term goal of reducing landscape and ecosystem fragmentation while also enhancing the livelihoods base for natural resource-dependent communities promoting the continuation of their traditional knowledge and practices, and engaging in network and institution building. We would like to remain modest in claiming success, as a recipient reporting on a small grant implemented over a relatively short period of time: this CEPF support helped us to launch our initiatives in Morocco and to take the first steps of a long journey in working with indigenous communities on biodiversity conservation in Important Plant Areas. Although this small project finished successfully, we are continuing to implement a broader and more complex project with the support of the Darwin Initiative and CEPF large grants.

Were there any unexpected impacts (positive or negative)?

A particularly exciting development is the consolidation of a Moroccan non-profit organisation focused on botanical resources, traditional ethnobotanical practices and livelihoods. Two young Moroccan botanists profiled in the original proposal – Hassan Rankou and Abderrahim Ouarghidi – have joined forces with others to incorporate MPLSG as a local NGO that was registered with the Moroccan authorities in December 2014. Called the Moroccan Biodiversity and Livelihood Association (MBLA), it will be hopefully officially recognized in coming months, allowing it to ensure the legacy of the project. An interesting aspect of the Association is its encouragement of members of the Moroccan diaspora – especially university-educated Moroccans who have resided in Canada, the United States and the United Kingdom – to return for extended periods of time to participate in our conservation initiatives.

Project Components

Project Components: Please report on results by project component. Reporting should reference specific products/deliverables from the approved project design and other relevant information.

Component 1 Planned: **Creation of a Moroccan Plant Specialist Group (MPSG)**

Component 1 Actual at Completion: **Moroccan Plant and Livelihood Specialist Group (MPSG) successfully established; partners collaborating actively and succeeded in creating an NGO, Moroccan Biodiversity and Livelihoods Association.**

Component 2 Planned: **Conservation assessment of Moroccan medicinal plants according to IUCN Red List Categories and Criteria**

Component 2 Actual at Completion: **Conservation assessment of eleven medicinal roots in commerce completed, summary reports compiled and published through the IUCN.**

Component 3 Planned: **Fruit tree and medicinal plant nurseries in rural townships**

Component 3 Actual at Completion: **Two Community nurseries, greenhouses established and 15,000 plants produced, exceeding project commitment of 10,000 plants.**

Were any components unrealized? If so, how has this affected the overall impact of the project? All components were realized.

Please describe and submit (electronically if possible) any tools, products, or methodologies that resulted from this project or contributed to the results.

Photo Essay - The development of plant nurseries in Ait M'hamed and Imegdale

Photo Essay - Plant collection in Ait M'hamed and Imegdale

Report from the workshop on plant conservation and local livelihoods in Morocco

Laura Boyd-Clowes's thesis on "Land, Inequality and Community: livelihoods and the transition toward fruit arboriculture in a Moroccan High Atlas Village". [We would need to request permission from Laura to send a copy].

Rankou H, Culham A, Taleb MS, Ouhammou A, Martin G, Jury SL. 2015. Conservation assessments and Red Listing of the endemic Moroccan flora (monocotyledons). *Botanical Journal of the Linnean Society* 177.

Rankou H, Ouhammou A, Taleb MS, Martin G. 2015. *Aristolochia paucinervis*. The IUCN Red List of Threatened Species. Version 2015.3. <www.iucnredlist.org>.

Rankou H, Ouhammou A, Taleb MS, Martin G. 2015. *Silene vulgaris*. The IUCN Red List of Threatened Species. Version 2015.3. <www.iucnredlist.org>.

Rankou H, Ouhammou A, Taleb MS, Martin G. 2015. *Anacyclus pyrethrum*. The IUCN Red List of Threatened Species. Version 2015.3. <www.iucnredlist.org>.

Rankou H, Ouhammou A, Taleb MS, Martin G. 2015. *Carlina gummifera*. The IUCN Red List of Threatened Species. Version 2015.3. <www.iucnredlist.org>.

Rankou H, Ouhammou A, Taleb MS, Martin G. 2015. *Corrigiola litoralis*. The IUCN Red List of Threatened Species. Version 2015.3. <www.iucnredlist.org>.

Rankou H, Ouhammou A, Taleb MS, Martin G. 2015. *Corrigiola telephiifolia*. The IUCN Red List of Threatened Species. Version 2015.3. <www.iucnredlist.org>.

Rankou H, Ouhammou A, Taleb MS, Martin G. 2015. *Mandragora autumnalis*. The IUCN Red List of Threatened Species. Version 2015.3. <www.iucnredlist.org>.

Rankou H, Ouhammou A, Taleb MS, Martin G. 2015. *Ammoides pusilla*. The IUCN Red List of Threatened Species. Version 2015.3. <www.iucnredlist.org>.

Rankou H, Ouhammou A, Taleb MS, Martin G. 2015. *Bunium bulbocastanum*. The IUCN Red List of Threatened Species. Version 2015.3. <www.iucnredlist.org>.

Rankou H, Ouhammou A, Taleb MS, Martin G. 2015. *Valeriana tuberosa*. The IUCN Red List of Threatened Species. Version 2015.3. <www.iucnredlist.org>.

Rankou H, Ouhammou A, Taleb MS, Martin G. 2015. *Ferula communis*. The IUCN Red List of Threatened Species. Version 2015.3. <www.iucnredlist.org>.

Lessons Learned

Describe any lessons learned during the design and implementation of the project, as well as any related to organizational development and capacity building. Consider lessons that would inform projects designed or implemented by your organization or others, as well as lessons that might be considered by the global conservation community.

Project Design Process: (aspects of the project design that contributed to its success/shortcomings)

The process of engaging in Free, Prior and Informed Consent with participating communities was essential to the positive reception and progress of the project, as well as active community member participation in implementation. Trust and active participation facilitated the commitment of terrain for the nursery by the community. Also critical to project success was the decision to engage in a process of co-enquiry with community researchers, including hiring a college-educated community researcher coordinator as a liaison with the communes.

Project Implementation: (aspects of the project execution that contributed to its success/shortcomings)

Partnering with established NGO and academic experts, and engaging them in the training and skilling of community researchers and postgraduate students proved a robust model for both medicinal and aromatic plant conservation and livelihood diversification via fruit and nut tree nursery establishment, and for the species assessment.

One of the questions we had when beginning this project was the relative role of Moroccan consultants, postgraduate students and community researchers in conducting the fieldwork needed to analyse the conservation status of medicinal roots and the overall plant diversity of two rural communes in the Middle and High Atlas mountains. A key lesson learned is that a combination of consultants and community researchers will allow us to achieve the goals of the project. Hassan Rankou has demonstrated a keen ability to produce results while interacting in a culturally sensitive way with other stakeholders in Moroccan communities and institutions, and we fully expect Abderrahim Ouarghidi to achieve similar success. In addition, they will play a key role in monitoring and evaluating the outputs and ensuring legacy once the project finishes. We were pleased to find skilled individuals, the majority with university degrees, who could collaborate as community researchers. Although they will require substantial capacity building and supervision by GDF, HAF and other institutional partners, they bring to the project the advantages of local knowledge and residence. We have been less convinced by the potential role of university students, who are rather constrained by the requirements of their postgraduate programs and have a limited amount of time – and perhaps little ambition – to spend the extended time in the field that the project requires. This realisation will be built into our future plans, as we dedicate more effort to working with consultants and community researchers. We remain open to discovering one or more postgraduate students who have a passion for fieldwork and the intellectual curiosity to pursue a research project that fits the goals of our project.

Other lessons learned relevant to conservation community:

In particular, we plan to further test M.Sc. student Laura Boyd-Clowes conclusion that Morocco's nascent fruit tree industry, at least in one village, has been fairly well-incorporated into household livelihood strategies and community farming practices, while at the same time magnifying inequalities between villagers. She found that households that cannot engage with the cultivation of income-producing fruit trees because of lack of land or water do receive some benefits through community wealth-sharing mechanisms – but they have also needed alternative livelihood diversification (such as migrating for wage labour) to adapt to the changing conditions of life in the High Atlas. This observation, if borne out, would underscore the importance of promoting income-earning activities related to the cultivation and harvest of medicinal and aromatic plants – as well as supporting community water projects – in order to avoid exacerbating inequalities in the rural communes where we work.

This preliminary finding furthers findings by, for example, Rocheleau and colleagues (1995; 1997) in the Zambrana-Chacuey region of the Dominican Republic, where members of a regional federation benefitted differentially from a marketable tree-planting initiative based on access to cultivable land. It also complements recent findings in Chiapas, Mexico's Usumacinta Valley. There ethnographic and land cover data suggest that the benefits of livelihood diversification and government (rather than NGO) agricultural supports accrue unevenly based on existing land-based resources and capital access (Christman et al., under review). Similarly to Boyd-Clowes findings in the High Atlas, those with the fewest resources must adapt more precarious 'atomized' livelihood strategies, migrating regionally and

nationally to complement local, agriculturally based subsistence and employment. Our work and theirs reinforce the need to consider who benefits from integrated conservation and livelihood initiatives, and to design and actively adapt our interventions with ongoing community input, for community benefit.

Additional Funding

Provide details of any additional donors who supported this project and any funding secured for the project as a result of the CEPF grant or success of the project.

Donor	Type of Funding*	Amount	Notes
Darwin Initiative	<i>Project co-financing</i>	£279,950	Medicinal root trade, plant conservation and local livelihoods in southern Morocco (3-yr award)
Marie Curie MedPlant Initial Training Network	<i>Grantee and Partner leveraging</i>	€28,741	For organising the Marrakech-based MedPlant Summer School on Conducting and Communicating Ethnobotanical Research; and producing a methods manual and a video to accompany it,
GlobalGiving	<i>Grantee and Partner leveraging</i>	\$9,185	Nursery production helped HAF leverage donations toward its tree-planting campaign

**Additional funding should be reported using the following categories:*

- A) Project co-financing (Other donors contribute to the direct costs of this CEPF project)*
- B) Grantee and Partner leveraging (Other donors contribute to your organization or a partner organization as a direct result of successes with this CEPF project.)*
- C) Regional/Portfolio leveraging (Other donors make large investments in a region because of CEPF investment or successes related to this project.)*

Sustainability/Replicability

Summarize the success or challenge in achieving planned sustainability or replicability of project components or results. Summarize any unplanned sustainability or replicability achieved.

As anticipated in the project proposal, we have used grant funds to create infrastructure in partnership with HAF – the community plant nurseries and orchards – that continue to be a permanent means of production for already marketed goods. This approach avoids subsidies for the production of goods, and the need to find new markets for novel goods. As our work proceeds, we are confirming our impression that our approach is replicable at other field sites and scalable to a national level, which means a modest investment could have a relatively large impact, leading to direct benefits for a large population. Our ability to engage strategic partners will result in significant national policy ramifications, providing important benefits for Morocco into the future. We ensure the legacy of our

approach by building the capacity and facilities of diverse stakeholders who work on plant conservation and sustainable livelihoods, and can act on the recommendations of our project.

Legacy is ensured because the project provides a grounded and expandable contribution to conservation and development issues critically important to local people and the government in Morocco. We build a unique partnership of skilled individuals committed to plant conservation, ecological integrity of Important Plant Areas, and robust implementation of the GSPC and National Biodiversity Strategy and Action Plan. Working with one Moroccan NGO and two academic institutions, in communication with a key governmental agency, we successfully engaged in actions that have deep host country buy-in and will produce measurable benefits well beyond the project. We expect Hassan Rankou to maintain his commitment to biodiversity conservation and community development in Morocco, and we will continue training young postgraduate students at various institutions to nurture a future generation of environmental leaders.

Plant production exceeded project targets by at least 5,000 plants, and interest in the area has already prompted establishment of a second nursery, to serve more remote communities who want to participate in markets for organic tree nut products.

Safeguard Policy Assessment

Provide a summary of the implementation of any required action toward the environmental and social safeguard policies within the project.

No such actions were required.

Additional Comments/Recommendations

Acknowledgements: we would like to acknowledge the Critical Ecosystem Partnership Fund, the Darwin Initiative and MedPlant for their support for this project.

Information Sharing and CEPF Policy

CEPF is committed to transparent operations and to helping civil society groups share experiences, lessons learned, and results. Final project completion reports are made available on our Web site, www.cepf.net, and publicized in our newsletter and other communications.

Please include your full contact details below:

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Performance Tracking Report Addendum

CEPF Global Targets

(Enter Grant Term)

Provide a numerical amount and brief description of the results achieved by your grant.
Please respond to only those questions that are relevant to your project.

Project Results	Is this question relevant?	If yes, provide your numerical response for results achieved during the annual period.	Provide your numerical response for project from inception of CEPF support to date.	Describe the principal results achieved from July 1, 2013 to June 30, 2014. (Attach annexes if necessary)
1. Did your project strengthen management of a protected area guided by a sustainable management plan? Please indicate number of hectares improved.	Not relevant			Please also include name of the protected area(s). If more than one, please include the number of hectares strengthened for each one.
2. How many hectares of new and/or expanded protected areas did your project help establish through a legal declaration or community agreement?	Not relevant			Please also include name of the protected area. If more than one, please include the number of hectares strengthened for each one.
3. Did your project strengthen biodiversity conservation and/or natural resources management inside a key biodiversity area identified in the CEPF ecosystem profile? If so, please indicate how many hectares.	Relevant	58,000	58,000	Our analyses of plant conservation cover the two rural communes and beyond; we cannot claim that plant harvesting practices changed during the course of the project but we have laid the foundations for improved natural resource management in the future.
4. Did your project effectively introduce or strengthen biodiversity conservation in management practices outside protected areas? If so, please indicate how many hectares.	Relevant, but is this the same as 3?			
5. If your project promotes the sustainable use of natural resources, how many local communities accrued tangible socioeconomic benefits? Please complete Table 1 below.	Relevant	54 douars in two rural communes.	54 douars in two rural communes.	As noted in this report, the access to fruit and nut trees and medicinal plants will be improved for these communities once the nurseries are fully productive. GDF and HAF are committed to ensuring equitable distribution of benefits, even if we are aware (as pointed out by the thesis of Laura Boyd-Clowes for example) that people have different abilities to take advantage of seedlings and saplings because of their different access to land and water resources.

If you answered yes to question 5, please complete the following table