



NORDIC
CLIMATE FACILITY



Nordic Development Fund • Nordic Environment Finance Corporation

Nordic Climate Facility (NCF) Annual Review 2015



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Cover photo: Heli Sinkko: Nursery in Kisumu: Vi-Skogen's Climate Smart Agriculture for Improved Rural Livelihoods project in Kenya

1. INTRODUCTION

The Nordic Climate Facility (NCF) provides grants with co-financing requirements to encourage and promote technological innovations in areas susceptible to climate change in low-income countries. NCF is financed by the Nordic Development Fund (NDF) and jointly administered by NDF and the Nordic Environment Finance Corporation (NEFCO). This report ('Grant Report') has been prepared by NEFCO. It summarises and analyses the progress of NCF projects¹ administered by NEFCO during 2015.

The report is divided into six main sections. After the Introduction and Executive Summary, Section Three discusses – on the basis of NCF projects completed during 2015 – the progress towards the achievement of NCF's objectives. Section Four summarises the implementation status of NCF1-4 calls at the end of 2015. The fifth section focuses on the institutional aspects of NCF administration as well as co-operation and division of responsibilities between NEFCO and NDF during 2015, and the last section presents some conclusions. The results of projects completed in 2015 are presented in Annex 1.

¹ All references to 'NCF projects' in this report refer only to NCF1-4 projects.

2. EXECUTIVE SUMMARY

The year 2015 was the fifth full operational year of NCF since the facility was launched in late 2009. NEFCO's activities during the year focused on the day-to-day management of NCF projects, the completion of NCF5 evaluation and providing support to NDF in contract negotiations with successful NCF5 applicants. NDF decided to take over NCF management from the Fifth Call onwards. At the end of 2015, out of 51 NCF projects, 60% were completed in substance with a total value of approximately EUR 33.9 million (including the co-financing share for the projects) of which grant funding from NCF amounted to EUR 20.0 million.

During 2015, the implementation of a total of 11 projects under NCF1, NCF2 and NCF3 was completed, though final grant disbursements to some projects were pending at year end. Seven of these projects are presented in detail in Annex 1. Overall, 23 NCF projects have been fully completed and 32 projects completed in substance.²

All 11 NCF4 projects were under implementation. Negotiations with shortlisted NCF5 projects started in autumn 2015 under NDF management, and NEFCO provided support for the process.

During 2015, the results and progress of both the completed and ongoing NCF projects have contributed to the achievement of the key NCF objectives of: (i) facilitating the exchange of technology, knowledge, expertise and innovative ideas between the Nordic and low-income countries in the field of climate change; (ii) increasing the low-income countries' capacity to mitigate and adapt to climate change; and (iii) contributing to sustainable development and reduction of poverty.

The annual direct CO_{2e} reductions in mitigation projects are characteristically quite modest, given the small scale of the projects, with some exceptions. Projects completed in 2015 reduced emissions via sustainable charcoal production and sales of energy-efficient appliances. A completed reforestation project is expected to sequester over 100,000 tonnes of CO₂ over its lifetime.

Completed adaptation projects have tackled a variety of issues linked to climate change. Technology has been delivered that facilitates better planning for infrastructure development and preparedness for flood disaster prevention. Sustainable agricultural land management practices have been supported to help farmers adjust to changing weather patterns and secure their livelihoods despite them. Installed rainwater harvesting systems improve water security.

Naturally, the previously completed and ongoing NCF projects contribute to mitigation and adaptation.

The development impacts of NCF projects completed during 2015 were increasingly linked to investment projects, which encourage private sector involvement in development efforts. These include measures to ensure sustainable farming and food security while at the same time increasing yields and farmers' income. Activities also supported farmers' graduation from subsistence farming towards commercial farmer enterprises supporting private sector development. Rainwater harvesting systems to supply water to households and a school were also financed, and beneficiaries enjoy better hygiene and improved access to water. Women and children also save time. An urban flood and inundation forecasting project was also supported. This allows future city infrastructure planning to adapt to climate change and abate urban flooding and inundation effects.

² NEFCO considers projects fully completed once the final grant disbursement has been made. In projects completed in substance, the implementation of project activities has been completed.

The business development aspects of NCF projects have increased, as projects selected under NCF3 and NCF4 support involvement of the private sector in climate change mitigation and adaptation actions. Concrete business development projects have the potential to leverage more private funds for climate actions after the completion of NCF-financed projects.

3. PROGRESS ASSESSMENT

3.1. Progress towards achieving the overall NCF objectives

The main objectives of NCF are to: (i) facilitate the exchange of technology, knowledge, expertise and innovative ideas between the Nordic countries and low-income countries in the field of climate change; (ii) increase the low-income countries' capacity to mitigate and adapt to climate change; and (iii) contribute to sustainable development and reduction of poverty. NCF's purpose and objective is also to encourage testing of concrete concepts relating to climate change and, especially, to facilitate partnerships.

For NCF1 and NCF2, the expected results included financing for feasibility studies, demonstration and pilot projects as well as development of strategies for showcasing and adopting suitable technologies as viable alternatives to develop business-oriented initiatives related to climate change mitigation and adaptation. For NCF3, the expected results are similar, with the exception of pre-feasibility and feasibility studies. It was decided to give priority prevalence to concrete investment projects based on the lessons learned from NCF1 and NCF2.

NCF4 continued along the lines of NCF3 but the focus was shifted towards various direct and indirect ways of supporting private sector development, promoting economic activity and facilitating private sector participation in climate-related development efforts. NCF4 projects are expected to promote green growth that stimulates low carbon development, alleviates poverty and/or reduces vulnerability and increases resilience to climate change.

NCF5 had the theme *Climate Resilience in Urban and Private Sector Contexts*. Proposals under the theme shall address adaptation or a combination of adaptation and mitigation linked to climate resilience in urban and private sector contexts. The projects are also required to have strong development impacts and to be sustainable as well as innovative and to support private sector development.



Figure 1. NCF1-4 projects³

3.2. Mitigation and adaptation impacts

All NCF projects increase the host countries' capacity to mitigate and adapt to climate change⁴ and facilitate the exchange of technology, knowledge, expertise and innovative ideas between the Nordic countries and the host countries related to climate change. NCF projects are almost equally divided between mitigation and adaptation.

Of the projects, 40% are ongoing and the expected emission reductions are sometimes optimistically calculated. While mitigation impacts are of key consideration for NCF, it has never been the only selection criterion, as adaptation, innovativeness and development impacts are similarly crucial. The multifactor criteria used in project evaluation and selection lead to NCF projects not being comparable as far as their impacts are concerned. Most projects combine mitigation and adaptation and are classified as combination projects. Some projects are classified as mitigation only, even though there are typically also some adaptation impacts.

The annual direct CO_{2e} reductions in mitigation projects are characteristically quite modest, given the small scale of the projects, with some exceptions. The three mitigation projects completed during 2015, namely the Green Resources' charcoal project in Uganda, Gaia Consulting Oy's energy-efficiency project in Bolivia and NORDECO's reforestation project in Cambodia, continue along the lines of previously completed NCF projects in respect of mitigation impacts. In the Green Resources project, charcoal production at the kilns has achieved annual reductions of 780 tCO_{2e}. According to Gaia, the emission reductions of the project, through sales and the installation of 150 solar water heater

³ Some projects are regional. The total number of NCF projects completed or under implementation is 51 (with one terminated project).

⁴ All NCF2-NCF4 projects have passed the NCF's climate-screening criteria for mitigation and/or adaptation. NCF1 projects were also assessed later, after the introduction of the NDF Climate Screening tool to meet the criteria.

systems (SWH), amounted to approximately 540 tCO_{2e}/a. The replicability potential of the project may result in more considerable reductions.

In NORDECO's reforestation project, over 310,000 trees were planted and tended, providing a long-term carbon sink. The tree planting sequestered an estimated 200 tonnes of CO₂ for the first year, 2,900 tonnes for the second year and an additional 5,500 tonnes for the third year. Over the expected 20+-year lifetime of the trees they are expected to sequester more than 100,000 tonnes of CO₂. NORDECO's project is a good example of how mitigation and adaptation impacts often go hand in hand. The tree planting has also contributed to a local reduction of erosion from the increased number of extreme weather events since the project planted trees along 70 km of roads and 36 km of irrigation canals and borders of artificial ponds that previously had no protection against weather-induced erosion.

While in mitigation projects, the CO₂ reductions are rather easy to calculate, in adaptation projects, the assessment of concrete yet often qualitative results and/or adaptation indicators poses a challenge.

The NCF adaptation projects completed in 2015 have tackled a wide variety of issues linked to climate change, most importantly the impacts that extreme weather events may have on safety, and food and water security. DHI's project in Vietnam, for example, delivered a technology that facilitates better planning for infrastructure development and preparedness for flood disaster prevention in coming years. In Sub-Saharan Africa, DanChurchAid and Vi-Skogen introduced sustainable agricultural land management practices that help farmers adjust to changing weather patterns and secure their livelihoods despite them. In Accra, the capital of Ghana, SINTEF introduced rainwater harvesting systems to households and to one school, improving their water security despite blackouts in the public water service.

Please see Annex 1 for a detailed description of the climate change impacts of NCF projects completed during 2015.

3.3. Development impacts

In addition to climate change challenges, NCF projects aim to tackle development issues through a diversity of actions. The development impacts in NCF projects are typically closely linked to climate change impacts. Again, the magnitude of these impacts varies due to the multifactor criteria used for project selection. Some typical development impacts are income creation and employment, improvements in nutrition and health, and access to safe water. In the Green Resources project, for example, a number of households buy sustainably produced charcoal from a known source at predictable prices, reducing the time they use to fetch fuelwood. The time saved allows the families, both women and men, to spend time on education and employment. In another mitigation project, the NORDECO project, which ended in 2015, the development impacts include improved income for the participating farming families provided through income from tree tending, which works as a carbon sink. While sequestering carbon, the planted trees also provide fruits to sell to the market, fuelwood, and raw material for traditional medicine. The additional income in coming years can be notable.

Development measures financed by NCF have been increasingly geared towards investment projects that encourage private sector involvement in development efforts. Gaia Consulting took an innovative

approach to the private sector's role already in NCF2 and attempted to gear remittance funds combined with credits flowing from Spain to Bolivia into investments in renewable energy appliances. As a result of the project, several project beneficiaries have been able to showcase cost savings from the installation of solar water heaters while reducing CO₂ emissions.

In many adaptation projects, climate change and development impacts are inherently interlinked. In two NCF3 projects, DanChurchAid's and Vi-Skogen's agricultural adaptation projects, measures taken have ensured sustainable farming and food security while at the same time increasing yields and farmers' income. Both projects have therefore contributed towards poverty reduction through higher household income from increased crop productivity reached through the implementation of sustainable agricultural land management practices. Both projects also supported the farmers' graduation from subsistence farming towards commercial farmer enterprises, thus supporting private sector development.

In both climate change adaptation and development, access to safe water is one of the key issues. SINTEF implemented rainwater harvesting systems in Accra, Ghana, that supply water to households and a school. Households now enjoy better hygiene and improved access to water, time savings, especially for women and children, and, in some cases, better quality of life, as they used some of the water to grow fruit and vegetables. SINTEF's project also supported formal qualification of artisans in RWH system construction, as well as new skills and added income from installing further RWH systems.

Water is a key element as far as climate change is concerned. Impacts of floods, for example, can hamper development steps already achieved. In Vietnam, DHI supported the incorporation of urban flood and inundation forecasting into the flood forecasting sector. The new early warning technology allows future city infrastructure planning to adapt to climate change and abate urban flood and inundation effects, which will contribute to urban environmental sustainable development. An appropriate early warning system will increase the resilience of poor people in particular, as material losses have a major negative impact on a poor person's capability to recover after a flood.

In addition to tangible development impacts, NCF projects are required to pay attention to cross-cutting issues, most importantly gender aspects. Despite challenging cultural contexts, the projects have succeeded in engaging women in projects, especially in business and income-generating activities. Women have been active in, for example, NORDECO's project in Cambodia, which promoted women's participation in the activities of farmer associations. As a result of project activities, 50% of the income obtained from tree tending and carbon trading was controlled by women. Yet, NCF project activities most often benefit women indirectly. Promoting new sources of cooking fuels, such as sustainable charcoal in the Green Resources' project, or improving water security through rainwater harvesting, as in SINTEF's project, saves women time and allows them to engage in income-generating activities. Many NCF3 and NCF4 projects show good business potential, but challenges are also evident. This has yet to be analysed in more detail.

Please see Annex 1 for a detailed description of the development impacts of seven NCF projects completed during 2015.

3.4. Innovativeness, partnerships and Nordic interest

As discussed in previous NCF Annual Reports, innovativeness and partnerships between Nordic and local partners are key NCF objectives and these, together with Nordic interest (e.g. technology, expertise, management), are present to varying degrees in all NCF projects. In terms of innovativeness, the projects completed during 2015 have, among other things, promoted the transfer of innovative technologies into a new environment, introduced new business models or combined existing methods and technologies in a way that is new to the local context.

For example, the Green Development's charcoal project acted as a demonstration ground and was the first plant in East Africa where methane emissions from charcoal production were recycled. It is hoped that the project's innovative gas capture technology will set a precedent for future charcoal production and increase the innovation amongst traditional charcoal producers to raise their efficiency. Gaia's remittances project contained several innovative components: it developed a competitive credit mechanism focused on sustainable energy by engaging renowned financial institutions and it is available for low-income households. The core innovation of the project was the business model created and piloted that allows the use of remittance flows in financing sustainable energy solutions in addition to credits.

Co-operation between Nordic and local partners appears to have functioned well in most projects. Some signs of challenges may be apparent in setting up actual business in some NCF projects, but as of today, there are no reported issues between the Nordic and local partners. Local ownership of projects has been partly secured through the co-financing requirement, which has been gradually tightened since NCF1, which did not apply any co-finance criteria directly, but higher co-financing gained more scoring points. Please see Annex 1 for a summary of innovativeness, learning and partnership aspects for all completed projects.

3.5. Continuation and scaling up

Continuation, replication and scaling-up activities are of key importance to NCF. As no official system has been built into NCF in order to follow up projects once NCF financing is over, information on these aspects is still somewhat scattered and not fully studied. It can be noted, however, that NCF's support for Solvatten in the early phase of the deployment of the novel water purification technology is likely to have supported the company's continuing activities. Likewise, the project centred in Kenya around Grundfos' LIFELINK leapfrogging water supply technology with the Danish Red Cross is being replicated elsewhere in East Africa. Another IFI is following up Pöyry Management Consulting's charcoal project in Ghana with possible replication considerations.

The Finnish Red Cross project concept that introduced early warning systems in Malawi has been scaled up into a USD 12.3 million 'Saving Lives and Protecting Agriculture Based Livelihoods in Malawi: Scaling Up the Use of Modernized Climate Information and Early Warning Systems' project that was among the first to be selected for financing by the Green Climate Fund (GCF).

4. IMPLEMENTATION OF NCF PROJECTS

4.1. NCF1

While the progress of NCF1 projects has generally been good, two projects, the Green Resources' project and the Uganda Carbon Bureau's project in Uganda, continued to face delays and challenges also during 2015. In November 2015, it was decided to close the Green Resources' project (with a reduced grant amount) due to the company wanting to discontinue the project, as the sustainably produced charcoal cannot compete well in the market with typically unsustainably produced cheaper charcoal. Four out of twelve targeted charcoal kilns had been commissioned during the implementation, and they continue to produce charcoal from sustainable forest sources. One of the kilns was subsequently lost. The results of the project are presented in Annex 1.

In the Uganda Carbon Bureau (originally also with CARE Denmark) cook-stove project, four additional cook-stove component project activities (CPAs) are still in the process of being added to the Programme of Activities before all the NCF components are completed.

At the end of 2015, the NCF1 disbursement rate was 99% of the amended contracted amount of EUR 4,917,414. The original NCF1 contracted amount was EUR 5,450,842. The reductions in the total grant amount have been due to lower final costs and co-financing in some projects, due to early completion/discontinuation or changes in project scope. One final disbursement to the CARE/Uganda Carbon Bureau project in Uganda is pending, after which all funds allocated to NCF1 projects have been disbursed.

Table 1. Cumulative NCF1 disbursements by project by the end of 2015 (EUR)

Grantee	NDF code	Project	Disbursed amount	Value of agreement	Original grant amount	Basis
Naps Systems Oy (Finland)	NDF C3 b11	Scaling the Solar Market Garden, Benin	415,000	415,000	415,000	Progress and final reports
Diakonia (Sweden)	NDF C3 b12	Adapting to Climate Change in Bolivian Andean Community Depending on Tropical Glaciers	496,951	496,951	496,951	Progress and final reports
Uganda Carbon Bureau (CARE Denmark)	NDF C3 b13	Fuel Efficient Stoves in East Africa: Reducing Emissions and Improving Livelihoods	309,458	343,842	353,841 ⁵	Progress reports
Gaia Consulting Oy (Finland)	NDF C3 b14	GHG Mitigation and Sustainable Development through the Promotion of Energy Efficient Cooking in Social Institutions in Ethiopia	212,000	212,000	212,000	Progress and final reports
Hifab Oy (Finland)	NDF C3 b15	Demand Side Management for Climate Change Adaption for the Ethiopian Power Sector, Ethiopia	407,300	407,300	407,300	Progress and final reports
DHI Water Policy (Denmark)	NDF C3 b16	Climate-Proofed Water Conservation Strategies in Northern Ghana	44,005	44,005	365,625	Lessons learned report ⁶
Raw Materials Group AB (Sweden)	NDF C3 b17	Energy Efficient Recycling of Electric and Electronic scrap, E-scrap, Ghana	480,033	480,033	480,033	Progress and final reports
Danish Red Cross (Denmark)	NDF C3 b18	Community-Based Adaptation to Climate Change through Environmentally Sustainable Water Resource Management in Isiolo District in Kenya	391,446	391,446	395,372	Progress and final reports
ORGUT Consulting AB (Sweden)	NDF C3 b19	Building Adaptive Capacity to Climate Change in Kenya	496,750	496,750	496,750	Progress and final reports
Niras (Ramboll) Natura AB (Sweden)	NDF C3 b110	Providing Assistance for Design and Management of Appropriate Water Harvesting Technologies in Arid Lands of Kenya	500,000	500,000	500,000	Progress and final reports
Solvatten AB (Sweden)	NDF C3 b111	Enhancing Capacity for Adaptation to, and Mitigation of, Climate Change in Kibera, Nairobi	301,290	301,290	301,290	Progress and final reports
Vi-Skogen (Sweden)	NDF C3 b112	Mount Elgon Integrated Watershed Management Project, Kenya	227,751	227,751	290,000	Progress and final reports
Motiva Services Oy (Finland)	NDF C3 b113	Strengthening National Capacities on Energy Efficiency, Nicaragua	381,046	381,046	386,680	Progress and final reports
Green Resources AS (Norway)	NDF C3 b114	The Bukaleba Charcoal Project, Uganda	220,000	220,000	350,000	Progress and final reports
Total			4,883,030	4,917,414	5,450,842	

⁵ The grant amount was amended when UCB took over the project from CARE Denmark in 2013.

⁶ Project terminated

4.2. NCF2

At the end of 2015, eleven out of twelve NCF2 projects were completed in substance. In two projects, however, some final reporting was still pending at year end.

At the end of 2015, one NCF project, the Stockholm Environment Institute's (SEI) project in Ethiopia, was still under finalisation. Two projects, Gaia Consulting's project in Bolivia and DHI's project in Vietnam, were completed during 2015. Final disbursements to both projects, however, were still pending at year end due to clarifications being sought on final reports.

Nine out of twelve NCF2 projects have been extended during their implementation in order to obtain the planned climate and development benefits. As only one NCF2 project is under implementation, it seems likely that most NCF2 projects can be completed in substance as planned despite the delays. The results of Gaia Consulting's and DHI's projects are presented in Annex 1.

The total cumulative grant disbursements to NCF2 projects amounted to EUR 4,636,959, which is 91% of the amended contracted amount of EUR 5,094,143. The original NCF2 contracted amount was EUR 5,254,592. As in NCF1, the reductions in the total grant amount have been due to lower final costs and co-financing in some projects or due to early completion or changes in project scope.

Table 2. Cumulative NCF2 disbursements by project by the end of 2015 (EUR)

Grantee	NDF code	Project	Disbursed amount	Value of agreement	Original grant amount	Basis
Gaia Consulting Oy (Finland)	NDF C3 c12	Financing Sustainable Energy through Remittances Flows, Bolivia	356,513	489,550	489,550	Bank guarantee and progress reports*
KTH Royal Institute of Technology (Sweden)	NDF C3 c11	Urban and Industrial Waste to Energy – Promoting Sustainable Development in Bolivia	440,627	440,627	499,349	Progress and final reports
Stockholm Environment Institute (Sweden)	NDF C3 c13	Demonstrating the Feasibility of Locally Produced Ethanol for Household Cooking, Ethiopia	279,783	346,059	346,059	Progress reports
Finnish Red Cross	NDF C3 c14	Strengthening the Resilience of People Living in High Risk Urban and Semi Urban Areas to Weather-Related Disasters, Malawi	499,500	499,500	499,500	Progress and final reports
COWI A/S (Denmark)	NDF C3 c15	GIS Tool for Urban Adaptation to Climate Change and Flood Risk, Mozambique	499,236	499,236	499,236	Progress and final reports
Finnish Consulting Group	NDF C3 c16	Promoting Renewable Energy Technologies for Enhanced Rural Livelihoods, Nepal	341,505	341,505	366,410	Progress and final reports
Pöyry Management Consulting Oy (Finland)	NDF C3 c17	Enhancing Sustainable Energy Supply for Tea Factories in Rwanda and Uganda	280,000	280,000	280,000	Progress and final reports
Reykjavik Geothermal EHF (Iceland)	NDF C3 c18	Karisimbi Geothermal Prospect, Rwanda	449,584	449,584	499,538	Progress and final reports
Norwegian Institute for Water Research	NDF C3 c19	Climate Resilient Action Plans for Coastal Urban Areas, Sri Lanka	378,308	455,000**	455,000	Progress and final reports
The Royal Norwegian Society for Development	NDF C3 c20	Sustainable Renewable Energy Businesses in Uganda	500,000	500,000	500,000	Bank guarantee, progress and final reports
DCEA, Aalborg University (Denmark)	NDF C3 c22	Adapting Urban Construction Plans to Climate Change in Vietnam by the Use of Strategic Environmental Assessment, Vietnam	468,131	468,130	495,000	Progress and final reports
DHI Water and Environment (Denmark)	NDF C3 c21	Building Technology in Urban Flood & Inundation Forecasting to Be Applied for Operational Early Warning System in the Ha Noi City, Vietnam	143,771	324,950	324,950	Progress reports*
Total			4,636,959	5,094,143	5,254,592	

*Completed in substance in 2015 – final disbursement scheduled for 2016

** To be reduced due to decreased eligible co-financing

4.3. NCF3

Most of the closing dates for the NCF3 projects were initially agreed for 2015. As in NCF1 and NCF2, delays in implementation have been observed and grant closing dates for 13 out of 14 projects have been extended, mostly during 2015. The delays are mostly linked to the challenging business development and investment requirements of the call. Despite the delays, SINTEF's and Vi-Skogen's projects were fully completed during 2015.

Several more NCF3 projects were completed in substance by the end of 2015. These include DanChurchAid and NORDECO projects in the analyses, while some clarifications were still being sought and the final disbursements planned to be made in 2016

Danish Forestry Extension, Finland Futures Research Centre, and Gaia Consulting projects were also completed in substance, but some key data and/or reports were still pending at the end of 2015, and reviews were ongoing. The University of Copenhagen's project in Bolivia was also completed in substance, but some key documentation was pending.

As for NCF1 and NCF2, disbursements for NCF3 projects are made against achieved milestones or, if agreed, an advance payment bank guarantee. The table below summarises the disbursement status of the NCF3 projects. The cumulative disbursements at year end were EUR 3,472,640 out of the amended contracted amount of EUR 5,527,899, *i.e.* the disbursement rate was 63%. The original contracted amount was EUR 5,653,473.

Table 3. Cumulative NCF3 disbursements by project by the end of 2015 (EUR)

Grantee	NDF code	Project	Disbursed amount	Value of agreement	Original grant amount	Basis
Viegand & Maagøe A/S (Denmark)	NDF C3 d1	NAMA and Innovative Energy Optimisation in the Steel Sector in Bangladesh	172,898	299,340	299,340	Progress report
University of Copenhagen – Department of Plant and Environmental Sciences (Denmark)	NDF C3 d3	Promoting Cañahua in the Andean Highland: A Highly Nutritive Crop with a Great Market Potential, Adapted to Extreme Climate Conditions	92,715	269,952	269,952	Progress report*
Danish Technological Institute (Denmark)	NDF C3 d4	Ecological Food Processing Unit	297,186	381,436	393,941	Progress report
Nordic Foundation for Development and Ecology, NORDECO (Denmark)	NDF C3 d5	Cambodian Farmland Carbon (CAFACA) Project	269,696	386,130	386,130	Progress report*
Finland Futures Research Centre (Finland)	NDF C3 d5	Scaling up Low Carbon Household Water Purification Technologies in the Mekong Sub Region	353,923	452,081	495,349	Progress report**
C.F. Nielsen A/S (Denmark)	NDF C3 d7	Biomass Green Briquette Fuel (GBF) Production (BidiePa) under Kitchen Efficiency Programme	394,790	494,790	494,790	Progress report
Pöyry Management Consulting Oy (Finland)	NDF C3 d8	Pilot Project: Efficiency Enhancement and Entrepreneurship Development in Sustainable Biomass Charcoaling in Ghana	325,155	500,000	500,000	Progress report
SINTEF (Norway)	NDF C3 d9	Rain Water Harvesting (RWH) for Resilience to Climate Change Impact on Water Availability in Ghana	330,199	330,199	400,000	Progress and final reports
Niras Natura AB (Sweden)	NDF C3 c17	Business Development Closing the Rural-Urban Nutrient and Carbon Dioxide Cycles	50,000	499,220	499,220	Progress report
Vi-Skogen, The Foundation Vi Planterar Träd (Sweden)	NDF C3 d11	ADAPTea: Climate Change Adaptation for FAIRTRADE Tea Producers in East Africa	444,936	444,936	444,936	Progress and final report
DanChurchAid, DCA (Denmark)	NDF C3 d12	Mainstreaming Climate-Smart Agriculture in Solar Irrigation Schemes for Sustainable Local Business Development	106,945	350,000	350,000	Progress report***
Danish Forestry Extension (Denmark)	NDF C3 d13	Developing Low Community Based Innovative Solutions to Mitigate and Adapt with Climate Change while Creating Viable Local Business Solutions	304,059	360,565	360,565	Progress report**
Norges Vel, The Royal Norwegian Society for Development (Norway)	NDF C3 d14	From Waste to Local Business Development and Vigorous Soil	163,213	500,000	500,000	Bank guarantee
Gaia Consulting Oy (Finland)	NDF C3 d15	Sustainable Charcoal Business Development	166,925	259,250	259,250	Progress report**
Total			3,472,640	5,527,899	5,653,473	

*Completed in substance in 2015 – final disbursement scheduled for 2016

**Completed in substance in 2015 – some documentation/clarifications sought

4.4. NCF4

For NCF4, launched in December 2013, the selection criteria and process have already been discussed in the 2013 and 2014 Annual Reports. By the end of 2014, Grant Agreements had been signed with Gaia Consulting Oy (Finland), Matis (Iceland) and Orgut Consulting AB (Sweden). The remaining Grant Agreements, including with NIRAS' and Norges Vel's projects, which were selected from the reserve list, were signed during spring 2015

At the end of 2015, the implementation of all the NCF4 projects was well under way; however slight delays could already be noticed in a few projects.

Disbursements were made to eight out of eleven NCF4 projects during 2015. Disbursements amounted to EUR 476,140, or 11% of the total contracted grant amount of EUR 4,471,292.

Table 4. Cumulative NCF4 disbursements by project by the end of 2015 (EUR)

Grantee	NDF code	Project	Disbursed amount	Value of agreement	Original grant amount	Basis
Gaia Consulting Oy (Finland)	NDF C62 B1	Strengthening Resilient and Inclusive Green Growth by Advancing Clean Energy Technologies (CET) through Business Development in the Micro Finance Sector in Ethiopia	75,786	325,900	325,900	Progress report
UNEP DTU Partnership (Denmark)	NDF C62 B2	Roadmap to Nationally Appropriate Mitigation Actions in the Livestock Sector of Honduras and Nicaragua	0	282,650	282,650	-
Vi-Skogen, The Foundation Vi Planterar Träd (Sweden)	NDF C62 B3	Climate Smart Agriculture for Improved Rural Livelihoods	53,187	300,000	300,000	Progress report
Norges Vel, The Royal Norwegian Society for Development (Norway)	NDF C62 B4	Creating Green Local Economy through Commercial Production of Biomass Briquettes from Agro-Industrial Residues in Kenya	34,552	500,000	500,000	Progress report
ORGUT Consulting AB (Sweden)	NDF C62 B5	Improved Water Economics within Sub Catchments of Kenya (IWESK)	0	497,000	497,000	-
NEPCon (Denmark)	NDF C62 B6	Leveraging Markets for Climate Friendly Sustainable Development, in Laikipia, Kenya	91,902	489,919	489,919	Progress report
Arbonaut Ltd. (Finland)	NDF C62 B8	Piloting REDD+ Monitoring and Non-Wood Forest Product Value Chains to Mitigate Green House Gas Emissions in the Rural Communities of Bandafassi	81,152	450,000	450,000	Progress report
Matis (Iceland)	NDF C62 B9	Reduction of Greenhouse Gases and Deforestation Related to Food Processing in Sub-Sahara Africa	59,319	488,903	488,903	Progress reports
Aqua Unique Norge AS (Norway)	NDF C62 B10	3Ws Innovative Water Solutions	0	359,355	359,355	-
Aalborg University (Denmark)	NDF C62 B11	Sustainable Consumption and Production of Biofuel in Uganda	80,242	277,565	277,565	Progress report
NIRAS A/S (Denmark)	NDF C62 B13	Waste Recycling in Mozambique through the Establishment of Waste Transfer and Recycling Centres: Testing Concept and Formulation of Bottom-up NAMA	0	500,000	500,000	-
Total			476,140	4,471,292	4,471,292	

4.5. NCF5

The deadline for submitting NCF5 pre-qualification proposals under the theme of 'Climate Resilience in Urban and Private Sector Contexts' was 30 January 2015 via an online application platform. Applicants were allowed to submit questions until 9 January 2015.

Pre-qualification proposals as well as final applications were scored by an evaluation team composed of both external and NDF representatives. NEFCO acted as a secretariat and also evaluated all pre-qualifications and final applications.

Fifty-eight pre-qualification applications were received by the deadline. Fifty-four applications were accepted for evaluation, which was completed on 18 March 2015. The shortlisting of 30 pre-qualifications was subsequently approved by the NCF Management Committee. There were slightly fewer pre-qualifications compared with the previous calls – apparently due to the 'niche' and innovative nature of the theme of the call. A total of 21 final applications were received by 12 May 2015. Based on the evaluation, eight projects including the reserve list of four projects were approved on 16 June 2015 by MC in order to initiate due diligence process and negotiations. Negotiations were initiated with Arbonaut when Deloitte decided not to continue. On 25 August 2015, NDF took over the NCF management from the Fifth Call onwards, and NEFCO provided support for contract negotiations until the end of the year.

Table 5. NCF5 selected applications

Applicant	Applicant country	Project name	Project country	Project classification
Plan Danmark	Denmark	Community Driven Climate Adaptation – Making Sustainable Climate Adaptation Solutions Accessible to the Urban Poor	Bangladesh	Adaptation
Niras A/S	Denmark	Exploiting the Synergies between Sustainable Urban Drainage Systems (SUDS) and Urban Farming in Vinh Yen City, Viet Nam	Vietnam	Adaptation
Diakonia	Sweden	Technology, Adaptation and Mitigation: Greening the Economy of Urban Agriculture at Kanata Metropolitan Area	Bolivia	Combination
Deloitte	Denmark	Inclusive Business Opportunities for Climate Resilience and Public Health in Zambia's Peri-Urban Areas	Zambia	Adaptation
Världsnaturfonden WWF	Sweden	Introducing Renewable Energy Solutions to Enhance Energy security and Build Climate Resilience in Karachi, Sindh, Pakistan	Pakistan	Combination
Vista Analysis	Norway	Implementing Incentives for Climate Resilient Housing among the Urban Poor in Viet Nam	Vietnam	Adaptation
HAMK University of Applied Sciences	Finland	Climate Resilient Low Cost Buildings in Marsabit County	Kenya	Combination
Danish Refugee Council (DRC)	Denmark	Increasing Resilience to Climate Change among Displaced Communities in North West Pakistan	Pakistan	Adaptation
Arbonaut Ltd. ⁷	Finland	Building Resilience and Adaptive Planning in Urban Centers of Nepal	Nepal	Adaptation

⁷ Reserve list project

5. ORGANISATION AND ADMINISTRATION

5.1. Financial administration

The Funds Administration Agreement between NEFCO and NDF has been amended twice since the launch of the NCF programme. In June 2015, NDF informed NEFCO of NDF's decision to assume the administration of NCF. It was confirmed that NEFCO would continue to administer NCF1-4 until the end of 2017. With regard to NCF5 and any future calls, NDF would be in charge of administration.

5.2. Management

As mentioned above and in accordance with the Funds Administration Agreement, as amended, the implementation, administration and monitoring work related to NCF1-4 have been carried out by NEFCO. NEFCO was also in charge of arranging and coordinating the Fifth Call for Proposals during spring 2015.

As before, all final decisions and approvals related to the NCF programme have been taken by the NCF Management Committee chaired by NDF. Several decisions have also been made via written procedures.

5.3. Reporting

As before, NEFCO prepared NCF MC Minutes, quarterly reports and this Grant Report covering the year 2015.

Project reporting was based on the progress and financial reports by the grantees linked to milestones. In addition, the grantees prepared a brief NCF Project Summary Report in connection with the final reporting of the project. The project-specific key results have also been published on the respective project web pages, and more material and updates are being added to the project descriptions. The final summary report will consist of a public report, which will be published on NDF's web pages.

5.4. Marketing and dissemination

The progress of the NCF projects was disseminated via the respective, regularly updated websites including specific material linked to completed projects.

In April, NEFCO, together with NDF, arranged a mini-seminar on the topic 'Nordic Climate Facility – the Role of Adaptation and Private Sector Involvement'. In April 2015, the Nordic Working Group for Global Climate Negotiations (NOAK) also published a report called 'Nordic Climate Finance Opportunities – the NCF Case Study'. NCF was also the topic of a panel discussion on 'Climate Finance in Practice – Concrete Results from 50+ Nordic Climate Facility projects', which was arranged at the Nordic Pavilion in Paris COP21.

Three NCF-supported activities, namely Naps Systems Oy 'Scaling the Solar Market Garden' in co-operation with SELF in Benin, Solvatten's 'Enhancing Capacity for Adaptation to, and Mitigation of, Climate Xchange in Kibera, Nairobi', and the Danish Red Cross (Denmark) 'Community Based Adaptation

to Climate Change through Environmentally Sustainable Water Resource management in Isiolo District in Kenya' in co-operation with Grundfos LIFELINK were awarded UNFCCC's Momentum for Change initiative awards in 2015.

The launch of the Fifth Call was advertised through the usual communication channels of NDF and NEFCO, their respective websites and social media channels, the climate-I email list, and previous NCF applicants. In addition, Nordic networks, urbanisation and adaptation actors and other relevant stakeholders were targeted in order to attract new potential applicants for NCF for a niche call. As for NCF4, a small flyer/postcard on the call was also printed and distributed by NDF and NEFCO staff at different events.

6. CONCLUSIONS

By the end of 2015, the NCF programme had been implemented as planned. Completed NCF projects show tangible climate and development benefits, albeit typically small in absolute terms. Some of the projects have more development and/or climate impacts and some are more innovative than others.

For the mitigation projects completed during 2015 the annual direct CO_{2e} reductions reached 540 to 5,500 t/a. In some cases, overestimation of the expected CO_{2e} reductions or other benefits has been noted. For the adaptation projects, the results vary from ensuring access to safe and affordable water for the beneficiaries, understanding potential adaptation measures that are crucial to the management of climate-related disasters, facilitating better planning for infrastructure development and improving preparedness for flood disaster prevention. Projects also introduced sustainable agricultural land management practices that help farmers to adjust to changing weather patterns and to secure their livelihoods. Many NCF projects also combine mitigation and adaptation, and previously completed NCF projects continue to generate climate and development benefits.

Development impacts are typically closely linked to climate change impacts. Development impacts include income generation and employment, cost savings, improvements in nutrition and health; access to safe water; and energy-efficient appliances via an innovative financing mechanism. Supported early warning technology can contribute to sustainable development. Special attention to gender aspects is also evident in the NCF projects.

Business development aspects of NCF projects have increased, especially since NCF3. Concrete business projects have the potential to leverage more private funds for climate actions – adaptation included and supported long-term sustainability of activities. Many NCF3 and NCF4 projects indicate that combining business with climate outcomes is possible, but challenges exist. Concrete results are yet to be assessed once most of the projects have been completed.

The multiple criteria used in project selection lead to diversified outcomes, and the projects are not directly comparable. There is major diversity at the portfolio level – a key feature and strength of the NCF programme. While the key targets are practically fully met in most projects, there is some underperformance in a few projects, and many have faced delays. This is not untypical of development projects with an innovative nature. Taking into account the short implementation period, the innovative nature of the programme, challenging project countries and new partnerships, some further challenges and underperformance can be expected in the continued implementation of the NCF programme.

Scaling up and replication of many NCF projects is ongoing, and this is likely to be further supported by UNFCCC's Momentum for Change initiative awards in 2015 for three NCF-supported activities and scaling up an NCF concept by the Green Climate Fund's funding last year. These linked to the continued progress with concrete results indicate success of the NCF programme including clear Nordic components in all projects.

Annex 1. Projects completed during 2015⁸

Project Name:	Bukaleba Charcoal Project		
Country:	Uganda	Financing:	
Nordic Partner:	Green Resources AS (Norway)	EUR 433,588	66.34%
Local Partner:	Busoga Forestry Company Ltd (BFG)	-	0%
	NCF ⁹	EUR 220,000	33.66%
	Total	EUR 653,588	100.00%
Classification:	Mitigation		
Project cycle:	Contracted 30.9.2010, ended (early) on 9.11.2015		
Project description:	<p>The primary objective of the project was to build two clean and sustainable high yielding charcoal plants with 12 kilns at two sites to reduce the impact charcoal production and deforestation has on climate change. Charcoal is an important energy source for East Africans, vital for the daily household activities of the poorest people. The high demand for firewood and charcoal is the main source of deforestation in Uganda. Traditional charcoal production methods using for example earth pits are highly inefficient providing only 10-15% yields. In addition, charcoal production is usually illegal since indigenous forests are being used as raw material as well as polluting due to methane emissions. The Bukaleba Charcoal project introduced four modern, energy efficient and practically methane-free charcoal kilns. The new kilns are capable to double the efficiency of traditional charcoal production reducing the need of biomass required to make the same amount of charcoal.</p>		
Achieved/expected outputs:	<p>Achieved outputs:</p> <ul style="list-style-type: none"> • A set of four kilns were installed and three are operational at Jinja and Bukaleba • Briquetting line and two wood splitting machines operational • Annual production reached 374 tonnes of charcoal • Obtaining a Letter of Approval from the Designated National Authority to proceed with the Programme of Action (PoA) registration process • Capacity building and increased income for staff households <p>Originally expected outputs:</p> <ul style="list-style-type: none"> • 14 kilns installed and operational • Annual production 7,500 tonnes of charcoal reached • Project produces enough charcoal to support 9,000 households • 70 households supported by direct employment • Project sets a precedent for future charcoal production in Uganda and the rest of East Africa 		
Final beneficiaries:	The project has employed more than 50 people directly and a good number indirectly. Households and other customers have access to sustainably produced charcoal from a known source at predictable prices.		
Climate change impacts:	The four sets of installed modern kilns have mitigated climate change in a number of ways, including the prevention of methane emissions, a greenhouse gas with a global warming potential 21 times that of CO ₂ , from the carbonisation process. The project has saved around 1,400 tonnes of CO _{2eq} during the two-year implementation period and annual reductions have reached 780 t/a. The project has produced charcoal using renewable biomass sources such as timber and waste residues from the Busoga Forest Company's sustainable plantations. As per Green Resources' policy, ten trees have been		

⁸ This annex includes summaries of projects completed during 2015 which by end of 2015 had provided the final reports to NEFCO.

⁹ Reduced from the originally agreed EUR 350,000 due to decreased outputs.

	planted for every harvested one. This will have a positive impact on deforestation since almost all charcoal in Uganda is currently produced using indigenous forests which are not replanted.
Development impacts:	A number of households and other customers have bought sustainably produced charcoal from a known source at predictable prices. As a result, these households have diverted their attention from looking for fuel to education and employment for both men and women, thereby enhancing gender equality and development. The project has acted as a learning ground for most people who have been producing charcoal using other inefficient methods and others who have been dreaming of producing charcoal more efficiently and on a large scale. The project has attracted a number of people from various sectors in the country to see the project. The project has employed more than 50 people directly and considerable more indirectly. The company has generated revenues from waste wood as a result of using waste wood as a raw material for charcoal production and has demonstrated to other industries that value can be added to waste. In addition, employment has been created for more than 50 people directly.
Innovation, technology and learning:	This pioneer charcoal project has acted as a demonstration ground. The project has created employment opportunities, contributed to the country's tax base and demonstrated that charcoal production is not a subsistence industry as many Ugandans think but contributes to the overall development of the country. This was the first plant in East Africa where methane emissions from charcoal production were recycled. It is expected that the project's innovative gas capture technology will set a precedent for future charcoal production and increase the innovation amongst traditional charcoal producers to raise their efficiency.
Partnership:	Relationship with local state authorities has been good and the grantee has been able to acquire all the necessary certificates and permits for project implementation however with some delays here and there because of bureaucracy. The project has liaised with other organizations like CDM Designated National Authority (DNA), Makerere University, and Climate Change Department in areas like getting letter of approval for carbon credits, transportation of spares and charcoal plus carrying out charcoal laboratory tests.
Sustainability and replicability:	<p>In the long term the project is expected to impact on land use changes characterised by degradation of natural forests for both wood and charcoal products. Adapting to plantation charcoal rather than that from natural forests should lead to a reduction in conversion of existing natural forests though charcoal production resulting from increased demand of growing population and industries. The company plans to continue participating in national trade exhibitions and agricultural shows in order to make more Ugandans aware of the benefits of using efficient and environmentally friendly technology in producing lump charcoal and charcoal briquettes. The project will continue operating without support from NCF because it has already started generating revenue.</p> <p>The project has also acted as a learning ground for many people who have been producing charcoal using inefficient methods and others who had been considered producing charcoal more efficiently and on a large scale. The project has attracted a number of people from various sectors in the country.</p> <p>Despite BFC's competitive pricing the uncontrolled charcoal production from hard wood species remains a challenge and impact on charcoal demand and supply trends in Uganda. This resulted in accumulation of charcoal, and charcoal from responsibly managed plantations remains outcompeted by uncontrolled charcoal production using conventional and low conversion traditional earth kilns. This is the key reason why not all kilns were installed during the NCF project period (and leading to a reduced grant). Green Resources targets to change consumer behaviour with support from Government on energy policy implementation to spearhead use of charcoal from sustainable chain of production.</p>

Project Name:	Building technology in urban flood & inundation forecasting to be applied for operational early warning system in the Ha Noi City		
Country:	Vietnam	Financing:	
Nordic Partner:	DHI (Denmark)	EUR 18,286	3%
Local Partner:	The National Hydro-Meteorological Service of Viet Nam (NHMS)	EUR 264,997	43.6%
	NCF	EUR 324,950	53.4%
	Total	EUR 608,233	100.00%
Classification:	Adaptation		
Project cycle:	Contracted 27.12.2011, ended 31.12.2015 ¹⁰		
Project description:	<p>The overall objective of the project was to reduce the consequences and improve resilience of the Vietnamese society to the adverse effects of increasing flood and inundation disasters in urban areas. The project aimed to build, test and implement an urban flood forecasting and climate-based flooding adaptation system for a selected zone of Hanoi City. An innovative technology has been introduced to the flood forecasting sector in Vietnam. The technology facilitates better planning for infrastructure development and better preparedness for flood disaster prevention in the coming years. A selected area of Hanoi City has tested the technology, which can be scaled-up and replicated in latter phases to other cities nationwide.</p>		
Achieved/expected outputs:	<p>Achieved outputs:</p> <ul style="list-style-type: none"> • Site survey and drainage system data collection for 4 to 8 districts of Inner Ha Noi executed • Flood risk maps for inner Ha Noi produced • Software provided and users trained • Monitoring system established • Operational early warning and inundation demonstration forecasting system applied to the selected district of inner Ha Noi implemented • Training of NHMS personnel executed and study tour performed • Effectiveness of the systems and procedures demonstrated • Project results disseminated to stakeholders in other Vietnamese cities <p>Originally expected outputs:</p> <ul style="list-style-type: none"> • Site survey and drainage system data collection for 4 to 8 districts of Inner Ha Noi executed • Flood risk maps for inner Ha Noi produced • Software provided and users trained • Monitoring system established • Operational early warning and inundation demonstration forecasting system applied to the selected district of inner Ha Noi implemented • Training of NHMS personnel executed and study tour performed • Effectiveness of the systems and procedures demonstrated • Project results disseminated to stakeholders in other Vietnamese cities 		
Final beneficiaries:	<p>Number of final beneficiaries living in the area covered by the early warning system is 840.000 people. In addition to that NHMS and the Ministry of Natural Resources and Environment (MONRE) have benefited from the project.</p>		
Climate change impacts:	<p>Due to climate change, a change of hydrological patterns is expected, through concentration of yearly rainfall into wet periods of shorter duration, but with more intensive and violent rainfalls. This means that extreme hydrological events will become more frequent, which, in turn, will increase the flooding</p>		

¹⁰ The final disbursement was made in 2016

	<p>risk. Increased urbanisation will aggregate urban flood risks. The physics of man-made urban cities means that a relatively minor additional increase of hydrological inputs will cause a significant, potentially catastrophic increase of flood-related losses and damages. The technology delivered by the project facilitates better planning for infrastructure development and better preparedness for flood disaster prevention in coming years.</p>
Development impacts:	<p>Soundly-based and innovative technologies have been introduced to the flood forecasting sector in Vietnam; where in the past urban flood and inundation forecasting have not been incorporated into NHMS operational forecasting. Along with the new flood forecasting technology, the institutional capacity and know-how for groups of NHMS functional units have been upgraded. This new early warning technology allows future city infrastructure planning to adapt to climate change, abate urban flood and inundation effects, which will contribute to urban environmental sustainable development. Urban flooding risks cannot be treated exclusively in terms of monetary value losses, because social aspects play an important role in evaluating the overall impact of the flood on the urban community. Some loss can have a different effect on the members of different social groups, due to their different resilience capacity. I.e. loss of the same material goods could be insignificant for a well-off person, while the same loss may have a major negative impact on a poor person's capability to recover after a flood. This problem is magnified by the fact that it is typically low-income people who settle in the areas which are naturally prone to flooding, as the land there is cheaper. Therefore, urban flood mitigation and adaptation measures in general, generally have a very good social effect, providing a relatively higher value to low-income social groups.</p>
Innovation, technology and learning:	<p>Few cities in the world have the combination of high susceptibility to climate change flooding impacts combined with rapid development like the major centres of Vietnam. Flood warning by the integration of hydro-meteorological information with advanced models is an emerging technical field, but the combination of the willingness of the NHMS and the Vietnamese Government to embrace the opportunity, and the applicability of the technology represent an opportunity to create a truly innovative outcome.</p>
Partnership:	<p>NHMS and DHI have strengthened their already existing relationships and may together implement similar technology in other cities in Vietnam. The project cooperated also with Ha Noi Water Resources University. This partner participated in all status meetings as well as the weekly online meetings.</p>
Sustainability and replicability:	<p>The project has expandability and replicability to other cities in Vietnam and within the NHMS nation-wide networks. The project has been specifically designed to focus on pilot areas in Ha Noi. As such, it was a demonstration project with a strong dissemination component, aiming at scaling-up to include entire Ha Noi and at replication in other major cities in Vietnam. Dissemination activities in Ho Chi Minh City and in Da Nang have been included. The scaling-up and replication will be possible with significantly smaller participation of foreign experts. This will make scaling-up and replication economically viable without limited foreign financial contribution. Steering Committee for Flood Control for Ho Chi Minh City has showed interest in the system and currently looking for a financial source to implement similar system.</p>

Project Name:	Financing sustainable energy through remittances flows, Bolivia		
Country:	Bolivia	Financing:	
Nordic Partner:	Gaia Consulting Oy (Finland)	EUR 84,648	10.98%
Local Partner:	Fundación AMIBE CODEM (Official registration name in Bolivia) / ACOBE – Asociación de Cooperación Bolivia España	-	0%
Other Partners:	Basel Agency for Sustainable Energy	EUR 24,886	3.23%
	Arc Finance	EUR 7,800	1.01%
Other Financiers:	Harder Fund	EUR 149,464	19.39%
	UNDP	EUR 14,318	1.86%
	NCF ¹¹	EUR 489,550	63.52%
	Total	EUR 770,666	100.00%
Classification:	Mitigation		
Project cycle:	Contracted 16.12.2011, final disbursement pending ¹²		
Project description:	The project aimed to encourage Bolivian migrants living in Spain to use part of their remittance flows to purchase renewable energy products or more energy-efficient appliances for their relatives in Bolivia. The target group was low-income families in Bolivia living in urban and rural areas. A business model, EcoBazar was established in 2014. The model allows Bolivians in Spain and/or Bolivia to channel remittance income to purchase renewable energy or energy efficient devices. The business model combines 1) strong local financial partners with the capability to provide financial services at competitive interest rates, 2) an experienced local Bolivian technical installation, maintenance, and after sales service provider, and 3) sales and information networks in both Bolivia and Spain.		
Achieved/expected outputs:	<p>Achieved outputs:</p> <ul style="list-style-type: none"> • Market potential identified and assessed • Business model structured and refined • Project piloted and marketing campaign implemented with 50,000 people reached in Spain and 250,000 in Bolivia; 149 devices sold in pilot phase • 540 tCO_{2e} reductions per year reached • Business model evaluated and results disseminated <p>Originally expected outputs:</p> <ul style="list-style-type: none"> • 2420 tCO_{2e} reduced per year during project implementation, gradually increasing after project completion. • The project launches a platform for the sale of sustainable energy products in Bolivia. • Over 50,000 senders of remittances are reached through marketing campaign in the targeted country. • 5,000 RE and EE devices are sold during project implementation due to remittance flows from Spain or Argentina. 		
Final beneficiaries:	150 families in La Paz, Cochabamba and Santa Cruz; 2,000 low-income persons living in institutions.		
Climate change impacts:	By November 2015, the emission reductions of the project, through sales and installation of 150 solar water heater systems (SWH) reached annual tCO _{2e} reductions of 540 tonnes. The annual emission reduction so far is lower than originally planned due to the decision to focus on one initial technology		

¹¹ Final disbursement is planned to be slightly reduced due to underperformance

¹² Final payment was transferred to 2016 as some clarifications were still being sought

	and due to lower than expected sales. However, the replicability potential, which is at the core of the business concept, is considerable. Over 2016-2017, assuming a healthy SWH sales development and the introduction of new product categories to the platform, the business could generate 30,000 tCO _{2e} in total GHG emission reductions (taking into account an expected operational lifespan of circa 15 years of all installed devices).
Development impacts:	The project has contributed to more sustainable energy services through improved access to renewable and more efficient energy services in Bolivia. By November 2015 approximately 150 families in La Paz, Cochabamba and Santa Cruz have gained access to renewable energy solutions. In addition, SWH were installed at three social institutions that aim to 1) strengthen family relationships, 2) support abused girls and young women; and 3) help mentally challenged persons; with a total of 2 000 low income persons hereby reached for improved energy access and security. The project has targeted at least an estimated 50,000 Bolivian immigrants living in Spain and 250,000 potential remittance recipients in Bolivia through its various marketing and sales measures increasing overall awareness on the financial and environmental benefits of using renewable and more energy efficient solutions. Several project beneficiaries have been able to showcase considerable cost savings from the installation of solar water heaters. The possibility of access to consumer credit for lower income segments, which has been addressed during the project through the cooperation with Banco FIE and Banco Los Andes, has the potential to ensure wide societal reach, including better targeting of rural areas during upscaling. Good governance and gender aspects have been considered and respected throughout the project activities; however, no explicit gender related goals were set for this project. The operations are planned to be further scaled up, with respective developmental impacts expected to realize and grow accordingly.
Innovation, technology and learning:	The project contains several innovative components that have pushed the project partners towards constant and sometimes steep learning curves. The project has developed a competitive credit mechanism focused on sustainable energy by engaging renowned financial institutions, also available for low-income households. The core innovation of this project lies in the business model created and piloted that allows the use of remittance flows in financing sustainable energy.
Partnership:	The Local Partner, Acobe has continually helped raising awareness among Bolivians living in Spain for the duration of the project. Acobe has supported the diffusion and marketing of the project and its intended benefits among Acobe's affiliates and beneficiaries both in Spain and in Bolivia. Acobe has a close relation with the Bolivian community in Spain. Acobe was more involved with the project during the first half of the project, and has during the business implementation remained a strong partner and understands the challenges. BASE has provided support in the preparation of the business plan leading to the implementation of the pilot phase. BASE has been responsible for supporting the project in developing relations with financial institutions in Bolivia: Banco FIE and Banco Los Andes. Arc Finance has provided insights into remittances and microfinance, market research, and building partnership arrangements between the finance and energy sector, but has not had an active role during the business implementation phase. Other key partners in the project have been Transfer Latina and Elpuntosolar.
Sustainability and replicability:	The central goal from the start of the project has been to create and establish a business model and brand with strong viability and upscale potential, once support from NCF has ended. This goal has been reached through an innovative business and cooperation model that has been developed and piloted during the project. The existing business model has the potential for upscaling through accelerated i) SWH sales, ii) expansion to other RE/EE technologies, as well as iii) expansion to other countries with significant remittance flows and RE/EE needs. Understanding the respective roles of private and public sectors and harnessing their optimal interplay are essential in successful upscaling. Eco Bazar business platform, due to the successful project, is in the process of investing in order to 1) strengthen the consumer finance product, 2) assess upscaling business models (e.g., partnership, stand-alone company, and/or franchising) and create a commercially viable business plan, and 3) train personnel with implementation partners in Bolivia and possible other South American countries.

Project Name:	Mainstreaming climate-smart agriculture in solar irrigation schemes for sustainable local business development in Malawi		
Country:	Malawi	Financing:	
Nordic Partner:	DanChurchAid (Denmark)	-	0%
Local Partners:	Churches Action in Relief and Development (CARD)	-	0%
	Christian Service Committee of the Churches in Malawi (CSC)	-	0%
	Kusamala Institute of Agriculture & Ecology (KIAE)	-	0%
Other Partner:	Lilongwe University of Agriculture and Natural Resources (LUANAR)	-	0%
Other Financier:	DANIDA	EUR 199,511	42%
	NCF	EUR 279,316	58%
	Total	EUR 478,827	100.00%
Classification:	Combination		
Project cycle:	Contracted 1 July 2013, final disbursement pending ¹³		
Project description:	<p>The objective of the project was to empower vulnerable communities in Malawi adapt to the impacts of climate change through sustainable businesses in existing solar irrigation schemes, and mitigate climate change through climate-smart agriculture. The project has supported 15,000 farming households in adapting to climate change and reduced emissions through new agriculture practices. Smart agriculture techniques, including organic fertilisers, agro-forestry, high-yield crop varieties and conservation farming are expected to lead to environmental and financial sustainability. The project built on existing capital investments in the solar irrigation schemes, using already established community structures to mainstream climate-smart agriculture to empower and support poor rural communities.</p>		
Achieved/expected outputs:	<p>Achieved outputs:</p> <ul style="list-style-type: none"> • 6,926 farmers (46%) are in cooperatives out of the targeted 50% • 1,059 farmers (7%) have adopted innovative and effective business strategies • 12,935 farmers (86%) have adopted crop diversification surpassing the target of at least 75% • 16,683 farmers (111%) are having the knowledge about improved crop varieties for increased yield. The knowledge was gained through trainings in crop diversification such as growing of herbs and spices and other high value crops in the irrigation schemes. Lead farmer approach was used to ensure sustainability and reaching out to more farmers. Crops such as lettuce, spinach, cabbage, turnip, mint, garlic chives, tomatoes, dill, okra, carrot, onion, and leek are among the crop introduced to farmers. • 12,000 farmers out of 15,000 (80%) have knowledge on new crop varieties with high market value and turn. • 11 revolving funds for seeds have been established as seed banks • 50% of the farmers have been trained in climate –friendly agricultural practices and have been practising the same • 5764 farmers (38%) have been introduced to Village Savings and Loans Association (VSLAs) and joined the same <p>Originally expected outputs:</p> <ul style="list-style-type: none"> • At least 50% (7500 out of a total of 15.000) of farmers are organized into farming 		

¹³ Final payment was transferred to 2016 as some clarifications were still being sought (inc. financing). The final grant amount likely to be less than originally agreed EUR 350,000.

	<p>clubs/cooperatives/associations for group marketing of produce</p> <ul style="list-style-type: none"> • At least 50% of farmers have adopted innovative and effective business strategies • 75% of farmers have adopted crop diversification (at least 3 crops). • At least 50% of farmers have knowledge about improved crop varieties for increased yield and 'irrigable-friendly crop varieties' that meet the market demand • At least 50% of farmers have knowledge of new crop varieties with high market value and turn-over • A revolving fund for seed is established • At least 50% of farmers have been trained on climate-friendly agricultural practices including the solar irrigation schemes • At least 25% of farmers (targeting women) have been introduced to the VSLA approach in the solar irrigation schemes.
Final beneficiaries:	15,000 households
Climate change impacts:	Enhanced capacity in building community resilience through the implementation of climate change mitigation and adaptation activities has been one of the key benefits. Implementation of sustainable agriculture land management practices as a climate change adaptation measure has enabled the land to be sustained over the project period and beyond. The use of solar powered irrigation with water reservoirs and installation of salt batteries in the irrigation schemes contributed greatly to increased yields of high value crops and increased income levels from sales. Overall, the resilience of the targeted households has been built as the project empowered vulnerable target communities to adapt to the impacts of climate change. A dedicated mitigation component of the project was dropped mainly as a result of assessment conducted during the project (and the grant amount will be reduced).
Development impacts:	The project has contributed towards poverty reduction through increased real household income from sales of high value crops grown in the irrigation schemes. Members of the households actively involved in growing more than 3 high value crops and marketing of the crops are now living above \$1.25/person/day which was not the case before commencement of the project interventions. Success stories collected described building iron-roofed houses, installing solar panels in homes, paying school fees and buying push and motorbikes. The project targeted both females and males enabled gender equity in terms of receiving information and benefits (7954 were females - representing 53%). The project also promoted active participation of females and males contributing to gender equality.
Innovation, technology and learning:	Through the solar powered irrigation technology the project partners and communities have learnt that in dry prone areas growing of crops is possible throughout the year. The learnings have been utilised to scale up the interventions in other project sites. Solar powered irrigation has for example been implemented in other DCA project sites. Results of the learning have also been disseminated through documentation of the technology.
Partnership:	The relationship between project partners has been complementary and contributed to the achievement of the project goals and targets. Beyond the formal project partnership, organisations such as FAO, the World Bank, and National Smallholder Farmers Association.
Sustainability and replicability:	Improved farmer organisations, active participation of local leaders/chiefs and enhanced access to markets will ensure sustainability of project activities after the end of NCF support. The use of climate friendly technologies such as conservation agriculture, permaculture, integrated soil fertility management and integrated pest management will ensure the project's environmental sustainability. DCA is working with other partners such as the Danish Grundfos for possible upgrading of the lagging behind irrigation schemes i.e. by upgrading the schemes to allow them to provide more water for irrigation.

Project Name:			
Country:	Cambodia	Financing:	
Nordic Partner:	NORDECO (Denmark)	EUR 32,050	6.10%
Local Partner:	Cambodia Centre for Study and Development in Agriculture - Centre d'Etude et de Développement Agricole Cambodgien (CEDAC)	EUR 82,358	15.66%
	Direct revenues from the project	EUR 25,280	4.81%
	NCF	EUR 386,130	73.43%
	Total	EUR 525,819	100.00%
Classification:	Mitigation		
Project cycle:	Contracted 11 March 2013, final disbursement pending ¹⁴		
Project description:	<p>The development objective is to improve the living conditions for small-scale farmers and at the same time increase the carbon sequestered in the farming landscape. The immediate objective is to create a sustainable low-cost carbon trading business that will allow farmers to improve their livelihoods through the trading of sequestered carbon. The project will mitigate greenhouse gas emissions by introducing a carbon sequestration scheme, which rewards Cambodian small-holder farmers when they carry out climate-smart farming.</p> <p>The project will disseminate practical approaches to climate-resilient agriculture, including creative low-cost ways to organise tree planting in the farming landscape. The project plans to establish a business (Cambodia Farmland Carbon – CAFACA), which will connect to the existing farmers' associations and support them to increase their incomes from carbon sequestration. The project thus links farmers associations to the voluntary carbon and corporate social responsibility (CSR) markets in an innovative and cost-effective way. In addition, the project plans to develop eco-agro tourism in rural Cambodia in connection with the climate-smart farming, introduce small-scale biochar production and develop advisory services for climate-mitigation aspects of sustainable agriculture. The project will provide small-holder farmers with income opportunities and improved financial security, while generating considerable environmental benefits. The benefits are not restricted to mitigation - additional adaptation benefits are expected through decreased erosion and improved groundwater availability.</p>		

¹⁴ Final payment was transferred to 2016 as some clarifications were still being sought. The final grant amount was EUR 383,386.30 i.e. slightly reduced.

Achieved/expected outputs:	<p>Achieved outputs:</p> <ul style="list-style-type: none"> • 310,200 trees planted (and planting is on-going) • 8,600 tonnes of CO₂ sequestered during the 2.5-year project. • 1,500 households adopted climate-resilient and effective farming practices. • 70 km of roads and irrigation infrastructure protected against erosion by planted trees. • Emission reductions sold, and marketing advancing. The first major buyers are in the pipeline. CAFACA has been registered in Cambodia and TroFaCo in Denmark. Practices and agreement for collaboration with farmers' associations have been established. • Business entity able to sustain itself after less than 2 years and has proven capacity in monitoring and documenting climate change mitigation, making it possible to obtain premium prices • Increased understanding among participating farming households about climate change. Increased household income (10 EUR/HH/year) obtained from tree tending and carbon trading 50% of this income controlled by women. • CAFACA is collaborating with hotels on agro-eco tourism <p>Originally expected outputs:</p> <ul style="list-style-type: none"> • Output 1. Participating farmers contribute significantly to CC mitigation through climate-friendly farmland practices. 300,000 trees planted • Output 2. Farmers and communities in the project area are increasingly capable of adapting to climate change, in agricultural practices and management of natural resources. 30 Agreements with Farmer's Associations. • Output 3. A commercially viable business entity collaborates with farmer organisations in obtaining climate-related funding from tree planting and other Climate Smart agricultural practices. CAFACA¹⁵ fully operational. • Output 4. Empowered farmers with improved livelihoods. Eco-tourism developed, and biochar stoves and electricity production from local biodigesters promoted
Final beneficiaries:	Directly 2,840 (1,420 women), indirectly 28,400 (11,360 women)
Climate change impacts:	<p>The project has generated both mitigation and adaptation benefits. The participating farmers have planted and tended over 310,000 trees providing a long-term carbon sink. The tree planting has sequestered an estimated 200 tonnes of carbon for the first year, 2,900 tonnes for the second year and additional 5,500 tonnes for the third year. Over the expected 20+ years' lifetime of the trees they are expected to sequester more than 100,000 tonnes of CO_{2e}.</p> <p>The tree planting has also contributed to local reduction of erosion from the increased number of extreme weather events. CAFACA has planted trees along 70 km of roads and 36 km of irrigation canals and borders of artificial ponds that previously had no protection against weather-induced erosion.</p>
Development impacts:	<p>The development impacts of the project include improved income of participating farming families provided through the income from tree tending, and carbon trading.</p> <p>A long term estimate suggests direct economic benefits of more than 2.7 million euro from the planted trees. Other benefits include improved soil fertility from use of compost derived from the trees, positive health impacts due to the medicinal use of traditional medicine or reduced time spent looking for small firewood.</p> <p>Gender aspects have been addressed in the promotion of women's participation in the activities under the farmer associations. Women got a significant share of the paid work of the farmer associations on planting and tending trees and nurseries and on monitoring.</p>
Innovation, technology and	The innovativeness lied in the combination of working with established farmers associations, facilitating carbon sequestration in the farming landscape, linking to the international voluntary carbon

¹⁵ Originally Cambodian Farmland Carbon Trading (CFCT)

learning:	<p>and CSR markets and thereby building a sustainable low-cost business with significant development benefits for small-scale farmers. The clever use and development of an existing institutional framework allowed for low transactions cost per unit of carbon, which is not usually the case when working with small-scale farmers. The project has planted trees in 23 schools. In the large majority of these the trees have become instruments in learning, as children in various classes get allocated parts of the tree stands, and compete in being best in taking care of the trees. Also trees and their role in the local community have entered the curriculum in several schools. Moreover, the MRV system is highly credible while being low-cost. It provides geo-referenced pictures and text for each project location, directly on a map on a homepage accessible for customers as well as the general public. CAFACA has held two workshops, in Phnom Penh and Copenhagen to disseminate results of the system.</p>
Partnership:	<p>CAFACA has had good collaboration with the 'on the ground partners', i.e. the Farmers' Associations (FAs) and local authorities. The project has benefitted from the support of local authorities, i.e. commune councils, district authorities as well as education officials (in schools) and monks in local temples. The local authorities co-signed CAFACA-contracts with local farmers' associations, and in many locations they actively participated in identifying areas for planting of CAFACA's trees. No other third parties have been or are involved.</p> <p>The local partner, by its own initiative, introduced the use of biochar stoves and did not need any additional inputs from the NCF project. Electricity production from local biodigesters was not promoted despite much encouragement.</p>
Sustainability and replicability:	<p>Through the spread of the business activities to cover an increasing number of farmer associations in the coming years the development impacts are likely to spread and be replicated. Institutional sustainability has been facilitated by the development of business relations with existing farmer associations and by using the principles of shared value where CAFACA and the farmer associations benefit from developing mutually beneficial business relations. Trading in sequestered carbon is being dealt with simply as one more aspect of existing farmer organisations and it has not been necessary to create new structures. This improves sustainability. Social sustainability has been facilitated through the promotion of better understanding among farming households of climate change, ways to adapt and combat it, and ways of benefitting from sequestering carbon in the farming landscape. By working with organised farmers the project facilitated further social coherence and further empowerment.</p> <p>Effective scaling-up would require additional funds towards a) identification of suitable producer groups, b) identification of suitable staff for local operations, c) training of the staff, d) set up of local business, MRV system and homepage, and e) marketing and sales of the offsets. Expansion could be financed by customers who agree to pay this investment, private foundations or by public funds.</p>

Project Name:	Rain Water Harvesting (RWH) for Resilience to Climate Change Impact on Water Availability in Ghana		
Country:	Ghana	Financing:	
Nordic Partner:	SINTEF (Norway)	EUR 36,447	8.80%
Local Partners:	Science and Technology Policy Research Institute (STEPRI)	EUR 12,055	2.91%
	Water Research Institute (WRI) of the Council for Scientific and Industrial Research (CSIR)	EUR 35,267	8.52%
	NCF ¹⁶	EUR 330,197	79.76%
	Total	EUR 413,966	100.00%
Classification:	Adaptation		
Project cycle:	Contracted 18 December 2012, ended 10 November 2015		
Project description:	<p>The project aimed at mitigating the expected negative effects of climate change - intensive floods and rainfall events combined with a short rainy season - by providing urban households and institutions with improved access to water through affordable, simple and safe rainwater harvesting (RWH) systems. The project has assessed the most appropriate solutions for rainwater harvesting, monitoring and disinfection, and implemented model systems in selected houses and institutions. The project created standardized design criteria and implemented innovative RWH systems. It also installed model systems to 20 households and one school, which were then monitored and evaluated. The results showed that the implemented systems functioned as a main water source for most of the households. On average, the tanks had a filling degree of 64% or higher for half the monitoring period. Finally, the project has supported local business development by training 25 local artisans who have secured jobs in construction and maintenance of the systems. The project has also contributed to capacity-building among key stakeholders and generated increased public awareness about the potential and benefits of RWH in Ghana.</p>		
Achieved/expected outputs:	<p>Achieved outputs:</p> <ul style="list-style-type: none"> • Increased resilience to climate change impacts on water availability in Ghana; • Local business development; • Improved urban livelihoods; • Increased water availability in 20 household and 1 school; • Affordable, appropriate and innovative RWH systems are more available in Ghana; and • Human and institutional capacities strengthened to implement RWH. <p>Originally expected outputs:</p> <ul style="list-style-type: none"> • Innovative, low-cost RWH solutions for single houses and larger institutions (several or larger buildings), based on standardized design criteria and implemented in altogether 20 households and two schools. • 30 artisans trained in how to build such RWH systems in a standardized manner and able to develop a business around it. • New knowledge on sustainable RWH applications, developed and documented through a holistic, scientifically-based assessment of available alternatives, before model systems are selected for implementation. • Increased capacity/knowledge about RWH systems among estate developers and entrepreneurs. • Increased capacity/experience in assessing and implementing RWH systems among key stakeholders, feeding into the further implementation of Ghana's National RWH Strategy. 		

¹⁶ The final grant amount was reduced from the originally agreed amount of EUR 400,000.

Final beneficiaries:	20 households (9 female-headed), 25 artisans and 700 school children
Climate change impacts:	The project has had a direct impact as adaptation at the local level. The monitoring indicated that on average the tanks had a filling degree of 64% or higher for half the monitoring period. All the model systems are also adaptive in the sense that they provide water independently of any problems that might affect the public water supply and/or private tanker water services due to climate-related flooding and/or pollution of surface waters. Locally, risks of storm water run-off, pollution, flooding and erosion have been reduced.
Development impacts:	The implemented systems provide alternative water supply to 20 households and one school with more than 700 school children that previously did not have adequate water supply and who now enjoy better hygiene and improved access to water. 9 of the 20 households were female-headed. Depending on family size the households saved 50-300 GHS (approximately 10-70 Euros) per month, from not having to buy water. Some reported time savings, especially for women and girls. 70% said they use more water than before and therefore enjoy improved hygiene and quality of life, and some used part of the water to grow fruit and vegetables. The 25 artisans have got a formal qualification in RWH system construction, as well as new skills and added income from installing further RWH systems. Capacity has been built in relevant institutions, and, most importantly when upscaling is concerned, increased public awareness about RWH and climate change has been created, both through targeted reports and events, and through general reports in the news media.
Innovation, technology and learning:	Standardized RWH designs were not available for Ghana before this project, but are essential to ensure that RWH systems perform adequately and meet customer expectations, and therefore critical when it comes to upscaling. The low-cost approach has aimed to support local business development. Training local artisans in how to construct the systems and set up business, dialogue with key stakeholders and the promotion of RWH among local estate developers and entrepreneurs will facilitate the adoption of the model RWH systems on a wider scale. Since artisans in Ghana often work with at least two apprentices, the knowledge and skills will be further spread quite efficiently among enterprises and individuals at the grassroots level in the water sector.
Partnership:	<p>Recruitment of beneficiaries, procurement and coordination of RWH system installations were more challenging than foreseen, but all partners learnt from this. A proposal for further RWH collaboration involving all the three partners has been worked out, and two joint proposals have been submitted for joint research in related topic areas.</p> <p>SINTEF has a good relationship to the relevant authorities in Ghana, especially the Ministry of Environment, Science, Technology and Innovation (MESTI), through previous collaboration with CSIR-STEPRI. During the current project, SINTEF has developed stronger relations also with MWRWH and WRC, again through the Local Partners. Other involved partners included The National Board for Small Scale Industries (NBSSI) which contributed significantly to the training, as did Ghana Real Estate Developers Association (GREDA) and Ghana Science Association when it came to dissemination. Community Water and Sanitation Agency (CWSA) was an important dialogue partner in technical matters. There have also been fruitful discussions with Ghana Institute of Architects, who would be an important partner when it comes to integrating supply from different water sources and incorporating RWH with other green technologies in new, future-oriented building designs.</p>
Sustainability and replicability:	The project partners want to continue the collaboration towards upscaling in a larger, more broad-based project. A proposal has been outlined and is supported by WRC, but its realization will depend on external funding. There is already a smaller spin-off in the grant collaboration between CSIR and COTVET, and individual contracts for further system installations. The GARH cluster will continue, and be linked to other local business clusters in the Pan African Competiveness Forum (PACF). The supply companies are moving forward, and one of them has specific plans to set up local production of components they import currently. The model RWH systems are environmentally sustainable, but there is still potential for improvement. Social and gender impacts are positive. The initial costs are relatively high, but as compared with tanker service the model systems are associated with long-term savings. The findings from the baseline study indicate that for many middle class households in GAMA, reliability, quality, and control over one's own water influence house-keeping with water as much as

	does cost. Local production of components, further research and development, and steps for increased economies of scale may spur the upscaling process.
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Project Name:	ADAPTea: Climate Change Adaptation for Fairtrade Tea Producers in East Africa (NCF3)		
Country:	Kenya, Uganda, Tanzania and Rwanda	Financing:	
Nordic Partner:	The Foundation Vi Planterar Träd (Vi-skogen) (Sweden)	EUR 122,203	18.75%
Local Partner:	Africa Fairtrade Network (Fairtrade Africa)	EUR 84,595	12.98%
Other Partner:	Fairtrade Labelling Organisations International (FLO) (Germany)	-	0%
	NCF	EUR 444,936	68.27%
	Total	EUR 651,734	100.00%
Classification:	Adaptation		
Project cycle:	Contracted 5.3.2013, ended 15.7.2015 ¹⁷		
Project description:	The project responded to the need to adapt climate change effects in the East African tea sector. Research shows that tea growing in the region will become unsuitable as a result of climate change. The main objective of the project was to develop adaptive capacity and resilience for improved productivity of small-holder Fairtrade tea farmers in Eastern Africa. The project purpose was to integrate Sustainable Agriculture Land Management (SALM) into tea production system to ensure sustained production.		
Achieved/expected outputs:	<p>Achieved outputs:</p> <ul style="list-style-type: none"> 14,682 small-holder farmers from 21 Fairtrade tea producer organisations were trained on SALM technologies out of which 86% adopted at least 3 SALM practices. In addition, 720 farmers accessed 24 new demonstration plots and 819 farmers attended Farmer Field Schools. Production of a SALM manual and establishment of functional online and SMS communication platforms to make climate and SALM information available to farmers across East Africa. The platforms continue to be maintained by Fairtrade Africa (http://adaptea.fairclimatedeal.net/) Organisational Development of Fairtrade tea farmers' organisations and their participation in the tea value supply chain. Mainstreaming of gender equality on farmer and organisation levels. 21 climate change adaptation plans developed using Risk and Opportunity Assessments (ROAs). <p>Originally expected outputs:</p> <ul style="list-style-type: none"> 14,000 smallholder Fairtrade tea producer skills developed to implement climate change adaptation techniques for increased production. Information communication sharing platform established 21 smallholder Fairtrade tea producer farmers' organisations strengthened. The position of smallholder Fairtrade tea producers in the tea value chain is strengthened Gender equality is mainstreamed at the farmer and the tea producer organisation levels Fairtrade producers Risk& Opportunity Assessments (ROA) developed 		
Final beneficiaries:	14,682 small-holder tea farmers in Kenya, Uganda, Rwanda and Tanzania.		
Climate change impacts:	The Risk and Opportunity Assessments (ROAs) revealed a number of climate related risks and vulnerabilities of climate variability and climate change in the tea sector, and this led the producer organisations to develop activity plans for risk reduction management. As a result of the project, the		

¹⁷ The end date indicates the date when the final disbursement was effected.

	farmers' skills on sustainable land management and climate change risks were improved. SALM practices enhance productivity, increase resilience to climate change and improve carbon sequestration through restoration and rehabilitation of degraded lands.
Development impacts:	<p>The main objective for the project was achieved by training 14,682 farmers and 86 % of them adopting SALM practices. As a result of this project, 86 % of the farmers adopted SALM practices which are above the target of 60%.</p> <p>The major impact observed was increased crop productivity by 8% and diversification of food crops. From the final survey carried out, maize productivity had increased substantially from 829 kg per acre to 912 kg per acre. Banana productivity increased from 2,389 kg per acre to 2,510 kg per acre. Additionally, the project increased the number of tree nurseries and trees established in the area increasing biodiversity, soil and water conservation, timber, fruit, fuel, fodder and income.</p> <p>The project also achieved a number of other unintended positive results. For example, the use of improved cooking stoves increased especially among female farmers. This significantly reduces the stress on natural forests in the area. Additionally, several farmers diversified their farm enterprises after trainings on Farm Enterprise Development.</p>
Innovation, technology and learning:	<p>SALM is a unique set of technologies that lead to three agricultural outputs: increased productivity, strengthened resilience and improved mitigation to climate change. The SALM practices build on both traditional and scientific knowledge, and they are easily adopted by farmers. The practices influence small-holder farmers' agricultural productivity within 2 - 5 years. When SALM practices are institutionalised among farming communities, the practices can restore and stabilise soil nutrients and improve livelihoods and improve ecosystems. The adoption of SALM practices increases yields while at the same time conserving and protecting soil. The SALM model has increased knowledge among tea farmers and their producer organisations on climate change adaptation and mitigation. This will continue to add value to the Fairtrade brand and in future.</p> <p>The online platform and the SMS platform are innovative ways of sharing information and transfer knowledge to farmers on how to adapt to climate change. These platforms and other information packages will continue disseminating the results of the project. The producer organisations have developed post-project plans to continue disseminating the SALM knowledge to more Fairtrade certified producers.</p>
Partnership:	The project has had a strong positive effect on participants (staff, board members and farmers) in the 21 SPOs. The project partners increased their technical capacity, shared experiences, improved networks and linkages, increased visibility and ventured into new collaboration in the project areas and among stakeholders. The partners created a Project Implementation Team (PIT), Project Steering Committee and Project Advisory Panel (PAP) to provide advice, management, implementation and technical support to the project. The Advisory Panel included other project partners including ETP, Cafédirect, CIFOR, Waitrose and Fairtrade Foundation. The work of the panel aimed also to ensure sustainability, as the project partners could capitalise on technical and capacity relationships for future cooperation and opportunities to scale up the project or new projects and collaborations. In addition, as a result of this project, Fairtrade and Tea Research Foundation of Kenya and the World Agroforestry Centre (ICRAF) have collaboration for research opportunities in the smallholder tea sector.
Sustainability and replicability:	The SPOs developed way forwards during end project feedback meetings to internally and externally mobilise resources to sustain and scale up the project activities. Vi Agroforestry and Fairtrade could in the future provide outreach support to SPOs. Already, in Rwanda, ASSOPTHE has become a consortium partner of Vi Agroforestry and signed for future project financing with Vi Agroforestry to scale up the activities. In Tanzania, Fairtrade and Vi Agroforestry are collaborating on developing a project proposal to Comic Relief to fundraise for scaling up the project activities in 2 SPOs.