

Tanzania - Country Plan of Implementation Orange Knowledge Programme

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List of abbreviations

CPI	Country Plan of Implementation
EKN	Embassy of the Kingdom of the Netherlands
FAO	Food and Agriculture Organisation of the United Nations
FNS	Food and Nutrition Security
FYDP	Five-year development plan
GDP	Gross Domestic Product
HE	Higher Education
LDC	Least Developed Country
LIC	Low Income Country
NACTE	National Council for Technical Education and Training
NESO	Netherlands Education Support Office
NFP	Netherlands Fellowship Programmes
NICHE	Netherlands Initiative for Capacity-development in Higher Education
NPT	Netherlands Programme for Institutional Strengthening of Post-secondary Education and Training Capacity
Nuffic	Dutch organisation for internationalisation in education
OKP	Orange Knowledge Programme
REA	Rural Energy Agency
RVO	Netherlands Enterprise Agency
SDG	Sustainable Development Goals
SRoL	Security and the Rule of Law
TAFIRI	The Tanzania Fisheries Research Institute
TANESCO	Tanzania Electric Supply Company Limited
TCU	Tanzania Commission for Universities
TDECB	Tanzania Dutch Energy Capacity Building Programme
TFPs	Technical and financial partners
ToC	Theory of Change
TVET	Technical and Vocational Education and Training
UDSM	University of Dar es Salaam
VETA	Vocational Education and Training Authority

I. Introduction

This document describes the purpose and intentions of the implementation of the Orange Knowledge Programme in Tanzania. It follows on an identification process in which capacity needs in the country have been analysed in the light of the available information and discussions with stakeholders. This approach has helped to define the priority intervention area(s) and to formulate the outcomes to be achieved.

The Dutch organisation for internationalisation in education (Nuffic), administers this programme on behalf of the Ministry of Foreign Affairs of the Netherlands. Nuffic is responsible for its implementation and follow-up in accordance with each Country Plan of Implementation (CPI).

II. Brief presentation of the Orange Knowledge programme

The Orange Knowledge Programme (OKP) is the successor to the Netherlands Fellowship Programmes (NFP) and the Netherlands Initiative for Capacity Development in Higher Education (NICHE). The Orange Knowledge Programme merges the two preceding programmes into a single integrated approach, with the addition of new elements including increased involvement of alumni, attention to cooperation between knowledge organisations, and communication focusing on the presentation of results.

The main objective is to contribute to sustainable and inclusive development through the strengthening of organisations key to sectoral development in Orange Knowledge partner countries. This will be achieved by developing the capacity, knowledge and quality of individuals as well as organisations both in the field of Technical and Vocational Education and Training (TVET) and Higher Education (HE) and in other fields related to the priority themes in the Orange Knowledge partner countries.

The Orange Knowledge Programme will last for 5 years (2017-2022) and will be implemented through three types of interventions:

- individual scholarships,
- group trainings and
- institutional projects focusing on sustainable improvement of technical and higher education capacity.

In Tanzania the three instruments will be offered in the form of an integrated approach.

For further information on the Orange Knowledge refer to Annex 1. More detailed information on the Orange Knowledge modalities is provided in the [OKP modality overview](#).

III. Current state of affairs

Tanzania has sustained relatively high economic growth over the last decade, averaging 6-7% growth per year. Despite the decline in poverty rate, the country's absolute number of poor has not experienced the same decline because of the population growth rate¹. Roughly 12 of the 55 million Tanzanians still live in extreme poverty on earnings of less than US\$1 per day. The country's population is young, with over 50% of the population under the age of 18². A main challenge in the coming years and decades will be to find employment for Tanzania's fast-growing population³.

Tanzania's economic prospects depend on investment in more infrastructure, improving the business environment and improving service delivery (to build a healthy and skilled workforce). The Tanzanian Government's second Five Year Development Plan, (2016/17 - 2020/21 (FYDP II), sketches its objectives, the interventions and policy changes needed to achieve its main objective of transforming Tanzania from a low-income country (LIC) into a semi-industrialized nation by 2025¹. Strong emphasis is placed on interventions related to trade, improved agricultural productivity, human development and social transformation and the role of the private sector¹. Key to this strategy are educated citizens and an empowered civil society.

The Netherlands has supported the Education sector in Tanzania through multiple channels since the 1960s. Dutch capacity development programmes have been a major source of funding for education. These programmes have been administered by Nuffic, in alignment with the Embassy of the Kingdom of the Netherlands (EKN) in Tanzania, and with the Dutch development goals and country priority areas. The longest running programme is the NFP⁴, which ran from 1961 until 2017. Over the years, the NFP and its forerunners have accumulated an estimated 5000 Tanzanian alumni to date. A large proportion of the funding for NFP initiatives in Tanzania has gone towards Food and Nutrition Security (FNS) and Water related activities.

At this moment and until December 2019, Nuffic is implementing the Tanzania Dutch Energy Capacity Building project, on behalf of the Ministry of Foreign Affairs, aiming at sustained economic and social development through a strong renewable energy- and gas sector, through strengthening of the academic and organisational capacity of the Tanzanian institutions (University of Dar es Salaam, Dar es Salaam Institute of Technology, Karume Institute of Science and Technology) to deliver quality research and well trained, competent

¹ <http://www.worldbank.org/en/country/tanzania/overview>

² <https://www.iob-evaluatie.nl/publicaties/publicaties/2016/07/01/415-%E2%80%93-country-study-%E2%80%93-tanzania>

³ Global trends suggest that the number of secondary pupils will rise with the most rapid growth in Sub-Saharan Africa. Absorption of post-secondary graduates in to the labour market poses major challenges. With approximately 800,000 youth entering the labour force in Tanzania every year, nurturing a vibrant private sector to provide productive jobs is critically important.

⁴ Several modalities were offered under NFPII; including Tailor-made training and refresher courses. These group trainings are customized to meet the demands of the requesting party; the latter are offered to alumni with the purpose of updating knowledge and skills.

and qualified professionals, involving the private sector and taking into account environmental, gender and labour market needs.

Through the Netherlands Programme for Institutional Strengthening of Post-secondary Education and Training Capacity (NPT) and NICHE, projects were funded in Tanzania for institutional strengthening of the post- secondary education sector. NPT ran from 2003 and was succeeded by NICHE I in 2012. Nine projects were executed under NICHE I within the sectors: Health, Private Sector Development and Decentralisation⁵.

For an overview of the NFP II fellowships and group trainings (2014-2017) and NICHE I projects please refer to Annex 3.

IV. Identification of the needs

In May 2018, a scoping mission was carried out in Tanzania. with Several stakeholders (government representatives, education institutes, Tanzanian and Dutch (agricultural) corporate sector; NGO's and Dutch institutions established in the country) have been consulted to identify the focus of the Orange Knowledge Programme in Tanzania.

Information collected during these meetings revealed, among others, the need to:

- Improve the quality of teaching (didactical skills teachers, more practical approach and more linkages with labour market);
- Improve the managerial and linking capacity of management of TVETs;
- Introduce (new) technologies to increase productivity and increase hands-on capacity;
- Implement linkages between TVET, farmers/private sector (internships, employment, guest lecture, modelling), input suppliers, key organisations (private, public) and universities (technology and knowledge transfer);
- Improve the quality and employability of graduates and job creation;
- Involve alumni in setting up and maintaining linkages.

A brief report of the identification process can be found in Annex 2.

Based on the information provided by the Embassy (Orange Knowledge Compact Scan), and needs identified during the scoping mission, a selection of priorities for the Orange Knowledge Programme was made. In agreement with the Embassy, the OKP will focus on the following bilateral priority themes:

- **Food and Nutrition Security** (FNS), with focus on edible horticulture (particularly potatoes) and aquaculture;
- **Energy** with focus on renewable energy production, particularly to fulfil the energy needs of rural households.

To further support the bilateral agenda of the EKN and the priority themes in Orange Knowledge Programme in particular, the programme in Tanzania will also support (small) initiatives in the field of **Media**, as a subsidiary intervention.

⁵ Programme outline NICHE Tanzania.

OKP interventions will focus on addressing education and training gaps through the strengthening of predominantly knowledge institutions active in the above-mentioned priority themes. Special attention will be paid to ensure that interventions are inclusive, and that the involvement and participation of women and minority groups is encouraged in all facets of OKP interventions.

The embassy's objectives in relation to the priority themes

The relationship between the Netherlands and Tanzania stretches back to the mid-sixties. Since then the bilateral relationship has transitioned from one that was directed towards macro-economic reforms, sectoral adjustment and debt relief, to one of a more mutually beneficial kind; with trade and investment at the forefront of its agenda. Tanzania is one of the countries where the Netherlands ended its delegated bilateral aid relationship in 2010⁶. Since then a greater focus has been placed on the economic sectors; in intensifying trade and investment relationships with Tanzania and improving the business climate for Dutch businesses⁷.

For the period 2017-2020 no radical change is foreseen in Dutch foreign policy towards Tanzania. The EKN seeks to align Dutch objectives with priorities in the Government of Tanzania's Five-Year Development Plan (FYDPII). Focus areas include private sector development, human rights development, regional stability, climate change and renewable energy. With a primary focus on sustainable trade and investment and the themes: infrastructure, energy and agriculture⁸.

Analysis of the priority themes

Sector 1. Food and Nutrition Security

Tanzania adopted its first Food and Nutrition policy in 1992. Since then, Tanzania has been formulating various policies and strategies to guide Interventions towards improving the health of people by ensuring adequate intake of nutritious food and reduction of infectious diseases. In terms of strategies, the Government has formulated long-term the Tanzania Development Vision 2025⁹, which acknowledges agriculture as the backbone of the economy. It also highlights the role of the private sector in attaining a modernised, commercial, highly productive and profitable agriculture sector.

⁶ Sectors supported by the Netherlands in the past, included agriculture and livestock, health, water, education and the manufacturing industry. In the late 90s the Netherlands focussed on fewer sectors through Sector-wide approach (SWAP). A primary focus was placed on education and health. Projects for agriculture, livestock and dairy were generally funded under the special embassy projects, 'Kleine ambassade projecten' (KAP).

⁷ Contribution to private sector development is through the Dutch Entrepreneurial Development Bank FMO, the Netherlands Enterprise Agency (RVO) and the Private Sector Investment Programme (PSI). Source: IOB evaluation (2016), Impact of ending aid. Tanzania country study,

⁸ Country strategy 2017-2020 Tanzania, Netherlands Embassy

⁹ The Tanzania Development Vision 2025 envisages an economy with high productivity, high quality livelihood; peace, stability and unity; good governance, a well-educated and learning society; and a competitive economy capable of producing inclusive growth and shared benefits

The agricultural sector – largely dominated by smallholder farming – accounts for one quarter of the national GDP¹⁰. As stated in the World Food Programme, Tanzania has made significant progress over the past two decades in economic, social and human development. “This, however, has not benefitted all sectors of society and inequality has widened. Although the country currently produces enough food to feed its population, the poorest and most marginalised families – including refugees – have limited access to it. Although it is the largest and most significant sector of Tanzania's economy, the agricultural sector appears to be the least dynamic and the least invested by the private sector other than existing farmers. An examination of the production trends in recent times suggests that although the agricultural sector grew rapidly between 2007 and 2015 growth has been volatile, and its source has been concentrated among few crops. The major food staples are cassava, maize, bananas, rice, sorghum, pulses, and Irish and sweet potatoes¹¹. According to the FAO Tanzania country profile and programming framework¹², the majority of the agricultural (small) producers, *produce for own consumption; the surplus is sold at local/regional markets in the neighbourhood*. Most of the agricultural work is done by women. Gender inequality and poor access of women to resources keep productivity low and food insecurity and malnutrition high; 24% of the households are food insecure; 43% suffer from chronic under-nutrition, affecting almost one in every two children under the age of five years. The situation tends to get worse as (traditional) agriculture does not seem to be sufficiently attractive for the youth. The young generation probable (small) farmers do not value a future in (traditional) agriculture and leave to the cities. The sector plays a significant role in inflation control as more than 95% of food requirements in the country are obtained from locally produced crops. Given that the population is expected to double by 2050, the ever-growing population poses considerable challenges to the agricultural sector as it is.

The FDYP II aims to tackle these challenges by emphasizing improved agricultural productivity, deeper agricultural value chains and better supporting infrastructure. Specific strategic interventions include plans to increase production and productivity of food and cash crops¹³, develop irrigation schemes and support the livestock, forestry and fisheries industries¹⁴.

Edible horticulture – potatoes

The horticulture industry in Tanzania is the fastest growing subsector within the agricultural sector with an annual average growth of about 9 - 12 per cent per annum. The horticulture sub-sector employs about 2.5 million people, which makes the industry a major employer within the agricultural sector. Small-scale farmers are very important in the value chain of

¹⁰ [World Food Programme](#)

¹¹ https://docs.wfp.org/api/documents/WFP-0000019748/download/?_ga=2.165338559.1457496133.1522871082-1606012571.1522871082

¹² [FAO Country Profile Tanzania COUNTRY PROGRAMMING FRAMEWORK FOR UNITED REPUBLIC OF TANZANIA, 2017 to 2020](#)

¹³ Priorities for food crop production are to increase production and productivity of maize, rice, cassava, pulses, bananas, potatoes, sorghum, millet and wheat¹³.

¹⁴ <https://set.odi.org/wp-content/uploads/2017/08/FYDP-II-Summary-Briefing.pdf>

horticulture products in Tanzania because they are dominant in the production, especially in vegetables production where they account for 70% of vegetable producers. Tanzania is among the world's top 20 producers of fresh vegetables according to FAOSTAT data.

Five potential geographical clusters of horticultural opportunities¹⁵ have been identified in a study carried out by The Netherlands Enterprise Agency, RVO titled: '[Mapping of production of fruits and vegetables in Tanzania](#)'. The lack of infrastructure and skills pertaining to logistics (for example packaging, storage) and other parts of the value chain hamper the expansion of exports from Tanzania.

Small-scale farmers lack the skills and knowledge needed to produce horticulture crops because for many of them, these crops are new (or have only been produced for the local market) and difficult to produce to meet international quality standards. The same is visible in the potatoes sector. The demand from consumers for potatoes is on the rise yet the production is hampered by a lack of availability of quality seed potatoes. Potato producers in Tanzania are small in size and have relatively low yields per acre. Another study conducted by RVO found that all potato crop produced by Tanzania producers is consumed, with occasional imports (mainly from Kenya) to address the shortage during off-season periods. Tanzania has a very limited range of processed potato products, with the bulk of the potato crop sold as ware potato and eaten as a boiled vegetable¹⁶.

Interventions that can contribute to increased production can serve a dual purpose of contributing to food security as well as economic growth through increased exports.

Aquaculture

At present aquaculture is largely a subsistence activity practiced by low-income households in the coastal and inland areas but the benefits arising from it are several: it contributes to people's requirements for animal protein, particularly in the rural areas where there are no capture fisheries, it provides employment opportunities and is thus a source of income¹⁷.

About 85% of the fish supply comes from inland fisheries (mainly from Lake Victoria and Lake Tanganyika) and 14% from marine fisheries. Aquaculture accounts for only 1% of the supply. Fish consumption is estimated to be about 7-8 kg/year and contributes to about 30% of the total animal protein intake. Tanzania's aquaculture production equates to about 0.2% of fish supplies for human consumption in the country. In Kenya aquaculture contributes 1.4% and in Uganda it contributes 6.5%. Egypt, with considerably poorer production conditions than any of these countries generate 80% of its fish supplies from aquaculture. The practice of producing sustainable fish sources is thus achievable with the right infrastructure and development interventions¹⁸.

¹⁵ Please refer to

<https://www.rvo.nl/sites/default/files/2017/05/Studie%20Tanzaniaanse%20Tuinbouwsector%202017.pdf>, page 6.

¹⁶ https://www.rvo.nl/sites/default/files/2017/05/Seed_potatoes_tanzania_quick_scan.pdf

¹⁷ http://www.fao.org/fishery/countrysector/naso_tanzania/en

¹⁸ [The Tanzanian Fisheries Sector - Challenges and opportunities, 2016](#)

Tanzania is at a crossroads in the development of the fishery sector, which has served the country well in the past, but has reached the limits of its current production systems. Population growth, stability, and increasing incomes, create an important strategic opportunity to re-orientate production and marketing systems to better serve local and nearby markets in the region¹⁹. Challenges constraining optimal development of the fishery and aquaculture industry, aside from inadequate access to the market, include inadequate knowledge and skills by farmer to proactive commercial fishery farming, and insufficient seeds and feeds for aquaculture practices²⁰.

In alignment with the FYDPII and the Dutch bilateral agenda in Tanzania, Food and nutrition security will be the first sector to be tackled by Orange Knowledge programme interventions.

Sector 2. Energy: focus on Renewable energy

According to a recent energy report by RVO²¹ Tanzania has a high and mostly untapped potential for renewable energy sources. Tanzania's National Five-Year Development Plan (2016/17 – 2020/21) is heavily focused on developing Tanzania's energy sector - including plans to expand electricity access, the transmission network, and installed capacity. Large natural gas deposits have been discovered in Tanzania. Tanzania's National Five-Year Development Plan 2016/17 – 2020/21 (FYDP II) seeks to boost renewables. Hydropower is (and will remain) Tanzania's largest source of renewable electricity. The current interest of the Tanzanian government is therefore mainly on developing this resource to generate income for development of the country. Besides natural gas developments there seems to be interest in the development of renewable energy sources:

- *Small scale hydropower* has good potential and is particularly feasible in rural areas. Traditionally hydropower has been the main source for electricity in Tanzania, however intermittent river flows have decreased its reliability. Another key challenge facing hydropower is the regional mismatch between hydro sites and major demand centres with a strengthening transmission system, a requirement for further development. Tanzania does intend to further develop its large-hydro capacity.
- *Biomass resources* are mostly exploited in rural areas, providing 83% of the total energy consumption for cooking and heating. Rural areas generate a large amount of organic waste from the agricultural sector. Biomass (mainly wood) is also used to produce charcoal which is sold in the urban areas as largest source of household energy representing approximately 20% of total energy use.
- *Solar energy*: Tanzania has promising levels of solar energy, particularly in the central region of the country. Some solar developers are seeking to set up large solar PV projects. PV installations are generally used at villages, schools, hospitals, health centres, police stations, small telecommunications enterprises and households, as well as for lighting, street lighting and basic electricity needs. The government, through the Rural Energy Association (REA) and various donors, has supported a number of solar PV expansion programmes.

¹⁹ [The Tanzanian Fisheries Sector - Challenges and opportunities, 2016](#)

²⁰ <http://www.fao.org/3/a-bp609e.pdf>

²¹ Tanzania Energy Report, Author: Kees Mokveld & Steven von Eije (RVO.nl), Date: 15-5-2018, Version: final draft. See also [RECP HE Country Mapping Tanzania](#)

- *Wind resources* Potential areas for wind parks have been mapped by the Tanzania Electric Supply Company Limited, Tanesco. Wind resource assessments are being conducted to see the feasibility of wind parks. Some private companies have expressed interest in investing in wind energy.
- *Geothermal power generation* in Tanzania has a high potential. At least 15 thermal areas with hot spring activity could be justifiable development projects. Geothermal exploitation involves changing the flows of underground water, which in some cases has led to draining of nearby lakes.

In accordance with the above mentioned, and the potential for renewable energy sources, the focus of the Orange Knowledge Programme will be on strengthening the technical and vocational education and training to contribute to increase the access of electricity, particularly in remote areas. While increasing the skills the programme will contribute to self-employment and job creation.

Sector 3. Media

To enhance the bilateral priorities of the EKN, subsidiary interventions related to the selected priority themes are planned which will focus on freedom of the press and research journalism. The objective is to identify, train and mentor a new generation of journalists and media leaders, open to broad and transparent news broadcasting. The initial target group for these interventions would be journalists and trainers of journalists. The emphasis is on developing the next generation of media professionals at diploma level because of a new law that prescribes that journalists need to have a diploma level to be allowed to continue to work in the sector. The focus in this field will therefore be on early entrants to the field by offering tailor-made training. The training will focus on basic journalism skills, including writing and research skills, and hands on training curriculum, fostering a mindset for a future generation that is innovative and forward thinking.

The education and training gap in the priority themes

Structure and current status of the provision of post-secondary education in the selected priority themes

The Tanzanian education system is based on the Cambridge education system and comprises of 2 years of Nursery school, 7 years of primary school, 4 years of ordinary secondary school (ordinary level), 2 years of advanced secondary school (advanced level) and at least 3 years of higher education structure. Education is compulsory from the ages of 7 to 14²².

The Ministry of Education, Science and Technology is responsible for the education system. Core functions include policy formulation, accreditation and quality assurance and monitoring and evaluation of primary and secondary education. The Ministry is also responsible for technical and vocational education and training and higher education at universities. Public universities are semi-autonomous and have the freedom to determine –

²² <https://www.nuffic.nl/en/publications/find-a-publication/education-system-tanzania.pdf>

amongst other aspects – their own curricula. They are also authorised to award academic degrees. All universities, both public and private, operate under the supervision of the Tanzania Commission for Universities (TCU)²³. The [TCU website](#) recognises 33 public and private universities and 16 university colleges.

Technical and Vocational Education and Training (TVET) is an integral part of the education system in Tanzania; offered through two sub-systems, namely vocational education and training (VET) and technical education and training (TET). TET and VET together provide what is referred to as TVET. TVET programmes are offered at both the secondary education level and at the tertiary level.

The National Council for Technical Education (NACTE) is responsible for technical and vocationally oriented secondary and higher education (including bachelor's and master's degrees) offered at non-university institutions. The Vocational Education and Training Authority (VETA), in collaboration with NACTE, have established a TVET qualification framework and are responsible for registering public and private institutions and accrediting their programmes. Both bodies contribute to analysing the labour market and subsequently developing TVET curricula²⁴. The focus on delivering graduates that are employable and have entrepreneurial skills is a priority for both bodies.

Technical and vocational colleges are abundant in Tanzania, with some 582 listed on the [NACTE website](#). VETA provides training through 29 of its own vocational training centres and institutes and coordinates more than 700 other institutions owned by VET providers²⁵.

UNESCO education statistics show a gross enrolment ratio of 31, 67% for secondary education and 3,61% for tertiary education in 2013²⁶. Both figures are expected to increase in coming years. This poses a challenge for the TVET and higher education in Tanzania, as it will require adequate planning and developments to accommodate the influx of secondary school leavers into relevant and quality courses that meet labour market demands²⁷.

In terms of employment post-study; a tracer study conducted in 2010 by VETA revealed that employment rates for VET graduates were high. It showed that VET leavers' average employment rate is close to 85 percent; their likelihood of finding permanent employment is slightly higher still, and in about 87 percent of cases, there was a direct connection between graduates' training and their job. The sectors with the highest employment rates were agriculture and food processing, construction and clothing and textiles, all above the 90% employment rate²⁸.

HE and TVET education in the selected priority areas

²³ idem

²⁴ https://unevoc.unesco.org/wtdb/worldtvetdatabase_tza_en.pdf

²⁵ <http://www.veta.go.tz/index.php/en/profile>

²⁶ <http://uis.unesco.org/country/TZ>

²⁷ <http://uis.unesco.org/country/TZ>

²⁸ https://poledakar.iiep.unesco.org/sites/default/files/fields/publication_files/executive_summary_tanzania.pdf

Below some examples are given of institutions in Tanzania that are active in the specific priority areas:

Food and Nutrition Security

- Edible horticulture

Sokoine University of Agriculture (SUA), the World Vegetable Centre, the Horticultural Tengeru Institute, the Selian Agricultural Research Institute, Tari Uyole, MATI Uyole and the Mikocheni Research Institute are among the institutes that support the horticultural sector.²⁹

The Centre for the development of the Potato Industry, in Mbeya has been set up, and is a priority of the Dutch and Tanzanian government. Dutch institutions and companies are amongst the world leaders and experts in the potato sector.

- Aquaculture

Tanzania has several institutions responsible for fisheries research, education and training. The Tanzania Fisheries Research Institute (TAFIRI) has overall responsibility for all the research on fisheries. The Faculty of Aquatic Sciences and Technology (FAST) at the University of Dar Es Salaam and the Sokoine University of Agriculture (SUA) both offer postgraduate programmes in Aqua Sciences including aquacultures and are responsible for carrying out research and training on fisheries.³⁰ The Mbegani Fisheries Development Centre and the Nyegezi Fisheries Institute operate under Fisheries Education Training Agency (FETA). They offer accredited technical training courses in fishing technology, aquaculture, fish processing and quality control, coastal resources management, and other subjects relevant to the development needs of the fishery sector.³¹

Energy

Energy related subjects are offered at several universities in Bachelor and master's programmes. The University of Dar es Salaam (UDSM) is the only institution that offers an MSc programme in Renewable Energy³². At technical and vocational level there are several organisations offering programmes which are or could be linked to the renewable energy.

Media

Courses in the field of Journalism are offered at both TET and HE level. Schools such as the Dar es Salaam School of Journalism offer courses that lead to basic technician certificates in for instance, News gathering and writing, HE programmes in Journalism and Mass Communication are offered at Bachelor and master's levels by the UDSM's School in Journalism and Mass Communication, and at bachelor's level by The Open University of Dar es Salaam. According to a sample (272) from 2017 of interviewed journalists in Tanzania, the profile of the journalist is predominantly male, with a bachelor's or equivalent (99,3%) specialisation in journalism and/or mass communication (77,2%)³³.

²⁹ <https://www.rvo.nl/sites/default/files/2017/05/Studie%20Tanzaniaanse%20Tuinbouwsector%202017.pdf>

³⁰ http://www.fao.org/fishery/countrysector/naso_tanzania/en

³¹ [The Tanzanian Fisheries Sector - Challenges and opportunities, 2016](#)

³² <http://www.euei->

pdf.org/sites/default/files/field_publication_file/RECP_Higher_Education_Country_Mapping_Tanzania_May2015.pdf

³³ https://epub.ub.uni-muenchen.de/31747/1/Country_Report_Tanzania.pdf

Labour market

A central aim of the Orange Knowledge Programme is to bridge the gap between the demand for professional workers and low skilled workers, by training people to create own-employment or start small businesses (job creation). Specific attention shall be given to create opportunities for women and marginalised groups. It is important to note that professional workers are trained in TVET as well as in universities. To meet these demands for skilled labour, the Orange Knowledge Programme focus on HE and TVET institutions active in the above-mentioned areas to accommodate the needs of the everchanging labour market. Improving the practical skills of workers can address the issues of employability as it allows for faster integration into the workplace. The following paragraphs zoom in on the identified education and training gaps by priority area.

Analysis of the education and training gap for the priority themes

The main education and training gaps and areas for improvement, that hinder development in context of the priority themes are briefly described below. These gaps were identified in consultation with stakeholders during the scoping mission that was carried out in May 2018.

FNS (horticulture, including potatoes and aquaculture)

- Lack of practical and technical education and skills on value chains, which will give rise to more experts that will help move the sectors forward;
- Lack of entrepreneurship and agribusiness skills;
- Lack of curricula and programmes on certifications and standards requirements;
- Policy vacuum related to curriculum and long-term sustainable plan from Ministry level;
- Skills and expertise to researchers specific on horticulture certification compliance;
- Absence of technical/practical knowledge and
- Lack of opportunities for women in agribusiness.

The stakeholder engagement also alluded to possible interventions to address the gaps. These include:

- Improving the horticulture sector (including potatoes) and aquaculture, through for example training interventions, working with stakeholders in collaboration with farmers;
- Professional trainings to 'plant health inspectors' to comply with horticulture international trade requirements as solution to EU audit report which showed inspectors lacks professional competence;
- Assist Tanzania institutes on ongoing activities to become more effective and efficient and improve individual knowledge base and understanding;
- Increase farmers awareness/knowledge in using improved vegetable seeds for better production/income;
- Increase knowledge and capacity of the farmers and (potatoes) association(s);
- Exchange programmes between Tanzania and Dutch to make horticulture flourish in Tanzania;
- Explore innovative practices from the Netherlands and adapt for Tanzania;
- Increase the competence in research & extension area;
- Capacity building on food security, standard issues, exporting requirements compliancy, harvesting and post-harvest issues;

- Develop innovative ways that may lead to (business) opportunities in labour markets.

In response to this the OKP will contribute to improve agricultural productivity, and combat malnutrition, by supporting farmers to increase production in the edible horticulture, particularly potatoes as well as to increase fish production through interventions in the aquaculture sector. High potential regions for these initiatives are the Southern Highlands (potatoes), Arusha (edible horticulture) and Bagamoyo (aquaculture).

The programme aims mainly at improving practical skills and the quality and employability of graduates and farmers, through the introduction of (new) technologies that will increase productivity; develop hands-on capacity (e.g. train the trainers and training of extension workers). A further aspect is to involve relevant companies and private sector stakeholders to engage and contribute to the interventions.

In terms of the potato sector the Orange Knowledge will also focus on interventions that will strengthen the potato industry and producer association(s); and promote (new) business opportunities in Tanzania to further contribute for the professionalization of the horticulture industry by building capacity and skills. Through quality agricultural extension work, Orange Knowledge will contribute to introduce innovative agrarian models, using new electronic technologies to turn agriculture attractive for a new generation of (young) farmers, and provide tailor made training and education (e.g. business, marketing and commercialization).

For aquaculture, Orange Knowledge will join and strengthen existing capacity building initiatives and new initiatives that are aligned with the programme goals and outcomes of Orange Knowledge and the thematic area of FNS.

The Netherlands green education sector can play an essential role in the strengthening of Tanzania's food and nutrition security. The broad support and cooperation of (small) farmers, and farmers' associations and councils, as well as the Ministry of Agriculture, training and research institutes and (secondary and higher level) technical and vocational institutes are crucial to promote the needed innovations.

Renewable energy

In the thematic area of *Energy*, the gaps, potential approaches to address the problem and the proposed way forward for the Orange Knowledge is described below after consultation with stakeholders and in collaboration with EKN.

Possible approaches to address the energy challenges and develop capacity in the field of renewable energy education and training is:

- To increase reliable access to renewable energy (diversity of forms), climate smart and innovative solutions;
- To support studies to update renewable energy potentials need to be provided to research and development institutions;
- To facilitate local capacity building on technology development to accelerate implementation of renewable energy projects;

- To introduce incentives to promote renewable energy projects and reduce environmental pollution;
- To Increase opportunities for electricity power generation from renewable sources;
- To Increase available of renewable energy potential to offset the dependency on fossil fuel power plants;
- To increase local capacity building for both, human and equipment, requires support from stakeholders and government.

The strategy of the Orange Knowledge is to build capacity in the energy sector is to increase access to clean electricity (e.g. solar home systems, cooking stoves) at low cost and taking the environment into consideration. The interventions of Orange Knowledge will focus on support technical and professional education and training to strengthen practical knowledge; improve the quality and employability of graduates (VETA and NACTE level). The scope and scale of such an intervention does not depend on a single programme or organisation and thus the inclusion of partners such as (governmental) training and research institutes; NGO's; TVET institutes and organisations will be a requisite in delivering the envisioned impact.

Media

Although a subsidiary theme, Orange Knowledge Tanzania will contribute to the freedom of the press in Tanzania, engaging and addressing knowledge gaps in the journalism sector. The key interventions will focus the training and mentoring a new generation of journalists and media leaders. In addition to basic journalism skills, particularly for a new generation of (upcoming) journalists (and radio makers), sporadic support to existing in mid-career journalists and groups (e.g. incubators) can be considered, e.g. though tailor made trainings.

Gender equality and inclusion

Throughout the Orange Knowledge specific attention shall be given to the creation of opportunities for the development and the rights of women and girls. The Orange Knowledge will promote gender equity and inclusion, particularly among marginalised and excluded groups. Issues pertaining to inclusion of marginalised or discriminated groups and equality of opportunities for women will specifically be addressed through Orange Knowledge interventions and incorporated in the outcomes.

The Orange Knowledge foresees annual reviews of the priorities and focus, depending on the context in the Netherlands and in Tanzania. The results will be used to steer the programme towards achieving the envisaged Orange Knowledge outcomes in Tanzania.

V. Envisaged Theory of Change and outcomes

Based on the analysis of needs and the consultations with the stakeholders, a Theory of Change (ToC) for Tanzania for Food and Nutrition Security has been formulated. This ToC is based on the general [OKP ToC](#) and describes the way the Orange Knowledge Programme will contribute to the Dutch development cooperation policy as described [here](#). The Orange

Knowledge M&E framework is intended to make clear that all interventions within Orange Knowledge Programme should be geared to contribute coherently and measurably to common long-term impacts, as defined by the Dutch Ministry of Foreign Affairs³⁴.

The Orange Knowledge Programme in Tanzania aims at the following outcomes and impacts.

The following **long-term impact** will be aimed at:

1. Reduce malnutrition;
2. Promote agricultural growth;
3. Ecologically sustainable food systems.

The following **medium-term impact** will contribute to this:

- (I) Education system (TVET/HE) is of good quality, relevant and accessible (SDG 4);
- (II) Partnerships between persons and organisations are inclusive and sustainable (SDG 17);
- (III) Organisations key to (sectoral) inclusive development of partner countries are strengthened by inflow of enhanced workforce.

This will be achieved by the following **outcomes**:

- A. TVET/HE organisations (in the selected partner countries and in NL) perform better their core tasks, firmly embedded in their environment (in line with country /regional specific labour market needs & aiming at inclusiveness);
- B. Enhanced knowledge and skills of individuals and organisations in line with country / regional specific labour market needs & aiming at inclusiveness (in partner countries and in the NL).

Energy outcomes: The contribution of the Orange Knowledge programme for Energy, has still to be defined, in alignment with the priorities of the Embassy and SDG7 – Ensure access to affordable, reliable and sustainable energy (consequently the ToC Energy will be developed later).

Media - To support the bilateral priorities of the EKN in general and the priority themes in Orange Knowledge in particular, the programme will support (small) initiatives in the field of Media, as a subsidiary intervention.

Please consult the annexes for further information: Annex 4 (*Theory of Change for Tanzania*, and Annex 5 (M&E matrix expected outcomes and indicators).

³⁴ Please refer to (<https://www.dutchdevelopmentresults.nl/theme/>):

VI. Articulation of demand and supply

The Orange Knowledge offers different kinds of capacity building interventions (see Annex 1):

1. Institutional Collaboration projects between TVET and higher education institutions locally and in the Netherlands;
2. Group training (tailor-made training and refresher courses);
3. Individual scholarships for mid-career professionals;
4. Alumni events

Nuffic will publish calls for institutional cooperation projects and group training. Based on those calls key organisations in Tanzania and in the Netherlands are invited to submit proposals that are aligned with the CPI and contribute to the ToC outcomes and impact in Annex 4 and 5. Please refer to the [policy framework](#) that underlies the Orange Knowledge and an explanation of the various modalities.

For scholarships, please consult the [OKP scholarship website](#). For updates on calls and other Orange Knowledge information, please register via the [OKP updates website](#).

Preliminary planning of implementation:

Step	Date
CPI published on Nuffic website	Q4 2018
First call published	Q1 2019
Deadline call	6-8 weeks after publication
Selection partners	4-6 weeks after publication
Start of project in case joint proposals	Q2

VII. Indicative budget for the programme

As a general indication, the budget over the term of the programme for Tanzania is as follows:

Period of implementation 2018 – 2022:	FNS	Energy	Media	Total
Institutional projects *)	1,000,000			1,000,000
TMT+ *)	150,000	725,000	300,000	1,175,000
TMT and refresher courses **)	575,000			575,000
Scholarships **)	2,250,000			2,250,000
Alumni events **)				PM
Total	3,975,000	725,000	300,000	5,000,000

*) For institutional projects and TMT+ Nuffic will announce specific calls per country/region.

***) The amounts indicated for these intervention types include the budgets that have been allocated in general OKP calls held in 2018 and may be subject to further change. For TMT,

refresher courses, scholarships and alumni events Nuffic will announce general calls for all OKP countries with a target percentage per country category. The budgets for TMT, refresher courses, scholarships and alumni are a target budget, because they are paid from a shared target budget per country category and not per country.

Note 1: The funds allocated to the programme as a whole and to each partner country's programme may be subject to change, and this may affect the above indicative budget. The budget may also change in line with political decisions taken by the authorities. In consequence, Nuffic reserves the right to adjust this indicative budget and undertakes that, in this event, it will notify the relevant parties immediately.

Note 2: Although the theme Media is not considered a sector it is included here in the indicative budget division, to be considered.

Orange Knowledge promotes co-funding and matching of funds. Tanzania is classified by the OECD as a Least Developed Country (LDC)^[1]. Co-funding is not a requirement for the implementation of the Orange Knowledge in Tanzania but proponents applying for Tailor Made Trainings and Institutional Partnership projects are encouraged to include co-financing in their proposals. This will contribute to reciprocity and ownership of results established within the collaboration between all partners. Integration of co-financing in the breakdown of budgets will be one of the assessment criteria in the selection of proposals.

VIII. Harmonisation and coordination with (inter)national projects and programmes

The strategy adopted to ensure that Orange Knowledge activities are being identified and implemented in coordination with programmes conducted by the EKN, national government, NGOs and technical and financial partners (TFPs).

In consultation with the EKN, Nuffic will organise monitoring missions during which meetings will be arranged with the relevant authorities and other stakeholders (TFPs, NGOs, the private sector, etc.), for the purpose of discussing any contextual changes that could impact the implementation of the Orange Knowledge Programme.

Underlining the importance of the education relation between Africa and the Netherlands, Nuffic established a Netherlands Education Support Office (Neso) in Pretoria in 2015. Neso South Africa is part of a worldwide network of Netherlands Education Support Offices that operates in locations of strategic importance for Dutch education. Neso South Africa is the first Nuffic office on the African continent and it has a regional role within the Orange Knowledge Programme. The main activities of Neso are: 1) Capacity development in education, 2) Study in Holland promotion and student advising for South African students, 3) Providing information on study programmes and internship places for Dutch students in South

^[1] Orange Knowledge countries are classified in accordance with the list of Development Assistance Committee ([DAC list](#)) of the OECD.

Africa, 4) Market information and analysis, and 5) Engaging with the Holland Alumni network. Since partnership development is a crucial element in the Orange Knowledge Programme, NESO will play a leading role in the development and implementation of the Orange Knowledge in South Africa, Mozambique, and Tanzania.

Alumni

The programme creates a connection between knowledge professionals in the Southern region and the Netherlands. The new programme therefore places greater emphasis on alumni policy in all instruments, through facilitating alumni networks, providing advice and assistance for local alumni activities, and forming a connecting link between Dutch organisations and the embassy and organisations in Tanzania.

IX. Monitoring programme progress

The organisations taking part in the Orange Knowledge Programme are asked to report on the progress of their projects and scholarships using a Results Oriented Monitoring tool that will be provided by Nuffic. They will also record their successes and setbacks so that lessons can be learned from them as part of an organisational learning approach.

Nuffic will monitor and evaluate the Orange Knowledge Programme at programme level and will regularly discuss progress with EKN and other stakeholders, especially regarding the progress achieved related to the outcomes indicated above and the successes and failures, together with suggestions for remedying setbacks and, if possible, redefining strategies and adjusting forecasts in line with the targeted outcomes.

If necessary, for example in the event of major changes, Nuffic will discuss proposed adjustments to the CPI with the EKN and other stakeholders which may lead to an adjusted CPI.

Annexes

- Annex 1 Brief presentation of the Orange Knowledge programme
- Annex 2 The description of the identification process
- Annex 3 NFP and NICHE project lists and information
- Annex 4 Contribution of the Orange Knowledge Programme to the FNS results
- Annex 5 Matrix of Orange Knowledge programme outcomes and impact indicators

Annex 1. Brief presentation of the Orange Knowledge programme

The Orange Knowledge Programme (OKP) is the successor to the Netherlands Fellowship Programmes (NFP) and the Netherlands Initiative for Capacity Development in Higher Education (NICHE). The Orange Knowledge Programme merges the two preceding programmes into a single integrated approach, with the addition of new elements including increased involvement of alumni, attention to cooperation between knowledge organisations, and communication focusing on the presentation of results.

The main objective is to contribute to sustainable and inclusive development through the strengthening of organisations key to sectoral development in OKP partner countries. This will be achieved by developing the capacity, knowledge and quality of individuals as well as organisations both in the field of Technical and Vocational Education and Training and Higher Education (TVET/HE) and in other fields related to the priority themes in the OKP partner countries.

In order to reach this vision, the programme will focus on the following medium- and long-term outcomes:

- education system (TVET/HE) is of good quality, relevant and accessible (SDG 4);
- organisations key to (sectoral) development of partner countries are strengthened by inflow of enhanced workforce;
- partnerships between persons and organisations are sustainable (SDG 17).

Reference is being made to the [Theory of Change for the OKP programme](#).

The programme will be implemented through three types of interventions:

- individual scholarships,
- group trainings and
- institutional collaboration projects.

In Ghana the three instruments will be offered in the form of an integrated approach. For further information see <https://www.nuffic.nl/en/files/documents/overview-of-okp-modalities.pdf>

The following basic principles govern the programme:

- *Innovation:*
Is key to the development and implementation of the programme and is incorporated in all aspects of the programme.
- *Reciprocity and equality:*
More attention should be devoted to reciprocity and ownership should shift to the Technical and Vocational Education and Training and Higher Education (TVET/HE) organisations in partner countries. This means that the Southern partners play an active role in the design of collaboration projects, both as submitters and as reporters of progress. The new programme will also provide more opportunities for the joint financing of scholarships, training programmes or projects with the Southern region partners, reinforcing ownership and involvement.
- *Flexibility:*

This concerns flexibility in implementing the programmes as far as themes, countries, duration and financing methods are concerned, depending on the demand and the context. Flexibility is also required in any modifications that need to be made in response to changes in the context within which the programme is implemented.

- *Demand-driven approach:*
Is key with regard to ownership, sustainability and the efficient use of resources. Important components include collaboration between Southern and Northern institutions, a comprehensive analysis based on available knowledge and reports, and the use of alumni.
- *Complementarity:*
The Knowledge Development Programme must be closely aligned with other centralised and decentralised programmes.
- *Co-financing:*
Where worthwhile and possible, the programme must stimulate co-financing.
- *Inclusion:*
The programme provides opportunities for marginalised and discriminated groups and integrates a gender perspective.
- *Focus on results:*
The programme focuses on presenting results stemming from knowledge development at individual, institutional and group levels.
- *Alumni:*
The programme creates a connection between knowledge professionals in the Southern region and the Netherlands. The new programme therefore places greater emphasis on alumni policy in all instruments.

Annex 2 Description of the identification process

From 4-22 May 2018, a scoping mission from Nuffic held meetings in Arusha, Moshi, Njombe, Iringa and Dar es Salam, with several stakeholders (government representatives, education institutes, Tanzanian and Dutch (agricultural) corporate sector; NGO's and Dutch institutions established in the country). The mission also participated in the SAGCOT Potatoes stakeholders meeting and Tanzania Energy Platform (TEP) meeting. The regional selection was based on the information provided by the embassy (Orange Knowledge Compact Scan) and in accordance with the priorities of the Embassy.

The mission was conducted by Rosa Borges, Johanna van Nieuwenhuizen and Mervin Bakker. The programme for the full scan mission was discussed and agreed upon with senior management and specialists from the Embassy in Dar es Salaam, which (partially) accompanied the Nuffic delegation during visits and meetings.

Within the education sector, vocational and technical education are seen as challenging sectors, mainly regarding the practical, hands on skills. Youth unemployment, mainly in rural areas, came out as one of the biggest challenges in Tanzania, partly due to the lack of quality education and training, and business and entrepreneurial skills.

Summarised, the main conclusions from the consultation groups are to promote equality for women and marginalised groups, and the creation of job opportunities for social and economic development. And promote awareness and independent quality media. Regarding Food and Nutrition Security, focus on capacity building of (TVET) training and research institutions to strengthen practical training (e.g. training of trainers, extension workers and farmers). Regarding Energy, make renewable energy (electricity) accessible at low cost for a majority of the population, particularly in remote areas.

Recommended interventions:

- improve the quality of teachers (didactical, practical and linking);
- improve the managerial and linking capacity of management of TVETs;
- improve the employability (of youth, in particular) and create jobs;
- Introduce (new) technologies to increase productivity and increase hands-on capacity;
- implement linkages between TVET, farmers / private sector (internships, employment, guest lecture, modelling), input suppliers, key organisations (private, public) and universities (technology and knowledge transfer);
- improve the quality and employability of graduates;
- Involve alumni in setting up and maintaining linkages.

Taking the collected information into account, the scoping mission, in agreement with the Embassy, selected as geographic focus Arusha and the Southern Highlands.

As policy priorities were selected:

1. Food and Nutrition Security, with focus on edible horticulture incl. potatoes and aquaculture; and

2. Energy, with focus on practical (tailor made) training in renewable energy.

Due to its importance for the development and consolidation of democratic information in the country, and the interest of independent journalistic, Media is chosen as a small intervention theme.

Annex 3 NFP and NICHE project lists and information

1) Overview of NFP applications and awards 2015-2017

2015 - NFP Individual fellowships (November 2014, April and August 2015)								
Programme	Gender	Application	Awarded	Policy themes				
				SRL	Water	SRH	FNS	Other
NFP – MA	F	81	15	1	2	1	14	
	M	138	16	2	2	0	10	
NFP - PhD	F	3	0	0	0	0	0	
	M	3	0	0	0	0	0	
NFP – SC	F	294	31	0	2	3	31	
	M	566	37	0	1	0	34	
Total		1085	99	3	7	4	89	0

2016 - NFP Individual fellowships (November 2015, April, July and August 2016 deadlines)								
Programme	Gender	Application	Awarded	Policy themes				
				SRL	Water	SRHR	FNS	Other
NFP - MA	F	61	15	2	2	2	10	
	M	164	16	3	2	1	12	
NFP - PhD	F	1	0	0	0	0	0	
	M	3	0	0	0	0	0	
NFP – SC	F	196	31	0	4	1	30	
	M	425	24	0	6	0	21	
Total		850	86	5	14	4	73	0

2017 - NFP Individual fellowships (November 2016 and April 2017 deadlines)								
Programme	Gender	Applications	Awarded	Policy theme				
				SRL	Water	SRHR	FNS	Other
NFP - MA	F	66	25	3	10	1	14	
	M	131	23	1	4	0	19	
NFP - PhD	F	0	0	0	0	0	0	
	M	8	2	0	1	0	1	
NFP – SC	F	179	34	0	3	5	27	
	M	439	41	1	4	0	36	
Total		823	125	5	22	6	97	0

Some fellowships fall under more than one theme, or no theme at all (column Other). This may have influenced the totals depicted in the tables above.

Year	Requesting organisation	Dutch institution	Subject	Modality
2014	Dar es Salaam Institute of Technology (DIT)	Hanze Hogeschool Groningen	Development of educational programs at various levels in Oil and Gas Engineering	TMT
2014	Tanzania Chamber of Commerce, Industry and Agriculture	MDF	Effective SME Support North Western Tanzania	TMT
2015	Dar es Salaam Institute of Technology (DIT)	Hanze Hogeschool Groningen	Courses on Oil and Gas Engineering	TMT
2015	Tanzania Horticultural Association	Delphy BV	TAHA Training of Trainers in Tuta Absoluta Control	TMT
2015	University of Dar es Salaam - Centre of Climate Change Studies	WUR/CDI	Training on Food Security and Climate Nexus	TMT
2016	University of Iringa	CIS-VU	Empowering gender-based food security entrepreneurship: An Internet-driven course module	TMT
2016	University of Dar es Salaam, Innovation and Entrepreneurship Centre	TU Delft	Capacity Training in Entrepreneurial Rural Innovation and Growth –	TMT
2016	Mzumbe University (MU)	CIS-VU	Introducing Blended Learning and Online Collaborative Research to innovate education and research on gender-based food security entrepreneurship	TMT
2017	Southern Agricultural Growth Corridor of Tanzania, SAGCOT Centre Ltd	Delphy BV	Creating local capacity for a sustainable potato production chain	TMT
2017	University of Dar es Salaam Business School	Hanze Hogeschool Groningen	Development of courses on sustainable energy & socio-economic entrepreneurship (energy and society)	TMT
2015	Multimedia Journalism: Changing Perspectives on Gender	RNTC	Tanzania Broadcasting Corporation	Refresher course
2015	Entrepreneurship and gender in the dairy value chain, Tanzania	DTC	Tanga Fresh Limited	Refresher course
2017	The role of the Local Government Planner ensuring Local Economic Development towards Food Security	ISS	Institute of Rural Development Planning (IRDP)	Refresher course

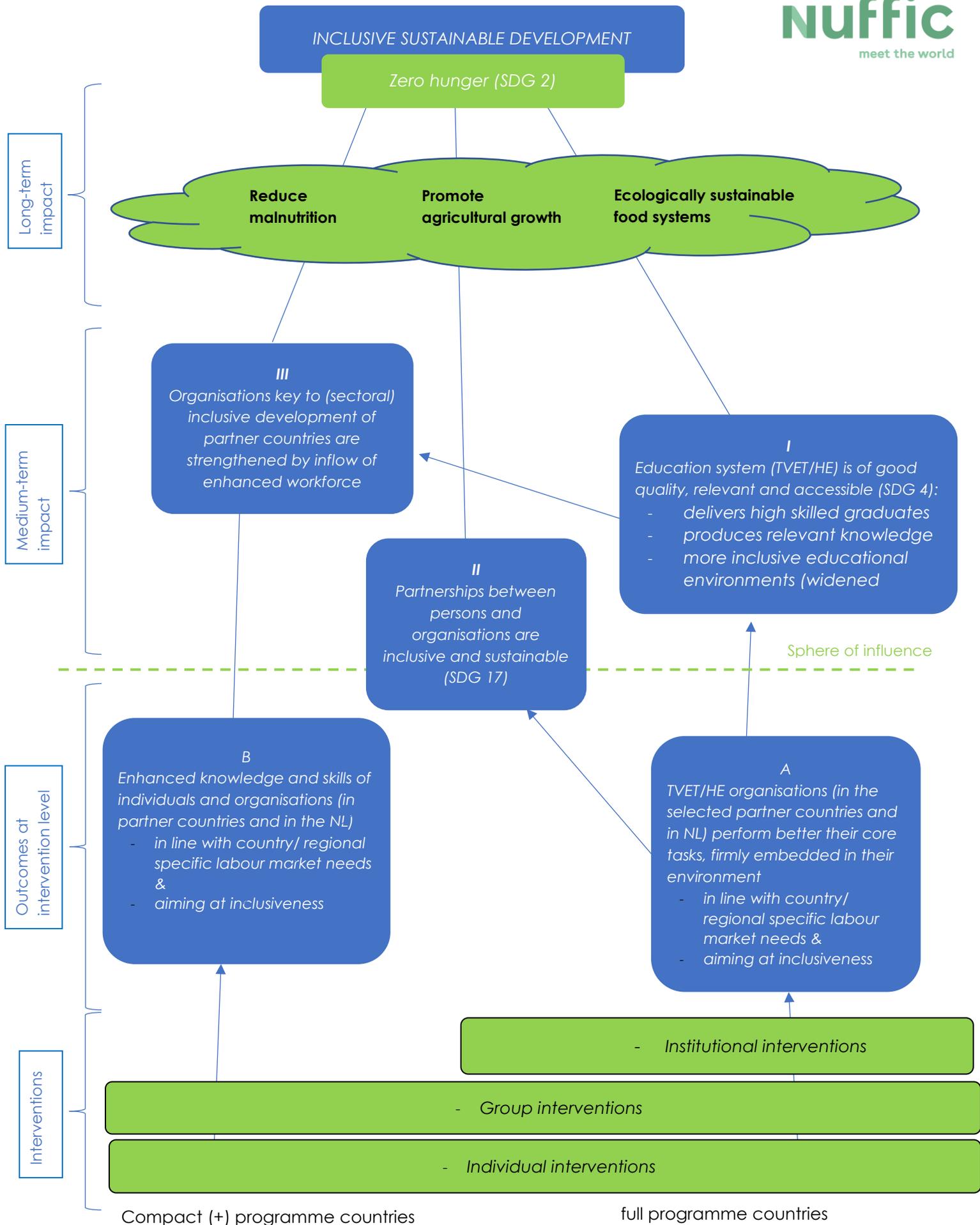
2) Overview of NFP group trainings granted 2014-2017

Year	Sector	Requesting organisation	Dutch institution	Subject Modality
2014	Other	Dar es Salaam Institute of Technology (DIT)	Hanze Hogeschool Groningen	Development of educational programs at various levels in Oil and Gas Engineering
2015	Private sector development/ entrepreneurship	Dar es Salaam Institute of Technology (DIT)	Hanze Hogeschool Groningen	Courses on Oil and Gas Engineering
2014	Other	Tanzania Chamber of Commerce, Industry and Agriculture	MDF Training & Consultancy	Effective SME Support North Western Tanzania
2016	Food security	University of Iringa	CIS-VU	Empowering gender-based food security entrepreneurship: An Internet-driven course module
2016	Food security	Mzumbe University (MU)	CIS-VU	Introducing Blended Learning and Online Collaborative Research to innovate education and research on gender-based food security entrepreneurship
2017	Private sector development/ entrepreneurship	University of Dar es Salaam Business School	Hanze Hogeschool Groningen	Development of courses on sustainable energy & socio-economic entrepreneurship (energy and society)
2015	Food security	Tanzania Horticultural Association	Delphy BV	TAHA Training of Trainers in Tuta Absoluta Control
2016	Food security	University of Dar es Salaam, Innovation and Entrepreneurship Centre	Technische Universiteit Delft	Capacity Training in Entrepreneurial Rural Innovation and Growth –
2015	Food security	University of Dar es Salaam - Centre of Climate Change Studies	Wageningen UR Centre for Development Innovation	Training on Food Security and Climate Nexus
2017	Food security	Southern Agricultural Growth Corridor of Tanzania, SAGCOT Centre Ltd	Delphy BV	Creating local capacity for a sustainable potato production chain

3) Overview of NICHE I projects (2010-2016*)

Programme	Requesting organisation	Dutch institution	Project title
NICHE I	National Council for Technical Education	Maastricht School of Management	Improving the Labour Market Responsiveness of Technical Education in Tanzania
NICHE I	Tanzania Commission for Universities	VU Amsterdam	Harmonization and Alignment of Business Studies in Higher Education in Tanzania
NICHE I	Tanzania Institute of Education	Twente University	Strengthening TIE capacity and its training programmes for Primary and Secondary School Teachers for enhanced Private Sector Development in Tanzania
NICHE I	Vocational Education and Training Authority	Enclude B.V. / ETC Netherlands	Entrepreneurship development in vocational training and education
NICHE I	Institute of Finance Management Graduate School	University of Groningen	Strengthening Financial Decentralisation and Local Financial Governance in Tanzania
NICHE I	Institute of Rural Development Planning	MDF Training & Consultancy	Strengthening Local Government Authorities in Support of Decentralization by Devolution (D by D) in order to improve service delivery at local level
NICHE I	Mzumbe University	University of Groningen	Capacity Building for the Enhancement of Decentralisation by Devolution in Local Government Authorities in Tanzania
NICHE I	Christian Social Services Commission	Enclude B.V. / ETC Netherlands	Strengthening privately run pre-service health training institutions for enhanced enrolment and quality of health workers
NICHE I	Ifakara Health Institute	Royal Tropical Institute	Expanding market-oriented and gender-equitable health research training capacity for improved access to and quality of health services

* In addition, Nuffic is administrating the Tanzania Dutch Energy Capacity Building (TDECB) project on behalf of the Ministry of Foreign Affairs (2016-2019) , between the Requesting organisation University of Dar es Salam (together with Dar es Salaam Institute of Technology; Karume Institute of Science and Technology) and the ITC/University of Twente (together with the Delft University of Technology; the Hanze University of Applied Sciences Groningen and the Utrecht University).



Annex 5. Matrix outcomes for the Orange Knowledge Programme Tanzania

- This matrix is intended to make clear that all FNS interventions within Orange Knowledge should be geared to contribute coherently and measurably to common long-term impacts, as defined by the Ministry of Foreign Affairs of the Netherlands (<https://www.dutchdevelopmentresults.nl/theme/food>);
- It is important to be aware that this matrix is subject to adjustments, in line with the Dutch development policy;
- When designing an FNS intervention, projects must **contribute at least to one long term impact**;
- The **indicators in bold** are compulsory;
- Nuffic is currently developing an online instrument based on this matrix intended to facilitate the monitoring and evaluation of Orange Knowledge projects;
- When calls for proposals will be published per country, this matrix can be made more specific by focussing on a specific long-term impact or choosing more compulsory indicators, depending on the country focus.

Objective:			
Contribute to End hunger, achieve food security and improved nutrition and promote sustainable agriculture (SDG 2) through the strengthening of capacity, knowledge and quality of individuals as well as organisations in the fields of Technical and Vocational Education and Training and Higher Education (TVET/HE) in Orange Knowledge partner countries.			
Long-term impact at programme level (link with FNS ToC)			
Long term impact	Long term impact indicator	Medium-term impact indicator	Outcome indicator (project level)
1) Reduce malnutrition	Number of people lifted out of undernourishment	<ul style="list-style-type: none"> - Number of undernourished people with improved food intake (indirectly**) - Number of undernourished people with improved access to healthy/diverse food (indirectly**) 	<ul style="list-style-type: none"> - Number of undernourished people with improved food intake (directly*) - Number of undernourished people with improved access to healthy/diverse food (directly*)

		- Number of undernourished people whose nutritional situation became more resilient to shocks (indirectly**)	- Number of undernourished people whose nutritional situation became more resilient to shocks (directly*)
2) Promote agricultural growth	Number of family farms (sub-sector, male/female, age: % < 35) that doubled their productivity and/or income	<ul style="list-style-type: none"> - Number of family farms (sub-sector, male/female, age: % < 35) with increased productivity and/or income (indirectly**) - Number of family farms (sub-sector, male/female, age: % < 35) with improved access to input and/or output markets (indirectly**) - Number of family farms (sub-sector, male/female, age: % < 35) whose farming enterprise became more resilient to shocks (indirectly**) 	<ul style="list-style-type: none"> - Number of family farms (sub-sector, male/female, age: % < 35) with increased productivity and/or income (directly*) - Number of family farms (sub-sector, male/female, age: % < 35) with improved access to input and/or output markets (directly*) - Number of family farms (sub-sector, male/female, age: % < 35) whose farming enterprise became more resilient to shocks (directly*)
3) Create ecologically sustainable food systems	Number of hectares of farmland converted to sustainable use	<ul style="list-style-type: none"> - Number of hectares of farmland used eco-friendlier (indirectly**) - Number of hectares of farmland that became part of improved watershed/landscape management (indirectly**) - Number of hectares of farmland that agro-ecologically became more resilient to shocks (indirectly**) 	<ul style="list-style-type: none"> - Number of hectares of farmland used eco-friendlier (directly*) - Number of hectares of farmland that became part of improved watershed/landscape management (directly*) - Number of hectares of farmland that agro-ecologically became more resilient to shocks (directly*)

* Direct: target group who have been reached during project period by the new or revised outreach programme or have followed the new or revised curricula/short courses.

** Indirect: target group reached beyond the project period by graduates of the new or revised curricula/short courses.

Medium-term impact	Indicator
<p>I. Education system (TVET/HE) is of good quality, relevant and accessible</p> <ul style="list-style-type: none"> - delivers high skilled graduates - produces relevant knowledge - more inclusive educational environments (widened participation) 	<p><i>Education</i></p> <ul style="list-style-type: none"> - number of knowledge institutions that perform better - number of graduates (self) employed (male/female) - number of jobs supported/created - number of revised/newly developed curricula in NL and/or Southern partner organisation that integrate research results - number of knowledge institutions with an increased participation of students from minorities - education system represents needs of labour market/gender - graduate satisfaction (employed/non-employed/self-employed) (male/female) - employers' satisfaction over the graduates' skills and knowledge <p><i>Research</i></p> <ul style="list-style-type: none"> - number of research results/contributions translated into policy advice at national, regional or local level <p><i>Society</i></p> <ul style="list-style-type: none"> - number of beneficiaries reached with knowledge, skills and techniques (indirectly**) - number of services to community (indirectly**) - number of businesses co-investing in activities - number of improvements in (inter)national policies/laws (indirectly**)
<p>II. Partnerships between persons and organisations are inclusive and sustainable</p>	<ul style="list-style-type: none"> - number of MoUs or other types of formal collaboration agreements exist 1, 3, 5 years after end of project - number of joint (research) proposals submitted and financed - number of joint publications - number of joint/double degrees offered - number of academic staff of partner country still cooperates with academic staff of other education organisation(s) - number of scholarship holders that became members of the alumni association of their host university (of applied sciences) (male/female) (NL/other) - number of Dutch training education organisations that have improved their training methods - number of staff of Dutch training education organisations that have gained new insights and ways of working
<p>III. Organisations key to (sectoral) inclusive</p>	<p><i>Individual</i></p> <ul style="list-style-type: none"> - % of alumni who state that they have applied the knowledge and skills gained from the interventions in their workplace

<p>development of partner countries are strengthened by inflow of enhanced workforce</p>	<ul style="list-style-type: none"> - % of alumni promoted to more strategic positions within their own organisation or other organisation - narratives from alumni on policy and procedural changes, inclusive development, and innovations as a result of interventions <p><i>Organisational</i></p> <ul style="list-style-type: none"> - % employer satisfaction on suitability of the training for the organisation - % of alumni still employed by the organisation that nominated them - % employers that states that their department/organisation has become more effective because of Orange Knowledge intervention - % of alumni who have applied the acquired knowledge and skills within their working environment - testimonials from employers on organisational changes (implemented procedure/techniques, work ethic etc. due to trained staff (critical mass))
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* Direct: target group who have been reached during project period by the new or revised outreach programme or have followed the new or revised curricula/short courses.

** Indirect: target group reached beyond the project period by graduates of the new or revised curricula/short courses.

<p>Outcomes at project level</p>	
<p>Outcome</p>	<p>Indicator</p>
<p>A. TVET/HE organisations (in the selected partner countries and in NL) perform better their core tasks, firmly embedded in their environment, in line with country/regional specific labour</p>	<p>Education</p> <ul style="list-style-type: none"> - number of knowledge institutions supported directly - increased participation of students from minorities - number of teachers/ trainers have gained qualitative and relevant knowledge and skills to develop and offer the revised/developed study programmes (# trainers trained, male/female/minorities/PhD/MSc/short training) - number of graduates delivered (male/female/minorities degree/non-degree) (directly*) - number of curricula for degree, non-degree and short courses revised/newly developed - number of students enrolled in revised/newly developed study programmes (male/female) - student satisfaction (male/female) <p>Research</p> <ul style="list-style-type: none"> - number of research strategies/agenda/methodologies revised/strengthened and implemented - number of relevant publications (level, gender, inclusion)

<p>market needs & aiming at inclusiveness</p>	<ul style="list-style-type: none"> - number of relevant innovations <p>Society</p> <ul style="list-style-type: none"> - number of beneficiaries reached with knowledge, skills and techniques (directly*) - number of MoUs or other types of collaboration agreements signed (education, private, public, surrounding community) (in NL, own country, other country) - number of students performing an internship or practical work (male/female) - number of SMEs supported - number of improvements in (inter)national policies/laws (directly*)
	<p>Organisational</p> <ul style="list-style-type: none"> - improved gender equality and gender awareness in the knowledge institution - number of organisations revised/developed and implemented a strategic plan - number of organisations revised/developed institutional mechanism for quality assurance - number of organisations with a revised/developed system to register and monitor its alumni - number of organisations have developed and implemented a system to regularly survey the satisfaction of students, short courses participants, graduates and/or employers - number of laboratories established/strengthened - number of libraries/resource centres established/strengthened - % of men and women in management of faculty/department - % of men and women of teaching staff of faculty/department - number of organisations with improved policies or procedures to encourage access to education of minorities - diversity in participation of project activities for management and teaching staff (i.e. balance junior/senior staff, women/men, minorities) - number of organisations with policies and procedures to ensure an environment which is gender sensitive - number of organisations with policies and procedures to ensure an environment which is conducive for minorities
<p>B. Enhanced knowledge and skills of individuals and organisations (in partner countries and in the NL) in line with</p>	<p><i>Individual</i></p> <ul style="list-style-type: none"> - number of scholarship holders that have successfully completed course/training (level/male/female/minorities) - % scholarship holder's/alumni satisfaction - % of scholarship holders/alumni employed post-study within region and same employer (men/women) - % of scholarships awarded to women - % of scholarships awarded to minorities - % of quota for scholarships for women - % of quota for scholarships for minorities

<p>country/regional specific labour market needs & aiming at inclusiveness</p>	<ul style="list-style-type: none"> - number of stimulating measures/extra facilities aimed at preparation, supervision and aftercare of female candidates - number of stimulating measures/extra facilities aimed at preparation, supervision and aftercare of minorities - % alumni who state that they have acquired new knowledge and skills; e.g. problem solving, effective communication - % alumni who are promoted to a more strategic position post-study - changes in personal, academic and professional attitudes and attributes through training and education programmes - improved gender equality and gender awareness in the workplace <p><i>Organisational</i></p> <ul style="list-style-type: none"> - number of organisations strengthened by individual and/or group training (private/public) - % of alumni who have applied the acquired knowledge and skills within their working environment - employer's satisfaction on the added value of return scholars to the initial working environment - number of organisations with institutional mechanism for quality assurance - number of organisations developed and implemented a gender strategy
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* Direct: target group who have been reached during project period by the new or revised outreach programme or have followed the new or revised curricula/short courses.

** Indirect: target group recommended beyond the project period by graduates of the new or revised curricula/course