

NIRAS



NIRAS supports SDG 13

13 CLIMATE
ACTION



Amel Toef / World Bank





NIRAS – engaging with the Sustainable Development Goals

Owned by a Foundation and its employees, the NIRAS Group is an international multidisciplinary consultancy firm with Scandinavian roots and values. For more than 45 years, NIRAS International Consulting has been committed to the development of innovative and sustainable solutions for our clients and society. In the more than 300 projects we help implement in Africa, Asia, Europe, and Latin America annually, the SDGs and their individual targets guide our activities in development cooperation.

Our values and continued focus on delivering sustainable solutions for people, the environment and society are embraced by the UN Global Compact. We consider the Compact's ten universal principles as a natural way of doing business. These principles steer our actions in respecting fundamental human and labour rights, showing responsibility towards the environment, and resisting all forms of corruption.

NIRAS' continued efforts to ensure sustainable development are in line with the SDGs and support Agenda 2030. In every sector we ask ourselves if we can introduce new services where we -together with our partners and clients - can contribute to this global development agenda.

NIRAS' continued efforts to ensure sustainable development are in line with the SDGs.





Today, we deliver technical assistance to over 100 countries annually - a project portfolio managed by 350 permanent staff. Our network of external experts approaches 25,000 development professionals worldwide, and our 51 offices in 27 countries support long-term partnerships and build local capacity in the countries where we work.

In every sector we ask ourselves if we can introduce new services where, together with clients, we can contribute to the development goals.

Through our work we aim at visibly improving livelihoods and developing resilient future societies that are inclusive, stable, well governed and climate-smart.

The green growth and circular economy initiatives we work on with our partners address climate change through adaptation, mitigation and building of resilience. At the same time, they also promote job creation and generate wealth. We integrate human rights-based approaches and structured capacity-development and skills transfer into our projects and work closely with institutions to develop expertise within agricultural sector reform, private sector development, and peace, security and governance processes.

We incorporate the UN Sustainable Development Goals in all our activities and measure their impact on society and the environment. We believe that aligning our work with the SDGs enables us to identify and deliver solutions that contribute to a more sustainable and equitable world – a fundamental objective of NIRAS employees.

NIRAS' solutions are addressing the major societal challenges of our time and are directly contributing to the UN's 17 SDGs.



Building capacity in the fight against climate change

SDG 13 focuses on three of NIRAS' core areas of intervention: climate resilient practices, policy and planning, and capacity development. Our extensive experience in combining these topics means that we have a strong advantage when it comes to developing case-specific and effective interventions that contribute to SDG 13. Whether we are implementing projects in agriculture, the environment, water, governance, education or any other area of intervention, we carry with us our knowledge and dedication to mitigate and adapt to climate change.

Our project portfolio includes more than 80 successfully implemented projects directly related to the SDG 13 targets on climate adaptation (13.1), strategies, policies and plans (13.2), and climate-related training and capacity development (13.3).

While taking action against climate change and its impact is a theme that runs through many of the SDGs, Goal 13 sets out important targets of its own. It is the only SDG that links to another United Nations framework, by acknowledging that the UN Framework Convention on Climate Change (UNFCCC) treaty is the primary forum for negotiating the global response for climate change. Thus, the SDG itself does not set any quantitative targets for mitigation but instead focuses specifically on adaptive measures (target 13.1), institutional frameworks (target 13.2) and capacity-building to equip people and institutions with the skills needed to act both in terms of climate adaptation and mitigation (target 13.3). Important to us, the cross-cutting target 13.b also underlines the need to consider women, youth, and local and marginalised communities in all actions towards the development goal.

We have extensive experience in the support of public institutions and private companies who are working with climate change adaptation in fields ranging from water supply, natural resources management, forestry, agriculture and food security to coastal zone protection, infrastructure development and urban flood management. Our work with disaster risk management focuses on reducing



Understanding and utilising the linkages between climate change and other development topics requires knowledgeable staff. NIRAS recruits staff with strong technical expertise, and we promote in-house capacity development and organisational learning.

the risks through effective preventive measures. In 2012, we received the Risk Award by the UN International Strategy for Disaster Reduction, the Global Risk Forum Davos and the Munich Re Foundation for our contribution to making the city of Beira in Mozambique resilient to floods and cyclones.

We are heavily involved in mitigation actions through our work with renewable energy and energy efficiency. We also prepare climate change mitigation plans and calculate carbon footprints at both regional and entity levels to ensure that planning focuses on the sectors in which mitigation efforts have the greatest potential. Under the auspices to the UN National Appropriate Mitigation Action, we advise non-industrialized countries in climate projects and CO² reductions, including projects on waste management and cement production in Peru, Mozambique, Bangladesh and Vietnam. Within carbon trading (voluntary and regulated markets), we provide assistance in project identification and development, capacity-building and training. Support to REDD+ (Reducing Emissions from Deforestation and Forest Degradation) is also among our services.

NIRAS is a knowledge-based company that delivers high-quality services through our combination of technical expertise, top-end project management and an extensive network of qualified experts. In this booklet, we illustrate our competence in climate change adaptation, institutions and capacity building by showcasing six projects from Egypt, Mozambique, Myanmar, Tanzania, Uganda and the Mekong region of South East Asia.

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Climate Change

Presenting

Six projects

Six countries

Six ways towards a more
sustainable future



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Photo credit: Mostafa Okasha

Increasing farmer resilience in the face of climate change

Egypt has a hot arid desert climate with variable rainfall and recurrent droughts particularly in the northern Nile Delta. Due to rapid growth of population and economy, the country's natural resources, and especially the limited water resources – 95% of all water available to the country is derived from the River Nile – are under great pressure today. Climate change is affecting this vital resource in several ways: higher temperatures, rising sea levels, and increasing intensity and frequency of extreme weather events, such as droughts, storms and marine surges. These forces also bring on secondary effects including sea water intrusion, declining groundwater levels, and salinization of agricultural areas.

In response to these threats, the Egyptian Government formed an interministerial National Climate Change Committee. The Committee developed general and sector-specific strategies, integrating climate measures into the national planning and agenda, addressing SDG target 13.2. From this, the Government produced the Agricultural Water Productivity for Adaption to Climate Change project. The project identified the need for greater “adaptability of farmers” due to the rising uncertainties produced by climate change, closely related to SDG 13. The project also addressed SDG 15, working with the Ministry of Water Resources and Irrigation (MWRI), as well as SDG 5 bringing a gender-sensitive component to farming.

The overall objective of the project was to adapt to climate change by optimising fertilizer practices and pesticide use, crop rotation and the planting calendar. It is fully aligned with SDG targets 13.1 and 13.3 since it works at the local level to improve farmers’ awareness and capacity and increase their resilience. To achieve this, the project supported training of farmers on resource-conserving farming and irrigation methods, crop selection, use of fertilizers and crop sequencing and developed guidelines for reuse of drainage and waste water in agriculture and aquaculture.

CLIENT

Ministry of Agriculture and
Land Reclamation

COUNTRY

Egypt

DURATION

2012–2017



As the implementing body for the project, NIRAS also played a key role in facilitating the transfer of information on climate change and related topics from the Ministry's Agricultural Research Centre (ARC) via an extension service - Farmer Field Schools - to farmers. Having access to such information enabled farmers to plan better on how to adapt to climate change. It also strengthened their social responsibility and commitment to improve water quality, solid waste management and more efficient use of water to overcome issues such as salinization and sea water intrusion.



Integrating climate change measures in national policies and strengthening resilience

CLIENT

DANIDA

COUNTRY

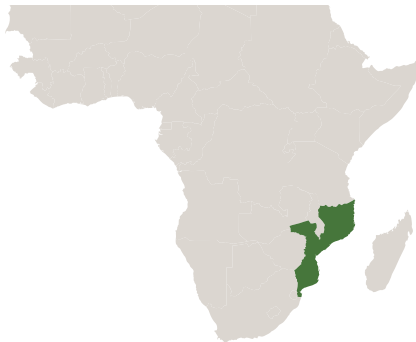
Mozambique

LOCATION

Nationwide

DURATION

2010–2017



The impact of climate change is becoming increasingly pronounced and many developing countries are particularly vulnerable to its effects. Mozambique is one of the poorest countries in the world and among the 10 most vulnerable to climate change. From 2011 to 2017, NIRAS has provided technical assistance to the Government to integrate climate change into plans and strategies and support adaptation through capacity-building and investment in small-scale infrastructure under the Environment Sector Programme Support II (ESPS II). A project financed by Danida, the EU Commission's Global Climate Change Alliance and Irish Aid.

NIRAS implemented component 1 of ESPS, which promoted environmental mainstreaming in the formulation of policies, programmes, plans and strategies, encouraged sound implementation of environment and climate change policies and strategies, and strengthened key institutions' capacity for environmental management as well as their ability to respond to climate change. The key counterpart institutions were the Ministry of Land, Environment and Rural Development [MITADER, formerly the Ministry for Coordination of Environmental Affairs (MICOA)] and the National Institute for Disaster Management (INGC). NIRAS worked with the two partners and several sector ministries at both national and decentralized level.

With support from ESPS II, the Government of Mozambique elaborated and approved the National Climate Change Strategy in 2012. In the following years, NIRAS supported the implementation of the strategy through a number of initiatives and pilot projects (e.g. affordable low energy model housing, local adaptation plans, early warning systems etc.).

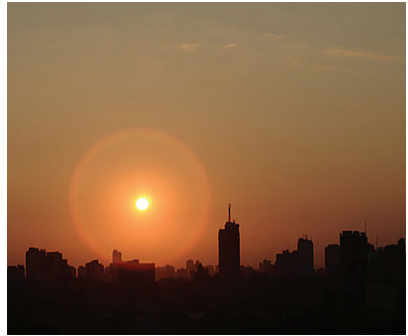
In cooperation with other partners, NIRAS supported climate change adaptation at the decentral-



ized level through Local Adaptation Plans (LAP), which were approved by local authorities and based on extensive community consultations. The LAPs identified key sectors where adaptation interventions are particularly needed. Key ministries developed a budgeted 5-year action plan and, by the end of 2017, 54 of 144 rural districts (i.e. 38%) had an approved LAP.

ESPS II also supported implementation of LAPs in 11 districts through decentralized financial support and technical assistance to small-scale infrastructure and agriculture projects. Local authorities implemented more than 30 projects in 2016-17 with technical assistance and capacity-building from NIRAS. Many projects constructed multi-use solar powered water supply systems, but there were also projects on drought resistant crops, rain water harvesting, storm proof housing and fish farming.

The National Climate Change Strategy and the LAPs illustrate some of the results achieved by ESPS II and how the programme embraced SDG 13 “to take urgent action to combat climate change and its impacts” through integrating climate change measures into national policies, strategies and planning (target 13.2) and improving education, awareness raising and human institutional capacity on climate change mitigation, adaptation, impact reduction and early warning (target 13.3).



Maputo: photo by John Hogg



CLIENT

World Bank

COUNTRY

Myanmar

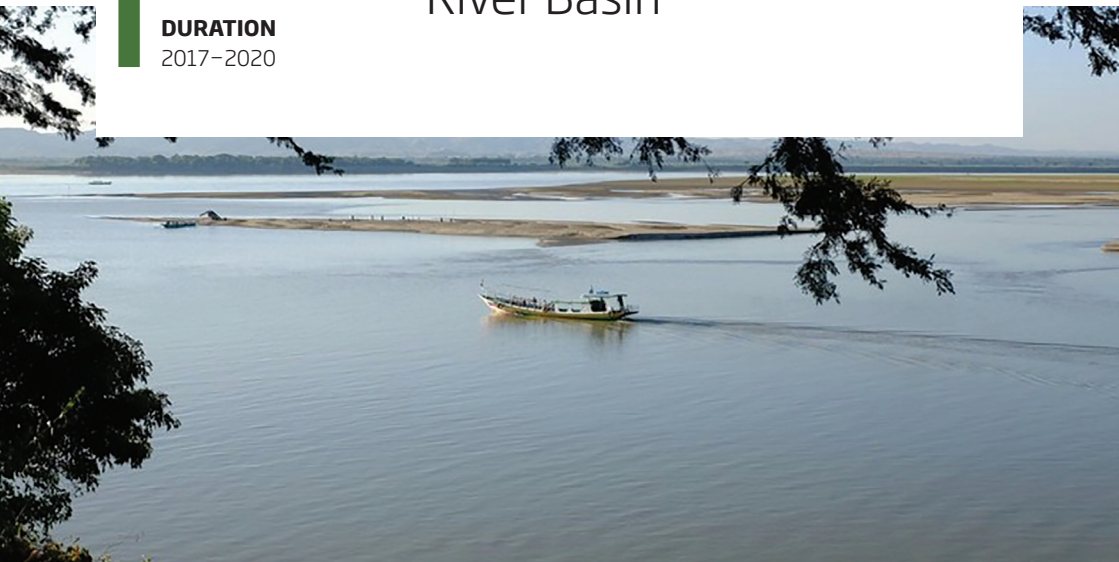
LOCATION

Ayeyarwady River Basin

DURATION

2017–2020

Improving the quality of weather, climate and hydrological information and services in the Ayeyarwady River Basin



Myanmar has a long history of weather-related disasters including tropical cyclones, storms, floods, droughts and fires. Their impact can be localized or widespread, predictable or unpredictable and – depending on the severity of the incident – can have a long-term impact on the infrastructure of the area. The current and expected impacts of climate change and the rapid socio-economic development within the country have highlighted the need for quality forecasting, warning services and a unified observing, weather, climate and hydrological forecasting and delivery system.

"The Ayeyarwady Integrated River Basin Management Project is expected to benefit millions of poor people whose livelihoods are based on water-dependent sectors like agriculture. It will help protect the lives and livelihoods of those living in areas affected by drought, floods and storms."



The Ayeyarwady Integrated River Basin Management (AIRBM) project contributes to the development of integrated and climate-resilient management of the Ayeyarwady River Basin. As Myanmar's largest river basin, Ayeyarwady serves a significant portion of the country's population. It runs from the mountain ranges in the north through the agriculturally important dry zone in the middle basin, to the delta in the south. Agriculture in the basin is the backbone of the Myanmar economy. The area is home to around 70% of the country's population and has been described as the heart of the nation.

The AIRBM project consists of four components, all of which address SDG 13, but also address SDG 1, SDG 6 and SDG 8. NIRAS' assignment focuses on component 2 of the project, which aims to improve the quality of weather, climate and hydrological information and services in Myanmar. Sectors such as energy, irrigation, transport and urban development require timely and accurate information about weather, meteorological threats, floods and droughts.

The project contributes to SDG target 13.3, as it works to increase the capacity of the Department of Meteorology and Hydrology (DMH), enabling them to deliver more efficiently information and services for disaster risk reduction, water resources management, agriculture, transport and environmental protection. To achieve this, AIRBM provides comprehensive assistance and services to DMH for the modernization of their operations and services for both public and private clients.

There have been many projects in Myanmar over the last few years with investments in radar installations, observation and communication systems. The AIRBM project facilitates the integration of those investments into one unified forecasting and delivery system. Overall, the project's final end-to-end solution should be long-term and sustainable.



Monitoring and communicating results for the Global Climate Change Alliance in Tanzania

Tanzania's economy is highly dependent on sectors affected by climate variability and change. It is estimated that climate change will lead to economic costs ranging between 1 to 2% of GDP per year by 2030. The European Union established the Global Climate Change Alliance (GCCA) in 2007 to support developing countries in their endeavours to adapt to climate change. In Tanzania, the GCCA programme was initiated in 2010 to support the Government in strengthening the adaptive capacity of some of the most affected communities. A second phase was launched in 2016.

Through GCCA II, the EU is funding five eco-village projects where communities develop their adaptive capacity in terms of water, agriculture, energy, and forest management. NIRAS is responsible for developing a monitoring & evaluation framework and a visibility and communication strategy to ensure the impact of the programme is effectively evaluated, and that its results are communicated to target groups in Tanzania and Europe.

The eco-village projects link together several SDGs. In water and sanitation (SDG 6), they work with integrated water management, sanitation, and water harvesting and storage. In agriculture (SDG 2), the projects scale up improved agriculture techniques such as micro-irrigation, land management, soil conservation, livestock, fish farming, and introduction of improved drought tolerant crop species and varieties. For energy solutions (SDG 7), the eco-villages promote solar, hydro and sustainable biomass production. They introduce solar bottle lamps, biogas digesters, fuel-efficient cooking stoves, and environmentally friendly building tech-



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Delegation of the European Union to Tanzania

COUNTRY

Tanzania

LOCATION

Dodoma, Tanga, Arusha, Tabora, and Pemba

DURATION

2016–2020



“Knowledge management is improved to facilitate the exchange of experience and lessons learned under the eco-village approach and the communication of results to key stakeholders, policy-makers and the public at large.”

niques and materials. The projects also work with participatory forest management, including tree nurseries, reforestation and household woodlots.

NIRAS’ in-depth knowledge of these topics means we can establish an M&E system that is tailored to capture the results and issue timely warn of shortcomings in any of the project areas. The communication and visibility strategy can be designed to target the right stakeholders, with the right information, at the right time. The generated knowledge can strengthen local authorities, create awareness outside the eco-villages, and be used in up-scaling activities, extension services and district plans.

On a larger scale, the results are communicated to Tanzanian policy-makers through visibility events and facts sheets and can be used by donors and development practitioners to include best practices and lessons learned into future climate-resilience projects.





Building farmer-owned, climate-smart coffee value chains in Uganda

There are around 1.6 million coffee farmers in Uganda, and over the last two decades the country has gained on average 30% of its export income from the sale of coffee. However, climate scenarios show that a 2 °C temperature increase could threaten large parts of farmed areas if adaptation measures are not taken. Already today small-scale farmers receive a minuscule share of the coffee shelf price, as beans sell for a low price and most value is added later in the processing stages of sorting, roasting and grinding. If coffee farmers do not change their farming practices, their yield and income will decrease substantially further due to climate change.

The Nordic Climate Facility's project aims to address this situation. Working together with the National Union of Coffee Agribusinesses and Farmer Enterprises (NUCAFE), NIRAS's will help create a climate-resilient community of smallholder coffee farming families from at least 20 rural community cooperatives by:

- investing in adaptation and mitigation measures across the value chain
- providing training and guidance on climate-smart agricultural practices, and
- enhancing farmers economic foundation through the introduction of the farmer ownership model.

As a first step, the project will establish pilot projects with climate mitigation and adaptation measures that can be implemented at farm level (target 13.1), for example planting shade trees, applying biochar to the soil, and using solar-driven water pumps and flexi-pumps for irrigation. These activities will enhance climate adaptation, mitigation and production growth, and at the same time serve as a way for the farmers to continue on a low-carbon pathway when upgrading their farm technology. The project will further contribute to target 13.3 by reaching up to 2,000 small-scale coffee producers with capacity building in climate-smart agricultural practices through the training of trainers and the distribution of guidebooks in five different local languages. Finally, the project will increase farmer profitability through the farmer ownership model, which increases farmers' independence in the value chain and makes sure that more income stays with the small-scale coffee farmers.

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Nordic Development Fund,
through the Nordic Climate
Facility

COUNTRY

Uganda

LOCATION

Kampala and surrounding coffee districts

DURATION

2017–2019



NIRAS also supports NUCAFE in energy-efficient upgrading of the organisation's coffee processing facility, builds capacity in coffee value addition, and helps create a new farmer-owned specialty coffee brand. This enables farmers themselves to add value to their coffee beans by jointly processing, packaging and selling high-value roasted coffee beans and ground coffee. This stands in sharp contrast to the common smallholder farmers coffee system, where most farmers are dependent on intermediate buyers and processors. Thus, this programme will not only create a more low-carbon and climate-resilient production system, but will also make sure that farmers can make a profit from their climate-smart production.



The project empowers Ugandan coffee farmers to gain a better profit through value addition of their coffee beans.

Increasing access to sustainable, affordable, and reliable energy in the Mekong Region

CLIENTS

Ministry of Foreign Affairs, Finland
Nordic Development Fund

COUNTRIES

Cambodia, Lao PDR, Myanmar,
Thailand and Vietnam

DURATION

2009–2018





The Energy and Environment Partnership (EEP) with the Mekong Region aims to increase access to sustainable, affordable and reliable energy through the distribution of clean energy applications while mitigating global climate change in Cambodia, Lao PDR, Myanmar, Thailand and Vietnam. It is part of the EEP Global program funded by the Ministry for Foreign Affairs of Finland and focuses on projects in all areas of clean energy (renewable energy & energy efficiency), bridging the gap between a good idea and a bankable project.

The overall objective of the programme is improved livelihoods as well as climate resilience in rural and semi-urban communities directly contributing to SDGs 7 and 9 as well as to sub-goal 13.1: reducing the vulnerability of local populations to climate change and natural disasters.

The EPP ran in two phases and aimed to stimulate the clean energy market through business development, capacity building and improved policy frameworks. Phase 1 (2009–2014) funded 39 national and regional projects out of 432 proposals. Building on its success, phase 2 (2014–2018) integrated a results-based financing mechanism and a human-rights-based approach to promote clean energy market deployment. Funding was focused on larger size projects to achieve sustainable impacts, targeting both developers from the private sector, public-private partnerships and public sector entities.

One of the EPP success stories is in the clean energy and education sector at the Don Bosco technical school in Sihanoukville. It is one of the largest of its kind in Cambodia and operates heavy mechanical equipment as a part of its vocational education program. The resulting energy demand, at the electricity price of 0.28 USD/kWh (among the highest in the Mekong region) was a significant financial burden. Don Bosco, in cooperation with Kamworks a local clean energy supplier and EEP Mekong, installed a 115 kWp grid-connected solar photovoltaic plant. The energy savings resulted in a reduction of the school's annual electricity bill of around US\$50,000. The solar-PV plant also results in significant reductions in greenhouse gas emissions.



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Our decentralized structure ensures we're always close to our projects. With 51 offices in 27 countries, we maintain strong local ties to clients, experts and organizations in all of our key markets. Building on our motto "we listen, we learn, we deliver", NIRAS is proud to be a long-term partner in the pursuit of growth and prosperity for the countries in which we work and is committed to building partnerships and local capacity, beyond the lifespan of individual projects, to achieve sustainable and equitable future societies.





■ Next generation consultancy

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