Acorn

This document represents the basic layout and describes the required input for an ADD (**Acorn Design Document**).

Of each project within Acorn an ADD should be provided. The ADD should be stored and made available on the Acorn platform for the stakeholders concerned. This report is drawn up in close collaboration between the local partner and Acorn staff members. The local partner is responsible for providing all required information and performing the assessments. Acorn is responsible for the quality and continuously updating of the ADD. The ADD can be requested by validation and verification bodies and certifiers for third party oversight or quality checks at any given time.

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Kaderes Acorn Design Document

Tanzania | Karagwe and Kyerwa districts

Date of Submission: July 2023

Part A: Project Summary

Question	General Information	Answer
1	**Project title**	Acorn – Project Kaderes
2	**Project location - country, region & district** (attach map if possible)	The project is taking place within 6 rural cooperative societies which were formed from 12 zones, 4 rural cooperative societies are situated in Karagwe district namely Kituntu/Igurwa, Bushangaro, Kiruruma and Ndama, other 2 are in Kyerwa district which are Kikamabu and Kairu in Kagera region, Tanzania (see Annex 1 for farmer distribution).
3	**Eco region**	Victoria Basin forest-savanna mosaic and Central Zambezian Miombo woodlands
4	**Local partner representative** (name & position)	*Provided. Concealed for data protection purposes.*
5	**Local partner mission statement**	To empower members and communities to contribute to sustainable land use management and environmental conservation by focusing on the scaling of their agroforestry project.
6	**Contact details** (phone, email, & address)	*Provided. Concealed for data protection purposes.*
7	**Main cash crop(s)**	Coffee.
8	**Project target group**	Both male and female Organic and Fair Trade smallholder farmers in Kyerwa and Kagera who are growing bananas, coffee, maize and beans that have recently begun their transition to agroforestry or are eager to start.
9	**Number of existing participants**	23,871
10	**Number of potential additional participants**	10,000
11	**Estimated total size of project area (ha)**	26,226 hectares.

12	**Describe the project's aims and objectives** (e.g. the problems this project will address)	To mobilise support & transformation from peasant agriculture, into an agroforestry approach by providing training, access to planting materials and other services where possible. KPD is also facilitating the farmers to get fair prices from their agricultural products through Fairtrade, Organic, UTZ and RFA.
13	**Describe how smallholder farmers/communities were involved during the design of the agroforestry project.** (Provide evidence of participation, e.g. workshops, meetings)	KPD work through a tested approach of awareness creation and ongoing stakeholder meetings to initiate, implement and monitor projects together with the farmers involved. They also hold focus groups to listen to the concerns of participants and stakeholders (see Annex 4).
14	**Provide a general description of current socioeconomic conditions in the project area** (income, poverty level etc.)	Tanzanian smallholder farmers with the intention to work with Acorn through the local farmer cooperative, Kaderes, struggle financially and live below the poverty line. These farmers are living with less than $1 a day and have no access to pre-financing, loan or saving mechanisms, risk management tools, or the carbon market.
15	**Describe how the agroforestry intervention proposed is expected to impact the following;**	a. <u>Food security/nutritional intake:</u> Project intervention will result in increases in food security due to the expected increases in productivity and farm yields and income diversification (carbon credits and tree products) that help farmers to afford a variety of nutritious food. Farmers also plant fruit bearing trees that will supply them with extra source of nutritional intake. The trees planted build resilience against climate change and ensure the crops for consumption and to be sold are protected from extreme weather (heavy winds and rain).
		b. <u>Farmer financial state:</u> Farmers will have more financial security from project intervention as the income diversification (carbon credits and tree products) acts as a buffer in times of financial hardship. Farmers will have more access to electronic records due to Kaderes partnership with MasterCard. Kaderes provides access to saving and credit through linking them to financial service providers, making credit available and on affordable terms and conditions. With the increase in productivity and protection of crops from the trees planted farmers have more assurance in a steady and consistent income.
		c. <u>Gender equality:</u> Gender equality will be promoted by Kaderes as seen in their Theory of Change (see Annex 9). They aim to increase the power of accessing and utilizing resources by women, widows, youth, orphans,

		unemployed and physically challenged, and other vulnerable groups.
		d. Farmer access to resources: Farmer will have more access to resources (i.e. planting materials and training). Kaderes invests in infrastructure for education and focus on their training in agroforestry. Kaderes provides ongoing training (based on agronomist advice) and technical assistance (provision of seedlings) to farmers.
		e. Biodiversity on farms: Will increase due to the planting of diverse shade and fruit trees among coffee crops that provide a suitable habitat for local species and pollinators.
16	**Describe whether there is a low, medium or high risk of deforestation in the region where the project is located**	There is a low risk of deforestation in the project area due to the carbon finance farmers will receive and the training that Kaderes will offer with their share of CRUs to promote awareness of agroforestry against climate change and the benefits of keeping trees in the ground. Outside the project area, there is a high risk as farmers are not involved in agroforestry and still believe that cutting down their trees is the best way to make money on the side due to high demand for timber.
17	**Describe any known local land degradation/ deforestation processes or trends, and drivers of these** (e.g. population increase, fire, conversion for agriculture)	Local land degradation trends takes place to a small extent (e.g. fires). To limit field fire emergencies Kaderes orients farmers to strengthen fire control mechanisms including farm boundary clearing for fire control. See Annex 1 – Map 2 for a map of the highest risk land degradation areas.
18	**Please select the following type of land use that best describes the project area**	Existing agroforestry and new agroforestry.
	Land Tenure	
19	**Estimated average plot size per farmer (ha)**	1.10 hectares.
20	**How is land tenure organised among participants** (formal titling, informal titling or land mapping)	All farm are both mapped by Acorn (maps signed in participatory process in project council) and hold an informal land title, arranged through customary land tenure agreements. Smallholder farmers own their farms locally whereby they possess the traditional land titles which are accepted under the Tanzania village land act of 1999. See Annex 2 for two examples of land tenure documentation.
	The Agroforestry System	

21	**Is this project new or existing agroforestry or a combination**	Combination of existing and new agroforestry.
22	**Type of trees that have/will be planted under agroforestry scheme** (shade, fruit-bearing, medicinal)	A mix of fruit bearing trees (avocado, banana, mango) and native shade trees (Markhamia lutea and Maesopsis eminii).
23	**Describe how the agroforestry system is expected to impact the land** (e.g. more shade, less pests, less inputs – fertilisers, presence of pollinators)	The agroforestry interventions under this project will mitigate climate and weather change, and improve soil fertility and biodiversity due to an increase in the amount and variation of trees species and animals who rely on these for a suitable habitat.
	Project Additionality	
24	**Is the project incorporated by any other accounting program (e.g. compliance, voluntary or national GHG program)? If yes, describe how project ensures no double counting will take place.**	No, the project is not incorporated by any other accounting program. KPD signed a contract with Acorn where they waive all rights to issue or receive CRUs, or any other benefits associated with the increased sequestration of CO2 at the Site from any other carbon credit program.
25	**In what year and season were the first trees planted?**	During the period October-December 2014.
26	**Was the project established with the intent of receiving carbon finance for trees planted?**	The positive experience of the receipt of carbon finance (during a different project focusing on exchanging water filters for carbon credits) was a factor that inspired Kaderes agroforestry project with smallholders.
27	**Is this project mandatory under any national or local laws** (List relevant forestry regulations, national climate change commitments etc.)	The project is not legally mandated. There are no requirements listed in the official UNFCCC NDC of Tanzania (2021), the Tanzania National Forest Policy (1998), the Tanzania Forest Act, (2002), or the Agriculture Climate Resilience Plan (2014-2019).
28	**Without the project's involvement, would farmers have the**	These farmers couldn't have accessed affordable financing and training to make a shift to a successful agroforestry system without the financial and technical support

	necessary resources, skills, knowledge, finances, or network to successfully transition to a long-lived agroforestry system?	provided by Kaderes. Without Acorn supporting/guiding Kaderes, this project would not be able to scale.
29	**What is the main driver encouraging farmers to transition to agroforestry?**	The effects of climate change are resulting in productivity and income losses. Farmers want to increase their productivity/income.
30	**Was the promise of carbon credits an enabling factor for farmers to transition to agroforestry?**	Carbon credits enable scaling of the project from 2000 farmers to potentially 20,000.
31	**What are the biggest challenges faced by farmers** (climate change, volatility in commodity prices, low productivity, access to resources, financial security, crop damage from wildlife, human conflict etc.)	High volatility in commodity prices, low productivity, high risk of crop loss from extreme climatic events,and no access to pre-financing, loan or saving mechanisms, risk management tools, or the carbon market.
	High over business case	
32	**If existing agroforestry, how has this project been funded to date?** (financed by the local partner, the farmers, grants/funding, or a combination)	Kaderes relied on start-up grant funding from AGRA and CIAD to help the first 2000 farmers transition to agroforestry.
33	**Briefly describe the costs for the farmer in this project** (e.g. seedlings, fertilisers, labour)	• Tree seedlings • Labour • Organic manure See Annex 5 for a description of costs for the farmer.
34	**Briefly describe the costs for the local partner in this project** (e.g. seedlings, onboarding, data collection, training,	• Training and awareness of farmers on agroforestry • Transport of seedlings and manure to farms • Hiring halls for project council meetings See Annex 5 for a description of costs for KPD.

	farmer engagement, planting materials etc.)	
35	**How will this project be financed and by whom during the design/implementation stage** (e.g. financed by the local partner, the farmers, grants/funding, or a combination)	This project is funded by temporary donor funding for the initial phases for the project from AGRA and CIAD but the scaling of the project will be possible with the use of the carbon finance received from Acorn.

Part B: Eligibility Checklists

Local partner eligibility checklist			
Topic	Sub-topic	Requested information	Result
Organizational capacity	Organizational structure	Provide a description of your organizational structure and roles of each organization involved for the project.	Kaderes have a clear organizational structure. For the Acorn project 17 staff members will be involved of which 14 Field assistant, 1 Monitoring and Evaluation Officer, 1 Head of extension (Agronomist) and 1 Documentation Officer. Kaderes also works with research institutes, local agricultural departments, government structures including the Tanzania Forest Services Agency and the Natural Resource Management department from Karagwe and Kyerwa district council.
	Organizational capacity	Provide a description of your “on the ground” capacity to undertake long-term community-led project(s) and implement agroforestry.	Kaderes have a strong organizational capacity due to their extensive team, experience with farmers and communities in the area, and their close connections to government structures.
	Sustainability	The local partner agrees with the Rabobank's sustainability policy.	Yes
	GDPR	The local partner's current data handling policies are compliant with GDPR regulations.	Yes
	Participant organization	The project is organized, or in the process of being organized, into cooperatives, associations, community-based organizations or other organizational forms able to contribute to the social and economic development of the participants and their communities, and which is democratically controlled by the participants.	Yes
	Project effects	The project strives to not contribute, or does its	Yes

	utmost to avoid, environmental or (agricultural) biodiversity harm.	
Entity	The local partner is an established legal entity that takes responsibility for the project and for meeting the requirements of the Acorn Framework for the duration of the project.	Yes
Local presence	The local partner has a strong in-country presence and the respect and experience required to work effectively with local participants and their communities.	Yes
Local policies	The local partner has a solid understanding of local policies and can confirm that the country's policy allows individual CRUs to be sold.	Yes
Influence	The local partner is capable of negotiating and dealing with government, local organizations and institutions.	Yes
Resources	The local partner is focused and has the organizational capability and ability to mobilize the necessary resources to develop the project (e.g. including access to seedlings, inputs, agronomic knowledge, monitoring and technical support).	Yes
Data collection	The local partner can provide reliable data (i.e. GPS polygons, phone numbers, other KYC data).	Yes
Training	The local partner has the ability to mobilize and train participants, and implement and monitor project activities.	Yes

	Condition (i)	The local partner recognizes that the participant's involvement in the project is entirely voluntary.	Yes
	Condition (ii)	The local partner recognizes that participants own the carbon benefits of the project intervention.	Yes
	Participant payments (i)	The project coordinator ensures that payments are made in a transparent and traceable manner.	Yes
	Participant payments (ii)	The project coordinator ensures that mobile payments to participants are either already possible or there are no foreseeable obstacles for this in the near future.	Yes
	Contributions	The local partner does not draw more than 10% of sales income for ongoing coordination, administration and monitoring costs. Exceeding this percentage is only possible in exceptional circumstances where justification is provided and Acorn formally approves a waiver.	Yes
	Participant identity	The local partner is able to collect and provide proof of participant's identity.	Yes
Tenure & rights	Land-tenure and carbon rights (i)	Provide a description of how land tenure is organized amongst the target project participants	All farmers are mapped and hold an informal land title, arranged through customary land tenure agreements. Smallholder farms owns their farms locally whereby they possess the traditional land titles of which are accepted under the under the Tanzania village land act of 1999.
	Land-tenure and carbon rights (ii)	The project applies to land over which the participant/community has (formal/informal)	Yes

		ownership or long-term user rights.	
Sustainable land use activity	Land use	Provide a description of the current land use activities, before the start of the project intervention, within the project.	The land is used for scattered cultivation of crops. Permanent crops include banana and coffee and the seasonal crops. Additional crops include cassava, round potato, yams, fruits (like avocado, pineapple and watermelon). Farmers also grow spices such as vanilla, ginger, cinnamon, cardamom, lemon grass, sorghum, millet and many more.
	Project design	The project is/will be designed to promote sustainable land-use and has/will have a feasible business case underwritten by agronomist(s) and community representatives.	Yes
	Deforestation	The local partner confirms that no deforestation has taken place five years before the start of the project intervention (project baseline). If this cannot be confirmed, a description of the cause of the deforestation is provided, including the measures that have been taken to prevent deforestation from happening again.	Yes
	Additionality	The local partner ensures project additionality and ensures a durability period of 20 years.	Yes
	Existing agroforestry (i)	Agroforestry at the farm level has been implemented less than 5 years before the start of the project intervention.	Yes
	Existing agroforestry (ii)	Participants and local partners confirm that previously sequestered CO_2 on the land has not yet been monetized.	Yes

Existing agroforestry (iii)	Existing agroforestry has been funded largely by donors/grants.	Yes
New agroforestry	There is sufficient supply of seedlings, inputs, water and other required resources.	Yes
Naturalized species	The local partner promotes the use of native species. The use of naturalized species is acceptable under the conditions outlined in the Framework.	Yes
Current habitat	Provide a description of the current ecosystem and flora and fauna species of the project area.	Hilly regions of northwest Tanzania. Some wetlands, sparse forest area and some patches of dense forest vegetation. Bimodal rainfall ranges from 800 to 2000mm and were temperature differs from 22 to 28 Celsius. The farms are located between 1350m – 1800m above sea level. The land is used predominantly for Robusta coffee as cash crop (50%) and bananas as staple food (20%) and mango/avocados (30%) in an intercropping approach. The land is also used to grow maize and bean crops in addition to seasonal crops including cereals (sorghum, millet), roots and tubers (cassava, round potato, yams), fruits (pineapple, watermelon), and spices (vanilla, ginger, cinnamon, cardamom, lemon grass). The maesopsis eminii and markhamia lutea trees are the most prevalent within the project area. Ground truthing data shows that the project land is home to at least 43 different tree species. Fauna species in the project area include monkeys various pollinators such as bees and butterflies, and threatened species such as elephant, cheetah, wild dog, blue swallow etc.

Participant eligibility checklist			
Topic	Sub-topic	Requested information	Result
Organizational Capacity	Smallholder labour force	Participants are not structurally dependent on permanent hired labor, and manage their land mainly by themselves with the help of their families.	Yes
	Smallholder farm size	The cultivated land of participants does not exceed 10 ha.	Yes
	Resources	Participants have the ability to mobilize the necessary resources to implement the project.	Yes
	Data collection	Participants can allow reliable data to be collected for the project (i.e. GPS polygons, phone numbers, other KYC data).	Yes
	Condition (i)	Participants are aware that their decision to participate in the project is entirely voluntary.	Yes
	Participant identity	Participants are able to provide proof of their identity.	Yes
Tenure & rights	Land-tenure and carbon rights (i)	Provide a description of how land tenure is organized.	All farmers are mapped and hold an informal land title, arranged through customary land tenure agreements. Smallholder farms owns their farms locally whereby they possess the traditional land titles of which are accepted under the under the Tanzania village land act of 1999.
	Land-tenure and carbon rights (ii)	The project applies to land over which the participant/community has (formal/informal)	Yes

		ownership or long-term user rights.	
Sustainable land use activity	Land use	Provide a description of the current land use activities within the project.	The land is used for scattered cultivation of crops. Permanent crops include banana and coffee and the seasonal crops. Additional crops include cassava, round potato, yams, fruits (like avocado, pineapple and watermelon). Farmers also grow spices such as vanilla, ginger, cinnamon, cardamom, lemon grass, sorghum, millet and many more.
	Deforestation	Participants confirm that no deforestation has taken place five years before the start of the project intervention (project baseline). If this cannot be confirmed, a description of the cause of the deforestation is provided, including the measures that have been taken to prevent deforestation from happening again.	Yes
	Additionality	Participants ensures project additionality and is aware that the project has a durability period of 20 years.	Yes
	Existing agroforestry (i)	Participants confirm agroforestry at the farm level has been implemented less than 5 years ago.	Yes
	Existing agroforestry (ii)	Participants confirm that previously sequestered CO_2 on the land has not yet been monetized.	Yes
	Existing agroforestry (iii)	Participants have received donor/grant funding for a significant part of their existing agroforestry practices.	Yes
	Current habitat	Provide a description of the current ecosystem and flora and fauna species of the project area.	Hilly regions of northwest Tanzania. Some wetlands, sparse forest area and some patches of dense forest vegetation. Bimodal rainfall ranges from 800 to

	2000mm and were temperature differs from 22 to 28 Celsius. The farms are located between 1350m – 1800m above sea level. The land is used predominantly for Robusta coffee as cash crop (50%) and bananas as staple food (20%) and mango/avocados (30%) in an intercropping approach. The land is also used to grow maize and bean crops in addition to seasonal crops including cereals (sorghum, millet), roots and tubers (cassava, round potato, yams), fruits (pineapple, watermelon), and spices (vanilla, ginger, cinnamon, cardamom, lemon grass). The maesopsis eminii and markhamia lutea trees are the most prevalent within the project area. Ground truthing data shows that the project land is home to at least 43 different tree species. Fauna species in the project area include monkeys various pollinators such as bees and butterflies, and threatened species such as elephant, cheetah, wild dog, blue swallow etc.

Part C: Additionality Assessment

Positive list	Demonstrate that the project meets requirements (a) and (b) and at least one of the requirements (c) and (d).	
	(a) The project area is located in a country or region with a recent UNDP Human Development Indicator[1] below or equal to 0.8.	Yes, the HDI is below 0.8 (0.529)
	(b) The project shall not be mandatory by any law or regulation, or if mandatory, the local partner shall demonstrate that these laws and regulations are systematically not enforced.	The project is not legally mandated. There are no requirements listed in the official UNFCCC NDC of Tanzania (2021), the Tanzania National Forest Policy (1998), the Tanzania Forest Act, (2002), or the Agriculture Climate Resilience Plan (2014-2019).
	(c) The project is located in a region with a mean annual precipitation of less than 600 mm[2].	No, the mean annual precipitation is above 600mm2 (968mm2).
	(d) The project area is (predominantly) located in a country or region with a recent UNDP Human Development Indicator below 0.6.	Yes, the HDI is below 0.6 (0.529)
Barrier analysis	Demonstrate that the project intervention would not have taken place due to a least one of the following barriers.	
Type of barrier	Situation without project	Situation with project
Financial/ economic barrier	The Tanzanian farmers in the project area struggle financially as families are living with less than $2 a day. Their income continues to decline each day, due to negative effects of climate change. Farmers have no access to pre-financing, loan or saving mechanisms, risk management tools, or the carbon market. These farmers couldn't have accessed affordable financing to make a shift to a successful agroforestry system without the financial and technical support provided by Kaderes. With the added stress of climate change, farmers are especially vulnerable to losses in productivity and crops, and they often look to make money the easiest way possible in times of emergency such as through the cutting down of trees. Without the reward of carbon finance for Kaderes or the farmers for undertaking these new practises, they are unlikely to	Due to project interventions and carbon finance from Acorn, farmers will receive an additional income. This additional income (carbon credits) ensures smallholder farmers have the physical resources necessary to maintain their trees over time and a financial buffer that prevents them from cutting them down in times of high volatility in commodity prices, low productivity and high risk of crop loss from extreme climatic events. Although carbon finance may not be the main reason farmers initially transitioned to agroforestry, compared with the expected long term increases in productivity, it diversifies their income and eventually farm output through project interventions. With a diversified income, farmers have more financial stability to overcome the socio-economic challenges associated

	understand the long-term benefits of agroforestry, continue ongoing training, or turn into leaders that act as role models to their community.	with poverty and climate change and not need to seek additional income from cutting down trees in times of emergency. Additional income from carbon credits allows farmers to invest in protection measures (i.e. fencing) for their farms to prevent trespassing on their land and illegal logging activities. The carbon credits will reward Kaderes and the first farmers who transitioned for their transition to agroforestry and sustainable practices. This reward will be a positive example to other farmers in the community and region that have the potential to transition, allowing for significant scaling of agroforestry practices.
Technical/ Cultural barriers	Without the project and interventions from Acorn, Kaderes lack the financial resources necessary to provide training in agroforestry to all farmers in the project, instead training only a few lead farmers and promoting knowledge sharing. Without project interventions, not all farmers are educated on how to successfully start and maintain an agroforestry system. This is problematic as knowledge and skills are the most important determinants of successful long-term agroforestry schemes. Given that agroforestry practises are classified as a relatively new technique, farmers require additional and ongoing costly training and technical support. Without carbon finance from Acorn, Kaderes has no financial incentive or additional source of funds to carry out ongoing or sufficient training for all farmers, especially as they grow and scale.	The promise of carbon finance from the collaboration with Acorn gives Kaderes incentive to invest in infrastructure for education and focus on their training in agroforestry. This agroforestry training, dependant on the promise of access to the carbon market, that will be provided by Kaderes, is created by an agronomist and promotes genetic diversity enhancement and planting native or naturalize species based on the natural environment of the project farm land (including water availability, complementary/competing species present, and weather conditions). With the provision of ongoing costly training and technical assistance to farmers from Kaderes as a result of the promised carbon finance, farmers can build their confidence and skills, allowing them to develop a sustainable agroforestry system that results in productivity increases and the maintenance of trees over a long period.

Overall conclusion: This assessment explores the concept of additionality at the tree level, the farmer level and the project level, emphasizing the importance of the latter.

Tree level

The agroforestry transition project led by Kaderes was established 7 years before Acorn interventions. The collaboration between Acorn and Kaderes began in early 2020. From the start of their project, until the time they connected with Acorn, Kaderes have had the intention to scale their agroforestry project by offering farmers carbon finance for the trees they have planted and

plan to plant. This can be evidenced by the success they had when they partnered with South Pole to exchange water filters for carbon credits. The positive benefits that carbon finance had for Kaderes in terms of growth of network and resources, was the enabling factor that resulted in them deciding to create an agroforestry project for smallholder farmers. Therefore, this agroforestry project was initiated and the first trees planted, in response to a positive experience of carbon credits, with the intention of providing this same experience to smallholder farmers. The first trees were planted by the initial lead farmers in their pilot in late 2014. As part of Kaderes' agroforestry design and due to their limited financial resources and funding, farmers plant trees in a slow and phased manner in quarter 4 of each year, for a period of years depending on the finances and resources available. The carbon credits farmers receive for the trees planted in the project are ex-post based and will only be derived beginning from the period 2020-2021. To ensure additionality in response to the first trees planted by these farmers, the adjustment factor for pre-project trees will be applied as per the Acorn methodology.

Farmer Level

Tanzanian smallholder farmers with the intention to work with Acorn through the local farmer cooperative, Kaderes, struggle financially. These farmers are living with less than $1 a day and have no access to pre-financing, loan or saving mechanisms, risk management tools, or the carbon market. These farmers couldn't have accessed affordable financing to make a shift to agroforestry without the financial and technical support provided by Kaderes. Kaderes relied on start-up grant funding from AGRA and CIAD to help the first farmers transition and plant their first trees. However, Kaderes cannot sustainably continue to support these farmers, let alone all farmers in their expansive network who have the potential to transition to agroforestry with the expected scaling of their agroforestry project. Given that agroforestry practises are classified as a relatively new technique, farmers require additional and ongoing costly training and technical assistance to build their confidence and skills, allowing them to develop a sustainable agroforestry system that results in productivity increases and ensures farmers maintain their trees over a long period. Without rewarding Kaderes or the farmers with carbon credits for undertaking these new practises, farmers are unlikely to understand the long-term benefits of agroforestry, continue ongoing training, or turn into leaders that act as role models to their community. The lack of financial incentive provided to support Kaderes with the provision of training for farmers is problematic as knowledge and skills are the most important determinants of successful long-term agroforestry schemes. The agroforestry training provided by Kaderes promotes genetic diversity enhancement and planting native or naturalize species based on the natural environment of the project farm land (i.e water availability, complementary/competing species present, and weather conditions). Kaderes also facilitates knowledge exchange sessions and supports farmers to share lessons learnt through train-the-trainer principle.

Although carbon finance may not be the main reason all farmers initially transitioned to agroforestry, compared with the expected long term increases in productivity, it diversifies their income and farm output. This additional income ensures Tanzanian farmers have the physical resources necessary to maintain their trees over time and a financial buffer that prevent them from cutting them down in times of high volatility in commodity prices, low productivity and high risk of crop loss from extreme climatic events. Without a diversified income, farmers would rarely have the financial stability needed to overcome the socio-economic challenges associated with poverty and climate change. In times of crisis or devastation, farmers would have no other option than to sell the wood from the trees they have planted. Many of the first trees planted by these smallholder farmers do not provide immediate tangible benefits, such as shade trees compared to fruit trees, and if they lack cultural significance, may be the first ones farmers cut down in an emergency to make quick money to feed their families. These trees may also be cut down from those who trespass and perform illegal logging. This is problematic as the region where Tanzanian

farmers are located is known for its high deforestation activity just outside the project area. Additional income from carbon credits allows farmers to invest in protection measures for their farms to prevent this. Unfortunately, the high rate of deforestation in the region surrounding the project area shows that farmers are more likely to make money on the side by cutting down trees when they do not have a sustainable income that carbon finance would help provide. Research suggests that smallholder farmer deforestation behaviours in developing countries could stop if provided with carbon credits based on current carbon prices[1]. Therefore, carbon finance is essential to incentivise farmers linked to Kaderes to keep their trees in the ground and to scale up agroforestry practices, not regress to behaviours contributing to deforestation. The long-term sustainability of this agroforestry system and the first additional trees planted are jeopardized if Tanzanian farmers don't receive compensation for the carbon they sequestered. By creating awareness amongst the communities and facilitating training to improve land use activities for participants, Acorn overcomes the technical and cultural barriers these farmers face.

Project level

Kaderes do not work with a fixed number of smallholder farmers but a constantly growing and expanding network. Kaderes has a mission to empower members and communities to contribute to sustainable land use management and environmental conservation by focusing on the scaling of their agroforestry project. The first trees planted under the initial phase of this project are few compared with what will be planted over the following phases in Kaderes' long-term agroforestry design, provided capital is available to support further scaling. Only focusing on the initial farmers who plant the first trees takes away from the additionality of the full project. The farmers expected to transition to agroforestry with the scaling of the project must also be considered. The carbon credits received by the first farmers will encourage sustainable behaviours and create better practises at scale. If the first farmers who transitioned with Kaderes are not rewarded with income from the carbon credits, both Kaderes and the farmers may be discouraged from scaling up their agroforestry interventions using carbon credits after all their hard work and lack of significant benefits in the initial years. This lack of reward will reflect poorly on agroforestry schemes for other farmers in the community and region that have the potential to transition, resulting in a barrier to scaling up.

The success of the first Tanzanian farmers, who are compensated for the carbon they have sequestered, will work as an extra stimulus to increase the participation of the wide range of farmers that Kaderes has access to, roughly 20,000. Acorn provides carbon finance to the farmers and Kaderes to overcome their financial barriers on a larger scale. This systems approach involves looking at the financial barriers these 20,000 farmers face and ensuring the first farmers receive carbon payment, critical to start the development of a carbon financing structure required for scaling, and as proof of payback for investors who want to fund the full 20,000. The project as a whole will not receive investment unless financers have proof of and faith in the carbon credit system as a payment for investment. Ex-post credits require products to be already financed before the first trees can be planted. The grant funding and investment from AGRA & CIAD that Kaderes has received supported the transition to agroforestry. However, this funding is temporary and dependent on proof of concept and sustainable returns from these farmers, which carbon income provides. Therefore, the carbon finance ensures continued investment in the project and further scaling up.

[1] Seeber-Everfeldt, C., Schwarze, S., & Zeller, M. (2009). Payments for environmental services – Carbon finance options for smallholders' agroforestry.

Part D: Carbon Baseline Assessment

Carbon Baseline

Requested information	Format	Answer
Describe how land tenure has been demonstrated	Text	Farmers hold informal customary land agreements (Annex 2). These have been strengthen by request of the certifier by creating participatory land maps that were signed during the rpoject council meetings.
Describe potential land tenure issues and measures taken to mitigate these	Text	At Kaderes for each farmer a Farm Entrance Form is completed and is given an unique code number. Next to that all farmers are in the procession of an ID card. Smallholder farms owns their farms locally whereby they possess the traditional land titles of which are accepted under the under the Tanzania village land act of 1999. The law has been active and ensured, until now there has been no conflict related to land among the pull of farmers
Description of current land use	Text	The 2000 farmers in the project manage well-diversified farms consisting of cultivated land participating in agrisilvicultural agroforestry to grow predominantly Robusta coffee as cash crop (50%) and bananas as staple food (20%) and mango/avocados (30%) in an intercropping approach. The land is also used to grow maize and bean crops in addition to seasonal crops including cereals (sorghum, millet), roots and tubers (cassava, round potato, yams), fruits (pineapple, watermelon), and spices (vanilla, ginger, cinnamon, cardamom, lemon grass). All farmers in the project practice organic farming where no pesticides are allowed to be used on the farm for any purpose, instead pest control involves manual prevention (pruning) and removal. Farmers in the project area use organic fertilizer such as compost manure and green manure. Farmers also use crop residues as much as possible on their farms. The land on project area is fertile hence the low amount of manure to be used on farms (one 20kg tin per plant of manure used for the period of 2-3 years). Without project interventions, the land would continue to be used for such an organic agroforestry-like approach as farmers believe these practices make them independent, contribute to food security, diversify income and build their resilience to climate change.
Description of current habitat species	Text	The number of crops at the beginning of the ACORN project include 400 coffee trees per farmer, 70 banana trees per farmer, 10 avocado trees per farmer, 5 mango trees per farmer. The maesopsis eminii and markhamia lutea trees are the most prevalent within the project area. Ground truthing data shows that the project land is home to at least 43 different tree species. Fauna species in the project area include various pollinator and threatened species (section 3.3.4 and 3.3.5). These fauna species

		would be expected to continue to decrease in number without project interventions. Therefore, the biodiversity on the farms would be expected to slowly decline without project intereventions.
Description of deforestation potential	Text	Kaderes is not aware of any deforestation that has taken place within the project area in the past 5 years. Majority of the land in this project was already cultivated and during this time all farmers were focused on reforestation and increasing yield on their land by planting more crops and trees not expanding through deforestation. The T-5 check demonstrated no sign of deforestation within the past 5 years in the project area (all plots).
Description of trees species <2m and their distribution	Text	There is a high distribution of Markhamia Lutea, Maesopsis eminii, Acrocarpus spp and Persea Americana, and a medium distribution of Mangifera Indica, Ficus, and Acacia Baileyana.
Number of existing trees ≥2m	Number	12505 trees
Number of existing trees older than 5 years	Number	8434 trees
Coverage percentage of existing trees older than 5 years	%	67.4

1. Tree species list (≥2m).

Species ≥2m *(Latin name)*	**Number**	**Species ≥2m** *(Latin name)*	**Number**
acacia baileyana	33	grevillea robusta	582
acacia spp	4	jatropha curcus	1
acacaia xanthophloea	279	jatropha podagrica	4
acrocarpus flaxinifolius	330	maesopsis eminii	3688
annonna muricata	1	mangifera indica*	687
artocarpus heterophyllus*	240	markhamia lutea	4256
azadirachta indica	3	mdalasini**	1
bombax rhodognaphalon	3	melia azedrach	2
cedrela odorata	24	moringa oleifera	4
cedrela spp	28	persea americana*	1033
citrus aurantifolia*	20	podocupus usambarensis	144
citrus reticulate*	81	podocarpus spp	3
citrus limon*	33	polyalthia longifolia	2
citrus sinensis*	54	psidium guajava*	224
citrus spp*	1	senna spectabilis	6
ficus benjamina	244	terminalia mantaly	1
ficus spp	470	Unknown	19

*Fruit trees

2. Provide T-5 check data to evidence loss of tree cover over the past five years from project start date.

Outcome	Number	Plot ID	Reason for failure
PASS	23,871		
FAIL	0	n/a	n/a

3. Provide a description of the ecoregion.

Victoria Basin forest-savanna mosaic

The ecoregion covers an area of 165,800 km². It lies in the upper basin of the Nile River, between 800 and 1500 meters elevation. Lake Victoria is at the centre of this ecoregion. Lake Victoria is the largest freshwater lake in Africa and the second largest in the world in terms of surface area. It supports approximately 30 million people's livelihoods including irrigated agriculture and fishing. The basin supports a mixture of forest and savanna habitats, important assemblages of savanna mammals, such as the chimpanzees which are found in many of the forested areas of the western parts of the ecoregion.Centered on Lake Victoria, the ecoregion encompasses most of south-central Uganda, the eastern half of Rwanda and extends into Tanzania, Burundi, Democratic Republic of Congo, and Kenya.

The ecoregion's climate is tropical. Annual maximum mean temperatures range from 24°C to 27°C, and mean minimum temperatures range from 15 °C to 18 °C. Rainfall generally ranges from 1000 to 1400 mm annually. Most rain falls in the two rainy seasons, from March to May and from August to November. The Vitoria Basin forest – savanna mosaic is classified with a biome named Tropical and subtropcial grasslands, savannas and shrublands. It conservation status is considered critical.

Central Zambezian Miombo woodlands

The ecoregion Central Zambezian Miombo woodlands is one of the largest ecoregions on the continent, spanning across 1,184,200 km2 of southern central Africa. The countries within this ecoregion are northeast Angola, the southeast section of the Democratic Republic of the Congo, the northern half of Zambia, western Tanzania, southern Burundi, and northern and western Malawi. In Tanzania it covers the western inland provinces between Lake Victoria, Lake Tanganyika and Lake Malawi. The area is mostly flat plateau, and the soils are poor.

There is a tropical climate with a long dry season (drought), up to seven months, which leaves the forest vulnerable to fires, and a rainy season from November to March. Rainfall is typically between 1,000 and 1,200 mm annually, with up to 1,400 mm falling at higher elevations. This ecoregion occupies the Central African Plateau at altitudes between 1,000 and 1,600 m. Mean maximum temperatures range between 24–27°C, depending on altitude. Mean minimum temperatures range from 9°-18°C.

Miombo woodland is the predominant plant community in this ecoregion consisting of high trees with shrub and grassland underneath. The classic miombo trees Brachystegia, Julbernardia, and Isoberlinia dominate the woodlands with other tree species such as Pterocarpus angolensis, Albizia sp. and Afzelia quanzensis.The grasses, shrubs and trees in this ecoregion support a large variety of wildlife including the rhino, buffalo, elephants, antelope, lion, leopard, cheetah, and hyena. Approximately 26% of this ecoregion is in protected areas such as national parks and game reserves.

Part E: Project Baseline Assessment

Number of participants surveyed		Total number of project participants	Percentage of total participants included in baseline		
121		14975	.8%		
Area	**Indicator**	**Metric**	**Source**	**SDG**	**Result**
Local livelihood	**Farmer income from carbon finance**	Revenue from CRU sales	Survey (information collected on the Acorn platform)	1, 2, 8	To be determined in year 3 after CRUs are generated.
	Nutritional variety	Number of food groups in the diet (see Appendix 7.9)	Household Dietary Diversity Score (HDDS) index survey[3]	1, 2	The average farmer consumes 2 – 3 food groups in a 24 hour period.
	Agricultural land use productivity	Farm output value per hectare per crop type [kg/ha/year]	Survey (information collected on the Acorn platform), FAO TAPE Tool[4]	1, 2, 8	The top 3 crops that contribute to productivity include; • Coffee = 1285kg/ha • Bananas = 2263kg/ha • Beans = 1263kg/ha See Part D section 3 for the productivity of other secondary cash crops
Environmental improvement	**Agricultural biodiversity**	Crop/animal/ pollinators count	Gini-Simpson Index survey[5]	2, 15	50% (acceptable)

*Metrics and sources provided are suggestions only; projects are allowed to select other, more suitable metrics.

1. Famer Income from Carbon Finance

I.) Describe the current financial state of farmers and how project intervention is expected to positively/negatively impact this.

The Tanzanian farmers in the project area struggle financially as families are living with less than $1 a day. Their income continues to decline each day, due to the negative impacts climate change has on farm productivity and income. Farmers have no access to pre-financing, loan or saving mechanisms, risk management tools, or the carbon market. Project intervention will help build

[3] *Swindale & Bilinsky, 2006*

[5] *Izsák & Papp, 2000*

farmer resilience against the damaging effects of climate change, such as shade trees protecting crops from harsh weather conditions. The marketable products derived from the trees planted and the carbon credit received for sequestration will offer diversification in income streams and act as a buffer for farmers in times of financial hardship.

II.) Fill in the table below based on the carbon credits received by farmers

To be completed after farmer payment in 2022.

Farmer name		Number of credits received	Time period credits were received	Total income from carbon credits
TOTAL CREDITS			**TOTAL INCOME**	

2. Nutritional Variety

I.) Describe farmer nutritional intake currently and how project intervention is expected to positively/negatively impact this.

Unfortunately, farmers on average only consume 2-3 food groups in 24 hours. This is often cereals and roots and tubers. No farmers surveyed consumed condiments or spices and the groups consumed in the table below demonstrate that farmers rely on the food they produce on their land with some able to purchase few extra supplies. Of farmers surveyed, 42% admit they must skip meals due to lack of resources. Due to the fruit trees planted as part of this agroforestry project, farmers are able to easily source nutritious sources of food. Due to the fact that agroforestry is now prevalent in the districts of karagwe and kyera, the availability of nutritious fruits in the district is more than 70% and farmers can access them at low cost and sometimes they can get them free. Project intervention will result in further increases in food security due to the expected increases in productivity of crops and trees planted. Farmers will experience even more income diversification (from carbon credits) that help farmers to afford a variety of nutritious food other than fruits and self-grown vegetable crops, such as protein sources. The trees planted build resilience against climate change and ensure the crops for consumption and to be sold are protected from extreme weather conditions. As part of the agroforesty project, Kaderes also train farmers on the importance of nutrition to them and all family members for sustainable development.

II.) HDDS Index Survey Results combined with agricultural productivity.

Food group type	Amount of farmers consuming each food group (%)	Description of foods consumed
Cereals	61%	Maize, rice, porridge, ugali, bread, noodles
Root and tubers	66%	Cassava, yam, potatoes,
Vegetables	29%	Spinach, cabbage, Amaranth, tomato
Fruits	23%	Mangoes, avocado, banana, pineapple, orange, lemon, jackfruit, paw paw,
Meat, poultry, offal	12%	Beef, chicken
Eggs	9%	eggs
Fish and seafood	14%	Fresh fish, dried fish, shellfish
Pulses, legumes, nuts and seeds	4%	Beans, peas, nuts, seeds,
Milk and milk products	7%	Milk

Oils and fats	2%	Cooking oil
Sweets	5%	Chocolate, cake, sweetened milk
Spices, condiments and beverages	0%	n/a
Average number of food groups consumed:		2 – 3 food groups

3. Agricultural land use Productivity

I.) Describe the current productivity levels of farms and how project intervention is expected to positively/negatively impact this.

The most important crop produced in term of productivity level is coffee which has high market value followed by bananas and beans. Productivity levels vary according to the climate each year and the rainfall. Productivity levels is low to average in the project area and often unstable due to rising costs of inputs, plantings costs, droughts, disease, and reduction of pollinators. With this project, Kaderes expects an increase in farmer productivity based on income generated per hectare due to crop diversification and in-kind beehive payments. Kaderes also expects an increase in productivity from the project cash crop, coffee, due to the benefits of shade in such a harsh climate.

II.) Fill in the table below based on the average farm output in the project area and the crops most responsible for productivity.

Cash crop type	Yield of cash crop (kg/ha/year)	Amount of farmers cultivating cash crop (%)	Other crops contributing to productivity and their amount (%)
Coffee	1285	98%	chilli, tomatoes, and groundnuts contribute to <5% of productivity
Banana	2263	401%	
Beans	1263	16%	
Maize	528	17%	
Vanilla	23	5%	
Sugarcane	500	1%	
Cassava	725	3%	
Mango	1666	2%	
Avocado	3000	3%	

4. Agricultural Biodiversity

I.) Describe the current state of biodiversity and how project intervention is expected to positively/negatively impact this.

Based on the Gini-Simpson Index below, the state of biodiversity in the project area is classified as acceptable with a score of 50%.This score is likely due to the small natural vegetation on the plots and the high number of cows, however, this is not as representative due to an outlier with 100 cows. The presence of many culturally or environmentally significant species (section 4 – VI.) increases the biodiversity score and in theory would move it further away from the unsustainable classification and more towards the direction of sustainable. However, more evidence needs to be provided on the presence of species that are not culturally or environmentally significant but are found in the project area (section 4 – V.). The agroforestry interventions under this project will mitigate climate and weather change, improve soil fertility and biodiversity due to the variation in crops and trees and species who rely on these for a suitable habitat. However, project interventions may possibly bring more pests due to an increase of shade on the farm organic farming practises implemented (use of

cultural and physical measures instead of pesticides to mitigate pest increases). Mitigation measures include regular pruning to reduce branches that harbour pests, training farmers to collect and kill insects physically, and measures to increase general farm sanitation (reducing the impact of pests invasion).

II.) How many farmers perform beekeeping?

16 out of 121 farmers perform beekeeping, half of these raised and half wild.

III.) Gini-Simpson Index Results.

Crops	Area	pi	p2	Livestock	number	equivalent	pi	p2
Coffee	234,75	0,328519	0,107925	Cows	402	402	0,855887	0,732543
Bananas	166,35	0,232797	0,054195	Sheeps/goats	409	40,9	0,087079	0,007583
Beans	124,7	0,174511	0,030454	Chickens	527	7,378	0,015708	0,000247
Maize	138,75	0,194173	0,037703	Pigs	51	15,3	0,032575	0,001061
Cassava	33,5	0,046881	0,002198	rabbits	204	4,08	0,008687	0,000075
Sugarcane	1,75	0,002449	0,000006					
Potatoes	11,5	0,016094	0,000259					
Vanilla	3,275	0,004583	0,000021					
Total	714,6		**0,23 (77%)**	**Total**		469,688		**0.74 (26%)**

Natural vegetation, trees and pollinators	**Value**
Productive area with natural vegetation	.25 (small)
Pollinator Presence	.66 (significant)
Beekeeping	.5 (wild and raised)
Average of natural vegetation, tree and pollinators	**47%**
Gini-Simpson Index Result	**50%**

IV.) List pollinator species in the project area.

Present in project area	Pollinator type
Regularly	Bees, butterflies
Moderately	Flies, mosquitos, sunbirds
Sometimes	Beetles, bats, moths, ants, monkeys
Rarely	

V.) List wild animal species in the project area.

Species ***(latin name)***	**Prevalence** ***(Regularly/Sometimes/Rarely)***
Birds	Regularly
Monkeys	Sometimes
Rodents	Sometimes
Snakes	Rarely
Goats	Sometimes
Pigs	Sometimes

VI.) List threatened species in the project area, and if influenced by project intervention, describe relevant monitoring objectives/plan.

Species *(Latin name)*	**Threat Classification** (Culturally Significant/ Vulnerable/Endangered/ Critically Endangered)	**Project Influence** (Positive /Negative)	**Monitoring Objectives/Plan**
African Bush(Savanna) Elephant (Loxodonta Africana)	Endangered	Positive	Every 2-3 years Kaderes will survey a sample of farmers (1% of total farmers at that time) to determine what wild animal species are observed in the project area and their importance to the farmer. The vulnerability of the species reported will be assessed against the IUCN red list
Cheetah (Acinonyx jubatus)	Vulnerable	Positive	
Leopard (Panthera Pardus)	Vulnerable	Positive	
Shoebill (Balaeniceps rex)	Vulnerable	Positive	
African Wild dog (Lycaon Pictus)	Critically endangered	Positive	
Common Chimpanzee (Pan Troglodytes)	Endangered	Positive	
Secretary bird (Sagittarius serpentarius)	Endangered	Positive	
Giraffe (Giraffa Camelopardalis)	Vulnerable	Positive	
Grey crowned crane (Balearica regulorum)	Endangered	Positive	
Martial eagle (Polemaetus bellicosus)	Endangered	Positive	
Saker falcon (Falco cherrug)	Endangered	Positive	
Hooded Vulture (Necrosyrtes monachus)	Critically endangered	Positive	
Mountain Reedbuck (Redunca fulvorufula)	Endangered	Positive	
Blue Swallow (Hirundo atrocaerulea)	Vulnerable	Positive	

5. Indicator Monitoring

I.) Describe the monitoring objectives for any expected impacts on farmer livelihood and the environment from project intervention. If there are any negative impacts expected, describe the relevant mitigation actions.

KPD Plc has on officer in place trained on Monitoring and Evaluation to conduct monitoring and evaluation activities of the Acorn project. On top of that Field officers and supervisors make daily follow up field visits, hold quarterly meetings and plan what is to be done the following quarter, hold quarter technical meetings to review the progress of the project activities and impacts of project intervention.

Livelihood / environmental indicator	Impact description	Mitigation action (if negative impact)	Monitoring method and frequency	Responsible party
Nutritional Variety	Project intervention will result in increases in food security due to the expected increases in productivity and farm yields and income diversification (carbon credits and tree products) that help farmers to afford a variety of nutritious food. Farmers also plant fruit bearing trees that will supply them with extra source of nutritional intake. The trees planted build resilience against climate change and ensure the crops for consumption and to be sold are protected from extreme weather (heavy winds and rain).	N/A	Quarterly through meetings, monitoring forms and reports	Lead farmers ME & L Officer, Field officer
Agricultural biodiversity	The agroforestry interventions under this project will mitigate climate and weather change, improve soil fertility and biodiversity due to the variation in crops and trees and species who rely on these for a suitable habitat. However, project interventions may possibly bring more pests due to an	Mitigation measures include regular pruning to reduce branches that harbour pests, training farmers to collect and kill insects physically, and measures to increase general farm sanitation (reducing the	Annually through meetings and monitoring reports.	Lead farmers, field officer project coordinator

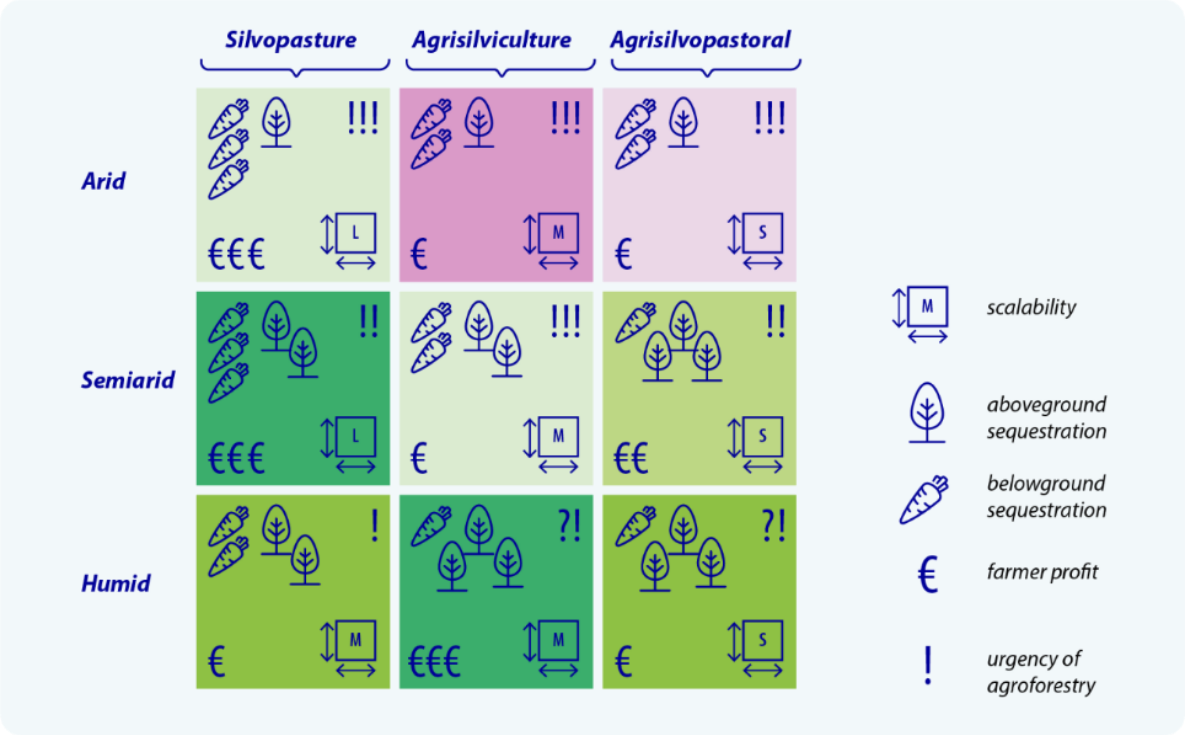
	increase of shade on the farm organic farming practises implemented (use of cultural and physical measures instead of pesticides to mitigate pest increases).	impact of pests invasion).		
Farmer financial state	Farmers will have more financial security from project intervention as the income diversification (carbon credit and tree products) act as a buffer in times of financial hardship. Farmers will have more access to electronic records due to Kaderes partnership with MasterCard. Kaderes provides access to saving and credit through linking them to financial service providers, making credit available and on affordable terms and conditions. With the increase in productivity and protection of crops from the trees planted farmers have more assurance in a steady and consistent income.	N/A	Annually through meetings and monitoring reports.	Lead farmers, Project accountant, project committee council members
Gender equality	Gender equality will be promoted by Kaderes as seen in their Theory of Change. They aim to increase the power of accessing and utilizing resources by women, widows, youth, orphans, unemployed and physically challenged, and other vulnerable groups.	N/A	Annually through meetings & internal auditing report.	Lead farmers, Project coordinator, project committee council members, Field officers

Farmer access to resources	Farmer will have more access to resources (i.e. planting materials and training). Kaderes invests in infrastructure for education and focus on their training in agroforestry. **Kaderes provides** ongoing training (based on agronomist advice) and technical assistance (provision of seedlings) to farmers.	N/A	Quarterly through meetings and monitoring reports.	Lead farmers, Project accountant, project committee council members
Farm productivity	Kaderes expects an increase in farmer productivity based on income generated per hectare due to crop diversification. Kaderes also expects an increase in productivity from the project cash crop, coffee, due to the benefits of shade in such a harsh climate.	N/A	Annually/seasonally through meetings and monitoring reports. Meeting, monitoring reports	Lead farmers, field officer, project committee council members, Project coordinator

Part F: Project Activities

1. Describe the agroforestry system to be implemented as part of the project using the figure below (silvopasture/agrisilviculture/agrisilvipastoral).

The agroforestry system is classified as existing agrisilvicultural agroforestry in a semi-arid savanna environment on which coffee is the main cash crop. The planting of fruit and shade trees is prioritised in this system.



2. For each agroforestry system fill out Table 2 below. Only fill in the right two column if the species is NOT native.

Type	Species	Species details		
		Native, naturalised or invasive?	If naturalised, please describe its likely: Livelihood benefits that make it preferable to any alternative native species	Impact on biodiversity or other provision of key ecosystem services in the project and surrounding areas
Tree	Musa spp	Naturalised	It is valuable for fruit production. Bananas are a staple food that are relied upon by farmers and their families. These trees and their leaves can also provide clothing, tools, and shelter. Bananas account for a	They provide shade for crops and protect them from harsh UV and extreme weather conditions (i.e wind and flooding). They create an ideal habitat for many fauna species. Waste can be used as a fertiliser for soil health.

			significant percentage of farmer productivity.	
Tree	Maesopsis eminii	Native		
Tree	Persea americana	Naturalised	Supplies a highly nutritious fruit (avocado) and oil (from skin and seeds) that farmers can consume or sell as it has a high economic value. The products of this tree therefore contribute to financial and food security. This plant can also be used for traditional medicines (anti toxicity/inflammation).	Addition in agroforestry increases tree species diversity.
Tree	Mangifera indica	Naturalised	This tree provides shelter for crops and farmers and the fruit mango which is consumed and increase nutritional variety in the farmers diet or sold to support farmer income and finances. Mango leaves also contain medicinal properties (treating asthma and diabetes).	Mangifera indica is integral for biodiversity as it is an evergreen perennial tree and provides food and shelter for diverse fauna and insects (e.g. spiders, ladybird beetles, mantids and ants) that maintain ecosystem equilibrium. Mango is a cross-pollinated crop and increases presence of insect pollinators who preserve genetic diversity.
Tree	Markhamia lutea	Native		

Growth management	
Preparation and Planting	Farmers in the project area use organic fertilizer such as compost manure and green manure to prepare the soil for planting. Farmers also use crop residues as much as possible on their farms. The land on project area is fertile hence the low amount of manure to be used on farms (one 20kg tin per plant of manure used for the period of 2-3 years). The average density is around 1111 plants per ha for bananas and coffee planted at the range of 3m x 3m.
Tree/Shrub Management	Farmers are trained to prune the trees and branches regularly in regards to optimal shading, pest control and tree growth. Pruning on agroforestry trees is done to maintain and reduce shade to other crops. Pruning is done once a year or after two to three years for the trees with fewer

	branches or trees with erect branches. Harvesting of fruit trees is done once or twice a year from Mid-June to late December..
Crop Management	The below practices relate to coffee crop management: • Pruning. This is the practice that performed to maintain plant health by removing dead or overgrown branches or stems. For coffee trees, it is done one times per year (august-September). In the farmers farm there are also agroforestry trees which is pruned once a year (soon after harvesting, in July and September) • Thinning. This is the practice that involve remove of some trees after the farm has become dense in plant population. As the trees matures, trees become crowded and competition among trees causes growth rate to decline. It is done after harvesting (July – September) and this is done once. • Lopping. In some farms rapid growth of new shoots occur and must force farmers to do second pruning by removing new suckers/shoots in late January or early February. It is the remove of new shoots or twigs of the tree. • Stumping. It is done in October and November to allow new sprouts, plant after being stumped left for about 2-3 years before lopping or pruning to allow new sprouts to become stronger and productive. • Harvesting of trees is done once a year. For coffee trees is done during the dry season (June-August) each year.

3. Describe the project's agroforestry design/implementation plan.

During the agroforestry training farmers are encouraged to grow a variety of different trees on their farm to increase genetic diversity. The species of tree are selected for each farmers based on the natural environment of each farm (water availability, weather, current species present, and possible competing or complementary species). This project involves planting native and/or naturalized species and trees. Kaderes have a plan for intercropping between the food crops, fruits, spices and other green investment for their farmers (Investing in Avocado, Mango, Vanilla and honey production in our communities). They have a diversification plan for the farmers to generate more income from planting a variety of tree species, i.e. Vanilla, Avocado, Mango and Orange. It is helping to improve the soil fertility and increasing the organic matter in the soil. The general planting season for trees each year is September and October - December, March to May every year. Farmers usually plant in one year. The trees to be planted per hectare include 100 banana, 25 Meisopsis eminee, 45 Persea americana, 30 Mangifera indica and 25 Markhamia lutea trees.

At the Project implementation level the daily activities are coordinated by Project and District Coordinators. The Coordinator provides leadership to the staff implementing field activities and the supporting staff at the office. The Coordinator will ensure each field staff have monthly schedule that is followed by monthly progress reports, semi -annual and annual reports will be prepared and submitted to the Project Committee.

4. Provide an estimate of the carbon benefits for each tree species per hectare over a likely median project period.

Tree species	Expected carbon benefit/ha	Project period used (e.g. 10 years)

Musa spp	1.6 CO2e kg	11 years
Maesopsis eminii	42.2 CO2e kg	10 years
Persea americana	31.6 CO2e kg	10 years
Mangifera indica	63.2 CO2e kg	10 years
Markhamia lutea	13.1 CO2e kg	10 years

**These figures will not be used to issue CRUs*

5. Describe how this agroforestry system is expected to impact the land (i.e. shade, less pests, increase in pollinators).

The agroforestry interventions under this project will mitigate climate and weather change, improve soil fertility and biodiversity due to an increase in the amount and variation of trees species and animals who rely on these for a suitable habitat. However, project interventions may possibly bring more pests due to an increase of shade on the farm organic farming practises implemented (use of cultural and physical measures instead of pesticides to mitigate pest increases). Mitigation measures include regular pruning to reduce branches that harbour pests, training farmers to collect and kill insects physically, and measures to increase general farm sanitation (reducing the impact of pests invasion).

6. How do you ensure that the trees already in the project area before project intervention (if any) do not perish due to competition with the trees planted during this project or are damaged due to project activities?

By encouraging good crop/tree management techniques such as regular pruning (see question 2), thinning and removal of some trees after the farm has become dense in plant population. This reduces crowding and competition among existing trees and new trees and ensures the tree growth rate of existing trees is maintained. Agroforestry trees are always planted with an optimal spacing of 3m x 3m to avoid negative impacts on other trees/crops.

Part G: Project Council

1. Describe the project council governance structure, showing that participants or community groups collectively nominate project representatives who have the capacity to operate and make decisions on their behalf.

Kaderes work through a tested approach of awareness creation and ongoing stakeholder meetings to initiate, implement and monitor projects together with the farmers involved. Kaderes also holds focus groups to listen to the concerns of participants and stakeholders. These groups involve lead farmers, village-based agricultural advisors, influential and culturally accepted community members, and various stakeholders (LGAs, BVAAs, Banks, AMCOs leaders). Interventions within this project only happen after consultation with and approval by the villagers involved. The project council that is established in 2022, consists of farmer representatives (see question 3 below), KPD Plc (Acorn) project staff (extension officers), AMCO leader farmers and a local government leader (village chairman). Although not required, the project council meeting will be open to all farmers and community members who wish to attend. The goal for project council farmer representatives is 75 to 80 members based on geographical location (7-10 from each district). The selection criteria in place for nominating new project council members includes (1) owning their land, (2) accepted in the community, (3) decision maker, (4) knowledgeable and capable of skill transfer, (5) within the ages for 21-40, and (6) willing to implement the project and take on this leadership role. Gender, age, location, marginalization and religion for also considered for equal representation. Based on these criteria, the members were elected to the council by community members and participants during VBA (village based advisory) meetings.

2. Describe how project council allows participants to provide feedback on the project design and implementation.

Before the project council was implemented, Kaderes, in collaboration with the local government structures, held open village meetings where farmers and community members could discuss their thoughts, ideas and concerns about the agroforestry project with KPD Plc project staff. These meetings occurred quarterly. The project council under this project will hold meetings two times a year (roughly March and November) and during those meetings, council members will be asked to share any reported feedback/grievances raised by farmers and will have active input in decision making for the project. This will be accomplished by Kaderes running the meeting according to the Acorn Project Council slides (facilitating active discussions). KPD PLC project team after each council meeting, informs or provides feedback to the respective AMCOS (who govern each district in which the farmer elected project council member represents), if not present at the meeting, on what was discussed in the meeting and agreements. These details of the project council meetings are then fed back to the farmers groups of the AMCOS through WhatsApp and normal text messages. This help to provide farmers with important information such as areas of improvement and planned activities in in the next implementation period and ensures they can provide feedback on this information.

3. List the project council members that have been nominated by participants to represent project participants during project council meetings to voice concerns and needs, and actively engage in decision making.

Farmer number	Gender (M/F)	District	Member type (local partner, farmer co-op, participant, community member, Acorn employee, government representative, etc.)	Local stakeholder group (who/what group of participants does the farmer attendee represent)
1.	M	KARAGWE	Farmer cooperative participant	Kiruruma AMCOs
2.	F	KARAGWE	Farmer cooperative participant	Ndama AMCOs

3.	M	KARAGWE	Farmer cooperative participant	Kituntu AMCOs
4.	M	KARAGWE	Community member	Ndama
5.	M	KARAGWE	Farmer cooperative participant	Bushangaro AMCOs
6.	M	KARAGWE	Government representative	Karagwe District Council
7.	K	KARAGWE	Community representative	Kituntu
8.	M	KARAGWE	Community representative	Karagwe
9.	M	KARAGWE	Community representative	Karagwe
10.	F	KARAGWE	Community representative	Karagwe
11.	M	KYERWA	Local Partner	Chairperson
12.	F	KYERWA	Community member	Kitwe
13.	M	KYERWA	Community member	Kayungu
14.	M	KYERWA	Community representative	Kyerwa
15.	M	KYERWA	Farmer cooperative participant	Kyerwa
16.	M	KYERWA	Community representative	Kyerwa
17.	M	KYERWA	Community representative	Kyerwa
18.	M	KYERWA	Community representative	Kyerwa
19.	M	KYERWA	Community representative	Kyerwa
20.	M	KYERWA	Community representative	Kyerwa
21.	M	MISSENYI	Farmer cooperative participant	Kyaka
22.	M	MISSENYI	Community representative	Missenyi
23.	F	MISSENYI	Government representative	Missenyi
24.	M	MISSENYI	Community representative	Missenyi
25.	M	MISSENYI	Community representative	Missenyi
26.	M	MISSENYI	Community representative	Missenyi
27.	M	MISSENYI	Community representative	Missenyi
28.	M	MISSENYI	Community representative	Missenyi
29.	M	MISSENYI	Community representative	Missenyi
30.	M	MISSENYI	Community representative	Missenyi
31.	M	MULEBA	Government representative	Muleba District Council
32.	F	MULEBA	Community representative	Kishuro AMCOs
33.	M	MULEBA	Community representative	Rulanda AMCOs
34.	M	MULEBA	Religious Leader	Muleba
35.	M	MULEBA	Community representative	Muleba
36.	M	MULEBA	Community representative	Nyamuhunga AMCOs
37.	M	MULEBA	Community representative	Muleba
38.	F	MULEBA	Community representative	Rulanda
39.	M	MULEBA	Community representative	Muleba
40.	M	BIHARAMULO	Government representative	Biharamulo District Council
41.	M	BIHARAMULO	Government representative	Biharamulo District Council
42.	F	BIHARAMULO	Community representative	Nyakahura
43.	M	BIHARAMULO	Community representative	Biharamulo
44.	M	BIHARAMULO	Farmer Cooperative participant	Biharamulo
45.	M	BIHARAMULO	Community representative	Biharamulo
46.	M	BIHARAMULO	Community representative	Biharamulo
47.	M	NGARA	Government representative	Ngara District Council
48.	M	NGARA	Community representative	Ngara
49.	M	NGARA	Religious leader	Ngara
50.	M	NGARA	Community representative	Ngara
51.	M	NGARA	Community representative	Ngara
52.	M	BUKOBA VIJIJINI	Community representative	Bukoba Vijijini

53.	F	BUKOBA VIJIJINI	Community representative	Bukoba Vijijini
54.	M	BUKOBA VIJIJINI	Community representative	Bukoba Vijijini
55.	M	BUKOBA VIJIJINI	Community representative	Bukoba Vijijini
56.	M	BUKOBA VIJIJINI	Community representative	Bukoba Vijijini
57.	M	BUKOBA VIJIJINI	Community representative	Bukoba Vijijini

4. Describe the grievance mechanism for this project, including;
    I.) The method for communicating grievances (whatsapp/phone, email, facebook, meeting, letters, anonymous box etc.).

Farmers have the opportunity to communicate grievances to extension services and leadfarmers either through the cooperative notice board, mobile (whatsapp/text/call), letter, annual farmer meetings and site visits. Kaderes are currently developing a new mechanism for all farmers to be able to deliver any issue through mobile number.

II.) How you ensure that complaints and/or recommendations can be done at any time and can be identified or be anonymous.

Kaderes ensure the grievance mechanism is accessible to all farmers such as the posting on cooperative notice board. This post can be anonymous. Anonymous grievances are always accepted and followed up with in a private manner ensuring safety of those submitting grievances in this manner.

III.) The process in place to ensure grievances raised are dealt with in a transparent, fair and timely manner (e.g. chain of escalation).

Each grievance reported to leader farmers or posted on the cooperative notice board will be reported (either during project council or outside if immediate action needed) and the actions taken monitored by extension officers to determine if the grievance has been adequately solved. Kaderes is currently creating a new system for the Acorn project where there is a special committee for handling of grievances under AMCOs.

IV.) Describe how the grievance mechanism is communicated to participants.

Kaderes ensures all farmers are well informed upon onboarding to the Acorn project on the grievance mechanism and makes sure they understand the steps to be followed when submitting a grievance and appealing procedures. Kaderes will monitor whether farmers are aware of this via annual house meetings with farmers and surveys.

5. List any grievances that have been raised outside of project council meetings and the actions taken to resolve them.

Grievance reported	Date	Action taken	Responsible party
Capacity building for the community with regards to implementation of agroforestry future plans and tree seedlings distribution	02/11/2022	Kaderes trained VBAs to gain more knowledge from the future agroforestry site. VBAs have been organizing and providing training sensitization and awareness sessions with farmers. More support is needed to reach more farmers in line with the scaling and expansion of operation areas. Seedling distribution has been successful, especially Hass Avocado seedling.	Kaderes and VBAs

6. Provide all project council reports that have been produced in the first year (minimum of 2). These reports must be completed based on the Project Council Report template provided by Acorn (including what decisions were made, how they were made, any feedback given and how it is been acted upon, grievances reported and how they are dealt with, satisfaction with grievance mechanism, proof of meeting (minutes and attendee list).

See Annex 4

7. Provide meeting minutes to demonstrate participants contributing to the selection and design of project (before project council establishment), considering:
    - Local livelihood (customs, needs and opportunities)
    - Land availability and tenure
    - Food security
    - Inclusion of marginalized groups
    - Opportunities to enhance (agricultural) biodiversity
    - Monitoring
    - Project implementation
    - Field management
    - Payments

See Annex 4

Part H: Organisational Capacity

1. Describe your legal status as a local partner (e.g. NGO, local co-op or trader).

Kaderes is a NGO located in the north-west of Tanzania, with the aim to support rural development and improve living income conditions of the villagers. KADERES Peasants Development Public Limited Company (KPD PLC) is the coffee export company of KADERES.

2. Describe your in-country presence and relationship with participants and communities in the project area.

Kaderes has extensive experience (over 20 years) with setting up projects for the benefit of their farmer and a strong local presence. Kaderes has also developed a well-structured and clear theory of change for the project. Kaderes has extensive experience with setting up projects for the benefit of their farmers and work through a tested approach of awareness creation and ongoing stakeholder meetings to initiate, implement and monitor projects together with the farmers involved. Kaderes also holds focus groups to listen to the concerns of participants and stakeholders. These groups involve lead farmers, village-based agricultural advisors, influential and culturally. accepted community members, and various stakeholders (LGAs, BVAAs, Banks, AMCOs leaders).

3. Briefly describe how you contribute to the social and economic development of the participants and their communities.

Farmers will generate income from trees products and crops diversification that will be harvested from the particular farm. The value of farms under the Acorn project will increase hence, allowing farmers to use them as collateral when applying for loans from financial institutions. Farmers will improve farm land quality and value naturally hence less costs of reclaiming it and enable to save costs that would be spent on land diversification (Buying organic fertilizers and pest sides). The needs of farmers and the potential impacts they may face from this project are determined by examining their family business plans and crop calendars and consulting with the local community groups have joined AMCOs.

4. What is the experience of the local partner working with farmers and in the project location (organising land tenure, implementing agroforestry, providing training etc.).

Kaderes provides education and advisory services including demo farms, basic training, and manuals to grow farmers skills and knowledge. Farmers will also be supplied with posters and leaflets to facilitate this education. Farmers are trained each year from February onwards before the planting season begins later in the year. During the agroforestry training farmers are encouraged to grow a variety of different trees on their farm to increase genetic diversity. Kaderes also connects farmers to nurseries where they obtain the planting materials needed for agroforestry practices.

5. Describe how the project will securely store project information, including project designs, business case details, proof of payment, record of participants events and monitoring results.

Kaderes always store information through a secure system as follows;

- *Keeping hardcopies of farmers information in files such as farmers consent form, farmers contract, training records (participants attendances form, payment forms)*

- *Computerised farmers information collected by technicians through excel sheet(softcopy)*
- *We usually store financial issues by using quick book software, payments forms in files/folders for more accessibility and sustainability*
- *For the Acorn project as of now we are collecting data digitally by using mobile phones and storing this electronically in our database that aligns with Rabobank GDPR policy.*

6. List relevant local, national and international policies, laws and regulations and demonstrate how the project is aligning project activities to comply.

Kaderes monitor project activities in line with local law and regulations (the official UNFCCC NDC of Tanzania - 2021, the Tanzania National Forest Policy - 1998, the Tanzania Forest Act - 2002, or the Agriculture Climate Resilience Plan - 2014-2019) to identify various non-compliance issues concerning the farmers. Kaderes also educates farmers and monitors their land to ensure they adhere to the organic, Fairtrade and UUTZ standards.

7. Describe project's mechanisms to identify and address barriers to participation for groups that could be excluded based on the basis of gender, age, income or social status, ethnicity or religion, or any other discriminatory basis.

As seen in their Theory of Change (Annex 9), Kaderes focuses on increasing the power of accessing and utilizing resources by women, widows, youth, orphans, unemployed and physically challenged, and other vulnerable groups. They plan to achieve this through full and active engagement with these groups to determine their barriers.

8. Describe process for onboarding participants.

New farmers are scouted through so-called 'lead farmers' and before joining Kaderes mostly operate individually, live in poverty and do not yet meet standard requirements for agricultural practices or carbon markets. Participating in the project ensures them, amongst others, that they benefit from working together (e.g. better access to seedlings or faster transfer of knowledge). Selection is also done based on plot size with min. of 1.5ha and max. around 5ha.

9. Describe any project employment policies regarding employment of youths, women, and disadvantaged groups.

KPD Management policy and HR include the following categories to ensure employment are suitable as follows;

RECRUITMENT POLICY AND PROCEDURES

- *<u>Recruitment Principles</u>*
  We are committed to recruiting and hiring qualified and dedicated individuals capable of delivering both our short and long-term strategy and objectives. KPD PLC is an equal opportunity employer. We shall recruit staff without prejudice to race, creed, gender, ethnic origin, marital status, pregnancy, disability, family status, political persuasion, or other prejudice that reflect the diversity and needs of our patients, and who can make a commitment to uphold to the Core Values and Code of Conduct of the company.

- *<u>Equal Opportunities& Gender</u>*
  Our policy is to provide equal employment opportunities to all staff, Shareholders and job applicants, regardless of race, creed, gender, marital, pregnancy, disability, family status, political persuasion, or other prejudice. All recruitment activities including setting selection criteria and instructions to external recruitment agencies shall therefore be conducted without discrimination.

- *We affirm that Gender equity strengthens the institution because it makes it possible to embrace a wider range of thinking and action in decision-making. In this respect, the company will monitor and assess progress in the area of creation of equal opportunities and gender balance and equity, and will re-examine the effectiveness of its policies and programs on a regular basis.*

***THE OBJECTIVES OF THE EQUAL OPPORTUNITY AND GENDER POLICIES ARE TO**:*

- *Provide equal opportunities for employees in respect of access to job opportunities, training and promotion.*
- *Provide a working environment free from unlawful discrimination*
- *Minimize and manage reputation and legal risks due to legislation covering equality of treatment*
- *Employ a workforce which reflects the diverse community at large*
- *Treat all employees with dignity and respect.*

10. Describe how women are involved in the project but NOT as farmers (i.e. partnering nurseries, training).

KADERES/KPD PLc has been addressing cross cutting issues on Gender through workshops and trainings. This Project promotes development and implementation of gender responsive agricultural policies. Work with the local leaders to ensure that the disadvantaged farmers (especially women on Land inheritance), Farmer groups and lead farmers have increased awareness to women economic empowerment (through decision making on use of family crops, on how family funds are distributed among family members, owning means of production and ownership and inheritance to land and equal access to education facilities). Kaderes also conducts sensitization of communities to involve both men and women in leadership roles.

11. Describe how the project will promote knowledge sharing among participants and the community.

Kaderes began the project with the selection of "Lead farmers" who will help with the recruitment of other farmers and transfer of knowledge on agroforestry gained from local agronomists. Farmers are more likely to implement a successful agroforestry system with knowledge they have received from other farmers who can educate them in a culturally appropriate manner and one in which farmers can relate to each other.

Part I: Financial Feasibility

1. Provide a detailed business case for the project, including:
    - the expected annual income from agricultural production and carbon sequestration
      See Annex 5
    - the expected costs associated with the transition to agroforestry and the generation and trading of CRUs (e.g. planting materials, fertilizer costs, temporary labor cost)
      See Annex 5
    - The expected productivity changes that will result from project interventions

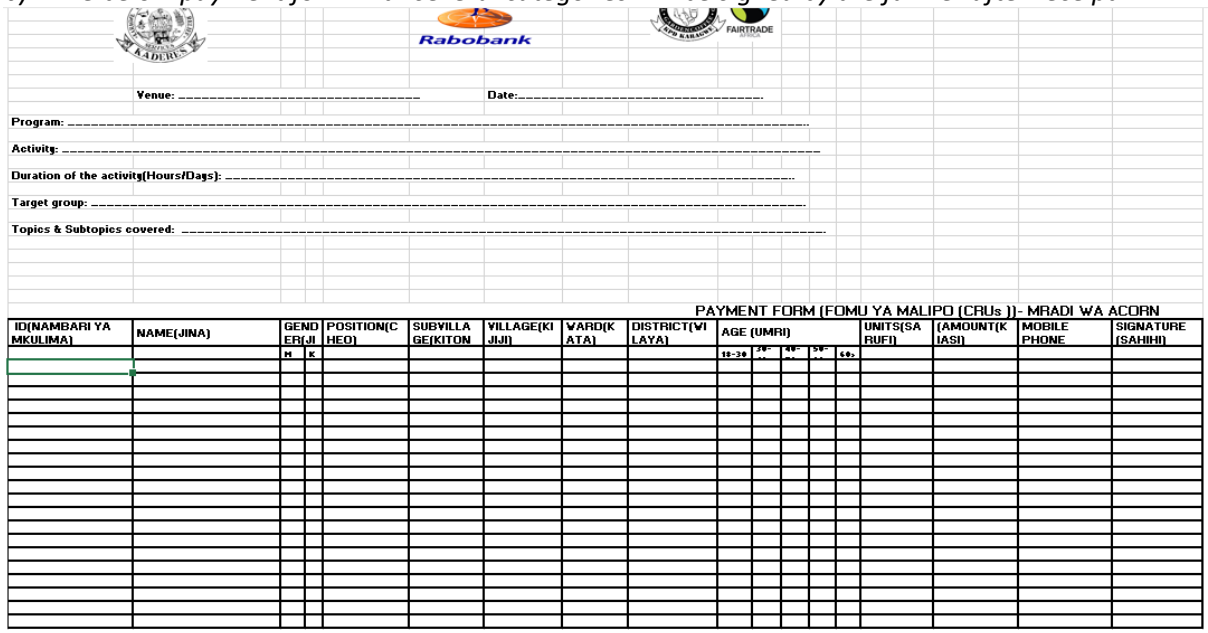
Kaderes use the Agroforestry concept in their business model to transform of smallholder farmers from peasantry production to agrobusinesses. The costs associated with the transition to agroforestry and the generation of CRUs ranges from 750$ to 1050$ per Ha depending on the area and the type of soil. Kaderes are apply the cost sharing system between the farmers and the organizations who are involved in the plan *(see Annex 5). The results of agroforestry practices within Kaderes have demonstrated yield increases from 0.3 ton to 0.9 ton per Ha for beans and 1 ton to 4.5 tons per Ha for maize. For cassava yields have improved from 4 to 10 tons per Ha. Productivity is expected to continue to increase, however, each year will vary depending on rainfall and the effects of climate change on crops.*

2. What measures are in place to ensure that you do not draw more than 10% of sales income for ongoing coordination, administration and monitoring costs? (e.g. earmarked funds or separate account for farmer payments).

    a) *For 10% for coordination, administration and monitoring costs, KPD PLC has in place financial policy procedures which guide in fund allocation. We have developed the contract between KPD PLC and each farmer which clarify all procedures to be undertaken when disbursing the fund, whereby the contract will include all % distribution in cash and in kind. Also the payment form for the farmer to acknowledge and sign are in place. Additionally, the project coordinators lead the field staff in preparing quarterly and annual plans and budgets including consolidation into Project plan and budget for the year. The Accountant will ensure proper use of the financial resources and Project equipment including keeping books of accounts and preparation of monthly, quarterly and annual reports. The project council (lead farmers, farmer representative, extension officer and AMCO leader farmer) will together decide and advise the Project District Coordinators on proper utilization of the project resources in order to support farmers with 10% maximum proceeds from the CRUs. Finance officer in terms of project accounting, budgetary controls and expenditure analysis also uses QuickBooks accounting software and has financial and administrative manuals that guide its accounting principles policies and procedures.*

Part J: Payments and Benefit Sharing

1. Provide evidence on how CRU payments will be disbursed to participants and equate to at least 80% of proceeds.
   a) *KPD PLc have developed farmer contract farming that states how much farmers will receive from CRU sales (80%)*
   b) *The below payment form with several categories will be signed by the farmer after receipt*



Venue: _____ Date: _____

Program: _____

Activity: _____

Duration of the activity(Hours/Days): _____

Target group: _____

Topics & Subtopics covered: _____

PAYMENT FORM (FOMU YA MALIPO (CRUs))- MRADI WA ACORN

ID(NAMBARI YA MKULIMA)	NAME(JINA)	GENDER(JI		POSITION(CHEO)	SUBVILLAGE(KITON	VILLAGE(KIJIJI)	WARD(KATA)	DISTRICT(WILAYA)	AGE (UMRI)					UNITS(SARUFI)	(AMOUNT(KIASI)	MOBILE PHONE	SIGNATURE (SAHIHI)
		M	K						18-30	31-...	46-...	58-...	60+				

2. Describe what proportion of cash payments have been disbursed to farmers.

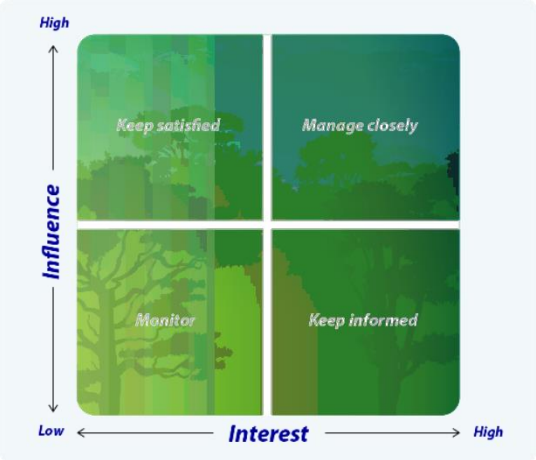
From the total amount received from the CRUs sales from Rabobank, 10% will be deducted for Kaderes and 90% will be given to farmers.Participants will receive 60% in cash as per agreement contact in place that farmers have signed and confirmed in the first two project council meetings of year 1. T

3. Describe what proportion and type of in-kind benefits have be provided to farmers.

Benefit	Description
Inputs	30% of CRU proceeds (94,725,000) will be directed to the following; • Purchase of tree fruits and agro forestry seedling costs • Purchase of manure costs • Transport of trees seedlings costs • Dinging holes for planting trees costs • Purchase of beehives costs
Education	10% of CRU proceeds (19,697,200) wil be directed to the following; • Training costs (Facilitate agronomic practices and agroforestry techniques of planting tree seedling to farmer (Farmers will be trained on agroforestry recommended technics nursery bed establishment, tree planting, climate change and mitigation)

	- Customization and production of training materials/Modules, handouts(brochure, flayers, printing and photocopying household questionnaires)
Total	40% of farmer CRU revenue

Part K: Stakeholder Analysis



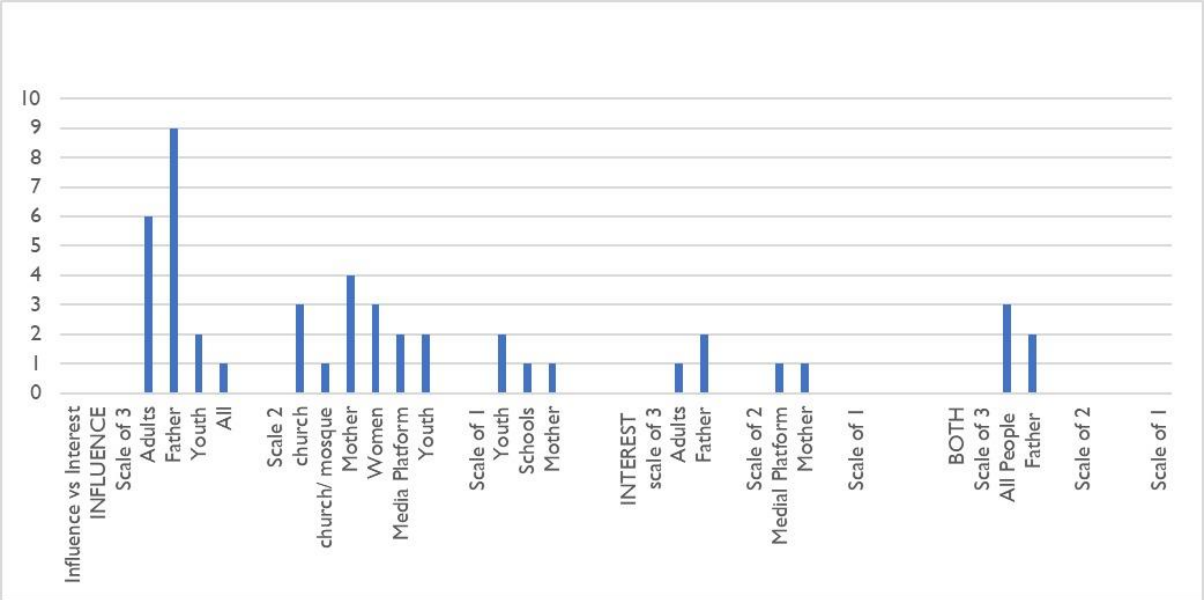
1. Referring to the stakeholder analysis figure above, describe the interest and influence each stakeholder has in the project and justify the reason for this in the table below. All stakeholders that receive outcomes other than "Monitoring" must be informed of the project (e.g. newsletters) and their views/approval sought where necessary. Please add rows for additional stakeholders as necessary.

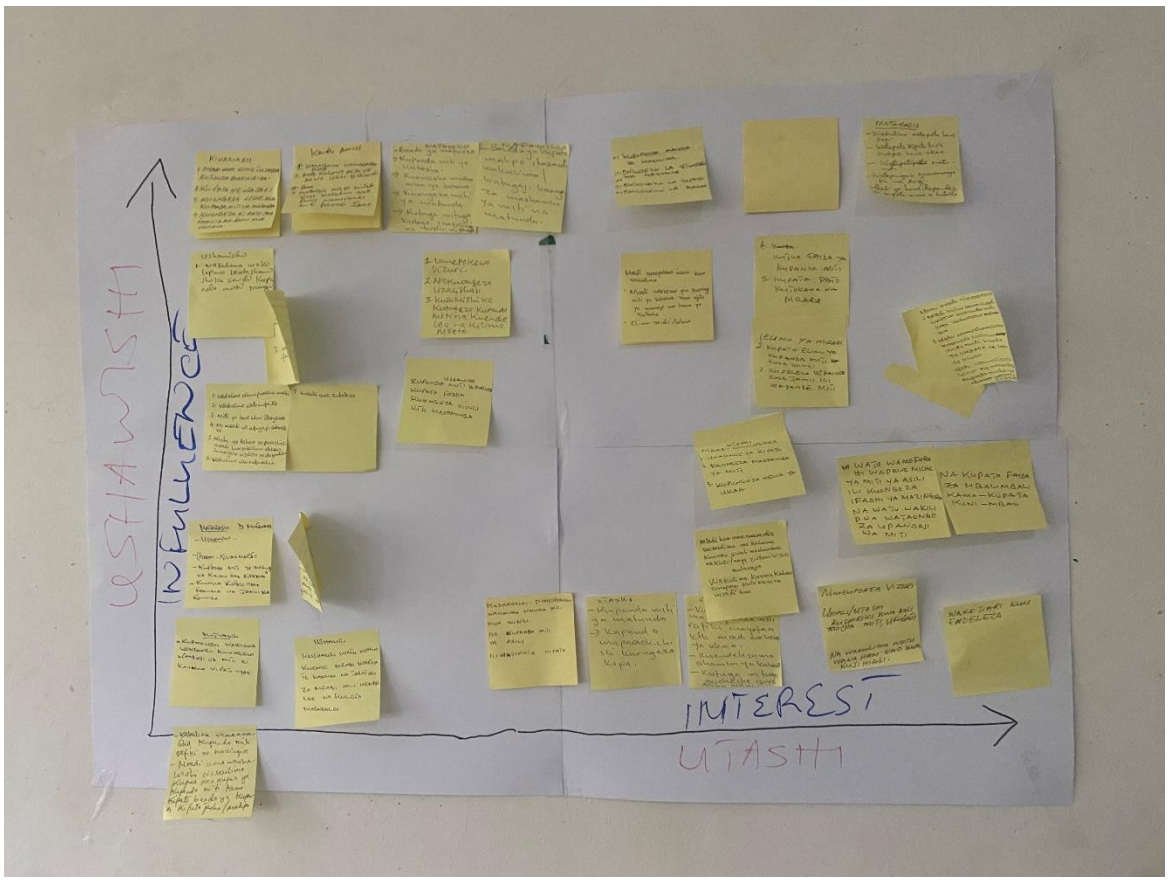
Stakeholder	Interest	Influence	Justification	Outcome	Informed
Participants/ Farmers	High	High	Project participants must be informed and engaged in a participatory manner	Manage closely	Y
Local communities	High	High	Local communities must be informed and engaged in a participatory manner. Interaction between communities builds connection between growers and consumers.	Manage closely	Y
National Government	Low	High	A letter must be sent to the national government to inform them of the project and its intention to generate and trade CRUs on the voluntary carbon market. See Annex 6 for a copy of the letter sent to the national government.	Keep satisfied	Y

			Ministry of agriculture monitors all agricultural projects		
Local government	Low	High	Agroforestry interventions are heavily regulated by local laws and regulations	Keep satisfied	Y
Local authority	High	High	To ensure land ownership conflicts are solved	Manage closely	Y
National authority	Low	High	It sets policies to regulate environmental conservation, production, transportation and marketing of agricultural products.	Keep satisfied	Y
NGOs	High	High	Close collaboration is needed to implement agroforestry projects	Manage closely	Y
Donors	High	High	Contract agreements	Manage closely	Y
Technical/agronomical partners	High	High	Model of delivering extension service in place	Manage closely	Y
Financial partners/institutions	High	Low	Financial policy	Keep informed	Y
Procurement services (nurseries)	High	High	Procurement policy in place	Manage closely	Y
Input providers	Low	Low	Availability of list of providers	Monitor	Y
Corporate buyers	High	High	Sales contracts	Manage closely	Y

2. Please under the same exercise as above with influential community member/farmer(s) to this time identify <u>different types of farmers and community members</u> in the project area that may be impacted by the project (either participants or non-participants) and their determine their interest and influence below:

Description of table below: scales are from the priority of responses. Scale of 3 is the first indicated first, scale of 2 as second and scale of 1 as last indication.





Part L: Reversal Risk Assessment

Project phase	Drivers behind reversal risk	Risk level	Justification
Project adoption/ start	Limited education or inadequate understanding of agroforestry	Low	Kaderes provides education and advisory services including demo farms, basic training, and manuals to grow farmers skills and knowledge. Farmers will also be supplied with posters, manuals, farmer calendars and leaflets to facilitate this education. An agronomist is involved in this project to create the educational material and facilitate training of the local lead farmers, who will then train new farmers in their area. Farmers are trained each year from February onwards before the planting season begins later in the year (October).
	Marginal community support or low community involvement	Low	The needs of farmers and the potential impacts they may face from this project are determined by examining their family business plans and crop calendars and consulting with the local community groups have joined AMCOs. Kaderes organises stakeholder meetings to initiate, implement and monitor projects together with the farmers and communities involved. Kaderes also holds focus groups to listen to the concerns of participants and stakeholders. These groups involve lead farmers and influential and culturally accepted community members.
	Inadequate operational capacity (limited experience, no local presence)	Low	Kaderes has extensive experience (over 20 years) with setting up projects for the benefit of their farmer and a strong local presence. They have a clear and strong organizational structure and capacity (For the Acorn project 17 staff members will be involved of which 14 Field assistant, 1 Monitoring and Evaluation Officer, 1 Head of extension (Agronomist) and 1 Documentation Officer). The Project will be implemented by the project coordinator who will be the overall incharge, District coordinators, field extension officers and lead farmers .Kaderes works with research institutes, local agricultural departments, government structures including the Tanzania Forest Services Agency and the Natural Resource Management department from Karagwe and Kyerwa district council. Kaderes has also developed a well-structured and clear theory of change for the project. Kaderes do work with TARI (Tanzania Reseach Insitute), CIAT, LGA and Other local and International Organisation like CIAT.

	Insufficient (local) nurseries	Medium	The local nurseries are either owned by local government, organization or research institute. Kaderes has annual arrangements with each of these stakeholders to supply seedlings/saplings. Kaderes works closely with Cafe Africa and TaCRI which supply coffee seedlings from their nurseries to farmers who want to plant coffee. Our capacity to deliver results on the establishment of tree nurseries among schools and farmer groups has been directly affected by climate change (inadequate rainfall reduces water availability for watering tree seeds in the nurseries). This agroforestry project is a mitigation measure as planting trees positively impacts the water cycle, though transpiration (evaporation of water vapour from trees), regulating rainfall.
	Animal or human interference	Medium	The risk of animal interference such as crop destruction by monkey or other animals can sometimes create issues for small holder farmers. To combat animal interference, farmers or their workers undertake regular monitoring throughout the day and night. Traditional methods of control birds on farm use of Statue/mask of man, etc. Many farmers also build fences or use live fences to protect their farms from attacks by animals or humans. Land boundary disagreements rarely happen and are not common in our area as most farmers inherit their land with clear and defined land boundaries from their parents. Regardless of inheritance, Kaderes advises all farmers who transition to agroforestry to create clear and defined land or farm boundaries to avoid conflict.
Project progress	Negative project cash flow	Medium	Kaderes have set aside 25% of the grant funding they receive from (rabo foundation, AGRA & CIAD) to act as a buffer to support the long-term sustainability of the project in the case of unforeseen circumstances. There is Acorn project committee team which holds a meeting every month to monitor the progress of the project and make some key decisions in the event of priorities leading to re-allocation of funds from the approved budget.
	Poor agroforestry schemes	Low	An agronomist has been allocated a permanent position as head of extension within Kaderes and offers secure assistance to support agroforestry implementation. The agronomist develops the training for lead farmers and the educational documentation. During the agroforestry training farmers are encouraged to grow a variety of different trees on their farm to increase genetic diversity. The species of tree are selected for each farmers based on the natural environment of each farm (water availability, weather, current species present, and possible competing or

			complementary species). This project involves planting native and/or naturalized species and trees. To acquire the species knowledge the project calls upon local and expert knowledge for their agroforestry designs.
	Change of land ownership and coverage	Low	Kaderes developed a system for capturing and tracking farmer information to determine the origins of agricultural produce in the project area and the owner of the land in which it is grown. Kaderes has appointed extension officers and monitoring officers to conduct follow up and monitoring of land ownership annually.
	Political instability (e.g. war, economic crisis)	Low	Kaderes regularly engages with the local government concerning forestry regulations. This communication with local government and their access to the internet and media will keep them informed on political stability.
	Natural risks: - Fires - Pests & disease - Extreme weathers - Other events	Low	Kaderes have an Internal Control System manual in place that addresses natural risks (such as fires and heatwaves) and mitigation measures (such as farmer and staff safety and first aid training, Fire Extinguishers and Sand Bucket provisions, Fire safety training)
Project maturity	Logging risk	Low	The project intervention involves the planting of trees that bear fruit and have medicinal purposes. Farmers are aware of how important these resources are in comparison with timber. Farmers are also eager to build resilience to climate change and understand that keeping trees on their land for shade is crucial. Farmers have been educated thoroughly on the benefits of the trees they are planting. Since the beginning of the project in 2014, logging has not been an issue due to the favourable attitudes of farmers towards keeping trees on their land. The only reason farmers would undertake logging in the project area is if they were facing enhanced financial difficulties and unable to receive carbon finance as a result of their practises.
	Waning or short-lived local partner commitment	Low	Agreements are signed as part of this project with Acorn, the local partner and the farmer, demonstrating their commitment to the longevity of this project. The ACORN supply team will keep communication open with the local partner and evaluate their commitment to the project. In the case that grant funding for the project runs out, Kaderes is committed to continue

			creating a distribution channel for local farmers selling to markets and facilitate the processing and selling of their crops at fair market value.

1. List any reversal risks in Part M that are high-risk, provide appropriate mitigation actions, and describe how often these risks will be monitored.

Risk	Mitigation action
None	Not applicable

Part M: Technical Specifications

1. Applicability Conditions

In the table below, explain how this project meets the applicability conditions of the Acorn Methodology:

	Applicability Condition	Met	Reasoning
A	The Project Interventions meet the Agroforestry definition (see Section 3 of Acorn methodology v1.0) and any trees planted are Native or Naturalized species.	Yes	As elaborate in part F project activities
B	The Project Area must not have been cleared of native vegetation within 5 years of the start of the Project Intervention.	Yes	Initially, a verbal check was performed with the local partner who confirmed this and t-5 checks from remote sensing measurements confirmed it as well
C	Individual plots within the Project Area are between 0.1 and 10 ha and are not on wetlands.	Yes	Confirmed through polygon checks
D	All land within the Project Area is either cropland or degraded land under the Baseline Scenario	Yes	Initial verbal explanation in carbon baseline by local partner and land cover check performed confirmed
E	The project interventions must not include activities that increase the total number, weight or number of grazing days for any livestock type, relative to the baseline scenario.	Yes	Explained to participants and to be confirmed by sample-based agricultural biodiversity check over the coming years
F	The project intervention must not include the planned harvesting of planted trees during or after the crediting period.	Yes	Covered in local partner contract
G	Heavy machinery must not be used for site preparation or management.	Yes	Not applicable for these smallholder farmers and covered in the local partner contract
H	The project intervention must not increase the use of synthetic (nitrogen-containing) fertilizers relative to the baseline scenario.	Yes	Covered in local partner contract
I	Soil disturbance attributable to the project intervention must not occur on more than10% of a plot that is under any of the following types of land: - Land containing organic soils; - Land which, in the baseline, is subjected to land-use and management practices and	Yes	The SoilGrid confirmed that project is not on high organic soils, with the following results thickness detail >200cm, SOC content less than 20%, but 2,70% and limited clay 37%

	receives inputs listed in Annex 4 of Acorn Methodology		

2. Adjustment Factors

This table below gives an overview of the adjustment factors applied for this specific project.

AdjF	Factor (%)	Reasoning
Leakage	0%	See question 3.1 below
Uncertainty	0%	Aggregated uncertainty is calculated to be 16%, which is below 50% and therefore no adjustment factor needs to be taken.
Pre-project	10% (2021) 25% (2022)	<u>Original approach (2021)</u> Source: *20210903_13_12_T_Merged_TreeList_20210903_output* Total trees measured: 12505 Assumed new trees: 7.490 trees (214 farms * 35 trees) Trees planted up to 5 years before the start of project intervention: 4.587 (37% GT / 99+% incl new) Trees planted after the start of project intervention: 7.918 (63% GT / 99+% incl new) <u>Approach going forward</u> This year, we started building a more data-driven approach for determining this adjustment factor. For this analysis, the project lifespan is estimated to be 30 years (this time span is used for all projects within Acorn unless deemed otherwise) and the latest agroforestry design of up to 225 trees is applied. Our initial 10% adjustment is considered to be insufficient by the data-driven approach from 52Impact. Going forward new calculations with be done with an adjustment factor of 25%. For a detailed analysis, we refer to the instruction slide deck and the source below. Source: *Tanzania_51plots_biomass_split_2014-2044_design-225trees*

Leakage Assessment

Estimated reduction in project productivity (%)	Cash crop(s) contributing most to project productivity	Proportion of project land used to grow cash crop (%)	Type of land production will be shifted to
0	Coffee	N/A	Categorized as '0'

I.) Describe the potential leakage situation of the project over its lifetime.

Much of the land in the region, outside of the project area, has a high occurrence of logging. The land outside of the project area is yet to convert to agroforestry. Therefore, logging does take place outside of the project area and may possibly increase due to the large amount of area in the region (project area) that is now dedicated to agroforestry. There will be less reliance on the cash crop as farmers are wanting to increase reliance on the additional fruit trees planting due to the incentive of carbon finance. They see tree planting and growing crops as equal profitable due to the fruit that is derived from the tree, possible medicinal purposes of the tree and the carbon credits paid for the tree. They also see that they rely more on trees than crops in the future with the effects of climate change. As productivity levels and farmer income is extremely low in the project area, Kaderes

expects an increase in farmer productivity, based on income generated per hectare due to crop diversification. Kaderes also expects an increase in productivity from the project cash crop, coffee, due to the benefits of shade in such a harsh climate. There will be a reduction in fertiliser use as this agroforestry project has standards in line with organics certification. This requires them to use less fertiliser than BAU and only organic fertilisers (manure). This is a strict requirement of farmers under this certification. There is an insignificant level of gasoline usage in the project area and this is expected to remain the same.

II.) Describe the land between farms and a maximum of 5km outside of the project area (i.e. crop land, degraded land, forest).

The land cover assessment showed that the large majority of the surrounding land consists of shurbland, grassland and tree cover below 60% threshold and shrubland (see table below).

Shrub land	Grass land	Crop land	Built-up	Bare/Sparse vegetation	Herbaceous wetland	Tree cover <60%	Tree cover >60%
15.73	15.97	37.69	0.24	0.01	0.46	29.72	0.16

III.) List farmer activities (performed before project implementation) that will be displaced from project interventions and lead to an increase in emissions outside of the project area, if any.

Displaced farmer activity	Area activity displaced to
Considered unlikely to take place	Therefore, it is not applicable

3. Root-Shoot

Ratio	Reasoning
0.32	Applied the default value for the calculations as alternative literature is very limited to no existing and IPCC values could not yet be sufficiently matched

Annex 1: Maps of project location

Provided. Concealed for data protection purposes

Annex 2: Land tenure documentation

Provided. Concealed for data protection purposes

Annex 3: Organisational hierarchy

Provided. Concealed for data protection purposes

Annex 4: Project council reports and evidence of participation

Both the report from the project council in November 2022 and March 2023 have been provided but are concealed for data purposes. These are also included in the year 1 annual report.

Annex 5: Financial Analysis and business case

Provided. Concealed for data protection purposes

Annex 6: Letter to national government

Provided. Concealed for data protection purposes

Annex 7: Participant consent form and contract

Provided. Concealed for data protection purposes

Annex 8: Local partner contract

Provided. Concealed for data protection purposes

Annex 9: Kaderes Theory of Change

Provided. Concealed for data protection purposes