



Final and ex-post Evaluation of three Institutional Cooperation Projects in Tanzania

Julian Caldecott
Bernadeta Killian
Markku Siltanen
Ron Smit

Ministry for Foreign Affairs of Finland
ALI-20

Impact Consulting Oy Ltd in consortium with Saffron Consulting
International Ltd.

January 2020

Final and Ex-post Evaluation of Three Institutional Cooperation Projects in Tanzania: Final Report

by Julian Caldecott, Bernadeta Killian, Markku Siltanen and Ron Smit

Impact Consulting Oy Ltd in association with Saffron Consulting International Ltd.,
for the Ministry for Foreign Affairs of Finland, Helsinki

9 January 2019

Contents

Summary	2
Acronyms and abbreviations	6
1. Introduction	8
1.1 Scope and purpose	8
1.2 The Tanzanian context	8
1.3 The global environmental context	10
2. Methods	13
2.1 Desk study and inception report	13
2.2 Field work, schedule and interviews	13
2.3 Design and performance analysis	13
2.4 The evaluation matrix	16
3. Findings on the ICI projects	16
3.1 The INFORES project	16
3.2 The ZAN-SDI project	17
3.3 The GST-GTK project	18
3.4 The final evaluation matrix	19
4. Country strategy and the role of the ICI modality	25
4.1 Main themes of the current strategy	25
4.2 Towards a new country strategy for Tanzania	26
4.2 Opportunities for ICI in a new country strategy	31
5. Conclusions and recommendations	33
5.1 Conclusions	33
5.2 Recommendations	34
Bibliography	36
The evaluation team	41
Annex 1: Terms of Reference	42
Annex 2: Persons consulted	47
Annex 3: Preliminary evaluation matrix from the Inception Report	50
Annex 4: Evidence on design quality and performance for the INFORES Project	54
Annex 5: Evidence on design quality and performance for the ZAN-SDI Project	60
Annex 6: Evidence on design quality and performance for the GST-GTK Project	68

Summary

This final and ex-post evaluation covers the design and performance of three Institutional Cooperation Instrument (ICI) projects: INFORES (Jan 2016 to Dec 2019; Finnish partner Luke); ZAN-SDI (Jan 2016 to Apr 2019; Finnish partner SYKE); and GST-GTK (May 2015 to May 2017; Finnish partner GTK). The evaluation is also intended to be used in informing MFA of lessons learned and the potential role of ICI projects in the Country Strategy for Tanzania 2020-2024. The findings are summarised below and tend strongly to validate ICI as an important and useful element of a country strategy.

FINDINGS ON ICI PROJECTS

The INFORES project theory of change can be summarised as: *by developing the technological capacity and skills needed to manage forest inventory data, Tanzanian institutions will become better able to meet the information needs of all those whose activities might depend upon or impact forest ecosystems.* The problem for the evaluators was that each of the multiple institutions involved seemed to have different ideas both of purpose and of potential uses and users. The resulting lack of clarity yielded low scores for relevance, design, impact and sustainability on first assessment, but these issues were re-examined later for each of the key partners. Thus, the retrieval (from FAO Rome) of national forest inventory (NAFORMA) data, its triplicate storage in Tanzania, and the building of technical capacity to manage and use it, particularly at the National Carbon Monitoring Centre (NCMC) at the Sokoine University of Agriculture (SUA), and also at the Tanzania Forestry Research Institute (TAFORI) and Tanzania Forest Service Agency (TFS), provided knowledge on forest stocking density (biomass and carbon) by region, ecozone and species, which:

- **allowed NCMC**, with the addition of deforestation maps based on satellite imagery, to prepare the national Forest Reference Emission Level (FREL) as a basis for monitoring, reporting and verification (MRV) and REDD+, and to start supporting the Vice President's Office (VPO) on Paris Agreement reporting on behalf of the Government of Tanzania;
- **enabled SUA** to undertake a number of research projects on forest structure and composition in addition to studies that contributed to FREL analysis and NCMC aims;
- **assisted TFS** in providing useful analyses, such as on regeneration constraints and opportunities in *miombo* woodland, and to support the Ministry of Natural Resources and Tourism (MNRT) in reviewing the 1998 National Forest Policy and in enabling the Ministry for Lands and Urban Settlements to develop a national land use/land cover map; and
- **enabled TAFORI** to offer information to internal and external research users and to prepare answers to specific questions, for example on CITES listing proposals related to the distribution and age structure of particular forest species

The ZAN-SDI project featured consensus among multiple partners around a theory of change which can be summarised as: *improved and open access to spatial data through partner institutions, and integration of those data into spatial plans by inclusive and participatory means, will increase understanding and compliance with planning aims while also tending to reduce planning failures and harmful impacts by private investments, and to promote transparent and accountable governance and fairer and more sustainable development outcomes.* Early weaknesses in outreach and participation at director level were corrected through effective collaboration among all institutions at technical level. Thus, government institutions responsible for terrestrial planning (i.e. COLA, ZEMA and the departments of forestry and environment among others) and marine planning (i.e. DFD in MANRLF) cooperated with each

other and with the State University of Zanzibar (SUZA) and other actors (i.e. *shebias*, businesses, NGOs such as MCCN, and donor projects such as SWIOFish) to collect and manage geospatial data on ecosystems and societies in the north-east zone of Unguja island and prepare high-quality and consensual maps and spatial plans for the area as a whole and for two sub-regions within it. The involvement of SUZA gave enhanced access to geospatial competence developed (often in collaboration with UTU) through the previous ZanSea and current Geo-ICT, Resilience Academy and World Bank drone mapping programmes, and of the MCCN to ideas of community-based resource management (e.g. fish and octopus harvesting closures for stock and ecosystem recovery, and community income from tourism). In the Zanzibar context, the ZAN-SDI project offered a way to bring all these interests together around a clear purpose, thus maximising synergy despite a certain lack of coordination among Government of Zanzibar (GoZ), donors and other actors, and this was strongly appreciated by all participants.

The GST-GTK project involved partner institutions in collaborating around a clear theory of change which can be summarised as: *economic productivity and safety in the minerals sector will be enhanced by creating and disseminating geological and geochemical data and maps, as well as technical and safety advice to small-scale miners, and the sustainability of these services will be ensured by building the capacity of GST to continue providing them.* Strong satisfaction with the project was confirmed through interviews at GST and SUA, and its performance was examined through inspection of the results achieved. The most visible and probably the most valuable result was the production of a geochemical map and atlas for all of mainland Tanzania, based on analysis of soil samples collected under NAFORMA. This product, indicating levels of some 15 metals in soil, as well as acidity values, is useful not only for mineral exploration, but also for possible soil remediation in the agricultural sector. The mineral potential map of the Nachingwea area is similarly useful for mineral exploration at target generation stage. Another achievement was the setting up of a new website platform for the GST (www.gst.go.tz), using a content management system that can be easily updated and edited by GST staff, three of whom are now able to do so. The least satisfactory component involved training artisanal and small-scale miners, which was done in a single day and had little impact (this part of the project design appears to have been added at a very late stage).

Summary table of design and performance scores of the three ICI projects (1 = worst, 7 = best)			
Criterion	INFORES	ZAN-SDI	GST-GTK
Relevance (national)	NCCM (6); SUA (5); TAFORI (4); TFS (4).	Overall (7).	Overall (6).
Relevance (Finland)	Overall (5).	Overall (6).	Overall (6).
Design quality	Overall (2).	Overall (6).	Overall (5).
Efficiency	Overall (4).	RA-1 (3); RA-2 (6); RA-3 (4).	Overall (5).
Effectiveness	NCCM (6); SUA (5); TAFORI (4); TFS (3).	RA-1 (3); RA-2 (6); RA-3 (4).	RA-1 (5); RA-2 (6); RA-3 (2); RA-4 (6).
Impact	NCCM (6); SUA (5); TAFORI (4); TFS (3).	Overall (6).	Overall (5).
Sustainability	NCCM (6); SUA (5); TAFORI (4); TFS (3).	Overall (5).	Overall (5).
Mean score	4.4	5.1	5.1

FINDINGS ON COUNTRY STRATEGY

The current MFA country strategy for Tanzania applies to 2016-2020, pending revision for 2021-2024. A précis of its impact areas, outcomes and outputs shows that the emphasis is on continued support for human rights and gender equality, with focused investment targeting good governance and domestic resource mobilisation, and innovation for employment and livelihoods as well as forestry in ways that link to national efforts to mitigate and adapt to climate change.

The next policy and strategy period will be dominated by two factors. The first is the goal for Tanzania to become a middle-income country by 2025, which relates directly to the ambition of the Finnish government to facilitate where possible, and Finnish businesses to invest where profitable, in building the economic strength of the country. The second factor encompasses the global climate and ecological emergency, and its various life- and livelihood-threatening manifestations within Tanzania. These two factors come together where Finnish technical and business resources match some of those most needed in Tanzania, including in digital knowledge management, sustainable energy, and all aspects of ecosystem, water and waste management as well as meteorological and climate change monitoring, reporting, mitigation and adaptation.

Responses to climate change threats are to be guided by the Nationally Determined Contributions (NDCs) prepared by each party to the Paris Agreement, which state what each feels able to achieve on adaptation and mitigation. Responsibility for preparing the NDCs in Tanzania resides with the VPO, which directs the 13-ministry National Climate Change Steering Committee (NCCSC) that is responsible for overseeing and guiding the implementation of climate change activities in the country. The Tanzanian NDCs have already been submitted to the UNFCCC Secretariat and are expected to be validated by the NCCSC early in 2020.

The NDCs challenge the Government of Tanzania to reduce net GHG emissions through mitigation in the energy, transport, waste and forest sectors, monitored and reported by the NCMC, while also strengthening social and ecological systems to reduce the impacts of climate chaos on Tanzanian citizens through adaptation in the farming, livestock, forestry, health, water, urban, coastal/marine and other sectors. They offer clear priorities for development cooperation, with Finland being in an excellent position to offer support for the following reasons.

- First, Finland's recent and current engagements with the forest sector through the PFP, FORVAC, and other actions including INFORES itself, are substantial, strategic and much appreciated by the GoT. The role of INFORES in particular has been to support the continued building of capacity at the NCMC, which has become a key institution for managing knowledge on GHG emissions and the effects of emission-reduction strategies, while INFORES has also promoted climate-change-relevant research, training and knowledge-management priorities and cooperation among SUA, TAFORI and TFS.
- Second, Finland's involvement with Zanzibar through the ZAN-SDI project has shown how a well-conceived intervention can have a transformative effect on meeting NDC adaptation priorities in the coastal/marine sector, through inclusive research and spatial mapping to support resilience planning, in ways that are potentially applicable much more widely.
- Third, Finland's historical and continuing support to the Institute of African Leadership for Sustainable Development, also known as the Uongozi Institute, offers unique potential to sensitise and train senior civil servants on the sectoral and economy-wide implications of the NDCs, and how they can be delivered across every sector of the Tanzanian economy.

- Finally, the other ICI project considered here, GST-GTK, has also contributed to building capacities for geochemical analysis and mapping that could in principle be applied to NDC priorities, for example in assessing geothermal energy potential and identifying opportunities for soil remediation, ecosystem restoration and organic crop production.

CONCLUSIONS AND RECOMMENDATIONS

The evaluation concluded that the equal relationship between Finnish and national partners in ICI projects allowed for creativity by national partners in using resources to further their own priorities, resulting in *constructive divergence* among partners of INFORES, *constructive convergence* of those in ZAN-SDI, and straightforward *delivery of excellence* by those in most of the GST-GTK project. Reliance on local partners also allowed them to use their own local knowledge to find their way around local political and institutional obstacles. To these may be added the advantages of cost and speed recognised by MFA, and the relatively high overall performance detected in this study. The net result is to validate the ICI modality as an important and useful element of country strategy planning.

These points, considered alongside the strategic issue of Tanzania's climate change response, led the evaluation to make two recommendations:

- **That the next Finnish Country Strategy for Tanzania** should respond directly to the priorities for pro-poor and life-saving sustainable development and climate change mitigation and adaptation outcomes expressed in the NDCs. Ways to do so are identified in the text.
- **That priority should be given to developing ICI projects** that are complementary to the new, NDC-oriented Country Strategy. These efforts should focus on Tanzanian institutions that are critical to delivering: (a) knowledge-management services on adapting to climate chaos and reducing net GHG emissions; (b) life-saving and pro-poor adaptation outcomes; (c) measurable net GHG emission reduction outcomes; and (d) relevant academic research and training to ensure sustainable progress. Several candidate projects are identified based on the findings.

Acronyms and abbreviations

ASM	Artisanal and small-scale miners (as a category)
CCCS	Centre for Climate Change Studies (at the University of Dar es Salaam's Institute for Resource Assessment)
CCT	Cross-cutting theme
COLA	Commission for Lands (of Zanzibar)
DFD	Department of Fisheries Development (of Zanzibar)
DFNR	Department of Forestry and Non-Renewable Natural Resources (of Zanzibar)
DoE	Department of Environment (of Zanzibar)
DoSM	Department of Surveys and Mapping (of Zanzibar)
DoURP	Department of Urban and Rural Planning (of Zanzibar)
FCG	Finnish Consulting Group
FCPF	Forest Carbon Partnership Facility
FORVAC	Forestry and Value Chains Programme
FREL	Forest Reference Emission Level
GCF	Green Climate Fund
Geo-ICT	Geospatial and ICT capacities in Tanzanian Higher Education Institutions
GESI	Gender equality and social inclusion
GHG	Greenhouse gas
GIS	Geographic information system
GoT	Government of Tanzania
GoZ	Government of Zanzibar
GTK	Geological Survey of Finland (<i>Geologian tutkimuskeskus</i>)
GST	Geological Survey of Tanzania
GST-GTK	Mineral Resources Potential and Small-scale Mining in Nachingwea Area and a General Nation-wide Geochemical Map of Tanzania (ICI project)
HAUS	Finnish Institute of Public Management Ltd (<i>Suomen julkishallinnon instituutti Oy</i>)
HEI-ICI	Higher Education Institutions - Institutional Cooperation Instrument
ICI	Institutional Cooperation Instrument (<i>Instituutioiden välisen kehitysyhteistyön instrumentti, IKI</i>)
ICT	Information and communication technology
INFORES	Implementation support of results and data of first National Forest Resources Monitoring and Assessment (NAFORMA) at regional and local level in Tanzania (ICI project)
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
Luke	Natural Resources Institute Finland (<i>Luonnonvarakeskus</i>)
MANRLF	Ministry of Agriculture, Natural Resources, Livestock and Fisheries (of Zanzibar)
MCCN	Mwambao Coastal Community Network (<i>mwambao</i> = 'coast' in KiSwahili)
MFA	Ministry for Foreign Affairs (of Finland)
Miombo	KiSwahili for a tree genus (<i>Brachystegia</i>) characteristic (along with <i>Julbernardia</i> and <i>Isoberlinia</i>) of a widespread African biome known as 'miombo woodland'.
MITMIOMBO	Management of Indigenous Tree Species for Ecosystem Restoration and Wood Production in Semi-arid Miombo Woodlands in Eastern Africa (EU project)
MNRT	Ministry of Natural Resources and Tourism
MRV	Monitoring, reporting and verification

MtCO _{2e}	Megatonne of carbon dioxide equivalent, a unit of the total greenhouse effect of mixtures of GHGs, taking into account their different potencies as solar heat trapping agents.
NAFORMA	National Forest Resources Monitoring and Assessment
NCCSC	National Climate Change Steering Committee
NCCTC	National Climate Change Technical Committee
NCMC	National Carbon Monitoring Centre (at SUA)
NDC	Nationally Determined Contribution (to Paris Agreement objectives)
NGO	Non-governmental (non-profit) organization
NLSFI	National Land Survey of Finland (<i>Maanmittauslaitos</i>)
NSDI	National Spatial Data Infrastructure
PFP	Private Forestry Programme
RA	Result area
REDD+	Reducing (GHG) emissions from deforestation and (forest) degradation, with internationally-agreed forestry, biodiversity and social safeguards.
SDG	Sustainable Development Goal
SDI	Spatial Data Infrastructure
SMOLE	Sustainable Management of Land and Environment
SUA	Sokoine University of Agriculture
SUZA	State University of Zanzibar
SWIOFish	Southwest Indian Ocean Fisheries Governance and Shared Growth Program
SYKE	Finnish Environment Institute (<i>Suomen ympäristökeskus</i>)
TAFORI	Tanzania Forestry Research Institute
TANAPA	Tanzania National Parks Authority
TEITI	Tanzania Extractive Industries Transparency Initiative
TFS	Tanzania Forest Service Agency
ToR	Terms of Reference
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UTU	University of Turku
VPO	Vice President's Office
VTV	National Audit Office of Finland (<i>Valtiontalouden tarkastusvirasto</i>)
XRF	X-ray fluorescence
ZAN-SDI	National Spatial Data Infrastructure for Integrated Coastal and Marine Spatial Planning in Zanzibar (ICI project)
ZanSea	Zanzibar Social Environmental Atlas for Coastal and Marine Areas
ZEMA	Zanzibar Environmental Management Authority
ZILEM	Zanzibar Integrated Land and Environment Management
ZLDPC	Zanzibar Land Data Processing Centre

1. Introduction

1.1 Scope and purpose

The evaluation covers three Institutional Cooperation Instrument (ICI) projects:

- **INFORES:** *Implementation support of results and data of first National Forest Resources Monitoring and Assessment (NAFORMA) at regional and local level in Tanzania* (Jan 2016 to Dec 2019);
- **ZAN-SDI:** *National Spatial Data Infrastructure for Integrated Coastal and Marine Spatial Planning in Zanzibar* (Jan 2016 to Apr 2019); and
- **GST-GTK:** *Mineral Resources Potential and Small-scale Mining in Nachingwea Area and a General Nation-wide Geochemical Map of Tanzania* (May 2015 to May 2017).

As described in the *Evaluation Manual* (MFA, 2018) which guides this evaluation, the difference between a **final evaluation** and an **ex-post evaluation** is that the former assesses achievements of a project at or just after its end (and also seeks lessons learned for future programmes or policies), while the latter is done some years after the project ends and seeks evidence concerning its longer-term impact and sustainability. Thus, the INFORES and ZAN-SDI projects were the subjects of final evaluation while the GST-GTK project was due for ex-post evaluation. Since all three were ICI projects, their performance was assessed relative to the expectations of the *ICI Manual* (MFA, 2012), and any recommendations that envisioned further ICI-based cooperation were informed by the same source, but bearing in mind that a new version is in preparation.

The ToR for the evaluation (Annex 1) state that it is intended “to provide objective information to the MFA especially about relevance, effectiveness and sustainability of ICI cooperation in Tanzania, and to give guidance on the use of this instrument for the next country strategy”, while also assessing “lessons learned from institutional cooperation” and responding to the fact that the ICI partners “have expressed interest in planning new projects.” Thus, the evaluation was to explore the performance of the recent ICI projects while also being forward-looking. Moreover, these two approaches were to support one another while also harmonising with the priorities of a new country strategy. The latter has not yet been written but is likely to contain continuing elements, such as on business collaboration, investment and cooperation in the forest sector, and a focus on the Sustainable Development Goals (SDGs), human rights, and gender equality and social inclusion, while also being relevant to the new global development preoccupations of climate chaos and ecological breakdown.

1.2 The Tanzanian context

The United Republic of Tanzania was formed in 1964 through the union of two states that had recently gained independence from Britain, Tanganyika in 1961 and Zanzibar in 1963 (Killian, 2008a). The Union government and the Zanzibar government each has its own executive, judiciary and legislature. The Zanzibar government exercises sovereignty over all domestic and non-union matters, while the Union government exercises jurisdiction over matters that include defence and security, foreign affairs, police, emergency powers, citizenship, external borrowing and trade, mineral oil resources, higher education, the court of appeal, and the registration of political parties. The political situation in Zanzibar has some peculiarities, with ethnic rivalries and other tensions that resulted in significant social discord in the 1990s and following elections in 2000, 2005 and to a lesser extent in 2010 (Killian, 2008b; 2014). The 2015 elections were annulled (Throup, 2016), leading to renewed questions over the political future of the archipelago and the continued involvement there of foreign donor agencies. The conduct of the 2020

elections may be decisive in the latter respect, although there are grounds for optimism in the generational transformation of the population, with many younger Zanzibaris being less concerned to perpetuate the divisions of the past.

Tanzania has an area of about 945,000 sq. km. The mainland consists of a low-lying eastern coastal area, a high central plateau and scattered mountainous zones especially in the northeast, where Africa’s highest mountain (Kilimanjaro) is situated. To the north and west are Africa’s largest and deepest lakes (Victoria and Tanganyika respectively). Central Tanzania comprises a large plateau, with plains and arable land. The eastern shore is hot and humid, with the low-lying, coralline islands of Zanzibar (Unguja, Pemba and some smaller islands) offshore. The number of Tanzanians was 45 million at the 2012 census, and an estimated 56 million in 2018, of whom about 1.5 million live in Zanzibar. The most fertile lands are now densely populated, there are conflicts over land between pastoralists and cultivators, and land degradation is a problem, through rapid deforestation, soil erosion and nutrient depletion (World Bank, 2019). The supply of fresh water is inadequate and/or sporadic in many areas, and Tanzania is now an increasingly water-stressed country (World Bank, 2017). Signs of ecosystem degradation and biodiversity loss are becoming obvious in parts of Tanzania’s coastal and marine environments.

All land in Tanzania is owned by the government, but Acts of Parliament can reserve land for particular uses (affecting about 28 per cent of the total, which includes the government’s system of conservation areas, plus some two per cent of ‘general land’ set aside for urban use and expansion), and 70 per cent is ‘village land’, some of it forested, some used as Game Controlled Areas, some settled, farmed or grazed, and some effectively unused by people but all in principle under the ultimate control of villages. Table 1 summarises the coverage of the various land categories in Tanzania (from Caldecott *et al.*, 2013).

Land category	Area (m ha)	Per cent of total land area, and notes
General lands	1.9	2.0 per cent. Mainly urban and peri-urban areas.
National Parks (reserved land)	4.2	4.4 per cent. Gazetted under the National Parks Act. Managed by the Tanzania National Parks Authority.
Ngorongoro Crater (reserved land)	0.8	0.9 per cent. Gazetted under the Ngorongoro Conservation Area Ordinance 1959. Managed by the Ngorongoro Conservation Area Authority.
Game Reserves (reserved land)	5.2	5.5 per cent. Gazetted under the Wildlife Protection Act, many containing Hunting Blocks managed by the Wildlife Division of the MNRT.
Forest Reserves (reserved land)	14.6	15.5 per cent. Gazetted under the Forest Act, of which some 4.4 million ha are under Joint Forest Management (a form of Participatory Forest Management).
Other reserved lands	1.6	1.7 per cent. Gazetted under various Acts and set aside for specific uses, such as road reserves.
Village lands	66.2	70.1 per cent. Of which, about 16.6 million ha are forested, including some 2.3 million ha in Village Land Forest Reserves, and some 12.3 million ha gazetted as Wildlife Management Areas.
Total	94.5	100 per cent.

Choices over village land use lie at the heart of governance and development issues in Tanzania, if only because most land is administered by Village Councils, and what happens there requires

their consent, on paper at least. The legal primacy of the villages is a result of events in 1975, when ideological priorities (of *Ujamaa* socialism) and a wish to extend the influence of the ruling party to the grass-roots led to laws creating Village Assemblies, which comprise all adults in a registered village, and Village Councils, which are elected corporate bodies that are able to own property and enter into contracts (Nelson & Blomley, 2010). The corporate powers of Village Councils were strengthened by 1982 local government reforms, when they were empowered to promulgate bylaws. The 1999 Land Act and Village Land Act made the Village Councils responsible to the Village Assemblies for managing customary village lands, including the delineation of communal lands. As a result, Tanzania has one of the strongest local institutional frameworks for community-based resource management in sub-Saharan Africa, offering abundant scope for local participation in the careful use and protection of forests.

1.3 The global environmental context

a) Climate and ecological emergency

The last few years have seen a great increase in concern that climate chaos, mass extinction and ecological breakdown will undermine the development gains of the last several decades. The 2015 Paris Agreement reflected determination among most countries to take effective action on mitigation (i.e. reducing net GHG emissions) and adaptation (i.e. strengthening ecological and social systems against climate chaos). It has since emerged that the challenges are much more serious and urgent than initially thought (IPCC, 2019; IPBES, 2019; UNEP, 2019¹), and during 2019 many local and national administrations and parliaments declared climate and ecological emergencies. They include the European Parliament, which made such a declaration on 28 Nov, just prior to the 25th Conference of the Parties to the UNFCCC in Madrid. Several countries (including Finland) also became committed to achieving zero net GHG emissions by 2050. This is partly a political response to a global mass movement, led since late 2018 by the Youth Climate Strike, Fridays for the Future, and the Extinction Rebellion, calling for transformation of the world's economic system and humanity's relationship with nature. As an indication of thinking on the aid response to these new issues and priorities, Box 1 presents relevant findings of a recent synthesis evaluation of EU development cooperation in the area of climate and energy.

Box 1: Conclusions on mitigation strategy, from *Lessons learned from strategic evaluations - Climate Change and Sustainable Energy (ESS, 2019)*

“Future EU mitigation strategy will be driven by the Nationally Determined Contributions (NDCs) of partner countries, formulated under the Paris Agreement, and also by public demands for emergency action, but adaptation and existing knowledge should not be neglected.”

“Respond fully to the Paris Agreement. The EU efforts reviewed here were useful experiments in policies, laws, delivery mechanisms and technologies, and offer lessons for decarbonising economic systems. The Paris Agreement sets overall goals and requires parties to present their own NDCs for achieving them. Parties are then expected to compete and cooperate in making their contributions, with peer pressure driving improvement. Implementing the NDCs will be a main theme of EU climate cooperation, on both mitigation and adaptation, and the application and replication of lessons learned since 2007 will be vital. EU experience is a useful source of these lessons, but there are many others. Collectively, we know how to incentivise and deliver decarbonisation investments effectively at scale, and enough about what works to be able to greatly accelerate progress on biodiversity conservation, ecological restoration, community-based

¹ See also: (a) www.climatelevels.org/?pid=2degreesinstitute&theme=grid-light&fbclid=I; and (b) www.mostimportantthings.org/2019/10/04/ecological-risk-and-the-climate-emergency/

resource management, payments for ecological services, and other arrangements that must now be replicated worldwide if climate change, ecosystem collapse and mass extinction are to be controlled.

“Respond convincingly to public concern. Public demand for action on climate change has increased since 2018, with Youth Climate Strikes and Extinction Rebellion actions, and a strong media and political response including declarations of ‘environment and climate emergency’ and early ‘zero net emissions’ targets by parliaments, assemblies and councils. Thus it makes sense to learn from the past but also to acknowledge that each year humanity still releases tens of *billions* of tonnes of GHGs while conserving only tens of *millions*, and that the public is worried, frustrated by denial of overwhelming evidence, and is now being radicalised into direct action. Hence there is an immediate need for the EU and Member States to communicate with the public, and particularly with the millions of young Europeans who are now mobilised, to explain how their governments can and will solve the climate problem. This will require major concessions to the public mood, including uplifting declarations of *Peace with Nature* (following Costa Rica) or the *Rights of Mother Earth* (following Bolivia), along with plausible targets and reform processes, and convincing evidence that emergency action is underway. To head off the climate change threat itself will require much more even than this, and adaptation to inevitable change remains a poorly-defined goal that requires far more attention than hitherto.

“Use EU added value more effectively. In responding to these various opportunities, EU added value is a key asset. The EU is a community of equal member states, some large and some small, so tends to validate the idea that small countries are just as likely as large ones to have good ideas. This is important, as many of the best ideas and practices on climate change emerge from small-scale societies, at community level (e.g. CREMAs [Community Resource Management Areas] in Ghana), but also among small states that have pioneered innovations in environmental sustainability, including Costa Rica, Rwanda, Nepal, Bhutan, Bolivia, New Zealand, Iceland, East Timor, and Guyana. Moreover, the EU has pioneered an experimental governance approach to environmental issues, notably through the Water Framework Directive which is similar in concept to the Paris Agreement. A strategy of supporting networked peer learning among NDC designers and implementers to facilitate implementation of the Paris Agreement is an important opportunity for the EU, as it would build directly on these unique features. So a final recommendation is for good ideas and best practices in smaller countries to be studied in support of experimental governance and replication through the NDCs, GCCA [Global Climate Change Alliance] and EU-wide programming.”

b) Implications for Tanzania and Finland

Events surrounding the climate and ecological emergency in 2018-2019 imply a new context for development cooperation, in which mitigating and adapting to climate chaos (and preventing biodiversity loss and ecological breakdown) should now be considered as top strategic priorities, rather than merely being listed among ‘cross-cutting themes’ as in former practice. The implications are only just starting to be considered, and it is likely that there will now be several years while aid and administrative officials and politicians familiarise themselves with environmental science and work out how best to respond to the new dangers, often under pressure as climate-change disasters multiply and demands for urgent action grow. Some direct implications for the Finland-Tanzania relationship are considered in Section 4.2, while three other factors are mentioned in the following paragraphs. The first two reflect rapidly-changing understanding of the drivers and consequences of climate change, and what needs to be done. The last is more positive and highlights opportunities both for Finland and for Tanzania.

c) Under-reporting of total GHG emissions

A country’s GHG emissions are described as ‘territorial’ when they are created by activity internal to its own economy, and as ‘embodied’ (or ‘consumption’, ‘embedded’ or ‘virtual’) emissions when they are created in the production of goods and services elsewhere, which are then

imported by that country. It is the sum of these emissions that is relevant to the real impact of the country on global heating, but the UNFCCC requires Parties to monitor, report and reduce only territorial emissions. This gives rise to the issue that countries may be reducing their own emissions while increasing the total emissions for which their populations are responsible. Thus, emission reductions reported by the UK - from about 800 MtCO₂e in 1990 to about 500 MtCO₂e in 2016 - are territorial only, and if embodied emissions are included then the decline in total emissions is much closer to zero (GoUK, 2019; Thunberg, 2019). Likewise, UNEP (2019) observes that the “the net flow of embodied carbon is from developing to developing countries”, and that per-person GHG emissions are higher in the EU than in China “when consumption-based emissions are included” (p. xv).

d) Under-assessment of methane emissions

The Kyoto Protocol of the UNFCCC includes methane in a basket of GHGs that must be monitored, reported and reduced. Territorial emissions of methane are relatively easy to measure in an industrial economy with a well-supervised agriculture sector, and they are included for example in the UK’s emission records which are given as millions of tonnes of carbon dioxide equivalent (MtCO₂e). Methane is 50-80 times more potent as a GHG than CO₂ so under-reporting of methane emissions is a serious matter, and such emissions are hard to measure where they originate in changes to large-scale ecosystems such as dam lakes, rice fields, drying peat-swamps, disused coal mines and melting permafrosts or sea-bed deposits. For these sources only crude estimates are typically available for territorial emissions, even more partial ones for non-territorial emissions (e.g. from the Arctic as a whole), and the science of measuring embedded methane emissions from tropical deforestation and agriculture is weakly developed. Yet large-scale methane releases seem to have been primarily responsible for some of the most dramatic climate events in the past, so the large amounts of methane stored in the Arctic and now being mobilised by rapid heating are a serious threat. Thus, it may be realistic to think of CO₂ emissions since the 1950s (when atmospheric CO₂ began to rise sharply) as the ‘primer’ of a major climate event that will actually be driven by methane in the 2030s and 2040s.

e) Opportunities for Team Finland and Business Finland

Finnish businesses can offer added value to climate mitigation and adaptation strategies and sectors in Tanzania. In addition to investment opportunities in direct mitigation action (e.g. in geothermal and other renewable energy, energy efficiency, clean technology, and more sustainable forest management systems and net reforestation), there are opportunities in adaptation through digital knowledge management and sharing (e.g. on more robust cropping systems where useful techniques are found across Africa but may not be known in Tanzania), in holistic water management systems to increase climate resilience, and in meteorological forecasting to enhance the prediction of water stress and extreme weather events, and to support index-based and disaster insurance systems. In identifying such opportunities, ICI projects can have an important role in opening doors and introducing Finnish technologies, systems, know-how and companies. The Team Finland and Business Finland networks could be more actively used for sharing information about ICI projects, identifying suitable Finnish company partners, and facilitating access into Tanzanian markets. As the EU’s and Finland’s commitments to respond to the climate and ecological emergency become more holistic, it will also be necessary to consider ways to minimise the embodied emissions of any exports from Tanzania that may be encouraged by Finnish investments, and how to measure, record and reduce methane emissions from land use changes that Finnish investments may affect, whether directly or indirectly.

2. Methods

2.1 Desk study and inception report

The desk study was used to prepare a preliminary description of the three ICI projects, and to begin assembling evidence in support of tentative performance judgements according to the evaluation criteria. In the process, key issues were identified to be explored further during interviews and field work. Sources used for each ICI project included contextual analyses, project documents, mission reports, annual and semi-annual reports, completion reports and other materials published and unpublished, including maps and videos produced by the projects, as well as the norms and guidelines for ICI cooperation (MFA, 2010a, b, 2012). The desk study was also used to examine the current MFA country strategy (MFA, 2016), and more recent strategic commentary on the implications of climate change for Tanzania (World Bank, 2019), the Tanzanian response to it in the form of Nationally Determined Contributions (NDCs) to Paris Agreement goals (GoT, 2018), and on EC priorities (ESS, 2019).

The desk study led to the Inception Report, the purpose of which was to explain what had been discovered through desk work and interviews so far, and how the rest of the evaluation was to be done. It therefore covered: (a) the methods of data collection and analysis to be used, including a finalised evaluation matrix, the lines of enquiry to be followed in semi-structured interviews, and the people and institutions where those interviews had been or were to be conducted; (b) overviews of the projects and preliminary observations on them, as related to their theories of change, relevance, efficiency, effectiveness, impact, sustainability and lessons learned; (c) any risks or challenges for the evaluation that had been identified and ways to overcome them; (d) the detailed plan of work and division of tasks; and (e) the contents list of the draft report.

2.2 Field work, schedule and interviews

Field work in Tanzania started with a briefing and ended with a de-briefing at the Finnish Embassy, with the team being in Dar es Salaam on 18, 22 and 28-29 Nov, in Morogoro on 19-21 Nov, in Dodoma on 20-22 Nov, and in Zanzibar on 23-27 Nov. Interviews were mostly face-to-face with individuals or groups of 2-4 people, but they sometimes involved remote participation and/or email correspondence. They were considered to be 'semi-structured' because although guided by explicit lines of enquiry, the aim was to understand what happened and why as well as to elicit opinions about matters that the interviewee considered important. This required a mix of open-ended questions and specific requests for information adapted to the particular interview and interviewee, combined with an awareness of matters of interest to the evaluation as a whole, and the flexibility to take note of and follow-up on subjects arising that could be predicted in advance. All 82 interviewees are named and listed by institution in Annex 2, and the team wishes to record their gratitude to all the officials, partners and informants concerned. Comments on the draft report were also received, which improved the clarity of the final report.

2.3 Design and performance analysis

a) Evaluation criteria

Evaluation requires evidence-based judgements to be made on design quality and performance of projects, according to defined criteria. Design quality depends on the rationality of the theory of change and the plausibility of the assumptions that underlie it. A theory of change states what the designers hoped to achieve, why, and by what means. It depends on assumptions among the designers about cause and effect. These are often linked, and all contribute to the theory of change, so the plausibility of each must be assessed using evidence or reasonable inference. A chain is only as strong as its weakest link, so judgements on design quality depend on the defensibility of all the assumptions and also the links between them. The three ICI projects were analysed by reconstructing the theory of change as far as possible from the documentary record, stating the assumptions that appeared to underlie each theory of change, and assessing the plausibility of those assumptions and the strength of the logic linking one to another. Meanwhile, performance depends on the delivery and influence of the project considered from various points of view that correspond to the evaluation criteria (Table 2), each of which offers a different way to examine and think about the project. The three ICI projects were analysed in this way.

Table 2: Evaluation criteria and evidence to support judgements on performance
Relevance to Tanzania/Zanzibar (scored) is considered high if there is evidence that the intervention responded in a balanced way to the needs of the national partners, while also being consistent with national policies and strategies.
Relevance to Finland (scored) is considered high if there is evidence that the intervention responded in a balanced way to the needs of the Finnish partners, while also being consistent with Finnish policies and strategies.
Design quality (scored) is considered high if there is evidence that the intervention was based on a theory of change and underlying assumptions of cause and effect that are plausible under the circumstances. The design should provide: (a) a convincing analysis of the context, problems, needs and risks upon which it is founded, and sufficient evidence that its approach can deliver useful results and sustainable impacts; (b) a complete sense of how and why the project was implemented; and (c) confirmation that all key stakeholder groups were meaningfully consulted in the design process.
Efficiency (scored) is considered high if there is evidence that the intervention contained measures that through elegance and accountability promote sound management and value for money, including consistent management patterns, difficulties and how they were overcome.
Effectiveness (scored) is considered high if there is evidence that results contributed to achieving the intervention's specific purpose. Evidence for direct effectiveness may be quantitative or qualitative, depending on the subject of study. Evidence for indirect effectiveness includes information on side effects and expected or unexpected consequences. Reasons to expect this kind of intervention to be effective can also be based on other knowledge (e.g. similar kinds of intervention elsewhere), especially if reasons for consistent outcomes can be identified.
Impact (scored) is considered high if there is evidence that the intervention had effects that were wider and longer-term than its results, including strategic changes attributable directly or indirectly to the intervention, which may be more or less subtle, beneficial or sustainable in nature. Impacts might include changes in skills, education, relationships, institutions, legislation, and administration. Negative impacts should also be noted, and could include unintended economic externalities, perverse incentives, population movements, and ecological deterioration. Effectiveness, impact and sustainability are connected ideas, and respectively stress immediate (short-term), systemic (strategic), and transformational (irreversible) changes.

<p>Sustainability (scored) is considered high if there is evidence that the intervention had effects that continued after it ended, due to induced changes: (a) in policies, laws and regulations, systems and working practices, establishment of new forums, or creation of new permanent staff positions; (b) to fiscal arrangements and budget allocations, or creation of thriving businesses with local participation in benefits; (c) in trends in environmental deterioration and ecosystem restoration, or introduction of incentives and resource management systems that reward sustainable use of ecosystems; or (d) in the introduction of new ideas, groups and activities that contributed to environmental or social protections.</p>
<p>'Aid effectiveness' is considered high if there is evidence that the intervention promoted ownership, accountability and enthusiasm in partner organizations. The existence of a partnership can be confirmed using records of activities (visits, joint workshops, reports, etc.) which show the exchange of goods, services and knowledge, and the quality of the partnership and its 'aid effectiveness' depends partly on the frequency and content of these exchanges, but mainly on the extent to which participants are enthusiastic about them, which can be assessed using interviews.</p>
<p>Coherence is considered high if there is evidence that an intervention has ways to promote synergy with, and to manage interference from, the plans and actions of other actors, including other donors and the impact of one donor's actions on another. Factors include: <i>compatibility</i> (i.e. how well the goals of all participants are taken into account and where necessary reconciled); <i>coordination</i> (i.e. the existence and likely use of forums to sustain dialogue among stakeholders); and <i>complementarity</i> (i.e. how well participants' policies, plans, actions and choices support one another, and the degree of harmony among partners in achieving desired outcomes). There is often insufficient evidence to examine different aspects of coherence separately, and coordination arrangements such as forums for stakeholder dialogue are then used as a proxy.</p>
<p>Cross-cutting themes (CCTs) include human rights (i.e. as set out in the UN Charter and the Universal Declaration of Human Rights), good governance (i.e. stable, lawful, and effective governance maintained by accountability to an informed electorate), gender equity and social inclusion (GESI, i.e. ensuring due attention to groups who are disadvantaged because of landlessness, caste, poverty, ethnicity, gender, age, faith or other reasons), and environmental sustainability (maintaining the full integrity of ecosystems and hence their ability to nurture and protect human interests).</p>

b) Design and performance scores

Previous studies (Caldecott *et al.*, 2010, 2012a, b, c, 2014, 2015, 2017; Caldecott, 2017) have shown that the performance of different projects at different times can be compared, and strengths and weaknesses highlighted for lesson-learning purposes, by using a system in which judgements on performance are scored, from 7 (best) to 1 (worst). In this, if the evidence suggests *perfection* then a score of 7 is awarded; if there are *any doubts* it is scored 6; and if the project is *basically good but with some flaws* it is scored 5. If the intervention has *no merits at all* then it is scored 1; if there are *some possible merits*, it is scored 2; and if it is *basically weak but with some good points* it is scored 3. The remaining score of 4 is used for those that are *moderate in value and have good and bad points*. These scores **must be supported by evidence**, and as such the scores for each criterion and project are individually meaningful, but they can be added and averaged across components to yield mean scores for performance criteria, and for the performance of multiple interventions (which is useful in synthesis evaluations). In this case, scoring offered a way to summarise strengths and weaknesses within and between the three ICI projects, and to compare their overall performance with that of other development cooperation actions.

2.4 The evaluation matrix

A preliminary evaluation matrix in the Inception Report (Annex 3), had several uses: (a) to confirm evaluation questions; (b) to note lines of enquiry to be pursued; and (c) to indicate sources of information and evidence for supporting final judgements on design quality and performance, and to be used to identify lessons learned and recommendations. The final assessments that resulted from this process are given for the INFORES project in Section 3.1 (with evidence in Annex 4), for the ZAN-SDI project in Section 3.2 (with evidence in Annex 5), and for the GST-GTK project in Section 3.3 (with evidence in Annex 6). An overview of the evaluation findings on design and performance for all three projects is given in Section 3.4, alongside a final version of the evaluation matrix itself.

3. Findings on the ICI projects

3.1 The INFORES project

a) Design and performance

The INFORES project theory of change can be summarised as: *by developing the technological capacity and skills needed to manage forest inventory data, Tanzanian institutions will become better able to meet the information needs of all those whose activities might depend upon or impact forest ecosystems.* The problem for the evaluators was that each of the multiple institutions involved seemed to have different ideas both of purpose and of potential uses and users. The resulting lack of clarity yielded low overall scores for relevance, design, impact and sustainability in the preliminary analysis in the Inception Report, but these were later re-examined for the key partners, considered individually. Thus, it was concluded that the retrieval (from FAO Rome) of the NAFORMA data, its triplicate storage in Tanzania, and the building of technical capacity to manage and use the information at NCMC in particular and also at TAFORI and TFS, provided knowledge on forest stocking density (biomass and carbon) by region, ecozone and species, which:

- **allowed NCMC**, with the addition of deforestation maps based on satellite imagery, to prepare the FREL as a basis for MRV and REDD+, and to start supporting the VPO on Paris Agreement reporting on behalf of the Government of Tanzania;
- **enabled SUA** to undertake a number of research projects on forest structure and composition in addition to models that contributed to FREL analysis and NCMC aims;
- **assisted TFS** in providing useful analyses, such as on regeneration constraints and opportunities in *miombo* woodland, and to support the MNRT in reviewing the 1998 National Forest Policy and in enabling the Ministry for Lands and Urban Settlements to develop a national land use/land cover map; and
- **enabled TAFORI** to offer information to internal and external research users and to prepare answers to specific questions, for example on CITES listing proposals related to the distribution and age structure of particular forest species.

b) Implications for the future

All four partner institutions (NCMC being considered separately because although housed at SUA its functions relate entirely to meeting VPO needs) appreciated INFORES as an enabler of their own duties and as having provided a key resource for future use, and all have ideas for building on and improving the databases, capacity and applications that now exist. The merits of

these ideas, however, cannot be judged outside a more strategic appreciation of where and how forest data and knowledge management can contribute to Tanzanian objectives, which are now being increasingly shaped by climate change concerns. For example, partners such as NCMC and TFS, and other observers (such as at CCCS), noted that although REDD+ has been a fertile area for research and policy development (e.g. Kulindwa *et al.*, 2016), it has proved disappointing as a source of revenue for forest conservation and is now being eclipsed by other climate change mitigation and adaptation strategies. Meanwhile, TAFORI and TFS were concerned to find ways to use data on forest socioeconomic significance more broadly (which would include the economic value of ecological service functions, many of them relevant to adaptation) to justify increased investment in natural forest management. These matters are discussed in Section 4.

3.2 The ZAN-SDI project

a) Design and performance

There was consensus among multiple partners around a theory of change which can be summarised as: *improved and open access to spatial data through partner institutions, and integration of those data into spatial plans by inclusive and participatory means, will increase understanding and compliance with planning aims while also tending to reduce planning failures and harmful impacts by private investments, and to promote transparent and accountable governance and fairer and more sustainable development outcomes.*

Early weaknesses in outreach and participation at director level were corrected through effective collaboration among all institutions at technical level. Thus, government institutions responsible for terrestrial planning (i.e. COLA, ZEMA and the departments of forestry and environment among others) and marine planning (i.e. DFD in MANRLF) cooperated with each other and with SUZA and other actors (i.e. *shebias*, businesses, charities such as MCCN², and projects such as SWIOFish) to collect and manage geospatial data on ecosystems and societies in the north-east zone of Unguja island and prepare high-quality and consensual maps and spatial plans for the area as a whole and for two sub-regions within it. The involvement of SUZA gave access to geospatial competence developed (often in collaboration with UTU) through the previous ZanSea³ and current Geo-ICT⁴, Resilience Academy⁵ and World Bank drone mapping⁶ programmes, and that of the MCCN gave access to ideas and practices for community-based resource management (e.g. harvesting closures of areas for fish and octopus recovery and community income from tourism). In the Zanzibar context, the ZAN-SDI project offered a way to bring all these interests together around a clear purpose, thus maximising synergy despite a certain lack of coordination among GoZ, donors and other actors, and this was strongly appreciated by all participants.

b) Implications for the future

The project contributed to the development of spatial data infrastructure, including digital mapping and related capacities at COLA, but the aim of building a single data hub to meet all the planning needs of all GoZ institutions was not fully attained, and the sustainability of the system

² <https://www.mwambao.or.tz>.

³ www.suza.ac.tz/zansea-website/index.php

⁴ www.geoict.org

⁵ <https://resilienceacademy.ac.tz>

⁶ <https://olc.worldbank.org/content/mapping-zanzibar-using-low-cost-drones>

at COLA was compromised by hardware and power-supply problems and weak data management routines by the very few staff involved. The plans and associated ideas for managing conflicts among user groups, however, and for meeting needs among coastal communities, represented potentially irreversible improvements, but as the *shehia* head of the Kiwengwa community (one of those covered by spatial plans) observed: “The plan is a good thing, and we provided inputs to it, but we’ll see how it is put into effect.” He went on to comment enthusiastically about the economic and ecological value of fishing and octopus closures, but also to draw attention to the failure and salinisation of fresh water supplies as the key problem in his area. This draws attention to the strategic value of multisectoral cooperation in planning for coastal resilience and ecological integrity in the context of adaptation to climate change, and this in turn would tend to validate the wishes of all the institutions involved to extend a version of the ZAN-SDI project approach to cover other parts of Unguja island and all of Pemba. Assuming that political issues peculiar to Zanzibar do not derail such intentions, this would be consistent with the objectives of an NDC-oriented country strategy as discussed in Section 4.

3.3 The GST-GTK project

a) Design and performance

Partner institutions collaborated around a clear theory of change which can be summarised as: *economic productivity and safety in the minerals sector will be enhanced by creating and disseminating geological and geochemical data and maps, as well as technical and safety advice to small-scale miners, and the sustainability of these services will be ensured by building the capacity of GST to continue providing them.*

Strong satisfaction with the project was confirmed through interviews at GST and SUA, and its performance was examined through inspection of the results achieved. The most visible and probably the most valuable result was the production of a geochemical map and atlas for all of mainland Tanzania, based on analysis of soil samples collected under NAFORMA. This product, indicating levels of 15 metals in soil, as well as acidity values, is useful in mineral exploration and in identifying areas where farm-soil remediation could be beneficial as well as potential sources of limestone for use in soil treatment. The mineral potential map of the Nachingwea area is similarly useful for mineral exploration at target generation stage. Another achievement was the setting up of a new website platform for the GST (www.gst.go.tz), using a content management system that can be easily updated and edited by GST staff, three of whom are now able to do so. The least satisfactory component was the one-day ASM training, a Result Area that appears to have been added at a very late stage of the project design. GST interviewees commented that ASM workers were enthusiastic during the workshop, and may have a better understanding of health and safety issues as a result, but they quickly reverted to their old, less efficient (and more dangerous) practices, and seem to have sold some of the equipment provided. The GST officers themselves, however, also gained useful knowledge about ASM through the training process.

b) Implications for the future

The geochemical map and atlas is seen and used by GST as a valuable reference document, and the approach may be further developed by GST. Such information is clearly useful for mineral exploration, but subdued interest in the country by international mining companies means that its value has not yet been proved. The improved website will continue to offer access to news on GST while facilitating access to maps and other products. Even the ASM training had merit, and

could be repeated within a longer-term effort. The most important consequence of the project, however, is that the *idea* of broadening soil chemistry analysis and mapping, and offering results to potential users, has been shown to be valuable. This has potential applications within an NDC-oriented country strategy as discussed in Section 4.

3.4 The final evaluation matrix

The mean performance scores for the ICI projects were 4.4 (‘moderate/strong’) for INFORES, and 5.1 (‘strong’) for ZAN-SDI and GST-GTK (Table 3), similar to the successful 2003-2018 governance and 1992-2012 education programmes funded by Danida in Nepal (Caldecott *et al.*, 2017). All are notably higher than the mean score of 3.5 (‘weak/moderate’) for 50 bilateral and multilateral aid programmes analysed by Caldecott (2017). Since all these studies used the same methods, the ICI projects seem to have performed relatively well as development cooperation actions. Box 2 highlights findings from the evaluation matrix (Table 4) itself.

Table 3: Design and performance scores of the three ICI projects (1 = worst, 7 = best)			
Criterion	INFORES	ZAN-SDI	GST-GTK
Relevance (national)	NCMC (6); SUA (5); TAFORI (4); TFS (4).	Overall (7).	Overall (6).
Relevance (Finland)	Overall (5).	Overall (6).	Overall (6).
Design quality	Overall (2).	Overall (6).	Overall (5).
Efficiency	Overall (4).	RA-1 (3); RA-2 (6); RA-3 (4).	Overall (5).
Effectiveness	NCMC (6); SUA (5); TAFORI (4); TFS (3).	RA-1 (3); RA-2 (6); RA-3 (4).	RA-1 (5); RA-2 (6); RA-3 (2); RA-4 (6).
Impact	NCMC (6); SUA (5); TAFORI (4); TFS (3).	Overall (6).	Overall (5).
Sustainability	NCMC (6); SUA (5); TAFORI (4); TFS (3).	Overall (5).	Overall (5).
Mean score	4.4	5.1	5.1

Box 2: Highlights of findings from the evaluation matrix in Table 4
<p>Relevance (to Tanzania/Zanzibar). The NCMC and SUA parts of INFORES, and all of ZAN-SDI and GST-GTK, were strongly relevant, since they built capacity respectively: (a) in the urgent and important area of climate change mitigation reporting in Tanzania; (b) in the urgent and important area of spatial planning in a conflicted, fragile and climate-change vulnerable coastal zone in Zanzibar; and (c) in producing useful knowledge products (maps and reference materials) to enable responsible investment in the minerals and agricultural sectors of Tanzania.</p> <p>Relevance (to Finland). All three projects were strongly relevant, since they were closely in line with various priorities of the Country Strategy, and they used, demonstrated and tested aspects of the Finnish partner institutions’ special capabilities.</p> <p>Design quality. This was strong in ZAN-SDI and GST-GTK but weak in INFORES, yet the difference was not clearly reflected in performance. This is interesting since previous studies of bilateral aid investments have shown that better design tends to be rewarded by better performance. The lack of such a relationship here may reflect the equal relationship between partners in ICI projects (in contrast to the more typical donor-recipient relationship), which allowed for adaptive flexibility.</p>

Efficiency. Each project had a budget of €700,000 or a little more, which was spent almost entirely. The deliverables in each case were unique, and included intangibles such as capacity building and partnership building, so it is hard to imagine alternative approaches (such as a consulting-firm contract) that would have been competitive in ‘value for money’ terms. The deliverables were also uniquely valuable, so it is hard to compose a satisfactory counterfactual (‘what if not’) scenario. Instead, the efficiency assessment focused on the ability of managerial systems to deliver results while adapting to or correcting for any difficulties that arose. In this sense, the spatial mapping component of ZAN-SDI was highly efficient, while the SDI development component was undermined by hardware, staff capacity and coordination issues. The efficiency of the other parts of all three projects was ‘moderate’ to ‘strong’ (scores 4-5), but this is a better performance than for aid projects in general where low efficiency is the rule rather than the exception. This is another interesting feature of ICI performance, possibly due to the direct accountability of partner staff within their own institutions, rather than the indirect accountability and low expectations prevailing in bilateral aid projects.

Effectiveness. Since these were final and ex-post evaluations, the effectiveness assessment focused on a strategic overview of results and their implications. In these terms, the spatial mapping component of ZAN-SDI was highly effective, while the SDI development part was again undermined by hardware, staff capacity and coordination issues. Effectiveness was also high for the SUA and particularly the NCMC components of INFORES, reflecting their joint implementation and the high priority given to them. Three parts of GST-GTK were highly effective, since they were technically straightforward, but ASM training was ineffective since it was grossly under-resourced relative to the scale of the task.

Impact. ZAN-SDI as a whole was judged to have very high impact, as were the SUA and particularly the NCMC components of the INFORES project; these are elements where a claim of contributing to transformative change can justly be made. The GST-GTK project organised knowledge that had the potential to create high impact through new investment in the minerals and agricultural sectors and was scored accordingly.

Sustainability. ZAN-SDI as a whole was judged to have high sustainability, because of its educational effect among GoZ officials, institutions and communities, as were the SUA and particularly the NCMC components of INFORES because of their roles in the university system and VPO climate reporting respectively. The mapped knowledge resources created through GST-GTK were sustainable because permanent, and the website was easily maintainable, but ASM training had little sustainability.

‘Aid effectiveness’. The sense of ownership seemed particularly high at NCMC, SUA and TAFORI in the INFORES project, and across all the institutions and communities involved in the ZAN-SDI and GST-GTK projects (except for ASM training, since this add-on had been planned to be out-sourced).

Coherence. NCMC and SUA are at the heart of the climate change response in Tanzania, and part of a network of donor and government intentions there, while TFS and TAFORI are rather ‘orphaned’ by an apparent lack of GoT enthusiasm for forest ecology, biodiversity and total economic value. Previous and concurrent initiatives in Zanzibar promoted coordination among participating institutions, but this seemed to work better in practice than on paper. The GST-GTK project enhanced collaboration between GST and SUA, and its outputs attracted attention from other institutions.

CCTs (rights, gender, inequality, climate). All the projects were designed with human rights, gender equality and the SDGs explicitly in mind (although the emphasis varied among the project documents, progress and completion reports), and all apparently did what they could to make positive and avoid negative contributions in these areas. Apart from climate sustainability (i.e. REDD+ mitigation), it is hard to detect contributions by the INFORES project to the CCTs from the available documentation since analysis of relevant results is lacking. Similarly, apart from climate sustainability (i.e. coastal zone adaptation), the ZAN-SDI project’s contribution to the CCTs lies mainly in plausible inference rather than documented fact. Finally, the GST-GTK project is unlikely to have contributed directly to the CCTs, although there is some potential for it to do so in the area of climate sustainability.

Table 4: Summary of findings in relation to the evaluation questions on the three ICI projects

Criterion	INFORES	ZAN-SDI	GST-GTK
Relevance (Tanzania or Zanzibar)	Capacity building needs of the partner institutions reflected their different roles, and the opportunities that they identified to use NAFORMA data in line with their own missions. The retrieval and triplicate storage of NAFORMA data, and the building of technical capacity to generate knowledge on forest stocking density (biomass and carbon) by region, ecozone and species was most directly applied to meet needs at NCMC (Score 6), slightly less so at SUA (Score 5), and to a moderate extent at TAFORI and TFS (Score 4 for both).	Capacity building needs of the partner institutions reflected their convergent roles within GoZ, where they coalesced around a common understanding that intense competition for fragile and degrading natural resources required detailed spatial planning and the building of consensus and compliance around constraints on competing development initiatives. The project responded precisely to this situation, making it highly relevant to Zanzibar's needs (Score 7).	The mineral potential block map is expected to attract exploration companies and boost the mining sector in the region. The geochemical map is expected to give better tools for land use in respect of agriculture and a safe living environment for the population. A seminar for small-scale miners provided advice on environmental matters, reduction of health risks, ways of selling the concentrates and how to mitigate risks connected to climate change. The project is therefore seen as being very relevant to Tanzania's needs (Score 6).
Relevance (Finland)	The project was in line with Impact Area 2 of the <i>Country Strategy</i> , by promoting the management of knowledge related to forests, ecological services and carbon stocks to support innovation in the national climate change response, while also contributing to Finland's reputation for leadership in the forest sector, yielding high relevance (Score 5).	The project was in line with Impact Area 1 of the <i>Country Strategy</i> , by promoting improved governance, leadership and civil society participation in addressing urgent and important social and environmental challenges, while also building on Finland's excellence in digital technologies and the involvement of related programmes by Finnish institutions and others, yielding very high relevance (Score 6).	By enhancing the enabling environment for responsible mining investment, the project was fully in line with the <i>Country Strategy</i> which states (MFA, 2016: 6) that "Finnish programmes highlight the role of the private sector and its productivity, and link the cooperation with Finnish partner organisations. Special attention is given to creating an enabling environment for businesses and livelihoods as well as competitive and responsible businesses and value chains." (Score 6).
Design quality	The theory of change and its assumptions were not clearly explained in advance, thus compromising the design quality (Score 2). That this was corrected through the creativity of partner institutions within Tanzania, and did not affect later performance is a sign of strength in the ICI as an instrument of development cooperation.	The theory of change was clear and the assumptions underlying it were plausible, so the project design was considered to be very sound (Score 6). The extent to which the root causes of potential conflict have been neutralised in Zanzibar is not clear, and the conduct of the 2020 elections is awaited as an indicator of progress, although there are grounds for optimism.	The theory of change was clear and the underlying assumptions largely plausible with the exception of proposals for ASM training, so the design quality was considered to be fairly sound overall (Score 5).
Efficiency	The total budget for the project was €700,000 (45% Luke, the balance for the various local partners, local administration costs, subcontractors and fixed assets), of	The total budget for the project was €719,000 (93% SYKE, 7% NLSFI), of which 99.97% were spent by the Finnish partners with COLA and other Zanzibar partner	The total budget for the project was just over €712,000, of which 99.64% were spent (82.2% by GTK, the rest by GST and sub-contractors). The extra work that was

	<p>which 79.7% had been spent by the end of 2018 and the balance committed to a €150,000 zero-cost extension that was approved by MFA to the end of 2019.</p> <p>The activities transformed resources into increased capacity most effectively at NCMC and SUA, which also worked very closely together (and NCMC with the VPO), as did SUA and TAFORI, and TAFORI with TFS. Some issues of management arose but seem to have been worked around or the extra costs absorbed, and the increased server and work-station capacity seemed to be used more at NCMC and SUA than at TFS. The resulting complex array of strengths and weaknesses yielded moderate overall efficiency (Score 4).</p>	<p>agencies contributing not to the ICI budget but by “allocating working time to its relevant staff” and providing “training venues and local transport for Zanzibari and SYKE’s experts, and facilitated Project meetings held in Zanzibar” (ZAN-SDI, 2019: 17).</p> <p>For Result Area 1 (SDI development), while the GoZ was able to fill ICT posts for the SDI, human resources remain a challenge (Score 3). For Result Area 2 (spatial mapping), cooperation among stakeholders was excellent in practice at a technical level (Score 6). For Result Area 3 (geospatial capacity), the main users of the SDI were internal to the COLA system, and although other departments and local governments also contributed and used data, the aim of ‘single data hub’ for use by all parts of the GoZ was not entirely achieved (Score 4).</p>	<p>initially not planned (work with the small-scale miners, soil acidity map and geochemical atlas) required a reallocation of some 36% of the budget. This was achieved by savings in a range of other activity costs (less than expected costs for the external consultant in connection with small-scale mining, lower than expected travel and accommodation costs, lower than expected equipment costs). Thus, the project made very efficient use of the funds available to it, particularly in producing the various maps and creating the new GST website. (Score 5).</p>
Effectiveness	<p>Considerable achievements in capacity building were seen at NCMC (Score 6) and SUA (Score 5), to a lesser extent at TAFORI (Score 4) and to a limited extent due to server issues at TFS (Score 3).</p>	<p>Considerable achievements in capacity building were seen in Result Area 2 (spatial mapping, Score 6), but were off-set to some extent by networking issues in Result Area 3 (geospatial capacity, Score 4) and more seriously by staffing and associated hardware and data management issues in Result Area 1 (SDI development, Score 3).</p>	<p>The achievements in capacity building were considerable in Result Area 1 (mineral potential map of the Nachingwea area, Score 5), Result Area 2 (soil geochemical atlas and maps, Score 6) and Result Area 4 (updated website for GST, Score 6), but offset by the non-sustainability of the very short-term training for ASM operators (Result Area 3, Score 2).</p>
Impact	<p>The project greatly enhanced the capacity of NCMC to meet VPO needs on REDD+/UNFCCC reporting with long-term benefits for the national climate change response (Score 6), with SUA in support of the same agenda while also being better able to formulate research projects and grant proposals (Score 5). It also enhanced capacity at TAFORI to respond to requests for forest-related information (Score 4), and did likewise to some extent at TFS (Score 3).</p>	<p>The project had a major impact in promoting inter-agency collaboration and joint visioning around an ambitious but largely successful spatial knowledge management approach, and the participants have learned many new things in the process and are now used to thinking together in new ways about how to use and develop this approach in the future, for the likely benefit of all stakeholders (Score 6).</p>	<p>The project greatly enhanced knowledge of Tanzanian soil geochemistry, and mineral exploration potential in the Nachingwea area. The new GST website has enhanced visibility of the GST’s work and role. All of these have a large potential impact on new mineral investment in the country, as well as for identification of areas where soil remediation can lead to additional agricultural production. The training of ASM operators, however, will likely have very little impact. (Score: 5).</p>
Sustainability	<p>Inherent sustainability is rather low in the absence of GoT commitment to invest adequately in the forest</p>	<p>Communities and government agencies involved with the project seem convinced that spatial planning is a vital</p>	<p>The geochemical and mineral potential maps and the geochemical atlas produced are permanent resources that</p>

	sector, affecting TFS (Score 3) and TAFORI (Score 4) in particular. Sustainability is likely to be highest at NCMC (Score 6), which has critical and diversifying responsibilities on behalf of the VPO, and at SUA (Score 5) which supports and integrates the NCMC and is also a well-established part of the university system.	tool that should have been used long ago, and the fishery closure trials have survived the end of the project and continue with MCCN encouragement and spontaneous replication among coastal communities attracted by demonstrated rewards from income and fishery benefits. Even with off-setting GoZ human resource capacity issues, sustainability is judged to be high (Score 5).	add value to the knowledge base. The new website is also quite sustainable, given that three GST officers are capable of editing and updating it, and they do so quite regularly. The sustainability of the ASM training is however very limited, although the relevant knowledge within the GST itself has been increased (Score: 5).
‘Aid effectiveness’	The project was jointly prepared by the partners and ownership appeared particularly high at NCMC, SUA and TAFORI.	Most interviews suggested a strong sense of ownership and participation by Zanzibari institutions and communities.	With the exception of the short training provided to ASM operators, interviews suggested a strong sense of ownership by the partners.
Coherence	NCMC (supported by SUA) is at the heart of the climate change response in Tanzania, and part of a network of donor and government intentions (notably the 13-ministry NCCSC directed by the VPO), but that the necessary system of support for it has not yet fallen into place. TFS (supported by TAFORI) is at the heart of a network of donor intentions on climate, ecology and biodiversity, but government enthusiasm seems limited and a step-change is needed (which may arise from the NDCs) that would require additional strategic dialogue.	Previous and concurrent initiatives (ZanSea, Geo-ICT, Resilience Academy) meant that SUZA was in a good position to offer data management support to government partners in the ZAN-SDI project. They also imply a system of donor activity in collaboration with the various partners which is coordinated, however, by informal means in the absence of formal GoZ arrangements for donor coordination. Several interviewees mentioned how such coordination works better in practice than on paper.	The project significantly enhanced the knowledge base within the GST and collaboration with SUA. According to GST there has been considerable interest in the soil geochemistry maps and the geochemical atlas by persons at ministerial level and from other ministries.
CCTs	<p>Human rights. Any real contribution to the climate change response in Tanzania might be expected in principle to help prevent human rights issues arising from the effects of climate chaos.</p> <p>Gender equality. “Only few female professionals are working in the partner organisations, but when possible, they have been encouraged to travel and take part in the activities. In two activity in Finland there has been one female participant and in most activities in Tanzania 1-2 female participants.” (Semi-annual report, Q3-4 2018). No table for gender disaggregation in trainings between men and women was found in any report. Of the</p>	<p>Human rights. Some positive effect might be anticipated through the reduction of conflict between coastal resource user groups (where rights abuses might arise, for example in the deprivation of fresh water supplies or the raiding of community fish stocks). Likewise, the promotion of inclusive participation in resource governance might reduce tensions that could lead to abuses in the context of elections.</p> <p>Gender equality. The Zanzibar partner organisations ensured opportunities of the relevant male and female staff to participate in the capacity building organised by the project. Both men and women participated in the capacity building. Out of 27 participants in professional</p>	<p>Human rights. The main area where the project could have had a direct impact on human rights, was in the training of ASM operators in the Nachingwea area, but this training was very short (1 day) so the likely impact is limited.</p> <p>Gender equality. The GST already appears to be a workplace with equal gender opportunities. There are a number of women employed, including the Acting CEO of the GST, and the head of the petrology section of the laboratory. The project itself does not appear to have had a direct influence.</p>

	<p>INFORES partner staff met by the evaluation team, the male to female ratio was about 10:1.</p> <p>Reduction of inequalities. “Some workers, guides and guards from near-by villages have assisted in the project, but unfortunately this project builds the capacity of experts, mainly. The implementation in village forests and other local purposes should be possible in later projects.” (Semi-annual report, Q3-4 2018).</p> <p>Climate sustainability. The main impact lies in enhancing GoT’s capacity through NCMC (supported by SUA) and the VPO to undertake monitoring, reporting and verification in relation to UNFCCC mitigation obligations, particularly in the forest and land use sector (but NCMC’s duties have since broadened to include other relevant sectors).</p> <p>Conclusions on CCTs. Apart from climate sustainability, it is hard to detect contributions to the CCTs from the available documentation where analysis of relevant results is lacking.</p>	<p>visits to Finland, six were female and 21 were male. A reported reluctance among Zanzibari families for their daughters to travel abroad could explain why ICT training at SUZA is seen as a desirable direction for young women to take, who thereby benefit from learning skills in a quickly-growing sector with significant employment potential. Of the ZAN-SDI partner staff met by the evaluation team, the male to female ratio was about 6:1.</p> <p>Reduction of inequalities. Project designers argued that multiple SDGs would be advanced through the inclusive, transparent, equitable and sustainable processes and outcomes anticipated from enhanced use of geospatial information and ecosystem-based spatial planning and management of coastal and marine areas.</p> <p>Climate sustainability. The main impact lies in enhancing GoZ’s capacity to understand and plan for emerging challenges in adapting to climate change effects in the coastal zone, supported by the SUZA research and knowledge management system, the MCCN community dialogue and planning system, and inter-agency knowledge sharing.</p> <p>Conclusions on CCTs. Apart from climate sustainability, the project’s contribution to the CCTs lies in the field of plausible inference rather than documented fact.</p>	<p>Reduction of inequalities. The project does not seem to have had a direct influence on reducing inequalities.</p> <p>Climate sustainability. By making soil geochemical maps widely available, the project may have a positive impact on climate sustainability if more organic farming can be made possible in areas where the soil qualities can be remediated. Also, limestone resources may be identified closer to the areas where they are needed, reducing transport distances and related costs and emissions. During the evaluation, the possibility of GST investigating geothermal energy sources was identified.</p> <p>Conclusions on CCTs. The project is unlikely to have made a direct or significant contribution to the CCTs, although there was some potential for it to do so in the area of climate sustainability.</p>
--	--	---	--

4. Country strategy and the role of the ICI modality

4.1 Main themes of the current strategy

The current MFA country strategy for Tanzania has been extended by a year and now applies to 2016-2020, pending revision for 2021-2024. A précis of its impact areas, outcomes and outputs is given in Box 3. Its emphasis is on continued support for human rights and gender equality, with focused investment targeting good governance and domestic resource mobilisation, and innovation for employment and livelihoods as well as forestry in ways that link to national efforts to mitigate and adapt to climate change.

Box 3: Précis on impact areas, outcomes and outputs from the <i>Country Strategy</i> (MFA, 2016)
<p>The current Country Strategy is based on Finland's 2016 development policy. The choice of impact areas is based on a situation analysis, continuing the strong commitment to the human rights based approach and gender equality. More realistic planning and timing of a more limited number of interventions will also contribute to enhance efficiency. Results-based management will be strengthened both at the strategy and programme levels with the help of the new logic model, results monitoring framework and risk matrix. The new Country Strategy will be aligned with national systems to the extent feasible. (p. 15).</p>
<p>Finland's Country Strategy for Tanzania has two impact areas (p. 16):</p> <ul style="list-style-type: none"> • improved performance of the public sector (i.e. strengthening of good governance via specific programmes, CSOs and policy dialogue, and domestic resource mobilisation); and • increased employment and livelihoods (i.e. focused on the national innovation system and on forestry - with forestry having close links to the national action against climate change). <p>They contribute to the four priority areas of Finland's 2016 development policy by strengthening a democratic and well-functioning society, generating jobs and livelihoods, enhancing the sustainable use of natural resources and advancing women's rights.</p>
<p>Impact area 1. Improved performance of the public sector (pp. 28-20):</p> <ul style="list-style-type: none"> • Outcome 1.1. More efficient and accountable public financial management (with outputs of improved revenue management, and strengthened capacity of oversight institutions). • Outcome 1.2. More accountable and inclusive public policy-making (with outputs of improved leadership, and improved capacities of civil society to hold the government accountable). <p>Instruments, inputs and linkages for Impact 1: "Finland will channel its support via basket funds of relevant reform programmes (e.g. PFM RP IV and Public Expenditure Review) and the Uongozi Institute. This work will be complemented by the Fund for Local Cooperation and the work of Finnish CSOs. The possibilities of providing additional funding to tax administration and women's leadership will be assessed during the strategy period. Finland will also participate in sectoral working groups and influence policy dialogue both bilaterally and as part of the EU and/or donor community. The Finnish financial contribution will be directed to programmes that strive for donor coordination and complementarity." (p. 20)</p>
<p>Impact 2. Increased employment and livelihoods (pp 21-24):</p> <ul style="list-style-type: none"> • Outcome 2.1. Enabling environment for business and livelihoods enhanced (with outputs of increased access to innovation finance, increased access to skills development, and strengthened forest management). "In the forestry sector, Finland will support the private sector and local communities in the sustainable use and management of natural forests as well as in establishing forest plantations. At the moment there are official title deeds or land-use plans for no more than some 15% of the land, and open access to forests is resulting in land depletion and deforestation. Bilateral programmes will therefore also support land-use planning and strengthen forest administration and forest NGOs. This will contribute to the fight against illegal timber trade." (p. 22).

- Outcome 2.2. Competitive and responsible businesses and value chains created (with outputs of innovative products and services contributing to Tanzanian society, forest resource base widened and inclusive products developed, and new Finnish-Tanzanian business/institutional partnerships facilitated).

Instruments, inputs and linkages for Impact 2: “Finland’s inputs will include bilateral programmes: the Private Forestry Programme (PFP), the Forests and Value Chains programme (FORVAC) and the Support to Tanzanian Innovation System programme (TANZIS). These programmes are complemented by cooperation between institutions (ICIs) and the private sector. In addition, Finland will participate in sectoral working groups and influence policy dialogue both bilaterally and as part of the EU and/or donor community. The Finnish financial contribution will be directed to programmes which strive for donor coordination and complementarity.” (p. 24).

4.2 Towards a new country strategy for Tanzania

The next policy and strategy period relevant to Finland’s cooperation with Tanzania seems likely to be dominated by two factors. The first is the goal for Tanzania to become a middle-income country by 2025, with a high level of human development, based on a semi-industrialised economy to replace one based on low-productivity agriculture. Factors in favour of this goal being achieved include the youthful energy of the population combined with the spread of new information and communication technologies, massive investment by China, other investment, knowledge-sharing and peer learning with other African countries, and continued cooperation with European and other international institutions, development agencies and investors. This relates directly to the ambition of the Finnish government to facilitate where possible, and Finnish businesses to invest where profitable, in building the economic strength of the country, and therefore to be alert to new opportunities that arise as a result of development partnerships such as those examined here. These opportunities are plentiful, since Finland possesses technical resources that match some of those most needed in Tanzania, including in digital knowledge management, renewable energy, and all aspects of ecosystem, water and waste management as well as meteorological and climate change monitoring, reporting, mitigation and adaptation.

Many of these strengths are relevant to finding solutions to the second factor, which is more sinister since it encompasses the global climate and ecological emergency described in Section 1.3, and its various manifestations within Tanzania. The current MFA country strategy mentions the 2015 Paris Agreement on Climate Change, which had just been signed, only once (p. 26), but does note that climate change is a challenge to social services, food security and environmental sustainability when coupled with rapid population growth and urbanisation (p. 8), and that a Finnish priority is to promote community climate resilience and resource management (p. 11). The urgency of such measures has increased since 2016, and Box 4 presents the World Bank’s analysis of climate change threats to development in Tanzania. From the point of view of achieving the SDGs and protecting pro-poor development gains, and in view of Tanzania’s limited GHG emissions, adaptation is a clear priority in Tanzania, although factors of land-use change can also play an important role in net emissions.

Box 4: Conclusions on Climate Change and Tanzania’s development, from *Tanzania: Country Environmental Analysis* (World Bank, 2019)

Implications for development. “Tanzania is highly vulnerable to climate change, imposing an additional risk to already stressed natural resources. As temperatures continue to rise globally, drought conditions that already affect Tanzania are likely to become worse, affecting water availability. Erratic rainfall patterns and

higher frequency of intense rainfalls with large inter-seasonal variability will affect smallholder farmers, pastoralists and local economies. Over the long term, sea level rise threatens coastal areas and infrastructure. Climate change is a ‘multiplier’ of existing challenges, as its effects cut across all aspects of natural resource productivity and management. Efforts to promote climate resilience in key natural asset-based sectors will be essential to protect rural livelihoods, food security, jobs, and economic growth. Fortunately, the cost of investments in climate resilience are lower than the cost of disaster recovery and fully aligned with good development practices.” (p. 65).

Heat, floods, droughts and fire. “Temperatures are rising. Past climate records show an increasing trend in average annual temperature for Tanzania. This is consistent with the latest Intergovernmental Panel on Climate Change (IPCC) Report, which establishes that temperatures in Africa, including East Africa, have seen an increase in seasonal mean values in many areas. Projections of future temperatures vary across the different models, but there is strong agreement that temperatures will continue to increase [and] precipitation is expected to change, but to what extent is uncertain. Historical records point at decreasing trends nationally for mean annual rainfall and increasing dry spells. Parts of northeast and southern Tanzania have become drier, central Tanzania has become moderately wetter, and the northwest has been experiencing stronger wet trends. ... Extreme weather events are becoming more frequent, and they need to be considered during strategic planning. As climate evolves, an overall increase in the frequency and intensity of heatwaves is expected. The number of days exceeding 35°C, signifying heat stress, is predicted to increase. There will also be a higher likelihood of dry spells and intense rainfall events is also expected, as well as higher potential for flooding.” (pp. 65-66).

Marine and coastal ecosystems. “Climate change is already having significant impacts on marine and coastal ecosystems in Tanzania and on related fisheries. Impacts of climate change on fisheries can be grouped into: acidification, sea level rise, higher water temperatures, and changes in ocean currents. While our understanding is constantly improving, these impacts, however, are unequally known and hard to model, both in terms of scope - where they will occur and where they will be felt the most - and severity. Impacts will be felt at two fundamental levels: first on fish stocks themselves, and second, and perhaps more important, on the critical marine and coastal ecosystems fish depend on.” (pp. 66-67).

Economic and investment implications. “While uncertain, aggregate models suggest that net economic costs from climate change could be equivalent to 1 to 2 percent of GDP per year by 2030, in addition to existing costs resulting from climate variability. ... There is a wealth of knowledge and experience accumulated around climate resilience in key sectors such as agriculture, transport, water resources or human settlements. These experiences point at the importance of mainstreaming climate change considerations during the identification and design of activities. Climate change adaptation should be heavily promoted in Tanzania, and be fully consistent with good natural resources management. Current and future impacts of climate change make the case for prompt action stronger than ever. Using climate-smart agriculture and landscape approaches together can address multiple environmental issues, increase agricultural productivity, and contribute to enhanced food security and incomes. These will help build resilience to climate change among the poorest households.” (pp. 67-68).

Finland’s next round of development policies and country strategies will presumably seek to reconcile these potentially contradictory influences, especially as Finland’s government gives national priority to climate sustainability. Indeed, considering the growth in climate awareness and global alarm since 2016, a real and explicit contribution to the climate change response is now expected of any development cooperation commitment. Responses to such threats are to be guided by the Nationally Determined Contributions (NDCs) prepared by each party to the Paris Agreement, which state what each feels able to achieve on adaptation and mitigation. These NDCs are intended to add up quantitatively to yield a collective mitigation response sufficient to keep mean global heating below a threshold of 1.5°C during this century, and also to encourage greater ambition as countries learn from others’ best practices over time. To this end, the GoT’s NDCs identify its own initial priorities for adaptation (Box 5) and mitigation (Box 6).

Box 5: Adaptation NDCs specified by Tanzania (GoT, 2018)
<p>Agriculture:</p> <ul style="list-style-type: none"> • Up-scaling the level of improvement of agricultural land and water management. • Increasing yields through inter alia climate smart agriculture. • Protecting smallholder farmers against climate related shocks, including through crop insurance. • Strengthening the capacity of agricultural research institutions to conduct basic and applied research. • Strengthening knowledge, extension services and agricultural infrastructures to target climate actions.
<p>Livestock:</p> <ul style="list-style-type: none"> • Promoting climate change resilient traditional and modern knowledge on sustainable pasture and range management systems. • Enhancing development of livestock infrastructures and services. • Promoting livelihood diversification of livestock keepers. • Promoting development of livestock insurance strategies.
<p>Forestry:</p> <ul style="list-style-type: none"> • Enhancing efficiency in wood fuel utilization. • Enhancing participatory fire management. • Enhancing forest governance and protection of forest resources. • Enhancing sustainable forest management.
<p>Energy:</p> <ul style="list-style-type: none"> • Exploring and investing in energy diversification system. • Promoting use of energy efficient technologies and behaviour. • Enhancing integrated basin catchment and upstream land management for hydro sources. • Enhancing the use of renewable energy potential across the country (hydro, solar, wind, biomass and geothermal).
<p>Coastal, Marine Environment and Fisheries:</p> <ul style="list-style-type: none"> • Strengthening management of coastal resources and beach erosion/sea level rise control systems. • Promoting livelihood diversification for coastal communities. • Improving monitoring and early warning systems of both sea level rise impacts and extreme weather events for building adaptive capacity. • Enhancing programme for management of saltwater inundation and intrusion. • Mangrove & shoreline restoration programme. • Enhancing conservation & fishery resource management. • Strengthening key fisheries management services for sound development and management of the fishery sector for resilience creation.
<p>Water Resources:</p> <ul style="list-style-type: none"> • Promoting integrated water resources development and management practices. • Investment in protection and conservation of water catchments including flood control and rainwater harvesting structures. • Promoting waste water reuse and recycling technologies; • Development and exploitation of groundwater resources.
<p>Tourism:</p> <ul style="list-style-type: none"> • Promoting sustainable tourism to consolidate growth and ensure climate resilient tourism. • Promoting diversified tourist attractions (e.g., eco-tourism and cultural tourism).
<p>Human settlements:</p>

<ul style="list-style-type: none"> • Promoting sustainable land management systems and climate sensitive human settlement developments. • Facilitating provision of, and access to adequate, affordable and climate sensitive shelter to all income groups. • Enhancing awareness on the impacts of climate change in the context of human settlements. • Construction and rehabilitation of drainage systems in respond to frequent and high intensity floods.
<p>Health:</p> <ul style="list-style-type: none"> • Promoting sustainable and climate sensitive health and sanitation infrastructure. • Conducting vulnerability assessment for a comprehensive action plan in health sector. • Integrating climate change adaptation action into health sector policies, plans and programmes.

Box 6: Mitigation NDCs specified by Tanzania (GoT, 2018)
<p>Energy:</p> <ul style="list-style-type: none"> • Exploring and investing in the energy diversification system to ensure overall energy security for economic development through enhanced availability, affordability and reliability while contributing towards energy emissions intensity reduction over time. • Promotion of clean technologies for power generation; and diverse renewable sources such as geothermal, wind, solar and renewable biomass. • Expanding the use of natural gas for power production, cooking, transport and thermal services through improvement of natural gas supply systems throughout the country. • Promoting energy efficient technologies for supply, transmission/transportation and demand side as well as behavioural change in energy use. • Promoting rural electrification.
<p>Transport:</p> <ul style="list-style-type: none"> • Promoting low emission transport systems through deployment of Mass Rapid Transport Systems and investments in air, rail, marine and road infrastructures.
<p>Waste management:</p> <ul style="list-style-type: none"> • Application of modern and practical way of managing waste including the enhanced use of engineered/sanitary landfills. • Promotion of waste to energy programmes. • Promoting co-generation activities.
<p>Forest sector:</p> <ul style="list-style-type: none"> • Enhancing and up-scaling implementation of participatory forest management programmes. • Facilitating effective and coordinated implementation of actions [to] enhance contribution of the entire forest sector including Forest policies, National Forest Programmes and REDD+ related activities. • Strengthening national wide tree planting programmes and initiatives. • Strengthening protection and conservation of natural forests to maintain ecological integrity and continued benefiting from service provisions of the sector. <i>[NB this is also an adaptation response].</i> • Enhancement and conservation of forest carbon stocks.

Responsibility for preparing the NDCs in Tanzania resides with the Vice President’s Office (VPO), which functions as the Environment Ministry. The VPO has a coordinating role, and houses the national REDD+ Coordinator who oversees and coordinates the activities of institutions that manage knowledge relevant to climate change, including the Centre for Climate Change Studies (CCCS) at the University of Dar es Salaam, and the NCMC at SUA, and organises the inter-ministerial validation of their reports. The VPO oversees and coordinates the

activities of line ministries and other implementing agencies, having superior authority with which to do so, as well as strong support from the Office of the President which gives high priority to collaboration and information sharing among people and institutions. The VPO directs the 13-ministry National Climate Change Steering Committee (NCCSC) which, together with the National Climate Change Technical Committee (NCCTC), is responsible for overseeing and guiding the implementation of climate change activities in the country⁷. The NDCs are expected to be validated by the NCCSC early in 2020.

The NDCs are a challenging set of measures through which the GoT will seek to reduce net GHG emissions (i.e. mitigation in the energy, transport, waste and forest sectors, monitored and reported by the NCMC), while also strengthening social and ecological systems to reduce the impacts of climate chaos on Tanzanian citizens (i.e. adaptation in the farming, livestock, forestry, health, water, urban, coastal/marine and other sectors). The pro-poor urgency of adaptation and the threat to the poor of failure to adapt are illustrated by the multiple fatalities caused by torrential rain in Mwanza region of Tanzania and elsewhere in East Africa in November 2019⁸.

The NDCs offer a clear set of priorities for development cooperation, implying that for sectors where Finland proposes to continue working with Tanzania, such as forestry and coastal/marine, contributing to the NDCs would be a primary strategic priority. Several factors suggest that Finland is in an excellent position to offer support, and although the following points are applicable in various ways, their relevance to the NDCs is highlighted here.

- First, Finland's recent and current engagements with the forest sector through the PFP, FORVAC, and other actions including INFORES itself, are substantial, strategic and much appreciated by the GoT⁹. The role of INFORES in particular has been to support the continued building of capacity at the NCMC, which has become a key institution for managing knowledge on GHG emissions and the effects of emission-reduction strategies, while INFORES has also promoted climate-change-relevant research, training and knowledge-management priorities and cooperation among SUA, TAFORI and TFS.
- Second, Finland's involvement with Zanzibar through the ZAN-SDI project has shown how a well-conceived intervention can have a transformative effect on meeting NDC adaptation priorities in the coastal/marine sector, through inclusive research and spatial mapping to support resilience planning, in ways that are potentially applicable much more widely.
- Third, Finland's historical and continuing support to the Institute of African Leadership for Sustainable Development, also known as the Uongozi Institute (see Uusihakala *et al.*, 2019), offers unique potential to sensitise and train senior and emerging civil servants on the sectoral and economy-wide implications of the NDCs, and how they can be delivered across every sector of the Tanzanian economy.
- Finally, the other ICI project considered here, GST-GTK, has also contributed to building capacities for geochemical analysis and mapping that could in principle be applied to NDC priorities, for example in assessing geothermal energy potential and identifying opportunities for soil remediation and organic crop production.

Thus, there are a number of specific roles where ICI projects could be strongly complementary to an NDC-oriented country strategy, and these are considered in the following section.

⁷ <https://thereddesk.org/countries/actors/national-climate-change-steering-committee-tanzania>

⁸ www.thecitizen.co.tz/news/East-Africa-storms-kill-39-in-Kenya-and-Tanzania/1840340-5360438-11dw8lz/index.html; <https://www.bbc.co.uk/news/world-africa-50628420>.

⁹ For example: <https://ippmedia.com/en/news/deputy-minister-hails-finland-supporting-forest-sector>.

4.2 Opportunities for ICI in a new country strategy

A study of ICI design and implementation (Bäck *et al.*, 2014) concluded that the best way to use ICI is to support the goals of a country strategy, but that this requires explicit complementarity between ICI projects and the country strategy itself. From remarks at the MFA kick-off meeting of this evaluation, it is clear that the value of ICI as ‘bridge’ between bilateral interventions and phases is recognised, especially by building the capacity of ‘sibling’ institutions to participate more effectively in the interventions themselves, and one that does not require a lengthy process of consideration before approval by government. It is thus seen as a streamlined and relatively cheap way of using Finnish added value effectively in appropriate target sectors.

On the other hand, certain constraints on the use of ICI are also recognised, especially that the partner institutions must be responsible for their own salary costs. This implies that an ICI project must enjoy strong enough support in the non-Finnish partner to guarantee local salaries and other counterpart costs, making it appropriate to highlight demand, ownership and commitment as critical factors. At the same time, any ICI project must also meet the needs of its Finnish partners while being complementary to the country strategy. The forward-looking aspect of this evaluation involved trying to identify opportunities that meet all these criteria, bearing in mind the need for direct relevance to the NDCs. There are a number of areas where ICI projects could be strongly complementary to an NDC-oriented country strategy, several of which are already the subjects, at least in part, of proposals that are being developed by the partners of the previous or current ICI projects (i.e. GST-GTK, 2019; TAFORI, 2019; Table 5). They include:

- **on building capacity at the NCMC** to meet the monitoring and reporting needs of the VPO in all areas relevant to achieving the NDCs (with NCMC and SUA).
- **on an adaptation-oriented participatory and geospatial planning process** for south-western Unguja and Pemba islands in Zanzibar (with GoZ).
- **on the re-measuring of NAFORMA sample plots** and analysis of data as a contribution to carbon flux monitoring and reporting in the forest sector (e.g. with TFS and SUA);
- **on the new analysis of socioeconomic data from NAFORMA** to help strengthen the case for investment in forest management for NDC purposes (with TAFORI and SUA);
- **on supporting research and training on mitigation and adaptation practices** to build national capacity to deliver on the NDCs (with the CCCS, SUA and SUZA); and
- **on soil analysis and mapping to support remediation of soils and define areas with organic farming potential** (with GST); and
- **on investigations and mapping for geothermal exploration potential** (with GST).

Table 5: Notes on specific areas of interest in potential ICI projects by partner institutions

CCCS	The role of a potential ICI project would focus on integrating climate change issues into sustainable development policy and the SDGs, especially with an African perspective which is under-represented in IPCC assessments. The feeling is that post-graduate studies are important, but the faculty staff need to be encouraged to apply the climate change lens to their own specialities, which also need to be joined up. Interdisciplinary research, teamwork approaches, specific challenges (e.g. water, farming) focus minds and bring everyone on board to look at them and apply adaptation thinking. A particular need is high-level modelling, future scenarios, social and biophysical, and a major research interest is in the drivers of community-level changes to land use, at the macro level but also at the micro, local, poverty, governance levels. Ecosystem-based adaptation is considered critical, since ecosystems and
-------------	---

	communities are both stressed by climate change and stressed communities may respond by destroying ecosystems.
GoZ	<p>DFD: The ZAN-SDI project was described as “a wonderful job” by one interviewee, and there is strong interest in scaling it up to cover south-west Unguja and Pemba, while adding such dimensions as “climate change, plastic in the oceans, sewage, construction and other issues in planning for marine/coastal tourism development”.</p> <p>COLA-ZLDPC: A ‘road map’ has been designed to 2022 (leading through policy, coordination and data sharing, to national and international networking and academic-institutional collaboration in capacity building). A priority would be the institutional mainstreaming of the process as a whole.</p>
GST	<p>Interviewees at GST praised the work of GTK during the project, and particularly the face-to-face collaboration between GST and GTK officers. They expressed strong interest in continuing the cooperation, noting that scientific institutions need to continue interacting in order to stay up-to-date, that there is a need to fill gaps in the country-wide geochemical soil map, and also a need to produce more detailed maps of areas of interest. This would require new soil sampling in areas not covered by NAFORMA. Given the collaboration between GST, GTK and SUA, the GST is very well placed to manage such work, which could add considerable value to the existing geochemical atlas. The collaboration between GST and SUA has proved to be very useful and this should continue, given the value of the soil maps for agricultural and soil remediation purposes. Though not raised by GST, the VPO believes that there is potential for geothermal energy sources in western Tanzania, and this is an area where GST should be able to conduct investigations.</p>
GTK	<p>GTK is developing plans to continue the development cooperation with GST, SUA and other organisations with a new initiative partly based on the successful 2015-2017 project, and also on the transfer of best practices adopted elsewhere.</p>
NCMC	<p>Priorities are: (a) to update the FREL using NAFORMA re-measurement data; and (b) meeting all other UNFCCC reporting obligations in support of the VPO, while also identifying data gaps and opening up other ways to use the data available.</p>
SUA	<p>The ambition is to use the capacity that has been developed with Finnish support (NAFORMA, INFORES, National Forest Programme) to develop a new ICI project: ‘Modelling Forest Management in Tanzania’, based on the analysis of NAFORMA socioeconomic data and the documentation of changes in carbon stocks in relation to socioeconomic dynamics. The idea is being developed by a committee of 3-4 people each at TAFORI, SUA/NCMC and TFS. The main point of agreement so far is that change in at least some of the permanent NAFORMA sample plots must be measured, those plots to be selected according to criteria that are yet to be defined, but meanwhile it is agreed that re-measurement is needed for growth trends, biodiversity change, land use change, carbon stock dynamics, wood removals, etc., and that additional studentships will be needed.</p>
SUZA	<p>The role of SUZA in the ZAN-SDI project was to work with UTU to build the capacity of COLA to manage the data generated by the SDI, while also developing its own capacity through work with Geo-ITC, Resilience Academy and the World Bank drone mapping project. In the event of another ICI project at COLA, then SUZA would be keen to work with them and other GoZ departments, even though they are currently also committed to meeting the data management needs of several programmes in the health sector, and the Deep Sea Authority of Tanzania. They claim that they could nevertheless offer to GoZ a comprehensive data storage and IT advisory service. In addition, SUZA has been training students on climate change issues since 2018, and currently has 15 students on a two-year course with dissertation subjects including ‘tourism’ and ‘floods’ in relation to climate change, and ‘the role of NGOs in supporting local adaptation in Pemba’.</p>

TAFORI	TAFORI and SUA collaborate closely, and their ideas centre on: (a) re-measuring the permanent NAFORMA plots; (b) using the NAFORMA socioeconomic data to tell stories about the value of forests; (c) adding to the socioeconomic data using other valuation studies (involving private sector, NGOs etc.).
TFS	The plan is to steadily map all the ecological zones, concentrating on the four forested ones, against the aim of natural forest management, especially conservation for biodiversity and water. Priorities include: (a) re-measuring the NAFORMA permanent sample plots; (b) analysing the NAFORMA socioeconomic data to document the full contributions of the forest sector; (c) documenting the effects of forest management on NDC mitigation implementation; (d) focusing on key research areas, including on carbon, climate, NDCs, biomass changes and their effect on the FREL.
Uongozi	The strengths of the Uongozi Institute include its strong convening power as a result of its location under the President's Office, reinforced by the VPO which is responsible for overseeing green growth. Once it is realised at the highest level that the NDCs must guide economy-wide planning and implementation, and that leaders of all institutions need new and relevant training in order to deliver on their mandates, then the Institute will be well-placed to support and deliver such training.

5. Conclusions and recommendations

5.1 Conclusions

a) Strengths and weaknesses of the three ICI projects

The INFORES project. The main strengths of the project lie in the *creativity* with which the Tanzanian partners reacted to the opportunity to retrieve the NAFORMA databases and use them for various purposes in line with their individual mandates: forest carbon accounting in support of VPO needs by NCMC; research and training in support of forest carbon and ecology capacity building by SUA; forest regeneration guidelines, maps and policy review by TFS; and responses to specific enquiries related to international treaty obligations and the needs of researchers by TAFORI. The main weaknesses of the project lie in the unclear project design (even though this was corrected in practice by the partners' response), and in a consistently weak engagement in meeting the needs of TFS in particular, which is perhaps not unrelated to the relatively poor treatment and use of the server provided by the project.

The ZAN-SDI project. The main strengths of the project lie in its success in building enthusiasm among diverse government stakeholders for participating in a *technical process* (i.e. research to support planning, and digital mapping to visualise its conclusions) with clear usefulness in addressing recognised, urgent and apparently-soluble problems (i.e. using organised knowledge to facilitate the avoidance and reconciliation of conflicting demands on resources). It was presumably helpful to the project that the technical process was not wholly new, since ecological and participatory research had long been underway in the Zanzibar coastal zone through the efforts of MCCN (and perhaps others), and digital mapping had been pioneered in Zanzibar, initially by the Finnish-supported Sustainable Management of Land and Environment (SMOLE) project up to 2013 (see Annex 5), and later the ZanSea project, and it must have been 'in the air' as the SWIOFish, Geo-IITC and drone mapping projects were being developed by some of the same consultants and university partners. It was also presumably helpful that the various agencies of the GoZ were inclined to cooperate and share information in the enterprise,

even if only at a technical level in some cases. The main weaknesses of the project lie in its lack of an institutional mechanism, such as a standing committee with specific mandate and resources, to provide continuing leadership and coordination across the GoZ partners, and weaknesses in capacity to manage the SDI at COLA in a sustainable way. These undermined efficiency and effectiveness in result areas 1 and 3, and sustainability more generally.

The GST-GTK project. The main strengths of the project lie in the recognition by GST of the elegance and inherent utility of analysing the NAFORMA soil samples and using the information to prepare a geochemical soil map and atlas for all of mainland Tanzania, and a mineral potential map of the Nachingwea area, tasks that were done efficiently and effectively using excellent pre-existing laboratory and mapping facilities. In both cases the maps were seen (by GTK at least) as offering value to the forestry, water, municipal and land-use planning, environmental monitoring, regional infrastructure and other sectors, as well as to agriculture and mining, while the process of preparing them built collaboration between GST and SUA. The project also built a new website, easier to update by GST officers, which has been visited at least 48,000 times since its creation. This showcases the work done under the GST-GTK project, and is now being used by other projects. The main weakness of the project itself lay in attempts to transform the behaviour of ASMs, which to be effective would have required a much more comprehensive process based on a multidisciplinary approach to problems related to mining methods and their implications for the environment, water quality, biodiversity, health and safety risks, cost-effectiveness, etc.

b) **The role of ICI projects in a country strategy**

The ICI projects are characterised by an inherently equal relationship between Finnish and national partners, so the local partner is responsible for adapting and using the resources offered to meet its own needs. This is revealed in the creativity with which NCMC, SUA, TAFORI and TFS made use of the INFORES project in their own ways, which diverged since the four partners had different requirements and priorities. It is also shown in the way that COLA, DFD, SUZA and other agencies of the Zanzibar government (and informal partners such as MCCN, businesses, other donors and the communities) all voluntarily coalesced around the common aim of spatial planning in a coastal zone, each finding its own way to collaborate with the others, regardless of political difficulties that outsiders might have expected to block progress. This ability of ICI partners to use their own local knowledge to find their way around local obstacles, and to be creative in their relationships, may amount to a peculiar strength of the ICI in the context of a country programme. To this may be added advantages of cost and speed noted in Section 4.2, and the relatively high overall performance noted in Section 3.4. The net result is to validate ICI as an important and useful element of country strategy planning.

5.2 **Recommendations**

Recommendation 1. The next Finnish Country Strategy for Tanzania should respond directly to the priorities for pro-poor and life-saving sustainable development and climate change mitigation and adaptation outcomes expressed in the NDCs, through the following measures.

- **Dialogue with government** to develop a sense of common purpose and understanding in reconfiguring Finnish cooperation in line with NDC priorities.
- **Re-analysis of the theories of change** of existing commitments in light of the NDCs, with alterations as needed (for example to the terms of reference of mid-term reviews) to clarify links between investments and pro-poor climate adaptation and/or mitigation outcomes.

- **Ongoing dialogue with other development partners**, focused on a division of labour and maximum synergy among their investments in promoting the achievement of the NDCs.
- **Enabling the Uongozi Institute** to deliver a training programme to government staff and others, on the implications for their own institutions and priorities of delivering the NDCs.
- **Using Finnish cooperation actions** to encourage participating institutions to define their own aims, priorities and training needs for delivering the NDCs, and to propose specific ways - including Uongozi Institute training - for meeting those needs.

Recommendation 2. In view of the high performance of the ICI projects analysed here, and the administrative and other advantages of ICI as an aid modality, priority should be given to identifying and developing ICI projects and partners with which to accelerate delivery of the new, NDC-oriented Country Strategy. These efforts should focus on Tanzanian institutions that are critical to delivering: (a) knowledge-management services on adapting to climate chaos and reducing net GHG emissions; (b) life-saving and pro-poor adaptation outcomes; (c) measurable net GHG emission reduction outcomes; and (d) relevant academic research and training to ensure sustainable progress. All proposed ICI projects should be considered that complement the new Country Strategy, that are well designed, and that have strong support from Finnish and national partner institutions, but two potential projects are particularly strategic in nature:

- **At the NCMC**, where there is a need to ensure that capacity is built fast enough to meet the monitoring and reporting needs of the VPO in all areas relevant to achieving the NDCs, especially for mitigation and where they overlap with adaptation priorities in the area of managing natural forests for water catchment services and biodiversity protection as well as carbon conservation.
- **At the Government of Zanzibar**, where lessons can be learned to deliver an adaptation-oriented participatory and geospatial planning process for south-western Unguja and Pemba islands, based on partnership among government institutions responsible for terrestrial and marine planning, SUZA and local civil society actors, including local communities, as well as other international institutions with convergent interests.

Bibliography

- Bäck, L., Visti, M. & Moussa, Z. (2014) *Evaluation of Complementarity in Finland's Development Policy and Co-operation: A Case Study on Complementarity in the Institutional Co-operation Instrument*. Evaluation report 2014:1 (MFA Finland, Helsinki).
- Backman, B., Janhila, M., Kaaya, A., Karinen, T., Lindqvist, K., Marwa, E., Partanen, M., & Shine, Y. (2107) *Geochemical Soil Atlas of Tanzania*. Geological Survey of Tanzania, Dodoma.
- Bushi, A., Mallya, G., Muyoka, R., Hyvönen, E., Karinen, T., Kujasalo, J-P, Lindqvist, K. & Virransalo, P. (2016) *Explanatory Notes to the Geological and Mineral Potential Maps of the Lindi-Mtwara Block, 1:500,000*. Geological Survey of Tanzania and Geological Survey of Finland, Dodoma.
- Caldecott, J.O. (2017) *Aid Performance and Climate Change*. Routledge/Earthscan (Abingdon & New York).
- Caldecott, J.O., Halonen, M., Sørensen, S. E., Dugersuren, S., Tommila, P. & Pathan, A. (2010) *Evaluation of Sustainability in Poverty Reduction: Synthesis*. Evaluation Report 2010:4 (MFA Finland, Helsinki).
- Caldecott, J.O., Hawkes, M., Bajracharya, B. & Lounela, A. (2012a) *Evaluation of the Country Programme between Finland and Nepal*. Evaluation report 2012:2 (MFA Finland, Helsinki).
- Caldecott, J.O., van Sluijs, F., Aguilar, B. & Lounela A. (2012b) *Evaluation of the Country Programme between Finland and Nicaragua*. Evaluation report 2012:1 (MFA Finland, Helsinki).
- Caldecott, J.O., Valjas, A., Killian, B. & Lounela, A. (2012c) *Evaluation of the Country Programme between Finland and Tanzania*. Evaluation report 2012:3 (MFA Finland, Helsinki).
- Caldecott, J. Killian, B., Tommila, P., Rinne, P. Halonen, M., & Oja, L. (2013) *Scoping Mission for a Possible Renewable Natural Resource Economic Governance Programme in Tanzania, Final Report for Norad, Oslo*. Gaia Consulting Oy, Helsinki, Finland (1 Mar 2013).
- Caldecott, J.O., Dornau, R., Gollan, J., Halonen, M., Saalismaa, N., Schilli, A., Simonett, O., Stuhlberger C. & Tommila, P. (2014) *Technical Report on Effectiveness of the Swiss International Cooperation in Climate Change Mitigation and Adaptation Interventions 2000-2012*. Mandate of the Swiss Agency for Development and Cooperation (SDC) and the State Secretariat for Economic Affairs (SECO) (Bern).
- Caldecott, J., Robledo, C. & Clarke, M. (2015) *The World Bank: Second Program Evaluation of the Forest Carbon Partnership Facility (FCPF), Inception Report*. Indufor Oy (Helsinki) and Forest Carbon Partnership Facility (Washington, DC).
- Caldecott, J.O., Hansen, F., Visser, M., White, P., Basnet, G. & Efraimsson, A. (2017) *Evaluation of Danish-Nepalese Development Cooperation, 1991-2016*. Danida (MFA Denmark, Copenhagen).
- CCCS (2017) *University of Dar es Salaam Centre for Climate Change Studies, Performance Report for the Period March 2013 – March 2017*. Submitted to Deputy Vice Chancellor - Research, University of Dar es Salaam. April, 2017.
- DoURP (2018a) *Kiwengwa Local Area Plan: Pilot Coastal Zone Planning for the shibia of Kiwengwa as part of the North East Unguja Special Area Plan, an integrated planning document including Marine and*

Land Spatial Planning. Department of Urban and Regional Planning, Ministry of Land, Housing, Water and Energy, Revolutionary Government of Zanzibar.

DoURP (2018b) *Pongwe Local Area Plan: Pilot Coastal Zone Planning for the shibia of Pongwe as part of the North East Unguja Special Area Plan, an integrated planning document including Marine and Land Spatial Planning*. Department of Urban and Regional Planning, Ministry of Land, Housing, Water and Energy, Revolutionary Government of Zanzibar.

DoURP (2019) *North-East Unguja Special Area Plan: Pilot Coastal Zone Planning in an area covering Mkokotoni and including the hinterland between Mkokotoni and Nungwi*. Department of Urban and Regional Planning, Ministry of Land, Housing, Water and Energy, Revolutionary Government of Zanzibar.

ESS (2019) *Lessons learned from strategic evaluations on climate change and sustainable energy*. Evaluation Support Service, DEVCO Evaluation Unit, European Commission, Brussels.

GoT (2010) *Forest Carbon Partnership Facility Readiness Preparation Proposal*. Government of Tanzania (Oct 2010).

GoT (2018) *Intended Nationally Determined Contribution by Tanzania*. Submitted to the United Nations Framework Convention on Climate Change Secretariat (UNFCCC, May 2018). www4.unfccc.int/sites/NDCStaging/pages/Party.aspx?party=TZA. Consulted 11 Nov 2019.

GoUK (2019) *2017 UK Greenhouse Gas Emissions*. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/776083/2017_Final_emissions_statistics_one_page_summary.pdf. Consulted 1 Dec 2019.

GST-GTK (2014) *Project Document: Mineral Resources Potential and Small Scale Mining in Nachingwea Area and a General Nation-Wide Geochemical Map of Tanzania*. Submitted by the Geological Survey of Finland (GTK) in cooperation with the Geological Survey of Tanzania (GST). MFA Finland, Helsinki (14 Nov 2014).

GST-GTK (2017) *Completion Report: Mineral Resources Potential and Small Scale Mining in Nachingwea Area and a General Nation-Wide Geochemical Map of Tanzania*. Prepared by the Geological Survey of Finland (GTK) and the Geological Survey of Tanzania (GST). MFA Finland, Helsinki (13 Jun 2017).

GST-GTK (2019) *Project Proposal: concept notes on (a) mineral potential mapping, (b) geochemical Survey, (c) carbonate rock (lime) resources assessment, (d) best practice transfer on balanced lime and fertilizers use; and (e) updating of GST web pages and capacity building*. Prepared by the Geological Survey of Finland (GTK) and the Geological Survey of Tanzania (GST), Nov 2019.

GTK (2019) *Mineral Resources Potential and Small Scale Mining in Nachingwea Area and a General Nationwide Geochemical Map of Tanzania, Implementation Period May 2105- May 2017*. Presentation prepared by the Geological Survey of Finland.

INFORES (2015) *Project Document: Implementation support of results and data of first National Forest Resources Monitoring and Assessment (NAFORMA) at regional and local level in Tanzania*. Submitted by Natural Resources Institute Finland (Luke) in cooperation with Tanzania Forest Services (TFS) Agency, Sokoine University of Agriculture (SUA) and Tanzania Forestry Research Institute (TAFORI). MFA Finland, Helsinki.

IPBES (2019) *Global Assessment Report on Biodiversity and Ecosystem Services: Summary for Policymakers*. Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services

- Secretariat, Bonn.
https://ipbes.net/system/tdf/ipbes_global_assessment_report_summary_for_policymakers.pdf?file=1&type=node&id=35329. Consulted 1 Dec 2019.
- IPCC (2019) *Global Warming of 1.5°C: Summary for Policymakers*. Intergovernmental Panel on Climate Change and World Meteorological Organization, Geneva.
https://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf. Consulted 1 Dec 2019.
- Killian, B. (2008a) Do Elections Matter in Zanzibar? *Journal of African Elections*, **8**(2): 74-87.
- Killian, B. (2008b) The state and identity politics in Zanzibar: challenges to democratic consolidation in Tanzania. *African Identities*, **6**(2): 99-125.
<https://doi.org/10.1080/14725840801933932>
- Killian, B. (2014) A Proposed Structure of the Union in Tanzania: Political Parties at a Crossroad. *African Review*, **41**(1): 116-138.
- Kulindwa, K. A., Silayo, D., Zahabu, E., Lokina, R., Hella, J., Hepelwa., Shirima, D., Macrice, S and Kalonga, S. (editors, 2016) *Lessons and Implications for REDD+: Implementation Experiences from Tanzania*. Climate Change Impacts and Adaptation and Mitigation Project (CCIAM), Sokoine University of Agriculture (SUA), E&D Vision Publishers, Dar es Salaam.
- Luke (2019a) *INFORES: Semi-annual progress and financial report*. Natural Resources Institute Finland (Seinäjäki).
- Luke (2019b) *ICI-project INFORES-Tanzania: Implementation support of results and data of first National Forest Resources Monitoring and Assessment (NAFORMA) at regional and local level in Tanzania*. Presentation by the Natural Resources Institute Finland.
- Malimbwi, R. E. (2019) *Minutes of the INFORES Final Seminar 25-26 Sept 2019*. National Carbon Monitoring Centre, Sokoine University of Agriculture, Morogoro, Tanzania.
- Malimbwi, R.E., Eid, T. & Chamshama, S.A.O. (2018) *Allometric Tree Biomass and Volume Models in Tanzania*. Second Edition. E&D Vision Publishing, Dar es Salaam.
- Malimbwi, R. E., Chamuya, N., Mugasha, W., Zahabu, E., Oteno, J. & Mauya, E. (2019) *The National Forest Resources Assessments and Monitoring (NAFORMA) Process in Tanzania*. Presentation by the INFORES Project (NCCM/SUA, TAFORI, TFS).
- MCCN (2017) *Strategic Plan 2018-2020*. Mwambao Coastal Community Network, Zanzibar.
- MFA (2010a) *Instituutioiden välisen kehitysyhteistyön instrumenttiin liittyvä 'usein kysytyä'* ('Frequently asked questions about the Institutional Cooperation Instrument'),
um.fi/documents/35732/48132/instituutioiden_välisen_kehitysyhteistyön_instrumentti__usein_kysytyä/520638b6-0305-846a-0e3b-e566b235f267. Consulted 13 Nov 2019.
- MFA (2010b) *Institutionaalisen kehitysyhteistyön instrumentti (IKI): Määräys valtion virastojen ja laitosten kehitysyhteistyöhön kehitysmaiden toimijoiden kanssa*. ('Institutional Development Cooperation Instrument (IKI): Order on Development Cooperation with Government Agencies and Institutions in Developing Countries'). Standard 3/2010, Internal Order, Development Policy Department, MFA Finland, Helsinki (Mar 2010).
- MFA (2012) *Institutional Cooperation Instrument - ICI: Manual and Recommended Best Practices*,
um.fi/documents/35732/48132/manual_and_recommended_best_practices__version_7_/dba58b7a-32db-6320-324e-8c3048a49e6b. Consulted 13 Nov 2019.

- MFA (2016) *Country Strategy for Development Cooperation Tanzania 2016-2019*. MFA Finland, Helsinki.
- MFA (2018) *Evaluation Manual*. Development Evaluation Unit, MFA Finland, Helsinki.
<https://eoppiva.zapter.io/evaluationmanual2018>. Consulted 11 Nov 2019.
- MNRT (2015) *NAFORMA: National Forest Resources Monitoring and Assessment of Tanzania Mainland, Main Results*. Ministry of Natural Resources and Tourism (Tanzania Forest Services Agency in Collaboration with the Government of Finland and the Food and Agriculture Organization of the United Nations), Dar es Salaam.
- Nelson, F. & Blomley, T. (2010) Peasants' forests and the King's game? Institutional divergence and convergence in Tanzania's forestry and wildlife sectors. Pages 79-105 in F. Nelson (editor) *Community Rights, Conservation and Contested Land: the Politics of Natural Resource Governance in Africa*. Earthscan (London).
- Peronius, A. & Karlsson, T. (2017) *Assessment of the State of Small Scale Mining in Nachingwea Area*. Geological Survey of Tanzania, Dodoma.
- Shine, Y. J., Backman, B., Marwa, E., Partanen, M., Lindqvist, K. & Kaaya, A. (2016) *Geochemical Soil Study in Nachingwea Area – a Pilot Study for the Nationwide Geochemical Map Using NAFORMA Soil Samples*. Geological Survey of Tanzania, Dodoma.
- SUA (2019) *Proposal for Establishment of National Carbon Monitoring Centre (NCMC) at Sokoine University of Agriculture (SUA)*. Sokoine University of Agriculture, Morogoro.
- SWIOFish (2018) *United Republic of Tanzania SWIOFish Implementation Support Mission (22 Oct-2 Nov 2018)*. South West Indian Ocean Fisheries Governance and Shared Growth Program. World Bank Group and Indian Ocean Commission.
- SWIOFish (2019) *Mauritius Symposium on Addressing fisheries governance challenges in the Western Indian Ocean*. South West Indian Ocean Fisheries Governance and Shared Growth Program. World Bank Group and Indian Ocean Commission.
- TAFORI (2019) *Future Plans by TAFORI after INFORES Project*. Tanzania Forestry Research Institute, Morogoro.
- Thrupp, D.W (2016) *The Political Crisis in Zanzibar*. Centre for Strategic and International Studies.
<https://www.csis.org/analysis/political-crisis-zanzibar>. Consulted 2 Dec 2019.
- Thunberg, G. (2019) *No One is Too Small to Make a Difference*. Penguin, London.
- UNDP (2018) *Enhancing climate change resilience in Zanzibar*, pipeline project, Jul 2018
(www.tz.undp.org/content/tanzania/en/home/projects/zanzibar-climate-change-resilience.html). Consulted 11 Nov 2019.
- UNEP (2019) *Emissions Gap Report 2019*. United Nations Environment Programme, Nairobi.
www.unenvironment.org/emissionsgap. Consulted 1 Dec 2019.
- Uusihakala, J., Siltanen, M. & Killian, B. (2019) *Mid-term Review of the Uongozi Institute, Final Report for MFA Finland*. Impact Consulting Oy Ltd, Helsinki.
- VPO & SUA (2019) *Memorandum of Understanding Between the Vice President's Office and the Sokoine University of Agriculture for the Functioning of National Carbon Monitoring Centre* (draft, November, 2019).
- World Bank (2017) *Tanzania Economic Update: Managing Water Wisely - The Urgent Need to Improve Water Resources Management in Tanzania*. World Bank (Washington, DC).

World Bank (2019) *Tanzania: Country Environmental Analysis - Environmental Trends and Threats, and Pathways to Improved Sustainability*. World Bank (Washington, DC).

Yanda, P.Z, & Mung'ong'o, C.G. (editors, 2016) *Pastoralism and Climate Change in East Africa*. Mkuki Na Nyota (Dar es Salaam).

Yanda, P.Z, Bryceson, I., Mwevura, H. & Mung'ong'o, C.G. (editors, 2019) *Climate Change and Coastal Resources in Tanzania: Studies on Socio-Ecological Systems' Vulnerability, Resilience and Governance*. Springer International (Cham, Switzerland).

Yrkkö, J., Mattila, J., Pajarinen, M. & Seppälä, T. (2019) *Digibarometer 2019*.
www.etla.fi/sv/publikationer/digibarometri-2019-digi-tulee-mutta-riittavatko-resurssit/.
Consulted 22 Nov 2019.

ZAN-SDI (2015) *Project Document: National Spatial Data Infrastructure for Integrated Coastal and Marine Spatial Planning in Zanzibar (ZAN-SDI)*. Submitted by the Finnish Environment Institute and National Land Survey of Finland in cooperation with the Zanzibar Commission for Lands. MFA Finland, Helsinki (26 Nov 2015).

ZAN-SDI (2019) *Completion Report: National Spatial Data Infrastructure for Integrated Coastal and Marine Spatial Planning in Zanzibar (ZAN-SDI)*. Prepared by the Finnish Environment Institute, National Land Survey of Finland, University of Turku, and the Department of Urban and Rural Planning of Zanzibar. MFA Finland, Helsinki (12 Apr 2019).

The evaluation team

Julian Caldecott (Team Leader, julian@creatura.com). An ecologist with a background in wildlife, rainforest and biodiversity conservation, since 2000 his work has focused on early warning, design and performance issues concerning climate change, biodiversity, ecosystem management, and related matters of sustainability and institutional and community development. He has led major evaluations for European and other governments, and has conducted strategic programme reviews and project identification missions for several, as well as studies for UNEP on disaster risk reduction and on environmental policies, laws and treaties. He has undertaken numerous writing, design and environmental assessment assignments, and has published several text books, most recently *Aid Performance and Climate Change* (Routledge, 2017), with *Adapting to Climate Chaos* (Cambridge) now in preparation.

Bernadeta Killian (Gender and Human Rights Expert, bernadetak@yahoo.com). A political scientist, international relations specialist, historian and governance expert, her areas of specialization include democracy and democratization, governance, organizational management, gender equality issues and public policy analysis. She is also very experienced in comparative politics, research methodology and assessing institutional change processes at institutional and practical levels. Professor Killian has conducted several evaluations and surveys of programmes on poverty reduction, rural development, policy complementarity and coherence, democracy, accountability and advocacy, gender equality, legislative support and sustainable natural resource management, including in the forest sector.

Markku Siltanen (Institutional Cooperation Expert, markku.siltanen@impactconsulting.fi). A forester, educator and leadership/business coach, with over 30 years' experience in support of public sector strategy development and capacity building through long-and short-term development cooperation interventions in 25 countries, especially in forestry, natural resources management, rural development, and public finance management. He has delivered training of public sector officials, leaders and decision makers in five continents, and has been responsible for quality control in management teams in medium/large companies, while also conducting internal quality audits for improved performance.

Ron Smit (Mineral Sector Expert, ron@ronsmit.com). A geologist, datametrician, mineral economist and business planner, with extensive international experience in the fields of mineral exploration, project evaluation and mining sector development and governance consulting. His areas of expertise include geosciences, mineral export valuation and mineral production monitoring, mining environmental assessment and regulation, mining cadastre design, business administration and general support to public mining sector institutions. He has extensive private-sector experience in base metal and especially gold exploration, as well as ore reserve estimation, and has extensive networks with government mining institutions, environmental agencies, mining sector operations, donor agencies, as well as with local and international experts.

Annex 1: Terms of Reference

Final and ex-post evaluation of three institutional cooperation projects in Tanzania	
1.	<p>Background to the evaluation</p> <p>1.1. Context</p> <p>The Ministry for Foreign Affairs of Finland (MFA) created institutional cooperation instrument (ICI) to finance capacity development projects, in which Finnish governmental institutions cooperate with their partner agencies in developing countries to increase their capacity. ICI projects are always based on partner organizations demand, their strong ownership and commitment to the project. Activities aim at developing new services or forms of service delivery, improving service delivery, organizational development, re-arranging working processes, improving skills, networking, or internationalization.</p> <p>Finland's Country strategy for development cooperation with Tanzania 2016–2019 will be extended to cover year 2020. The process to formulate a strategy for 2021–2024 has started with a self-evaluation of the 2016–2019 strategy. In the self-evaluation, one conclusion was that the most successful way to use ICI has been to support goals of the country strategy. The self-evaluation further concluded that ICI projects could even play a more important part in the new strategy if synergies and complementarity will improve. MFA has already ruled that in order to consider funding for new ICI cooperation in Tanzania, projects should be closely interlinked with the country strategy outcomes or support directly business promotion.</p> <p>To lay grounds for ICI projects in the new strategy, MFA is now commencing an evaluation of the three ICI projects in Tanzania. This evaluation is expected to provide information on the results and sustainability of the previous ICI projects and to give recommendations for ICI cooperation within the new country strategy.</p> <p>1.2. Description of the projects to be evaluated</p> <p>Natural Resources Institute (Luke): Implementation support of results and data of first National Forest Resources Monitoring and Assessment (NAFORMA) at regional and local level in Tanzania, INFORES (2016–2019, ICI support 700,000 euros).</p> <ul style="list-style-type: none"> • The INFORES project has been implemented by Natural Resources Institute Finland (Luke) in cooperation with Tanzania Forest Service Agency (TFS), Sokoine University of Agriculture (SUA) and Tanzania Forestry Research Institute (TAFORI). NAFORMA data was collected nationally, and plots are located nationwide. Within the INFORES project, Mitmiombo permanent plots have been established in 2007. They are located in Morogoro (Kitulangalo). Besides local communities, the project has been working with Forest and Beekeeping Division (FBD) of the Ministry of Natural Resources and Tourism (MNRT) and Tanzania Forest Services staff at national level. • The project's overall objective is sustainable management and use of Tanzanian forests by improving technical facilities and practical skills to use forest data. Purpose of the INFORES project is strengthened capacity and collaboration of the public forestry organization TFS, and research institutions TAFORI and SUA to manage and use available data of forest resources aiming at sustainable forest management and use. The project contributed to this by increasing the availability of information on forests of the three institutions: research institutions SUA and TAFORI, and TFS. • The result areas of the INFORES Tanzania project are: (1) Strengthened capacity of direct beneficiary organizations on NAFORMA maintenance and data dissemination, and improved capacity on multisource forest data processing and GIS. (2) Improved capacity of forest inventory and management oriented research in SUA and TAFORI. The project has, moreover, been supporting forest and land use policy in line with the National Forest Policy (1998). <p>Finnish Environment Institute (SYKE): National special data infrastructure for integrated coastal and Marine special planning, ZAN-SDI (2016–2019, ICI support 710,000 euros)</p>

- The ZAN-SDI project was implemented by the Finnish Environment Institute (SYKE) together with National Land Survey of Finland. Tanzanian partner was the Department of Urban and Rural Planning (DoURP) under the Zanzibar Commission for Lands (COLA). In addition, the partners included several Zanzibar Government Departments and the Finnish Environment Institute (SYKE). University of Turku Department of Geography and Geology (UTU) was sub-contracted for geospatial capacity building and training.
- The overall objective of the project was improved utilization of geospatial information in spatial planning and management in Zanzibar. The project purpose was improved capacity of the project partners to use National Spatial Data Infrastructure (NSDI) effectively in integrated coastal and marine spatial planning.
- The project improved access to spatial information and thus possibilities for inter-agency cooperation and public participation in environmental and other spatial planning and management processes. Easy access to spatial information is a precondition for private sector involvement in economic development, participatory democracy, good governance (transparency), reduction of inequalities and fair sharing of benefits from natural resources, which all contribute to poverty reduction. More efficient data sharing creates savings by reducing duplication of work by various agencies. In particular, accurate coastal and marine spatial data support the planning of adaptation to climate change, which is imperative for small island communities like Zanzibar.
- Result areas of the project were: (1) Increased capacity for developing and maintaining the National Spatial Data Infrastructure (NSDI); (2) Increased capacity for ecosystem-based planning and management of coastal zones, maritime activities and the marine environment; (3) Improved geospatial capacities at partner organizations.

Geological Survey of Finland (GTK): Mineral resources potential and small scale farming in Nachingwea area and general nation-wide geochemical map of Tanzania (2015–2017, ICI support 715,000 euros).

- Geological Survey of Finland (GTK) together with Geological Survey of Tanzania (GST) implemented the Mineral resources and small scale farming project. Sokoine University of Agriculture (SUA) participated in compiling a general nationwide geochemical dataset and geochemical map.
- The overall objective of the project was to support Tanzania to strengthen the mineral sector and provide geoscientific information to a wide group of stakeholders. The goal was to provide better information to GST websites about the geological potential of Tanzania. The short-term goal was improved conditions and safer and cleaner environment for small-scale miners. Their entrepreneurial skills and assets were also improved.
- Result areas of the project were: (1) Geological and mineral potential map (in Nachingwea area) with explanatory notes produced; (2) General nationwide geochemical dataset and geochemical map compiled using Tanzania Forest Service soil samples; (3) Support to productivity and safety improvement of small-scale mining in Nachingwea area. (4) Institutional capacity building through development of GST's website and information dissemination by updating GST website, digital map production procedures, computer-aided fieldwork techniques, training-by-doing based human resource development.
- The project also supported the national Tanzania Extractive Industries Initiative (TEITI). It also has had impact on exploration and mining activities and increased number of mining licenses. Beneficiaries were GST and SUA as well as citizens, entrepreneurs and especially small-scale miners in Nachingwea region.

1.3. Previous evaluations

The projects have not been previously evaluated, but the Ministry for Foreign Affairs of Finland (MFA) had an evaluation done on complementarity in Finland's development policy and co-operation, which had a case study on Institutional Cooperation Instrument (Evaluation report 2014:1).

2. Rationale, purpose and objectives of the evaluation

The rationale of this evaluation is to provide objective information to the MFA especially about relevance, effectiveness and sustainability of ICI cooperation in Tanzania, and to give guidance on the use of this instrument for the next country strategy.

The purpose of this evaluation is to assess lessons learned from institutional cooperation in Tanzania. In addition, ICI partners, who have been active in Tanzania, have expressed interest in planning new projects already in 2020. This evaluation is also expected to provide information for this process

3. Scope of the evaluation

The evaluation covers three ICI projects in Tanzania. Geographical area to be covered in this evaluation includes the project sites of the three projects: Dodoma, Morogoro and Zanzibar. The evaluation team is expected to visit the sites of all three projects. The time spans to be covered are: INFORES: 2016-2019 (project is ongoing until the end of 2019); ZAN-SDI: 2016-April 2019; GTK: May 2015-May 2017.

4. Issues to be addressed and evaluation questions

While the evaluation questions below indicate the priority issues under each criterion, the evaluation team should not limit the evaluation to these questions only.

- **Relevance**

1. How the ICI projects have answered to the capacity development needs of the Tanzanian partner institutions?
2. To what extent the objectives of the projects have been consistent with Finland's development policy and Country strategy for development cooperation in Tanzania?

- **Impact**

3. What are intended and unintended, short- and long-term, positive and negative impacts of the ICI projects on the capacities of the partner institutions?
4. In which ways the projects have been able to benefit the partner organizations to serve local population (men, women, young, old), private sector and authorities?

- **Effectiveness**

5. How well has ICI cooperation improved partner organization capacities in Tanzania?
6. To what extent have the projects promoted human rights, gender equality, reduction of inequalities and climate sustainability?

- **Efficiency**

7. How well the activities have transformed the available resources into increased capacity in Tanzania, have the implementation mechanisms been cost-efficient?
8. How have the partner organizations worked together, and what can be learned from institutional cooperation?

- **Aid effectiveness**

9. How have the projects promoted ownership and accountability in partner organizations in Tanzania?

- **Sustainability**

10. To what extent have the projects achieved sustainable results, and what are the conditions or factors that are central for sustainability of the results?

Based on the findings, recommendations shall be prepared for future improvements in the use of the ICI instrument as a cooperation modality within MFA's country strategy in Tanzania.

5. Methodology

The evaluation shall follow the guidelines of MFA's Evaluation Manual (Annex 3, link). The choice of methodology will be left to the evaluation team to propose. With the aim of having an objective and independent evaluation, the team is expected to conduct the evaluation according to international criteria, and professional norms and standards adopted by the MFA. Methodology defines methods of

data collection and analysis. It is expected that multiple methods are used, both qualitative and quantitative. Consultations with relevant partners and stakeholders will be conducted. Validation of results must be done through multiple sources. Data is disaggregated by relevant categories.

6. The evaluation process and time schedule

The evaluation is expected to be conducted in November 2019 – January 2020. It will include inception and desk study phases, fieldwork and reporting. The tentative schedule of the phases of the evaluation is the following:

- Start-up meeting in MFA: 5 November 2019
- Inception phase and fieldwork: November 2019
- Draft final reports: by 9 December 2019
- Commenting within two weeks after receiving the draft reports Submission of the final report: by 9 January 2020

MFA will provide the key documents of the projects and the ICI instrument. At the end of the field mission, the team is expected to present their preliminary key findings and recommendations to the Embassy, MFA and ICI partner organizations.

7. Reporting

The evaluation team is requested to submit the following deliverables:

- Inception report
- Presentation on the field findings in the end of the field phase in the embassy (with video link to MFA Helsinki)
- Draft final reports: findings separately from each project, and a summary of the main findings and recommendations
- Final report including the response to the comments provided by MFA on the draft reports.
- The final report compiles the draft reports into one holistic report (max 60 pages + annexes).
- Presentation on the evaluation findings in a final workshop with MFA (Helsinki and embassy) and key partner institutions in both countries. The workshop will be held in Helsinki with a video link to the embassy.

Inception report is prepared before fieldwork and based on the desk study. The evaluation team shall present an inception report including detailed and updated work methodologies, a work plan including selection of field sites, detailed division of labour within the evaluation team, a list of major meetings and consultations or interviews planned for the field visits, and detailed evaluation questions linked to the evaluation criteria in an evaluation matrix.

Draft final report of the evaluation will be submitted to the MFA after the field work. It will combine a desk study and field findings. The MFA will submit comments to the report, which will then be revised based on these comments.

The final report shall be submitted to the MFA two weeks after receiving the comments on the draft final report.

Language of the reports and presentations is English.

Each report is subjected to MFA's approval. The evaluation team is able to move to the next phase only after receiving a written statement of acceptance by the MFA.

8. Quality assurance

The evaluation team is expected to propose and implement a quality assurance system for the evaluation. The proposal must specify the quality assurance process, methodology, resources and tools.

9. Expertise required

The evaluation team is expected to consist of:

- international experts, one of them nominated as a team leader, and
- national expert/s with good skills in Swahili

The evaluation team shall have solid experience and knowledge in the following fields:

- Evaluations of development cooperation projects or programs, especially final, ex-post or impact evaluations
- Experience in capacity building in development cooperation projects reporting
- Experience in results based management of development cooperation
- Expertise on the sectors of the three ICI projects
- Integrating cross cutting objectives of Finland's development policy in development cooperation projects or programs and evaluations

10. Budget

A lump sum contract of 80,000 euros covers all the fees of the experts and reimbursable costs, excluding VAT. In addition, the Contracting Authority reserves a right for a contract of additional services from the same service provider amounting up to a maximum of 20,000 euros.

11. Mandate

The evaluation team is entitled and expected to discuss matters relevant to this evaluation with pertinent persons and organizations. However, it is not authorized to make any commitments on the behalf of the Government of Finland.

Annexes (urls provided):

- (1) Country strategy for development cooperation Tanzania 2016–2019;
- (2) MFA ICI principles and manual;
- (3) MFA evaluation manual;
- (4) Outline of the Evaluation Report;
- (5) Evaluation report quality checklist (OECD/DAC and EU standards);
- (6) Institutional Cooperation Instrument, Evaluation Report.

Annex 2: Persons consulted

Institutions	Interviewees and correspondents
CCCS, University of Dar es Salaam	<ul style="list-style-type: none"> • Edmund Mabhuye (Lecturer in Natural Resources and Climate Change, edmund.mabhuye@gmail.com) • Muita Chacha (Director) • Pius Yanda (IPCC Vice Chair Working Group II, pyanda@gmail.com)
COLA - (Zanzibar)	<ul style="list-style-type: none"> • Alamin Omar (DoSM) • Ali Amin Omar Juma (Head of Mapping, DoSM, aaolamin@hotmail.com) • Dr Idi Hassan (Executive Secretary, COLA) • Ibrahim Khalid Mambo (ZLDPC, imu1422@gmail.com) • Mohammed Habib (Deputy Director, DoURP, edihabib41@yahoo.com) • Mohammed Juma (Director, DoURP, e.muhammadjuma@gmail.com) • Mohammed Zahran (ZLDPC, former focal point at COLA before being replaced by Ibrahim Khalid Mambo, modzan@gmail.com) • Mristo Mbarouk Haji (Networking administrator) • Mwalim H. Mbarouk (Director, DoSM) • Talib Khatib Shaaban (Focal Point ICI and Head of Land Information, DoSM) • Wahid Nasser (Head of Validation, COLA)
DFNR (Zanzibar)	<ul style="list-style-type: none"> • Miza Suleiman Khamis (Deputy Chief Programmes, mizakhamis@gmail.com) • Sheha Hamdan (Director, ZAN-SDI Project Board Member, shehamdan64@yahoo.com.uk)
DoE (Zanzibar)	<ul style="list-style-type: none"> • Farhat Mbarouk (Director of Environment) • Saida Omar (ZAN-SDI focal point, siosam2002@yahoo.com)
Embassy of Finland, Dar es Salaam	<ul style="list-style-type: none"> • Kari Leppänen (Counsellor, kari.leppanen@formin.fi) • Riikka Raatikainen (Head of Cooperation, riikka.raatikainen@formin.fi) • William Nambiza (Coordinator, Development Cooperation, william.nambiza@formin.fi)
FCG	<ul style="list-style-type: none"> • Jorma Peltonen (Director, advisor to Luke, SYKE and GTK, jorma.peltonen@fcg.fi)
GST	<ul style="list-style-type: none"> • Maswi M. Solomon (Geologist) • Octavian L. Minja (Geophysicist) • Priscus R. Kaspana (Senior Mineral Processing Engineer) • Yokbeth Myumbilwa (Acting Chief Executive Officer, yokbeth.myumbilwa@gst.go.tz) • Yusto Joseph Shine (Geologist)
GTK	<ul style="list-style-type: none"> • Eija Hyvönen (Project manager, eija.hyvonen@gtk.fi) • Jari Väätäinen (Webpage manager, jari.vaatainen@gtk.fi) • Jukka-Pekka Kujasalo (Geophysicist, jukka-pekka.kujasalo@gtk.fi) • Merja Janhila (Data management and GIS, merja.janhila@gtk.fi) • Philipp Schmidt-Thomé (International Operations Director, philipp.schmidt-thome@gtk.fi) • Riitta Teerilahti (Project Manager, Africa, riitta.teerilahti@gtk.fi)

	<ul style="list-style-type: none"> • Teemu Karlsson (teemu.karlsson@gtk.fi) • Tegist Chernet (Senior Scientist, tegist.chernet@gtk.fi) • Tuomo Karinen (tuomo.karinen@gtk.fi)
HAUS	<ul style="list-style-type: none"> • Mauri Starckman (HAUS Chief Partnership Advisor Uongozi Institute, mauri.starckman@haus.fi)
Kiwengwa (Zanzibar)	<ul style="list-style-type: none"> • Maulid Masud (Shehia Head)
Luke	<ul style="list-style-type: none"> • Helena Haakana (Researcher, helena.haakana@luke.fi) • Pentti Niemistö (responsible for INFORES Result Area 2, pentti.niemisto@luke.fi) • Sauli Valkonen (Researcher, sauli.valkonen@luke.fi)
MANRLF (Zanzibar)	<ul style="list-style-type: none"> • Hashim Muumin (Fisheries Department, ZAN-SDI Focal Point)
MCCN	<ul style="list-style-type: none"> • Ali Thani (Director) • Lorna Slade (Executive Director, lorna.slade@mwambao.or.tz) • Musa Mkubwa (Volunteer)
MFA Finland	<ul style="list-style-type: none"> • Annika Kaipola (ICI team representative, annika.kaipola@formin.fi) • Minna Hares (Desk Officer, minna.hares@formin.fi) • Vuokko Jutila (Team Leader Tanzania, vuokko.jutila@formin.fi)
NCMC	<ul style="list-style-type: none"> • Eliakimu Zahabu (NCMC Coordinator and member of INFORES project research team, zahabue@yahoo.com)
SUA	<ul style="list-style-type: none"> • Ernest Marwa (member, INFORES project research team, emelkiory.marwa@gmail.com) • Eva Mtengeti (member, INFORES project research team) • James Mnyonga (member, INFORES project research team) • Mr Edson (member, INFORES project research team) • Rogers E. Malimbwi (INFORES Coordinator, remalimbwi@yahoo.com) • Wilson Mugasha (member of INFORES research team, wilmugasha@gmail.com)
SUZA (Zanzibar)	<ul style="list-style-type: none"> • Abdalim Mbarouk Hamad (ICT Service, GeoServer) • Abubakar Diwani Bakar (Head, Dept of Computer Science and IT, GEO-ICT Coordinator, cadin25@gmail.com) • Arabu Haji Mwadini (Assistant lecturer Department of Social Sciences, GEO-ICT member) • Haji Mwevura (CCCS co-researcher, Senior Lecturer in Environmental Analytical Chemistry, haji.mwevura@suza.ac.tz) • Idris Rai (ZAN-SDI Project Associate Board member, rai@suza.ac.tz) • Makame Omar Makame (Acting Head, Dept of Social Science, and ZAN-SDI Project focal point, maqam04@gmail.com) • Masoud Mwanza Hamad (Assistant lecturer Computer Science, GeoNode and Resilience Academy developer)
SYKE	<ul style="list-style-type: none"> • Elina Virtanen (Head of Unit, elina.virtanen@syke.fi) • Juho Lappalainen (trainer in ZAN-SDI Result Area 2, juho.lappalainen@syke.fi)

	<ul style="list-style-type: none"> • Markku Viitasalo (responsible for ZAN-SDI Result Area 2, markku.viitasalo@syke.fi) • Minna Kallio (trainer in ZAN-SDI Result Area 1, minna.kallio@syke.fi) • Riitta Teiniranta (responsible for ZAN-SDI Result Area 1, riitta.teiniranta@syke.fi) • Tea Törnroos (Head of International Unit, tea.tornroos@syke.fi) • Ville Karvinen (trainer in ZAN-SDI Result Area 2, ville.karvinen@syke.fi) • Yki Laine (trainer in ZAN-SDI Result Area 1, yki.laine@syke.fi)
TAFORI	<ul style="list-style-type: none"> • Chelestino P. Balama (Senior Research Scientist and INFORES Coordinator, balamapc@gmail.com) • Ernest Siwa (Researcher, siwa.ernest@tafori.or.tz) • Johnson Moses Massawe (Acting Head of ICT) • Siima Salome Bakangesa (Director, Forest Production Research, siima.bakangesa@tafori.or.tz)
TFS	<ul style="list-style-type: none"> • Jared Otieno (Head of Resource Assessment Unit and NAFORMA, INFORES Coordinator, otieno2uk@gmail.com) • Philemon Rashid (IT specialist) • Zawadi D. Mbwambo (Director of Resource Assessment and Acting CEO, mbwambzd@yahoo.com)
UTU	<ul style="list-style-type: none"> • Niina Käyhkö (University of Turku Associate Professor in Digital Geospatial Research, ZAN-SDI Result Area 3, niina.kayhko@utu.fi)
VPO	<ul style="list-style-type: none"> • Freddy Manyika (REDD+ Coordinator, kanizio.manyika@vpo.go.tz)
VTV	<ul style="list-style-type: none"> • Pekka Salminen (formerly SYKE Home Office Coordinator, now Principal Performance Auditor for SYKE and other institutions at the National Audit Office, pekka.salminen@vtv.fi)
ZEMA (Zanzibar)	<ul style="list-style-type: none"> • Mgeni M. Khamis (Focal point) • Sheha Mjaja (Director General, sheha_mjaja@hotmail.com)

Annex 3: Preliminary evaluation matrix from the Inception Report

Criteria	Questions in the ToR	Lines of enquiry for each project	Sources of information for each project
Relevance (Tanzania)	How have the ICI projects answered to the capacity development needs of the Tanzanian partner institutions?	<p>Clarify the development needs of Tanzania and the capacity specific needs of Tanzanian partners in their political, economic and ecological contexts.</p> <p>Clarify the theory of change.</p> <p>Relate theory of change to applicable national policies and ICI objectives.</p> <p>Relate theory of change to the need to build specific kinds of institutional capacity.</p>	<p>Material on project relevance to Tanzania's development priorities and needs, from:</p> <ul style="list-style-type: none"> • Government of Tanzania and Government of Zanzibar development priority and strategy documents. • Contextual and need analyses by project partners and by third parties (international organisations, other donors, NGOs, individual experts, etc.). • Project documents, annual and semi-annual reports, mission reports, publications, completion reports. • Records of agreements, correspondence, minutes of meetings, workshops, joint missions, decisions, etc. • Semi-structured interviews with knowledge holders in Finland and Tanzania.
Relevance (Finland)	To what extent have the objectives of the projects been consistent with Finland's development policy and country strategy for development cooperation in Tanzania?	<p>Clarify the theory of change and relate to applicable policy(ies), country strategy(ies) and ICI objectives.</p> <p>Identify changes that may have occurred to the theory of change, and consider whether it remains fit for purpose.</p>	<p>Material on project relevance to Finland's development cooperation priorities, from:</p> <ul style="list-style-type: none"> • The MFA Country Strategy for Tanzania (2016-2019) and other strategic commentary in light of the forward-looking aspect of the evaluation. • Project documents, annual and semi-annual reports, mission reports, publications, completion reports. • Records of agreements, correspondence, minutes of meetings, workshops, joint missions, decisions, etc. • Semi-structured interviews with knowledge holders in Finland and Tanzania.

<p>Design quality</p>	<p>[Not raised specifically in the ToR, but there is evidence that design quality helps to determine later project performance, so it is relevant to ‘value for money’ in development cooperation.]</p>	<p>Assess the plausibility of the theory of change and its underlying assumptions.</p>	<p>Material relevant to design quality issues (i.e. theory of change and underlying assumptions), from:</p> <ul style="list-style-type: none"> • Project documents, annual and semi-annual reports, mission reports, publications, completion reports. • Records of agreements, correspondence, minutes of meetings, workshops, joint missions, decisions, etc. • Semi-structured interviews with knowledge holders in Finland and Tanzania.
<p>Efficiency</p>	<p>How well have the activities transformed the available resources into increased capacity in Tanzania, [and] have the implementation mechanisms been cost-efficient? How have the partner organizations worked together, and what can be learned from institutional cooperation?</p>	<p>Identify measures that promote sound management and value for money. Consider the counterfactual (‘what if not’) scenario and whether or not the same or better results could have been achieved through different means. Identify consistent patterns and lessons learned from governance, capacity or relationships that may have affected how projects were managed. Identify consistent patterns and lessons learned from functional and/or dysfunctional relationships between institutional actors.</p>	<p>Material relevant to efficiency issues (i.e. sound management and value for money), from:</p> <ul style="list-style-type: none"> • Project documents, annual and semi-annual reports, mission reports, publications, completion reports. • Records of agreements, correspondence, minutes of meetings, workshops, joint missions, decisions, etc. • Semi-structured interviews with knowledge holders in Finland and Tanzania.
<p>Effectiveness</p>	<p>How well has ICI cooperation improved partner organization capacities in Tanzania? To what extent have the projects promoted human rights, gender equality, reduction of inequalities and climate sustainability?</p>	<p>Consider the implications of the theory of change for specific improvements in the capacity and behaviour of institutions, and seek evidence that these improvements have occurred and can be attributed to the project. Consider the implications of the theory of change (or policy aims implicit to it) for specific improvements in human rights, gender equality, reduction of inequalities and climate sustainability, and seek evidence that these improvements have occurred and can be attributed to the project.</p>	<p>Material relevant to effectiveness issues (i.e. results in relation to purpose), from:</p> <ul style="list-style-type: none"> • Project documents, annual and semi-annual reports, mission reports, publications, completion reports. • Records of agreements, correspondence, minutes of meetings, workshops, joint missions, decisions, etc. • Semi-structured interviews with knowledge holders in Finland and Tanzania.

<p>Impact</p>	<p>What are intended and unintended, short- and long-term, positive and negative impacts of the ICI projects on the capacities of the partner institutions? In which ways have the projects been able to benefit the partner organizations to serve local population (men, women, young, old), private sector and authorities?</p>	<p>Seek evidence of strategic changes that can be attributed to the project, including changes in skills, education, relationships, institutions, legislation, and administration, while also considering potential negative impacts such as unintended economic externalities, perverse incentives, population movements, and ecological deterioration. Consider the implications of any changes noted for the quality of services offered inclusively to local people, private enterprise and the local and national government.</p>	<p>Material relevant to impact issues (i.e. wider and longer-term effects, including strategic changes), from:</p> <ul style="list-style-type: none"> • Project documents, annual and semi-annual reports, mission reports, publications, completion reports. • Records of agreements, correspondence, minutes of meetings, workshops, joint missions, decisions, etc. • Semi-structured interviews with knowledge holders in Finland and Tanzania.
<p>Sustainability</p>	<p>To what extent have the projects achieved sustainable results, and what are the conditions or factors that are central for sustainability of the results?</p>	<p>Seek evidence of changes attributed to the projects: (a) in policies, laws and regulations, systems and working practices, establishment of new forums, or creation of new permanent staff positions; (b) to fiscal arrangements and budget allocations, or creation of thriving businesses with local participation in benefits; (c) in trends in environmental deterioration and ecosystem restoration, or introduction of incentives and resource management systems that reward sustainable use of ecosystems; and (d) in the introduction of new ideas, groups and activities that contributed to environmental or social protections.</p>	<p>Material relevant to sustainability issues (i.e. continued influence due to induced system change), from:</p> <ul style="list-style-type: none"> • Project documents, annual and semi-annual reports, mission reports, publications, completion reports. • Records of agreements, correspondence, minutes of meetings, workshops, joint missions, decisions, etc. • Semi-structured interviews with knowledge holders in Finland and Tanzania.
<p>‘Aid effectiveness’</p>	<p>How have the projects promoted ownership and accountability in partner organizations in Tanzania?</p>	<p>Consider the implications of all findings on relevance, efficiency, effectiveness, impact, and sustainability for ownership and accountability in partner organizations.</p>	<p>Material relevant to ‘aid effectiveness’ issues (i.e. whether partners feel they own, control and appreciate the project), from:</p> <ul style="list-style-type: none"> • Project documents, annual and semi-annual reports, mission reports, publications, completion reports. • Records of agreements, correspondence, minutes of meetings, workshops, joint missions, decisions, etc.

			<ul style="list-style-type: none"> • Semi-structured interviews with knowledge holders in Finland and Tanzania.
Coherence	[Not raised specifically in the ToR, but ways to increase synergy and reduce interference between development initiatives are known to influence performance, so are relevant to ‘value for money’ in development cooperation.]	Seek evidence that each project has ways to promote synergy with, and to manage interference from, the plans and actions of other actors, including other donors and the impact of one donor’s actions on another.	<p>Material relevant to ‘coherence’ issues (i.e. coordination arrangements such as forums for stakeholder dialogue and systems for promoting synergy and avoiding interference among actors), from:</p> <ul style="list-style-type: none"> • Project documents, annual and semi-annual reports, mission reports, publications, completion reports. • Records of agreements, correspondence, minutes of meetings, workshops, joint missions, decisions, etc. • Semi-structured interviews with knowledge holders in Finland and Tanzania.
Cross-cutting themes (CCTs)	See under ‘effectiveness’ (“To what extent have the projects promoted human rights, gender equality, reduction of inequalities and climate sustainability?”).	Consider the implications of the theory of change (or policy aims implicit to it) for specific improvements in human rights, gender equality, reduction of inequalities and climate sustainability, and seek evidence that these improvements have occurred and can be attributed to the project.	<p>Material relevant to the ‘cross-cutting themes’ (i.e. human rights, good governance, gender equity, social inclusion and environmental sustainability), from:</p> <ul style="list-style-type: none"> • Project documents, annual and semi-annual reports, mission reports, publications, completion reports. • Records of agreements, correspondence, minutes of meetings, workshops, joint missions, decisions, etc. • Semi-structured interviews with knowledge holders in Finland and Tanzania.

Annex 4: Evidence on design quality and performance for the INFORES Project

Project	INFORES: Implementation support of results and data of first National Forest Resources Monitoring and Assessment (NAFORMA) at regional and local level in Tanzania (Jan 2016 to Dec 2019).
Version	Draft Final Report
Partners	<ul style="list-style-type: none"> • National Carbon Monitoring Centre (NCCM) • Natural Resources Institute Finland (Luke) • Sokoine University of Agriculture (SUA) • Tanzania Forest Service Agency (TFS) • Tanzania Forestry Research Institute (TAFORI)
Sources	<p><u>Interviews:</u></p> <ul style="list-style-type: none"> • Luke and MFA in Helsinki. • TFS in Dar es Salaam, and TAFORI, SUA and NCCM in Morogoro. • VPO in Dodoma (re NDC responsibilities). • Uongozi Institute in Dar es Salaam (re training and NDC sensitisation for senior officials). • CCCS at the University of Dar es Salaam (re climate change studies and training). <p><u>Documents on file:</u></p> <ul style="list-style-type: none"> • INFORES semi-annual reports (Q1-2 & Q3 2016, Q1-2 & Q3-4 2017, Q1-2 & Q3-4 2018). • INFORES Annual Workplans (2016, 2017, 2018, 2019). • INFORES Board Meetings (Mar 2016, Aug 2017, Mar 2019, Nov 2019 [2018 records missing]). • INFORES Financial reports (Jul 2016-Oct 2017, Nov 2016-Aug 2017, Sep 2017-Dec 2017, Aug 2018-Dec 2018). <p><u>Documents cited in bibliography:</u></p> <ul style="list-style-type: none"> • Caldecott <i>et al.</i> (2013) <i>Scoping Mission for a Possible Renewable Natural Resource Economic Governance Programme in Tanzania.</i> • Caldecott <i>et al.</i> (2012c) <i>Evaluation of the Country Programme between Finland and Tanzania.</i> • CCCS (2017) <i>University of Dar es Salaam Centre for Climate Change Studies, Performance Report for Mar 2013 to Mar 2017.</i> • GoT (2010) <i>Forest Carbon Partnership Facility Readiness Preparation Proposal by Tanzania.</i> • INFORES (2015) <i>Project Document.</i> • Kulindwa <i>et al.</i> (editors, 2016) <i>Lessons and Implications for REDD+: Implementation Experiences from Tanzania.</i> • Luke (2019b) <i>ICI-project INFORES-Tanzania: presentation by the Natural Resources Institute Finland.</i> • Malimbwi, R. E. (2019) <i>Minutes of the INFORES Final Seminar 25-26 Sept 2019.</i> • Malimbwi, <i>et al.</i> (2018) <i>Allometric Tree Biomass and Volume Models in Tanzania.</i> • Malimbwi, <i>et al.</i> (2019) <i>The NAFORMA Process in Tanzania. Presentation by INFORES. MFA (2016) Country Strategy for Development Cooperation Tanzania 2016-2019.</i> • MNRT (2015) <i>NAFORMA: Main Results.</i> • SUA (2019) <i>Proposal for Establishment of National Carbon Monitoring Centre (NCCM) at Sokoine University of Agriculture (SUA).</i> • TAFORI (2019) <i>Future Plans by TAFORI after INFORES Project.</i> • VPO & SUA (2019) <i>MoU Between the VPO and SUA on NCCM functioning.</i> • World Bank (2019) <i>Tanzania: Country Environmental Analysis.</i> • Yanda & Mung'ong'o (2016) <i>Pastoralism and Climate Change in East Africa.</i>
Context	<p>Tanzanian forest resources.</p> <p>“Tanzania contains an estimated 34.6 million hectares (ha) of forest and woodlands, mostly comprising <i>miombo</i> woodlands in central and southern areas (named for the tree genus <i>Brachystegia</i> that dominates the ecosystem, but home to more than 300 other tree species), <i>Acacia</i> woodlands to the north, coastal forest mosaic in the east, mangroves along the Indian Ocean coast, and high-</p>

	<p>diversity upland moist forests in the west and on volcanic mountains to the north.” (Caldecott <i>et al.</i>, 2013).</p> <p>“The challenge to manage forest resources as a national heritage in an integrated and sustainable basis to optimize their environmental, economic, social and cultural values have been in a constant threat by human activities such as encroachment into reserved forests, shifting cultivation, wildfires, illegal logging, mining, wood-fuel extraction and of a more recently is the introduction of large-scale farming of bio-fuel production.” (GoT, 2010).</p> <p>The National Forest Resources Monitoring and Assessment (NAFORMA).</p> <p>“In 2009 the Government of Tanzania’s Ministry of Natural Resources and Tourism (MNRT), through the Tanzania Forest Services (TFS) and with support from FAO and funded by governments of Finland and Tanzania (\$5.6 million), launched the country’s first-ever National Forest Resources Monitoring and Assessment (NAFORMA) Project. The results and database of this inventory are ready and the report is published 2015. ... [NAFORMA] has been carried out to map country’s forest resources and to evaluate carbon storage in forests and forests soils. Although results of NAFORMA project are important in national level planning, it is quite a challenge for local level planning.” (INFORES, 2015: 4).</p> <p>“The NAFORMA field work was carried out in three years: from May 2010 to June 2013. Throughout the country, 16 NAFORMA field teams of Tanzania Forest Services (TFS) measured about 3400 clusters each consisting of 6–10 sample plots. Soil sampling was carried out on 25 percent of the clusters. The field teams collected both biophysical data of the trees and landscape, and socio-economic information through interviews with local people.” (INFORES, 2015: 6).</p> <p>“One best practice was identified, namely the partnership model with FAO, which is very much an alliance of strengths with a specialized UN agency. The partnership has given rise to the NAFORMA project which seems a well targeted enabling activity with potential for long-term, irreversible impact. Assuming that the sustainability of NAFORMA is assured, it should be possible to use its results creatively to support further investments in decentralised natural resources management, including forestry.” (Caldecott <i>et al.</i>, 2012c: 98).</p>
<p>Overview</p>	<p>Building on the earlier EU-supported MITMIOMBO project and the FAO/Finnish NAFORMA project, the INFORES project aimed to build the capacity of TFS, SUA and TAFORI: (a) to maintain and manage multisource biophysical and socioeconomic data collected through NAFORMA, mainly through installation of hardware, software and duplicate databases and training in their use; and (b) to analyse, build and test hypotheses, collect further data as appropriate to research interests, and prepare scientific publications using the NAFORMA database as a primary resource.</p>
<p>Relevance to Tanzania</p>	<p>Evidence. NAFORMA was envisioned to be a baselining exercise that would enable more accurate mapping and quantification of Tanzania’s forest and forest-land resources (and by extension carbon, water and biodiversity resources), as well as an additional perspective on socioeconomic conditions and forest dependency in the rural areas as an aid to all forms of development planning, EIA, etc. The relevance of NAFORMA itself to Tanzania was high, and the same could be said of any project that preserved and made effective use of the baseline to make it possible to promote forest conservation and sustainable management whether directly or indirectly. The retrieval (from FAO Rome) of the NAFORMA data, its triplicate storage in Tanzania, and the building of technical capacity to manage and use the information at NCMC in particular, but also at SUA, TAFORI and TFS, provided knowledge on forest stocking density (biomass and carbon) by region, ecozone and species, allowed this criterion to be met, though with slight variation in the match between mission and utility (i.e. whether the capacity was central or more or less peripheral or tangential to their main roles) which is reflected in the judgements on relevance.</p> <p>Conclusions on relevance (Tanzania). Capacity building needs of the partner institutions reflected their different roles, and the opportunities that they identified to use NAFORMA data in line with their own missions. The retrieval and triplicate storage of NAFORMA data, and the building of technical capacity to generate knowledge on forest stocking density (biomass and carbon) by region, ecozone and species was most directly applied to meet needs at NCMC (Score 6), slightly less so at SUA (Score 5), and to a moderate extent at TAFORI and TFS (Score 4 for both).</p>

<p>Relevance to Finland</p>	<p>Evidence. “Finland continued to be the leading donor in the forestry sector. It supported Tanzania in the formulation of national policies and practices. The cooperation programmes helped communities achieve better livelihoods through forests. Chairmanship in the donors’ forest/environment group enabled Finland to promote the role of forests in mitigating climate change. Finland also took a leading role in introducing new innovation and entrepreneurship concepts to Tanzania and in supporting the government’s policy and capacity development in the forestry sector.” (MFA, 2016: 14). The relevance of the INFORES project to Finland’s reputation for leadership in the forest sector in Tanzania (and elsewhere) is therefore high.</p> <p>Conclusions on relevance (Finland). The project was in line with Impact Area 2 of the <i>Country Strategy</i>, by promoting the management of knowledge related to forests, ecological services and carbon stocks to support innovation in the national climate change response, while also contributing to Finland’s reputation for leadership in the forest sector, yielding high relevance (Score 5).</p>
<p>Design quality</p>	<p>Theory of change.</p> <p>“There is a common understanding that more knowledge is needed about Tanzanian native forest and wildlife species, their growth and their utilization. The capacity building included in this project gives an important contribution to the forest sector for defining sound policies for sustainable management and utilization of forest resources. Capacity building in inventory and research data management and utilization are key tools to develop land use and forest management plans. ... This project includes the capacity building of human and technical ITC-facilities to implement new data sources and to apply easy-to-use tools to improve forestry practices, and training activities to update and improve the knowledge of foresters and researchers in partner institutions with the principle ‘training-of-trainers’. With this, national forest inventory (NAFORMA) and forest research in Tanzania will be in better and more solid position to respond to the demands of MNRT, private sector and local communities. In addition, the project will in long run contribute to the environmental protection and well-being of the communities and the whole society in Tanzania. Collaboration between TFS, SUA, TAFORI and Luke is in the interest of all institutions by providing extended networks in international cooperation and base for extending knowledge in forestry.” (INFORES, 2015: 9-10).</p> <p>This theory of change could be summarised as: <i>‘By developing the technological capacity and skills needed to manage forest inventory data, Tanzanian institutions will become better able to meet the information needs of all those whose activities might depend upon or impact forest ecosystems’.</i></p> <p>Plausibility of assumptions underlying the theory of change. The theory of change and its assumptions were not clearly explained in advance, thus compromising the design quality, although in practice the four partner institutions were able to find practical uses for the data and capacities in the areas of meeting national needs for reporting on GHG emissions (NCCM and SUA), and for improving performance of their mandated roles (TAFORI and TFS). There are signs that greater clarity of purpose exists in emerging proposals for follow-on projects, which include consistent repeated monitoring of the permanent NAFORMA sample plots to support an understanding of land use change, GHG emissions, biodiversity loss, etc. (SUA, NCCM and TFS); or the use of NAFORMA socioeconomic data to supplement resource economic analyses as a way to document the full economic contribution of forests and their goods and services, thus justifying additional investment in their rational management, and/or the design of ‘payments for ecosystem services’ arrangements to sustain such investment (SUA, TFS and TAFORI). These future designs cannot affect the judgement on the object of the evaluation itself, however.</p> <p>Conclusions on design quality. The theory of change and its assumptions were not clearly explained in advance, thus compromising the design quality (Score 2). That this was corrected through the creativity of partner institutions within Tanzania, and did not affect later performance is a sign of strength in the ICI as an instrument of development cooperation.</p>
<p>Efficiency</p>	<p>Evidence. A number of managerial issues were encountered but seem to have been worked around or the extra costs absorbed (e.g. problems with the reliable supply of cash to support project operations, delays to immigration clearances for Tanzanians in Finland, theft of two laptop computers). Without making ‘like-with-like’ (e.g. with other institutions) and ‘what if not’ (i.e. counterfactual) comparisons, it is hard to say whether or not ‘value for money’ was obtained in training three Tanzanians to advanced level, running workshops and courses in Finland and</p>

	<p>Tanzania, and deploying the necessary technologies. The judgement reflects a ‘benefit of the doubt’ approach.</p> <p>Conclusions on efficiency. Activities transformed resources into increased capacity most effectively at NCMC and SUA, which also worked very closely together (and NCMC with the VPO), as did SUA and TAFORI, and TAFORI with TFS. Some issues of management arose but seem to have been worked around or the extra costs absorbed, and the increased server and workstation capacity seemed to be used more at NCMC and SUA than at TFS. The resulting complex array of strengths and weaknesses yielded moderate overall efficiency (Score 4).</p>
<p>Effectiveness</p>	<p>Evidence.</p> <p>Result 1 (data management capacity). Achievements include that servers and GIS labs were installed in 2016 at TFS, TAFORI and SUA, and updated in 2019; six laptops were provided to selected persons; courses were run on using NAFORMA data at Morogoro in 2016 (seven participants), 2017 (12 participants) and 2018 (15 participants), on national forest inventories in Finland in 2017 (seven participants), and on GIS and Foris at Morogoro in 2017 (nine participants) and 2019 (17 participants). The increasing number of course participants over time is perhaps a sign of growing interest. The three servers installed by the INFORES project were inspected during the evaluation, with the following results:</p> <ul style="list-style-type: none"> • At TAFORI, the server is housed in an apparently secure, air-conditioned room in the TAFORI building and appeared functional and on-line, and several workstations were operating; database searches were demonstrated at one workstation. Two or three workstation ‘support layers’ were installed inside the server housing. • At NCMC/SUA, the server is housed in an apparently secure, air-conditioned room built into the office of the NCMC Coordinator’s office and accessible by a separate door in the corridor outside. It appeared functional and on-line, and database searches were demonstrated in a ‘live’ presentation. Three or four workstation ‘support layers’ were installed inside the server housing. • At TFS, the server is housed in a small room in the ‘old’ buildings in the Mpingo House compound, with a non-functioning air-conditioner and chaotic wiring. It was switched on and appeared to operate but was said to be off-line because of Internet connection problems. No database searches could be demonstrated. No workstation ‘support layers’ were installed inside the server housing. It was said that the server would soon (“next week”) be moved to Mpingo House itself, but the latter is in poor condition overall, and is apparently in the process of being abandoned as the TFS moves to new premises at Dodoma. <p>Result 2 (research & inventory capacity). Achievements include that NAFORMA data (for 0.25 million trees) were used to develop height and stump diameter models; plots established in the SUA training forest under the MITMIOMBO project were used by INFORES studies of forest regeneration, tree growth and mortality, and carbon balance; and a seminar was held at Morogoro in Sep 2019, where papers were presented on sustainability of NAFORMA (by Yohane Mwampashi), on height and stump diameter models (by Mugasha Wilson), on forest degradation and carbon in miombo woodlands (by Bernardo John), on bamboos and carbon (by Aloyce Evarist), on the Tanzania FREL (by Zahabu Eliakim), on growth, mortality and regeneration in MITMIOMBO sites (by Njoghomi Elisha), and on soil carbon in MITMIOMBO sites (by Mtengeto Eva). The overall human resource capacity-building effectiveness of Result 2 was described as ‘disappointing’ by Luke observers.</p> <p>Building capacity to manage and use knowledge on forest stocking density based on NAFORMA data:</p> <ul style="list-style-type: none"> • Allowed NCMC, with the addition of deforestation maps based on satellite imagery, to prepare the FREL as a basis for MRV and REDD+, and to start supporting the VPO on Paris Agreement reporting on behalf of the Government of Tanzania. • Enabled SUA to undertake a number of research projects on forest structure and composition in addition to models that contributed to FREL analysis and NCMC aims. • Assisted TFS in providing useful analyses, such as on regeneration in miombo woodland, resources such as a national land use/land cover map, and information to support a review of the National Forest Policy.

	<ul style="list-style-type: none"> Enabled TAFORI to offer information to internal and external research users and to prepare answers to specific questions, for example on CITES listing proposals related to the distribution and age structure of particular forest species. <p>Conclusions on effectiveness. Considerable achievements in capacity building were seen at NCMC (Score 6) and SUA (Score 5), to a lesser extent at TAFORI (Score 4) and to a limited extent due to server issues at TFS (Score 3).</p>
Impact	<p>Evidence. The project advanced the technical careers of at least three Tanzanians, but they may or may not remain in the forest inventory and research sector. It certainly enhanced the capacity and confidence with which NCMC can respond to requests for forest- and carbon-related information, and probably also did so at TFS, TAFORI and SUA, while also increasing capacity at SUA to formulate research projects and grant proposals.</p> <p>Conclusions on impact. The project greatly enhanced the capacity of NCMC to meet VPO needs on REDD+/UNFCCC reporting with long-term benefits for the national climate change response (Score 6), with SUA in support of the same agenda while also being better able to formulate research projects and grant proposals (Score 5). It also enhanced capacity at TAFORI to respond to requests for forest-related information (Score 4), and did likewise to some extent at TFS (Score 3).</p>
Sustainability	<p>Evidence. See ‘impact’, while also considering the reluctance of both the Tanzanian and Finnish governments to invest in re-measuring existing sample plots. A team exists at TAFORI, SUA and TFS to develop a draft proposal for a potential future initiative to build on INFORES, by using NAFORMA data to develop forest area and carbon stock models, analyse different scenarios and management strategies, and respond to needs for information on forest and land-use change (to which some stakeholders suggest adding monitoring and obtaining data on forest growth, biodiversity and carbon from the NAFORMA sample plots). Inherent sustainability is rather low in the absence of GoT commitment to invest adequately in the forest sector, but at least the NCMC has critical and diversifying responsibilities on behalf of the VPO, using capacities built by INFORES on top of those installed with earlier Norwegian support, so is likely to be sustainable.</p> <p>Conclusions on sustainability. Inherent sustainability is rather low in the absence of GoT commitment to invest adequately in the forest sector, affecting TFS (Score 3) and TAFORI (Score 4) in particular. Sustainability is likely to be highest at NCMC (Score 6), which has critical and diversifying responsibilities on behalf of the VPO, and at SUA (Score 5) which supports and integrates the NCMC and is also a well-established part of the university system.</p>
Aid effectiveness	<p>Evidence. “The project has been jointly prepared by [TFS, SUA, TAFORI and Luke] and is based on the information collected from background documents and earlier reports and analysis on both the needs of partner organizations and analysis on where Finnish support and know how could provide highest added value. The discussions and meetings with key stakeholders and beneficiaries (MNRT, MFA, Indufor, FAO) have sharpened the focus of project.” (INFORES, 2015: 10).</p> <p>Conclusions on ‘aid effectiveness’. The project was jointly prepared by the partners and ownership appeared particularly high at NCMC, SUA and TAFORI.</p>
Coherence	<p>Evidence.</p> <p>NCMC. The Norwegian-funded ‘Establishing NCMC in Tanzania’ project in 2016-2018 allowed an MRV system to be developed, of which the 2017 FREL was one output, which made use of mapping data and other support from Norway, as well as NAFORMA emissions data with Finnish help through INFORES. Currently the NCMC is supported by the Ministry of Education through SUA, although an 18 month extension of the ‘Establishing NCMC in Tanzania’ project has been applied for, which is held up by the Ministry of Finance, despite support from the VPO and the ministries of natural resources and education. The NCMC was originally under the VPO, but since Sep 2019 it has been ‘mainstreamed’ under SUA - a decision made on sustainability grounds since SUA was given the mandate to host NCMC even though all its products are for VPO. SUA’s role is only administrative, but legally NCMC is a SUA centre. This arrangement is based on a draft MoU between VPO and SUA (see bibliography: VPO & SUA, 2019). Barriers to developing REDD+ in Tanzania included: a REDD+ Strategy and Action Plan (done); an MRV system (done); a FREL (done for 2002-2013); and a safeguards information system (to be finalised). Once these steps are completed, Tanzania will be eligible for Green Climate Fund (GCF) and Forest Carbon Partnership Facility (FCPF) support. A proposal to Norway exists (and</p>

	<p>is with the Ministry of Finance) for an 18 month ‘REDD+ II Support to Tanzania’ project through which to finalise the REDD+ system and allow applications to be made to the GCF and FCPF. Priorities for NCMC going forward include updating the FREL (and meeting other UNFCCC reporting obligations, while also identifying data gaps and opening up other ways to use the data) using NAFORMA re-measurement data, which needs funding additional to the inadequate) TFS budget. A conclusion is that the NCMC is at the heart of the climate change response in Tanzania, and part of a network of donor and government intentions (notably the 13-ministry NCCSC directed by the VPO), but that the necessary system of support for it has not yet fallen into place. In particular, there are signs that Norway may be losing interest in supporting REDD+ initiatives globally and is seeking to encourage others (including Finland) to take over support for NCMC.</p> <p>TFS. The TFS works with multiple stakeholders, including the managers of public forests, village, district, private and communal or household forests. It oversees conservation and management objectives (e.g. protection for biodiversity and water, or production for timber, honey, etc.) and ensures that management plans are complied with. It also provides quality control for export of wood products and homey, and administration, training and professional ethics of forest managers (plus anti-corruption). There is now a zero-tolerance policy for illegal and/or unethical behaviour. But managing forest (ecosystems) is an unending, open-ended task with non-stop responsibilities, and forest resources do not rank highly in national priorities so there is a lack of adequate budget for managing them. So TFS needs grants and cooperation projects with donors to make ends meet; for example, there is a GEF/UNDP project on nature reserves for biodiversity and water, and the FORVAC project with Finland, which aims to help communities use timber more sustainably (e.g. by rewarding later, rather than premature, harvesting of growing trees, by adding value to mature wood, from plantations in the Southern Highlands). There is a proposal to create a Tanzanian Forest and Beekeeping Authority, which would have more autonomy, power and money (comparable to Serengeti, Ngorongoro and TANAPA), and although the Parliamentary Committee on Natural Resources has approved it the proposal is stalled. Again, the TFS is at the heart of a network of donor intentions on climate, ecology and biodiversity, but government enthusiasm seems limited and a step-change is needed that would require additional strategic dialogue.</p> <p>Conclusions on coherence. NCMC (supported by SUA) is at the heart of the climate change response in Tanzania, and part of a network of donor and government intentions (notably the 13-ministry NCCSC directed by the VPO), but that the necessary system of support for it has not yet fallen into place. TFS (supported by TAFORI) is at the heart of a network of donor intentions on climate, ecology and biodiversity, but government enthusiasm seems limited and a step-change is needed (which may arise from the NDCs) that would require additional strategic dialogue.</p>
<p>Cross-cutting themes</p>	<p>Human rights. Any real contribution to the climate change response in Tanzania might be expected in principle to help prevent human rights issues arising from the effects of climate chaos.</p> <p>Gender equality. “Only few female professionals are working in the partner organisations, but when possible, they have been encouraged to travel and take part in the activities. In two activity in Finland there has been one female participant and in most activities in Tanzania 1-2 female participants.” (Semi-annual report, Q3-4 2018). No table for gender disaggregation in trainings between men and women was found in any report. Of the INFORES partner staff met by the evaluation team, the male to female ratio was about 10:1.</p> <p>Reduction of inequalities. “Some workers, guides and guards from near-by villages have assisted in the project, but unfortunately this project builds the capacity of experts, mainly. The implementation in village forests and other local purposes should be possible in later projects.” (Semi-annual report, Q3-4 2018).</p> <p>Climate sustainability. The main impact lies in enhancing GoT’s capacity through NCMC (supported by SUA) and the VPO to undertake monitoring, reporting and verification in relation to UNFCCC mitigation obligations, particularly in the forest and land use sector (but NCMC’s duties have since broadened to include other relevant sectors).</p> <p>Conclusions on CCTs. Apart from climate sustainability, it is hard to detect contributions to the CCTs from the available documentation where analysis of relevant results is lacking.</p>

Annex 5: Evidence on design quality and performance for the ZAN-SDI Project

Project	ZAN-SDI: National Spatial Data Infrastructure for Integrated Coastal and Marine Spatial Planning in Zanzibar (Jan 2016 to Apr 2019)
Version	Draft Final Report
Partners	<ul style="list-style-type: none"> • Department of Environment (DoE) • Department of Fisheries Development (DFD) • Department of Forestry and Non-Renewable Natural Resources (DFNR) • Department of Surveys and Mapping (DoSM) • Department of Urban and Rural Planning (DoURP) • Finnish Environment Institute (SYKE) • Kiwengwa community <i>shehia</i> head • Mwambao Coastal Community Network (MCCN) • National Land Survey of Finland (<i>Maanmittauslaitos</i>, NLSFI) and its Geospatial Research Institute (<i>Paikkatietokeskus</i>, FGI) • State University of Zanzibar (SUZA) • University of Turku (UTU), Department of Geography and Geology • Zanzibar Commission for Lands (COLA) • Zanzibar Environmental Management Authority (ZEMA) • Zanzibar Land Data Processing Centre (ZLDPC)
Sources	<p>Interviews:</p> <ul style="list-style-type: none"> • SYKE and MFA (face-to-face) and DoURP and UTU (remote), in Helsinki. • DoE, DFD, DFNR, DoSM, DoURP, Kiwengwa community <i>shehia</i> head, MCCN, SUZA, COLA, ZEMA, ZLDPC in Zanzibar. <p><u>Documents on file:</u></p> <ul style="list-style-type: none"> • ZAN-SDI <i>Project Document</i> (Nov 2015) • ZAN-SDI <i>Project Completion Report</i> (Apr 2019) • ZAN-SDI Annual Work Plans (2016, 2017, 2018, 2019) • ZAN-SDI Annual Budgets (2016, 2017, 2018, 2019) • ZAN-SDI List of Focal points and experts in Zanzibar (Mar 2016) • ZAN-SDI Professional Visit Reports (17 items in 2016-2018) • ZAN-SDI Project Board Meeting (May 2016) • <i>Sustainable use of coastal areas in Zanzibar</i> (www.youtube.com/watch?v=hJ5WSPLU1IQ). <p><u>Documents cited in bibliography:</u></p> <ul style="list-style-type: none"> • DoURP (2018a) <i>Kiwengwa Local Area Plan</i>. • DoURP (2018b) <i>Pongwe Local Area Plan</i>. • DoURP (2019) <i>North-East Unguja Special Area Plan</i>. • Killian, B. (2008a) <i>Do Elections Matter in Zanzibar?</i> • Killian, B. (2008b) <i>The state and identity politics in Zanzibar</i>. • Killian, B. (2014) <i>A Proposed Structure of the Union in Tanzania</i>. • MCCN (2017) <i>Strategic Plan 2018-2020</i>. • SWIOFish (2018) <i>Implementation Support Mission</i>. • SWIOFish (2019) <i>Mauritius Symposium</i>. • UNDP (2018) <i>Enhancing climate change resilience in Zanzibar</i>. • ZAN-SDI (2015) <i>Project Document</i>. • ZAN-SDI (2019) <i>Completion Report</i>. • Yanda <i>et al.</i> (2019) <i>Climate Change and Coastal Resources in Tanzania</i>.
Context	Zanzibar's coastal and marine resources.

Zanzibar comprises a small, low-lying, coralline archipelago of two large islands (Unguja and Pemba) and many small ones 25-50 km off the eastern shore of mainland Tanzania.

“The coastal and marine ecosystems and natural resources, including coral reefs, sea grasses and algae, coastal forests, mangroves and sandy beaches, form the basic foundation of the local culture and the social and economic welfare of coastal Zanzibaris. In the present situation, the pressure on land use changes and the consequent land use conflicts are primarily caused by the expansion of the settlements and by the growth of the tourism industry:

- “The urban growth is causing land use conflicts with agricultural and environmental interests as coastal towns expand into forest and reserved areas, as well as rural areas while the population growth at the same time is causing demand for a higher agricultural production and forests to supply the needs for food and firewood.
- “The expanding tourist industry is causing encroachment on the coastal and marine environment as well as conflicts with the rural population and economy.
- “The urban growth is creating needs for infrastructure, utilities and services that are not met but that require sustainable planning.

“Indeed, the rapidly expanding tourism significantly increases pressures on e.g. land, water and forest resources, solid waste management, biodiversity, landscapes, coral reefs, air and water quality, and also contributes to the cultural erosion of coastal communities. For example, overfishing, destructive fishing practices, removal of sand and vegetation, increase the risk of degradation of the coastal zone and increase the vulnerability of the coastal and marine ecosystems. Anthropogenic changes in the shoreline, e.g. mangrove cutting, sea walls protecting tourism infrastructures, coral and sand mining, exacerbate physical coastal erosion. Furthermore, the increasing number of immigrants that work on the tourism industry creates informal settlements near the tourism development with various kinds of environmental and social impacts. Conflicts caused by competing and overlapping as well as present and future uses of land and coastal/marine resources occur in some areas. ... In addition, some challenges have been arising due to the effects of global climate change. In the Islands of Zanzibar this phenomenon can be easily observed, for example, in the salt water infiltration in arable lands.” (ZAN-SDI, 2015: 5-6).

Finnish engagement with Zanzibar (from Caldecott *et al.*, 2012c). Cooperation between Finland and Zanzibar began with forestry and water supply projects in the 1980s, followed by the Zanzibar Integrated Land and Environment Management (ZILEM) project which ended in 1995. After an eight-year pause, Finland and the Government of Zanzibar (GoZ) launched the Sustainable Management of Land and Environment (SMOLE) project, with a preparatory phase (2003-2005), followed by Phase I (2005-2009), and Phase II (2010-2013). SMOLE I focused on land issues, mapping and to some extent the environment (excluding forestry). Progress was slowest in the vexed area of land rights, where a number of planned outputs were carried over to SMOLE II, including land registration and the planned Zanzibar Land Information System and Zanzibar Environmental Management System databases. SMOLE I and II dealt mainly with issues such as human resources development, regulations, laws, guidelines and databases. The SMOLE budgets were mainly committed to technical assistance, which was of limited use in view of the ministries’ weak capacity to put consultants’ advice into effect, and was the subject of criticism by GoZ stakeholders. Although the project targeted relevant issues, local ownership and sustainability were weak, reflected in GoZ reluctance to release its share of funds to the project, and a number of objectives and outputs were not attained. It can easily be seen how these experiences could have encouraged further collaboration to take the form of an ICI project with the themes of equal institutional partnership, capacity building and geospatial data management in support of GoZ priorities.

Zanzibar’s vulnerability to climate change (from UNDP, 2018).

“As a small island developing state, Zanzibar is particularly vulnerable to climate change. A large proportion of GDP, employment and livelihoods in the archipelago are reliant on climate sensitive activities such as agriculture, fishing and tourism. The coastal, marine and terrestrial ecosystems that are central to these activities are increasingly threatened by changes in temperature and precipitation patterns as well as sea level rise. Furthermore, the built environment, including residential, productive, water, energy and transport infrastructure, is also vulnerable to climate variability and future climate change. Despite the significant progress achieved in addressing climate change impacts through strategic planning, institutional changes,

	<p>and relevant ongoing activities, Zanzibar still faces crucial challenges in terms of building climate change resilience. Climate change interventions are still small-scale in nature, not well integrated and not fully strategic. The archipelago requires additional interventions to adapt to the impacts of climate change, in the full sense of both reducing harm and seizing development opportunities. This project seeks to address specific strategic gaps in Zanzibar’s resilience to climate change [and so aims to]:</p> <ul style="list-style-type: none"> • “Strengthen institutional capacity of the Climate Change Secretariat (CCS) and other key stakeholders through in-depth training enhancing knowledge and capacity in climate change awareness, coordination, integration and mainstreaming. • “Increase the availability and use of meteorological and spatial information. This is important in order to increase the integration of climate change adaptation into land use planning, with a focus on ecosystem-based adaptation. • “Implement pilot activities on the ground on strategic yet usually overlooked sectors (i.e. tourism) and areas (i.e. urban). The aim of the pilot activities is to promote climate-compatible development, favouring ecosystem-based approaches that could integrate expertise on forestry, agriculture and fisheries. • “Strengthen the capacity of the Government of Zanzibar to mobilize and manage financial resources for climate change action. This will be done through the development of a resource mobilisation strategy and capacity building of relevant stakeholders with the aim of accessing international climate finance (e.g. GCF, GEF).”
<p>Overview</p>	<p>The ZAN-SDI project aimed to build the capacity of partner agencies to manage and share spatial information among themselves and with the public, and to use it in developing wise and popular spatial plans, by providing the guidelines, tools, training and experience needed for effective integrated coastal and marine spatial planning in Zanzibar.</p> <ul style="list-style-type: none"> • Result 1 aimed to build capacity (particularly among COLA, DFNR, DMR, DFD, DoE and ZEMA) to develop and maintain a widely-used, interoperable, cross-thematic and fully-functional Spatial Data Infrastructure (SDI). • Result 2 aimed to build capacity (particularly at DoURP but also involving DMR, DFD, DoE, ZEMA, DFNR, DoSM, DoLR, SUZA and other stakeholders) for ecosystem-based planning and management of coastal zones, maritime activities and the marine environment, especially by populating priority spatial data layers and drawing up local area plans with inclusive local participation. • Result 3 aimed more generally to improve geospatial information management capacities at all the partner organisations, mainly through expert networking and training in areas of identified weakness.
<p>Relevance to Zanzibar</p>	<p>Evidence. Zanzibar has effectively run out of land and competition for renewable natural resources is intensifying (e.g. with large foreign fishing boats off-shore and local fishers displaced by tourism development from their traditional fishing areas and forced to raid those of other communities), while climate change and sea-level rise are reducing fresh water availability and eroding coastlines. This puts an increasing premium on detailed spatial planning and the building of consensus and compliance around constraints on competing development initiatives, making the ZAN-SDI project highly relevant to Zanzibar’s needs.</p> <p>Conclusions on relevance to Zanzibar. Capacity building needs of the partner institutions reflected their convergent roles within GoZ, where they coalesced around a common understanding that intense competition for fragile and degrading natural resources required detailed spatial planning and the building of consensus and compliance around constraints on competing development initiatives. The project responded precisely to this situation, making it highly relevant to Zanzibar’s needs (Score 7).</p>
<p>Relevance to Finland</p>	<p>Evidence. SMOLE efforts on digital mapping are seen (by SYKE informants) as having been premature. The same sources note that Finnish investments have tended to be very ‘heavy’ in terms of finance, technology and technical assistance, but that this approach is now obsolete and cheaper, cloud-based, open-sourced and other technologies are more effective and welcome. If this lesson is learned and reflected in MFA policies and strategies, ZAN-SDI would be very valuable to Finland as a proving ground for how to induce transformative change through modern and ‘light-touch’ technologies and networking for practical and locally-valued ends,</p>

	<p>combined with the use of Finnish digital (Yrkkö <i>et al.</i>, 2019) and environmental expertise for capacity building.</p> <p>Conclusions on relevance to Finland. The project was in line with Impact Area 1 of the <i>Country Strategy</i>, by promoting improved governance, leadership and civil society participation in addressing urgent and important social and environmental challenges, while also building on Finland’s excellence in digital technologies and the involvement of related programmes by Finnish institutions and others, yielding very high relevance (Score 6).</p>
<p>Design quality</p>	<p>Theory of change.</p> <p>“The Project will improve access to spatial information and thus possibilities for inter-agency cooperation and public participation in environmental and other spatial planning and management processes. Easy access to spatial information is a precondition for private sector involvement in economic development, participatory democracy, good governance (transparency), reduction of inequalities and fair sharing of benefits from natural resources, which all contribute to poverty reduction. More efficient data sharing will create savings by reducing duplication of work by various agencies. In particular, accurate coastal and marine spatial data also support the planning of adaptation to climate change, which is imperative for small islands communities like Zanzibar. ... It is assumed (but it is outside of the control of the ICI Project) that the data holders are willing to share their data with others; competent authorities and other decision-makers take the improved spatial data and spatial plans into consideration; and spatial plans are implemented and enforced in Zanzibar.” (ZAN-SDI, 2015: 13).</p> <p>This theory of change could be rephrased as: <i>‘Improved and open access to spatial data through partner institutions, and integration of those data into spatial plans by inclusive and participatory means, will increase understanding and compliance with planning aims while also tending to reduce planning failures and harmful impacts by private investments, and to promote transparent and accountable governance and fairer and more sustainable development outcomes’.</i></p> <p>Plausibility of assumptions underlying the theory of change. The assumptions are plausible for a society in which peaceful cooperation in solving problems is the norm. However, there was significant social discord in Zanzibar in the 1990s and following elections in 2000 and 2005 and to a lesser extent in 2010, while the 2015 elections were annulled, leading to renewed questions over the political future of the archipelago. Meanwhile, tourism development has impacted the historically-vexed area of land rights, and there are additional stresses on farming and water supplies from climate change. The extent to which the root causes of potential conflict have been neutralised or conciliation processes enhanced is not clear, and the conduct of the 2020 elections is awaited as an indicator of progress, although there are grounds for optimism in the generational transformation of the population, with many younger Zanzibaris being less concerned to perpetuate the divisions of the past.</p> <p>Conclusions on design quality. The theory of change was clear and the assumptions underlying it were plausible, so the the project design was considered to be very sound (Score 6). The extent to which the root causes of potential conflict have been neutralised in Zanzibar is not clear, and the conduct of the 2020 elections is awaited as an indicator of progress, although there are grounds for optimism.</p>
<p>Efficiency</p>	<p>Evidence.</p> <p>Result area 1 (development of the SDI). While the GoZ has been able to fill ICT expert posts to be responsible for the SDI, human resources remain a challenge. There is a shortage of skilled personnel in Zanzibar, with qualified individuals being competed over and pulled from one institution to another, and often being lost to the project (e.g. eight of 16 people in one ZAN-SDI training group were immediately taken by other institutions, and one key individual was taken away from the special data centre at COLA by the University and the World Bank). In the case of the SDI, there are three staff but only one is fully familiar with the GIS/database, and one of the others is said to be good with connectivity and linking issues. There are serious hardware issues that result in part from the lack of trained staff, including: inadequate backup batteries in case of mains power interruption; inadequate storage capacity of disks and servers due to accumulation of old and redundant files; one of three physical servers is unreliable (which also compromises virtual servers), and a faulty ‘control’ server; backups are not stored outside the IT Department (although there is a version of the database held by SUKE in Finland, which is accessible via the internet to remote users). The software is all open-source, with Linux operating system, Quantum GIS</p>

	<p>(QGIS) and the database is PostGIS (a type of GIS-enabled version of SQL). All data can be accessed and visualised through Geonode, and open-source tool developed with World Bank support.</p> <p>Result area 2 (spatial planning). See ‘effectiveness’, where the assumption is that high levels of accomplishment and a near-100% budget spend (and a lack of managerial issues mentioned in interviews) imply high efficiency. Cooperation among stakeholders seems to have been excellent in practice at a technical level, despite some director-level lack of participation (particularly between DFD and the rest).</p> <p>Result area 3 (geospatial capacity building). The main users of the SDI are the three institutions within the same immediate environment (DoURP, COLA including cadastre, and DoSM), but other departments also contribute and use data, and local government request maps or data from time to time, but they usually need assistance to formulate their question and the type of output they need. Interviewees stressed that the objective of a ‘single data hub’ for use by all parts of the GoZ had not been achieved, although much progress had been made towards it. Meanwhile, Result Area 3 is said to have compensated for its limited resources (10 percent of the ICI budget) through close cooperation with Result areas 1 and 2, described at interview as acting as a ‘glue’ for the project as a whole.</p> <p>Conclusions on efficiency. For Result Area 1 (SDI development), while the GoZ was able to fill ICT posts for the SDI, human resources remain a challenge (Score 3). For Result Area 2 (spatial mapping), cooperation among stakeholders was excellent in practice at a technical level, despite some director-level lack of participation (Score 6). For Result Area 3 (geospatial capacity), the main users of the SDI were internal to the COLA system, and although other departments and local governments also contributed and used data, the aim of ‘single data hub’ for use by all parts of the GoZ was not entirely achieved (Score 4).</p>
<p>Effectiveness</p>	<p>Evidence. Supplemented by interviews, ZAN-SDI, 2019 (see also Section 4 Achievement of Results) suggests the following:</p> <p>Result 1 (spatial data infrastructure) achievements include that an NSDI for Zanzibar was completed and its functionality demonstrated, and the data, metadata, technical infrastructure and coordination structures put in place as planned, along with a dissemination and awareness-raising process involving brochures and posters, and two seminars in Feb and Dec 2018, with 30 and 35 attendees respectively, where presentations were given by Zanzibari and Finnish experts “and the discussions were lively” (ZAN-SDI, 2019: 2). A road-map for development and maintenance of NSDI to 2022 was also jointly prepared with ZAN-SDI focal points. However, it should also be noted that “Due to lack of resources for purchasing and maintaining the necessary technical infrastructure, a well-functioning data sharing procedure is not yet in place, but the Zanzibari partners understand its necessity and potential, and a draft Memorandum of Understanding (MoU) in this respect has been prepared but not yet circulated. Many Departments have spatial data but the updating and accessibility are challenging without legal, organisational and technical environment in which data sharing can take place.” (ZAN-SDI, 2019: 10).</p> <p>Result 2 (ecosystem-based spatial planning) achievements include that “spatial data on marine nature values (preliminary data on coral reefs, seagrass fields and protected areas), and certain human activities (tourism, development areas, harbours, fishing landing sites, aquaculture) were collected and assessed. In addition, a large amount of new spatial information on marine issues, especially human activities and biodiversity, were collected in collaboration with UTU and SUZA researchers through Participatory Mapping. New data on human activities on the coastal and marine areas and biodiversity hotspots were also collected through interviews with local experts, dive centres, fishermen and villagers, as well as extensive field work carried out jointly with the Department of Fisheries Development (DFD). ... All information from different sources (remote sensing, existing databases, expert interviews, Participatory Mapping, and village and stakeholder interviews) was digitised and put into geographic information format to aid the production of coastal and marine spatial plans in general and the NESAP in particular.” (ZAN-SDI, 2019: 3-4). The <i>North-East Unguja Special Area Plan</i> (DoURP, 2019) and the Kiwengwa and Pongwe local area plans (DoURP, 2018a, b) were prepared and published, as pilot or demonstration integrated planning documents for the GoZ’s Department of Urban and Regional Planning.</p> <p>Result 3 (geospatial capacity building) achievements include that institutional geospatial competence profiles were jointly finalised for DoURP, DoE, ZEMA and DFNR, and 22 different training modules were prepared and implemented in the Project, covering basic data management</p>

	<p>skills and specific skills such as participatory mapping, marine and coastal spatial planning, and geospatial data management with the ZAN-SDI Geonode service (where all training materials are said to remain available). A five-year collaboration agreement was also signed between the University of Turku and the State University of Zanzibar “to support institutional cooperation in education and research between the universities in the long run” (ZAN-SDI, 2019: 6).</p> <p>Conclusions on effectiveness. Considerable achievements in capacity building were seen in Result Area 2 (spatial mapping, Score 6), but were off-set to some extent by networking issues in Result Area 3 (geospatial capacity, Score 4) and more seriously by staffing and associated hardware and data management issues in Result Area 1 (SDI development, Score 3).</p>
<p>Impact</p>	<p>Evidence.</p> <p>World Bank investments in sustainable tourism in Zanzibar are now restricted to areas covered by ZAN-SDI spatial plans, which therefore have a leveraging and guiding role that suggests strong impact. It is not clear that the existence of the <i>North-East Unguja Special Area Plan</i> (or the Kiwengwa and Pongwe local area plans) have decisively influenced permissions for new tourism developments, but a delay to the off-shore parts (artificial islands, etc.) of the Amber Marina Resort suggests that more careful consideration is becoming the norm. Because of its strategic and holistic nature, similar effects can be expected of the spatial planning effort across all sectors that engage with the mapped area, with a significant long-term influence.</p> <p>The evaluation team’s general impression is that the ZAN-SDI project has had a major impact in promoting inter-agency collaboration and joint visioning around an ambitious but largely successful spatial knowledge management approach, and that the participants have learned many new things in the process and are now used to thinking together in new ways about how to use and develop this approach in the future. Even though there is no immediate pathway to extend the SDI and planning process to new areas of Unguja and Pemba, the ambition and enthusiasm are mostly there and active dialogue is underway, both within GoZ and involving other development partners both Finnish (e.g. UTU and Geo-ITC) and international (e.g. the World Bank and SWIOFish). Moreover, the practical challenges arising from climate change impacts are appreciated (particularly at ZEMA, DoE, SUZA and the community level) and there is commitment to applying the new planning techniques to help resolve them, although doubts remain (e.g. at the community level) over what will be the effect of plan implementation.</p> <p>Conclusions on impact. The project had a major impact in promoting inter-agency collaboration and joint visioning around an ambitious but largely successful spatial knowledge management approach, and the participants have learned many new things in the process and are now used to thinking together in new ways about how to use and develop this approach in the future, for the likely benefit of all stakeholders (Score 6).</p>
<p>Sustainability</p>	<p>Evidence.</p> <p>In Result area 1, “Many of the partners are worried about the sustainability of the existing network and skills, as the infrastructure (i.e. the internet access and devices) is poor and (if) there is not much practical application or further training.” (ZAN-SDI, 2019: 11). The same source notes problems over retention of skilled staff by participating institutions as a sustainability concern for Result areas 2 and 3 (pp. 12-13). Other stakeholders observed that there had been an over-reliance on one <i>individual</i> to facilitate inter-institutional collaboration, and that a better model for the future would be a leadership <i>team</i> at COLA.</p> <p>Participatory mapping has made extensive use of <i>shebia</i> structures which are the basis of community organisation in coastal/rural Zanzibar. Although the <i>shebias</i> are not necessarily ‘traditional’ (since their heads are appointed, and are often former police or military personnel), their familiarity with local conditions, combined with advice by local MCCN agents, combined well with ‘scientific’ knowledge on the distribution and value of marine and coastal ecosystems. This has led to community-managed zones where fishing is prohibited in favour of snorkelling tourism (reportedly generating substantial cash income to the community) and ‘octopus reserves’ where harvesting is limited to less than one month in four (reportedly resulting in more valuable octopus harvests). These initiatives have largely been fitted into the local area plans at Pongwe and Kiwengwa, and the trials seem to have survived the end of the ZAN-SDI project since they continue with MCCN encouragement and spontaneous replication among coastal communities attracted by demonstrated rewards from income and fishery benefits.</p>

	<p>Communities and government agencies involved with ZAN-SDI seem convinced that spatial planning is a vital tool that should have been used long ago, and that it is particularly necessary now in light of past experience (especially by communities, of the impacts of planning failures and tourism investments) and the fact that Zanzibar has run out of land so needs to concentrate on ‘smarter’ (and more climate-proof) use of all available resources. The GoZ appears very willing to extend the ZAN-SDI approach, using its own new capacities, to the southern and western parts of Unguja island, and also Pemba. Moreover, there is a sense that Zanzibar has experienced generational and mind-set change, and now has an atmosphere of youthful energy and initiative that was absent in former times.</p> <p>Conclusions on sustainability. Communities and government agencies involved with the project seem convinced that spatial planning is a vital tool that should have been used long ago, and the fishery closure trials have survived the end of the project and continue with MCCN encouragement and spontaneous replication among coastal communities attracted by demonstrated rewards from income and fishery benefits. Even with off-setting GoZ human resource capacity issues, sustainability is judged to be high (Score 5).</p>
<p>‘Aid effectiveness’</p>	<p>Evidence.</p> <p>“There is a long history of cooperation between the Governments of Zanzibar and Finland through forestry cooperation, ZILEM and SMOLE I and II, and the HEI-ICI project of UTU and the University of Dar es Salaam. The current ICI Project partners have got to know each other particularly during the visit of a group of geospatial actors from Finland in Tanzania in Feb 2015 and the preparatory visit of the three SYKE’s experts to Zanzibar in Oct 2015. Relevant materials have been exchanged and the drafts of the Project Document were developed interactively before, during and after the visit. The current mutual professional interest in the development of NSDIs and utilisation of spatial data in integrated coastal and maritime planning, and the excellent opportunity for exchanging experiences and mutual learning provided by the ICI, constitute the basis for effective cooperation during the Project.” (ZAN-SDI, 2015: 24).</p> <p>Most interviews suggested a strong sense of ownership and participation by Zanzibari institutions and communities. The only exception was a feeling that because COLA was so clearly ‘in charge’ of the project, other institutions felt a reduced sense of ownership. However, this is an internal GoZ matter, rather than an ‘aid effectiveness’ issue in the sense of the Paris Declaration. Besides, at least one GoZ interviewee described putting SDI under COLA as a “perfect arrangement”.</p> <p>Conclusions on ‘aid effectiveness’. Most interviews suggested a strong sense of ownership and participation by Zanzibari institutions and communities.</p>
<p>Coherence</p>	<p>Evidence.</p> <p>“Development cooperation is still a significant financial source in Zanzibar, making up on average 42 percent of the total budget of the year 2015/2016. In the period of 2014/15 Zanzibar received an amount of approximately US\$ 40.3 Million from international development partners for the implementation of programmes and projects.” (ZAN-SDI, 2015: 27).</p> <p>SUZA offered a description of the background and context of the ZAN-SDI project from the point of view of other agencies involved. Building on capability created through the ZanSea project funded by the Norwegian Statoil, which developed an SDI-like platform to support ‘sensitivity mapping’, a coastal and marine resources atlas, and oil-spill contingency planning, SUZA has direct collaboration with UTU on the Geo-ICT programme funded by the World Bank (which is also linked with SUA, Ardhi University in Dar es Salaam and the University of Dar es Salaam). A World Bank-supported extension of Geo-ICT is the Resilience Academy Tanzania, which promotes training for community mapping of buildings, sewage systems, bridges, areas and resources at risk of floods and other environmental hazards. A World Bank 20 cm drone imaging survey and mapping project was also initiated, in which SUZA has been involved in a training role. These various initiatives meant that SUZA was in a good position to offer data management support to government partners in the ZAN-SDI project.</p> <p>Conclusions on coherence. Previous and concurrent initiatives (ZanSea, Geo-ICT, Resilience Academy) meant that SUZA was in a good position to offer data management support to government partners in the ZAN-SDI project. They also imply a system of donor activity in collaboration with the various partners which is coordinated, however, by informal means in the absence of formal GoZ arrangements for donor coordination. Several interviewees mentioned how such coordination works better in practice than on paper.</p>

<p>Cross-cutting themes</p>	<p>Human rights. Some positive effect might be anticipated through the reduction of conflict between coastal resource user groups (where rights abuses might arise, for example in the deprivation of fresh water supplies or the raiding of community fish stocks). Likewise, the promotion of inclusive participation in resource governance might reduce tensions that could lead to abuses in the context of elections.</p> <p>Gender equality.</p> <p>“Traditional cultural practices in coastal areas of Zanzibar limit the types of economic activities involving women. It is rare to find women venturing offshore in canoes or other boats to fish; typically this work is performed entirely by men. Women’s livelihood opportunities in fishing communities are usually onshore or nearshore and involve collection of shellfish, sea cucumber and octopus. Some women may catch sardines or shrimps using small nets in shallow waters. Women are also involved in fish farming activities, and many practice subsistence agriculture. ... Women also play a major role in seaweed farming, providing significant income generation opportunities to some households, although the work is time and labour-consuming and income earned is low. The Project has no direct implications regarding promotion of gender equality. However, improved local planning of the pilot area will indirectly benefit both men and women. All activities under SMOLE II project have been pro-gender, and this approach will be continued.” (ZAN-SDI, 2015: 25-26).</p> <p>“The Project had no direct implications regarding promotion of gender equality. Certainly no harm to the rights of women/girls or groups that are easily excluded or marginalised, such as historically disadvantaged groups, children and people with disabilities, and ethnic minorities were caused by the Project. Thus, the project can be considered human-rights sensitive. The Zanzibar partner organisations ensured opportunities of the relevant male and female staff to participate in the capacity building organised by the project. Both men and women participated in the capacity building to the extent possible taking into account the possibilities and tasks of the personnel of the Zanzibar partner organisations. Out of 27 participants of the professional visits to Finland, six were female and 21 were male. In the long term, the results of the project can be expected to (indirectly) reduce social inequalities by enhancing the protection of the environment and conservation of natural resources, balanced with sustainable development and equitable distribution of the benefits derived from natural resources. The results are also likely to promote equality and good environmental governance by the developed tools for participatory coastal and marine spatial planning and the improved availability of spatial information, thus increasing the transparency of the environmental and land administration. Moreover, the results of the project will support the future development of open electronic services of the government that will be available for many.” (ZAN-SDI, 2019: 7-8).</p> <p>It was explained to the evaluation team that in the Zanzibari culture men are hesitant to allow women to travel abroad for short-or long-term training. This has the consequence that ICT training at SUZA is seen by Zanzibari families as a desirable direction for their daughters to take, since they can study close to home but they thereby benefit more than males from learning skills in a quickly-growing sector with significant employment potential. From the slides of <i>shehia</i> meetings shown to the evaluation team, female and male participation seemed approximately equal in terms of numbers present (although the genders tended to sit apart), but males seemed to be somewhat more active in talking and drawing on maps. Of the ZAN-SDI partner staff met by the evaluation team, the male to female ratio was about 6:1.</p> <p>Reduction of inequalities. ZAN-SDI (2015: 25) argues that SDG 1 (poverty), 6 (gender), 8 (employment), 9 (resilience), 11 (settlements), 12 (SCP), 14 (marine ecosystems), 15 (terrestrial ecosystems), 16 (governance) and 17 (partnership) will all be advanced through the inclusive, transparent, equitable and sustainable processes and outcomes anticipated from the enhanced use of geospatial information and ecosystem-based spatial planning and management of coastal and marine areas.</p> <p>Climate sustainability. The main impact lies in enhancing GoZ’s capacity to understand and plan for emerging challenges in adapting to climate change effects in the coastal zone, supported by the SUZA research and knowledge management system, the MCCN community dialogue and planning system, and inter-agency knowledge sharing.</p> <p>Conclusions on CCTs. Apart from climate sustainability, the project’s contribution to the CCTs lies in the field of plausible inference rather than documented fact.</p>
------------------------------------	---

Annex 6: Evidence on design quality and performance for the GST-GTK Project

Project	GST-GTK: Mineral Resources Potential and Small-scale Mining in Nachingwea Area and a General Nation-wide Geochemical Map of Tanzania (May 2015 to May 2017)
Version	Draft Final Report
Partners	Geological Survey of Tanzania (GST) Geological Survey of Finland (GTK)
Sources	<p>Interviews:</p> <ul style="list-style-type: none"> • GTK and FCG in Helsinki • GST in Dodoma <p><u>Documents on file:</u></p> <ul style="list-style-type: none"> • GST-GTK Annual Work Plans (2015, 2016, 2017) • GST-GTK Annual Budgets (2015, 2016, 2017) • GST-GTK Semi-annual reports (May-Nov 2015, Dec 2015-May 2016, Jun-Nov 2016, Dec 2016-May 2017) • GST-GTK Mission Reports (17 items in 2014-2017) • GST-GTK Project Maps: (a) Lindi-Mtwara geological, (b) Lindi-Mtwara mineral potential, (c) NAFORMA soil samples with soil acidity and conservation areas, (d) NAFORMA soil samples with soil acidity and geology, (e) NAFORMA soil samples with soil acidity and soils. <p><u>Documents cited in bibliography:</u></p> <ul style="list-style-type: none"> • Backman <i>et al.</i> (2107) <i>Geochemical Soil Atlas of Tanzania.</i> • Bushi <i>et al.</i> (2016) <i>Explanatory Notes to the Geological and Mineral Potential Maps of the Lindi-Mtwara Block.</i> • GST-GTK (2014) <i>Project Document.</i> • GST-GTK (2017) <i>Completion Report.</i> • GTK (2019) <i>Presentation [on the GST-GTK project], Implementation Period May 2105- May 2017.</i> • Peronius & Karlsson (2017) <i>Assessment of the State of Small Scale Mining in Nachingwea Area.</i> • Shine <i>et al.</i> (2016) <i>Geochemical Soil Study in Nachingwea Area.</i>
Context	<p>Mineral resources. “The mineral sector in Tanzania includes both small-scale operations and large-scale mechanised mining dominated by nine major mines: six for gold and one each for diamonds, coal and tanzanite. Gold accounts for 90 per cent of the value of Tanzania’s mineral exports. In the past few years, there has been a big increase in exploration for gas and oil along the coast. Estimates for gas reserves look promising for commercial production. So far, no crude oil discovery has been made though indicators from drillings and seismic data show that there might be potential reserves. ... Geologists familiar with the geology of Tanzania agree that much of Tanzania’s mineral potential has yet to be realized. The geological setting of Tanzania is favourable for the occurrence of most major metals and hydrocarbons, coal, uranium, phosphate and many non-metallic minerals which are widely in use at present days. However, much of Tanzania has not been systematically explored for minerals and those regions which have been explored have not been re-examined in the light of advances made in concepts of ore genesis. One such potential area includes the Nachingwea mineral complex (which lies centrally within the Nachingwea district in the Southern Agricultural corridor) with surrounding areas in the Southern part of Tanzania” (GST-GTK, 2014: 7).</p> <p>Agricultural soils. “In assessing the quality of arable land, certain elements are crucial: macronutrients include primary nutrients (phosphorus, nitrogen and potassium) and secondary nutrients (calcium, magnesium and sulphur), micronutrients include elements essential for plant growth like boron, copper, iron, chlorine, manganese, molybdenum and zinc. Presently there is no general geochemical map showing the composition of the soil of Tanzania which would assist the farmers in their choice of arable land and assessing the needs of fertilizers. ... The proposed project will produce a nationwide geochemical dataset and a compiled general geochemical map which can support the agricultural sector development. In addition, also the environmental sector and mineral exploration can benefit from the map. Determination of harmful elements like As [arsenic], Pb [lead], Hg [mercury], Cd [cadmium], Cr [chromium], Cu [copper], Ni [nickel] and Zn</p>

	<p>[zinc] would give information for ensuring a healthy living environment for the population and at the same time give basic information for mineral exploration.” (GST-GTK, 2014: 8-9).</p> <p>NAFORMA. “The National Forestry Resources Monitoring and Assessment of Tanzania project is a comprehensive forest inventory project coordinated by FAO and financially supported by the Finnish government which was implemented in 2009-2012. During the implementation the project collected a great number of soil samples in cooperation with the Tanzania Forest Service (TFS). During this project altogether 4,600 samples covering the whole country were collected and properly documented. The soil samples have been analysed in respect of soil parameters (pH, organic carbon, texture class (sand, silt and clay %) and colour (wet and dry)) but no chemical analyses have been done. A portion of each sample is still stored at the Sokoine University of Agriculture (SUA) in Morogoro and this gives a unique possibility to chemically analyze soil samples and compile a country wide geochemical data set and map.” (GST-GTK, 2014: 10-11).</p>
<p>Overview</p>	<p>“The main purpose of the project is to improve the capacity of GST to produce and disseminate information on mineral resources and geochemical data.” (GST-GTK, 2014: 15), through four results:</p> <ul style="list-style-type: none"> • Result 1 (mineral potential map for the Nachingwea region), oriented to encouraging mineral exploitation by enhancing GST’s capacity to manage information that can help match mineral prospectors to appropriate prospects at appropriate prices. • Result 2 (nationwide geochemical database and map using NAFORMA soil samples), oriented to enhancing knowledge relevant to economic opportunities and safety issues in the mining, land use, environmental and health sectors. • Result 3 (productivity and safety in small scale mining), oriented to improving working environments and reducing health risks, mainly by observing current practices and recommending, demonstrating and training on improvements. • Result 4 (updated GST website), oriented to improving the dissemination of geoinformation via the website, starting with the findings of this study.
<p>Relevance to Tanzania</p>	<p>Evidence.</p> <p>Tanzania is presently implementing a National Strategy for Growth and Reduction of Poverty (MKUKUTA II), aiming at accelerating economic growth, reducing poverty, improving the standard of living and social welfare of the people of Tanzania as well as good governance and accountability. The overall objective of the “<i>Mineral resources potential and small-scale mining in Nachingwea area and a general nation-wide geochemical map of Tanzania</i>” project is to support the country in these efforts by strengthening the mineral sector and provide geoscientific information to a wide group of stakeholders.</p> <p>The mineral potential block map is expected to attract exploration companies and boost the mining sector in the region. The geochemical map is expected to give better tools for land use in respect of agriculture and a safe living environment for the population. A seminar for small-scale miners provided advice on environmental matters, reduction of health risks, ways of selling the concentrates and how to mitigate risks connected to climate change. The project is therefore seen as being very relevant to Tanzania’s needs.</p> <p>Conclusions on relevance to Tanzania. The mineral potential block map is expected to attract exploration companies and boost the mining sector in the region. The geochemical map is expected to give better tools for land use in respect of agriculture and a safe living environment for the population. A seminar for small-scale miners provided advice on environmental matters, reduction of health risks, ways of selling the concentrates and how to mitigate risks connected to climate change. The project is therefore seen as being very relevant to Tanzania’s needs (Score 6).</p>
<p>Relevance to Finland</p>	<p>Evidence.</p> <p>The relevance of this project to Finland is high, bearing in mind that the rather well-known work of the GTK is focused on the upstream activities of the mineral sector, related to geophysical and geological mapping and related activities. The Finnish private sector, however, includes a considerable expertise in downstream activities like the design, building and operating of specialised and large-scale mining equipment.</p> <p>“Finnish programmes highlight the role of the private sector and its productivity, and link the cooperation with Finnish partner organisations. Special attention is given to creating an enabling</p>

	<p>environment for businesses and livelihoods as well as competitive and responsible businesses and value chains.” (MFA, 2016: 6)</p> <p>Even though the MFA Country Strategy mentions a withdrawal from agriculture and other sectors, the continued focus on good governance and strengthening the country’s economic base means that any project that will help attract investment in the mineral sector, either directly into mining projects, or as a supplier of mining equipment, and any project that builds capacity for better governance, will be relevant to the objectives expressed by the Finnish MFA.</p> <p>Conclusions on relevance to Finland. By enhancing the enabling environment for responsible mining investment, the project was fully in line with the <i>Country Strategy</i> (MFA, 2016: 6) which states that “Finnish programmes highlight the role of the private sector and its productivity, and link the cooperation with Finnish partner organisations. Special attention is given to creating an enabling environment for businesses and livelihoods as well as competitive and responsible businesses and value chains.” (Score 6).</p>
<p>Design quality</p>	<p>Theory of change. “The overall objective of the proposed project “Mineral resources potential and small-scale mining in Nachingwea area and a general nation-wide geochemical map of Tanzania” is to support the country by strengthening the mineral sector and provide geoscientific information to a wide group of stakeholders. This is done by cooperation between the Geological Survey of Tanzania (GST) and the Geological Survey of Finland (GTK) for strengthening of the institutional capacity of GST including production of new geoinformation for promoting mineral exploration and disseminating of data for regional land use planning.” (GST-GTK, 2014: 5) This theory of change can be rephrased as follows: “<i>Economic productivity and safety in the minerals sector will be enhanced by creating and disseminating geological and geochemical data and technical advice to small-scale miners, and the sustainability of these services will be ensured by building the capacity of GST to continue providing them.</i>”</p> <p>Plausibility of assumptions underlying the theory of change. The assumptions that knowledge and guidance can improve performance and safety in the minerals sector seems plausible, and the sustainability of capacity building on specific tasks for which there is social need and policy support likewise.</p> <p>Conclusions on design quality. The theory of change was clear and the underlying assumptions largely plausible with the exception of proposals for ASM training, so the design quality was considered to be fairly sound overall (Score 5).</p>
<p>Efficiency</p>	<p>Evidence. The project used 99.7% of the budgeted funds. The extra work that was initially not planned (work with the small-scale miners, soil acidity map and geochemical atlas) required a reallocation of some 36% of the budget. This could be achieved by savings in a range of other activity costs (less than expected costs for the external consultant in connection with small-scale mining, lower than expected travel and accommodation costs, lower than expected equipment costs). Thus, the project made very efficient use of the funds available to it, particularly in producing the various maps and creating the new GST website. Interviews with GST officers, however, indicated that the work in connection with small-scale miners, while it has increased knowledge within the GST, has resulted in little long-term impact with the ASM operators themselves, reducing the value of that particular work.</p> <p>Conclusions on efficiency. The project made very efficient use of the funds available to it, particularly with respect to the production of the various maps and the creation of the new GST website (Score 5).</p>
<p>Effectiveness</p>	<p>Evidence. The GTK-GST <i>Completion Report</i> (Chapter 2, The Achievement of Results) and interviews with GST, GTK and FCG suggest the following:</p> <p>Result Area 1 (Increased knowledge of the mineral potential of the Southern Agricultural Corridor) achievements include creation of new 1:500,000 scale geological and mineral potential maps with explanatory notes for an area in the Southern Agricultural Corridor around the Nachingwea region. The maps are intended to boost exploration activities and improve the institutional capacity of GST to plan and carry out field work and to use modern methods to collect, analyse, interpret and disseminate such data. Whereas the knowledge and capacity of GST has been enhanced, there is no clear indication of increased exploration activities in the area. It should however be noted that the current apparent reluctance of international exploration companies to enter Tanzania is due to uncertainty in the policy environment, rather than the availability or lack of technical information.</p>

	<p style="text-align: center;">Score: 5.</p> <p>Result Area 2 (Increased knowledge of the geochemistry of Tanzanian soils) achievements include:</p> <ul style="list-style-type: none"> • Creation of a countrywide geochemical atlas and map, showing a range of 15 metallic elements based on chemical analyses of already existing soil samples taken under the NAFORMA project. The atlas, the first of its type in Tanzania, provides an overview of the distribution of these elements across the entire country. It is available in both hard copy and digital form from GST. This improves and adds to the existing geo-information, which is useful for the mining, land use and environmental sectors. The information is also useful from a health point of view, indicating areas with high levels of toxic elements like arsenic, fluorine and nickel. This component will enhance GST's capacity to serve society in relation to environmental monitoring and land use planning. This map and the accompanying atlas is seen as a major achievement, serving as a reference document for GST when considering mineral exploration potential or soil qualities in different parts of the country. • Creation of countrywide soil acidity maps, indicating soil pH values overlaid on geological, soil type and conservation area base maps. Soils with low pH (high acidity) tend to have low crop yields and these maps are therefore very useful to indicate areas where liming may be useful to improve agricultural production. • Introduction of portable X-Ray Fluorescence (XRF) technology to GST to facilitate rapid and versatile analysis of soils. This technology has been used to great effect in analysing the NAFORMA soil samples. Most of the elements were analysed with this method, while the precious metals were analysed with AAS and ICP-MS technology, in Finland. The XRF method is appropriate for the level of precision and accuracy required, with the exception of analyses for precious metals with concentrations in the ppm range. During a visit to the GST laboratory in Dodoma, the XRF units were seen to be in regular use. The laboratory is ISO17025 certified for gold analysis by fire assay, which is a major achievement for a non-commercial laboratory. It is understood that the laboratory will next endeavour to obtain certifications for analyse by XRF. The analysis of samples in order to verify contents, prior to export (of ores and concentrates) is however done under the auspices of the Mining Commissioner, which department also falls under the Ministry of Minerals, but which is separate from the GST. <p style="text-align: center;">Score: 6.</p> <p>Result Area 3 (Support to improvements in productivity and safety of artisanal and small-scale miners) achievements include:</p> <ul style="list-style-type: none"> • Assessment of the small-scale mining operations in the Nachingwea area, with recommendations for improved recovery and safer work practices. • Arrangement of a training seminar for small-scale operators from the Nachingwea area, including lectures (translated into Swahili) and practical demonstrations. Distribution of small items of equipment to facilitate safer work practices and improved recovery. The training was conducted jointly by GTK and GST officers, but also served as training for the GST. The training documents are the basis for a 'handbook' on artisanal and small-scale mining, to be used by GST for technical assistance, support and governance over the ASM and small-scale mining sector. But the degree to which the provision of some equipment and a single training seminar, however well-attended, will result in real change in the way that small-scale miners operate, appears to be limited. ASMs are apparently reluctant to adapt to new or different methods and it is understood that they still use mercury in their recovery of gold. It is also understood that much of the equipment provided to the operators is not used, including both productivity- and safety-related equipment. Some of this equipment has apparently even been sold. <p style="text-align: center;">Score: 2.</p> <p>Result Area 4 (Improved access to geoinformation in Tanzania) achievements include:</p> <ul style="list-style-type: none"> • Design and creation of a website, using easier and more up-to-date software (Joomla and Wordpress) to facilitate easier editing and updating by GST. • Skills transfer to the GST website manager in order to ensure easier and more regular updating of website content. From a visit to the GST in Dodoma, it is clear that there are 3
--	---

	<p>(three) GST officers who can work with the website, although they have all requested additional training to deepen the level of their knowledge.</p> <ul style="list-style-type: none"> • Posting (by the GST website manager) of information generated under the ICI project (including geological, geochemical and mineral potential maps) on the website. The maps are indeed visible on the website (in a summary PDF format) but the actual maps cannot be downloaded from the site, they need to be purchased in Dodoma. The pricing of these maps (and of the geochemical atlas) merely reflects the cost of printing, etc. <p>Score: 6.</p> <p>Conclusions on effectiveness. The achievements in capacity building were considerable in Result Area 1 (mineral potential map, Score 5), Result Area 2 (geochemical atlas and maps, Score 6) and Result Area 4 (GST website, Score 6), but offset by the weak effectiveness of Result Area 3 (ASM training, Score 3).</p>
<p>Impact</p>	<p>Evidence.</p> <p>According to GTK, neighbouring countries have expressed the opinion that the GST-GTK project has contributed to increased attractiveness to investors in the mineral industry. There has indeed been an increase in the growth of the mineral sector in Tanzania and its contribution to GDP, from 2015 onwards, but it is unknown to what extent this growth can be attributed to the work done under the project. There have been a large number of visits to the GST website, however. During the interviews in Dodoma, it was learned that the geochemical atlas and the related maps have become a well-used reference document used by the GST, and copies have been provided to other government stakeholders, but it could not be determined how many copies have been printed and sold to other interested parties.</p> <p>The use of the handheld XRF units by the GST Laboratory in Dodoma has been very successful, not only for the analysis of the NAFORMA soil samples under this project, but also for other samples submitted to the laboratory. During the visit to the Laboratory, two units were being used. The applicability of the handheld XRF unit to other relevant tasks, by the GST, is also important. It is a useful tool (assuming appropriate sample preparation methods) to confirm the concentrations of a number of elements in any mineral sample. The method can also be used to help confirm the contents (and values) of mineral products (ores and concentrates, etc.) being exported, although this is a responsibility that falls within the remit of the Mining Commissioner, not the Geological Survey</p> <p>The impact of the one-day training seminar with small-scale miners in the Nachingwea area appears to be very limited, with miners apparently reverting to earlier practices.</p> <p>Conclusions on impact. The project greatly enhanced the knowledge of the geochemistry of Tanzanian soils, as well as the mineral exploration potential in the Nachingwea area. The new GST website has enhanced visibility of the GST's work and role. All of these have a large potential impact on new mineral investment in the country, as well as for identification of areas where soil remediation can lead to additional agricultural production. The training of ASM operators will likely have very little impact, however. (Score: 5).</p>
<p>Sustainability</p>	<p>Evidence.</p> <p>The various maps and datasets that were produced by GTK and GST under the project will have a long-term value to Tanzania, since such products are usually not updated frequently. They are therefore of sustained value to the stakeholders. The degree to which the GST capacity to create similar products themselves has probably been improved by the collaboration between GST and GTK experts, but it appears that GST did have some capacity before the implementation of the project.</p> <p>The sustainability of the training in relation to safety and improved recovery by small-scale miners, and their use of the small items of equipment provided, appears to be very limited, based on interviews with GST officers in Dodoma. There are reports that some of the equipment provided to the miners has been sold and miners have apparently reverted to their earlier methods for recovery of gold, using mercury.</p> <p>The skills to update and edit the GST website are now shared by three persons in the GST's IT department, adding to the sustainability of this particular component of the project.</p> <p>Conclusions on sustainability. The geochemical and mineral potential maps and the geochemical atlas produced are permanent resources that add value to the knowledge base. The</p>

	<p>new website is also quite sustainable, given that three GST officers are capable of editing and updating it, and they do so quite regularly. The sustainability of the ASM training is however very limited, although the relevant knowledge within the GST itself has been increased (Score: 5).</p>
<p>‘Aid effectiveness’</p>	<p>Evidence. The Project Document was jointly prepared by GTK and GST and there has been structural interaction between these two institutions, SUA and TEITI. From the interviews with GST officers in Dodoma, and from a visit to the cartography section, it is clear that GST is quite capable of producing new maps themselves, but it is not clear to what extent they were able to do this beforehand. Since there was already a cartography section with GIS-qualified officers from the start of the project, it must be assumed that there was earlier map-producing capacity. Officers however expressed satisfaction with the way in which they could work on maps together with GTK experts, adding to the level of their skills.</p> <p>The creation of a geochemical atlas and maps for the entire country, based on already existing soil samples taken under NAFORMA, was a particularly effective way to utilise the available samples as well as the project budget.</p> <p>The short training of only one day to the small-scale miners in the Nachingwea area is not deemed to be particularly effective, since interviews with GST officers in Dodoma indicate that the miners have reverted to their earlier ways of working.</p> <p>The new GST website, which is still up and running, which shows the maps created under the project and which has been updated from time to time, also with information from other projects, is deemed to be a very effective way to share information.</p> <p>Conclusions on ‘aid effectiveness’. With the exception of the short training provided to ASM operators, interviews suggested a strong sense of ownership by the partners.</p>
<p>Coherence</p>	<p>Evidence.</p> <p>Given that considerable work has been done on soil qualities, a high degree of coherence is expected between the results of the GTK-GST project and other technical assistance projects in the mining sector, as well as with activities in the agricultural and environmental spheres. No information linking this soil data with work by other projects has been seen, but GST officers have indicated that other ministries have requested access to the information and that copies of the geochemical atlas have been provided to other Tanzanian ministries and institutions.</p> <p>Improved interaction between the GST and the SUA in connection with access to soil samples and sharing of information resulting from the analyses. Interaction between different institutions is a common problem in many countries and the interaction achieved under this project should set a good precedent for improved collaboration between institutions.</p> <p>Conclusions on coherence. The project significantly enhanced the knowledge base within the GST and collaboration with SUA. According to GST there has been considerable interest in the soil geochemistry maps and the geochemical atlas by persons at ministerial level and from other ministries.</p>
<p>Cross-cutting themes</p>	<p>Human rights. The main area where the project could have had a direct impact on human rights was in the training of ASM operators in the Nachingwea area, but this training was very short (1 day) so the likely impact was very limited.</p> <p>Gender equality. The GST already appears to be a workplace with equal gender opportunities. A number of women were employed, including the Acting CEO of the GST, and the head of the petrology section of the laboratory. The project itself does not appear to have had a direct influence on gender equality.</p> <p>Reduction of inequalities. The project does not seem to have had a direct influence on reducing inequalities.</p> <p>Climate sustainability. By making soil geochemical maps widely available, the project may encourage organic farming in areas where soil qualities can be remediated. Limestone resources may also be identified closer to the areas where they are needed, reducing transport distances and related costs and emissions (although liming itself is a source of emissions). The option for GST to investigate geothermal energy sources was identified during the evaluation.</p> <p>Conclusions on CCTs. The project is unlikely to have made a direct or significant contribution to the CCTs, although there was some potential for it to do so in the area of climate sustainability.</p>