

A PROGRESS REPORT ON THE IMPLEMENTATION OF THE TRAQUE PROGRAMME AT THE CSIR – FOOD RESEARCH INSTITUTE



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EXECUTIVE SUMMARY

In 2011, the Government of Ghana through the Ministry of Finance and Economic Planning signed four (4) new financing agreements with the European Union, one of which was the TRAQUE programme. The TRAQUE programme was aimed at offering continued support to the Ministry of Trade and Industry in private sector development, trade facilitation and capacity building with special attention to capacity issues, industrial strategy, implementation support as well as standards, national quality institutions and trade; private sector export support organisations.

Over the project implementation period, the TRAQUE Programme provided technical assistance aimed at strengthening areas such as standards, metrology, accreditation and conformity. It also reviewed Ghana's Quality Infrastructure to enable Ghana attain a national quality infrastructure which functions efficiently in-line with international best practice.

The CSIR Food Research Institute was a beneficiary institute of the TRAQUE Programme. Through the TRAQUE Programme the Institute acquired state of the art equipments, to enable the Chemistry and Microbiology testing laboratories as well as the Mushroom Unit provide better services to the business sector, and to government ministries, departments, and agencies in regulatory businesses.

Consumables received were pieces of glassware used in laboratories, chemical regents used in testing, and equipment such as ovens, autoclaves, incubators, fridges and freezers, storage cabinets, balances and microscopes, and a host of simple instruments, like grinders, mixers, and centrifuges, among others. Equipment for conducting specialised tests, like High Performance Liquid Chromatography (HPLC) with Fluorescence (FLD) and Evaporative Light Scattering (ELSD) Detectors, Atomic Absorption Spectrometer with graphite furnace (AAS), Gas Chromatography-Triple Quadruple Mass Spectrometer (GC-MS), inductively coupled plasma mass spectrometer were also provided under the TRAQUE programme.

The implementation of the Programme at the Food Research Institute was fraught with some challenges that have been catalogued in this report. However, on the 15th of October, 2015, a few staff of TRAQUE, the Ministries of Trade and Industry and Finance and staff of FRI attended a brief handing over ceremony at the Microbiology Laboratory to mark the completion of works pending the provision of a 2000KV generator to the Microbiology laboratory and the installation of some equipment.

The CSIR - Food Research Institute is very grateful to the TRAQUE programme for the support to the Institute by way of refurbishment of the Microbiology laboratory to a standard microbiology layout, for new equipment in the Chemistry, Microbiology and Mushroom Unit that will greatly improve our testing, accuracy, precision and efficiency in our operations.

Introduction

At the start of the year 2011, the Government of Ghana through the Ministry of Finance and Economic Planning signed four new financing agreements with the European Union, one of which was the Trade Related Assistance and Quality Enabling (TRAQUE) programme.

The TRAQUE programme is aimed at offering continued support to the Ministry of Trade and Industry in private sector development, trade facilitation and capacity building with special attention to capacity issues, industrial strategy, implementation support as well as standards, national quality institutions and trade; as well as private sector export support organisations.

The TRAQUE Programme also provided technical assistance aimed at strengthening areas such as standards, metrology, accreditation and conformity. It also reviewed Ghana's Quality Infrastructure to enable Ghana attain a national quality infrastructure which functions efficiently in-line with international best practice.

CSIR Food Research Institute and TRAQUE

The CSIR Food Research Institute had the opportunity of benefitting from the TRAQUE Programme. The benefits included supply of new state of the art equipment, to enable the Chemistry and Microbiology testing laboratories as well as the Mushroom Unit provide better services to the business sector, and to government ministries, departments, and agencies in regulatory businesses.

Consumables received were pieces of glassware used in laboratories, chemical regents used in testing, ovens, autoclaves, incubators, fridges and freezers, storage cabinets, balances and microscopes, and a host of simple instruments, like grinders, mixers, and centrifuges, among others.

Equipment for conducting specialised tests, like high performance liquid chromatographs, atomic absorption spectrometers, gas chromatography mass spectrometer (GC-MS, inductively coupled plasma mass spectrometer, computers, printers and UPS were also provided under the TRAQUE programme. (Included in the appendix of this report is a comprehensive list of equipment received). Overall, majority of the testing equipment will contribute to testing for a higher level of food safety.

Evacuation of Microbiology Laboratory

In June 2013, the Microbiology laboratory had to be quickly evacuated upon receipt of a letter from the Ministry of Trade and the TRAQUE Programme that if they came on site for works and the laboratory was not evacuated, they would leave / abandon the renovation.

Therefore, the microbiology laboratory had to be moved to a temporary location at a huge cost (operational down time, packing and moving costs, and refurbishing / reconstructing the new location to a state fit to be used as a laboratory, recalibration cost of moved equipment to mention a few).

In July 2013, the Institute was informed by the TRAQUE programme that the bid had not been won and the Microbiology Laboratory was advised to move back to their former location as an exact start date had not been finalised for the commencement of the project. This was also at a cost. The evacuated laboratory had to be put back in shape resulting in operational down time, recalibration, renovations etc.

Following a discussion with Mr. Fritz, one of the Directors of the TRAQUE Project at the Ministry of Finance on the 16th of March, 2014, it became quite obvious that the rehabilitation work would not start before the SANAS visit in June and even if it did, will not be completed before the visit.

In the first week of August 2014, when the TRAQUE Programme had finalised all tenders and the bid was awarded, the Laboratory had to relocate again for the start of the project, scheduled to be completed in 90 working days, and the refurbished laboratory handed over mid December 2014.

At an Internal Quality Management Meeting held on the 10th of November, 2014, members agreed that a letter be sent to the TRAQUE Programme Co-ordinators and the Minister for Trade indicating that the Management Board of The Food Research Institute wanted to know why the work had delayed. The TRAQUE Programme team had assured of completion of work by December, 2014.

Unfortunately for the Institute, the contractor run out of funds and the project which was to have been completed by mid-December 2014 stalled for several weeks, even months. The impact of the delays in the execution and completion of the Project led to the voluntary suspension of our accreditation to SANAS on the 16th of January, 2015 and in accordance with the R51 requirement after the first three months, the Institute could request for further monthly extensions of up to an additional six months.

The Food Research Institute lost major clients, our main source of internally generated revenue. The dwindling of our internally generated revenue affected our operational costs and the Institute was unable to fund the costs involved with the pre-installation requirements.

The Institute therefore requested for financial assistance for the pre-installation requirements and additional works from the TRAQUE Programme through Mrs. Mariella Sandini, (TRAQUE team leader). Although the cost of pre-installation requirements is the responsibility of the end user, the TRAQUE Team Leader indicated that from the contingency budget, the TRAQUE programme could assist with materials required in the pre-installation requirements e.g. water pumps, compressors, filters, etc. The FRI however had to source for these items. The Institute wrote and sent to TRAQUE a written justification for certain additions that were being made

under the TRAQUE project. A request was also made for a 30KVA generator set to power equipment during power outages.

Assessment of Completed Works at the Microbiology Laboratory

The Contractor had hoped to hand over the refurbished Microbiology laboratory by the 7th of April, 2015.

At the supposed last weekly site meeting, the Contractor indicated that the progress of completed work were as follows; 100% T&G ceiling had been done, 80% Floor Tiling, 85% Windows, 75% Doors, 90% Electrical works, Plumbing 95%, Benches and Integrated worktops and wardrobes 80%, Painting 40%, Septic Tank 100%, 100% Gas pipelines installation. He had stated that an engineer was to visit the site to identify areas where the roof was leaking and repair. He suggested that the Installation engineers could work alongside as they complete minor works.

Letters of Petition

A petition was sent to the National Authorizing Officer (NAO) at the Ministry of Finance on the 2nd of June, 2015, requesting his intervention with the renovation works being conducted by the manager of the SEAS Ghana Limited (the Contractor) and funded by the TRAQUE programme. This was in light of the fact that verbal and written correspondence to TRAQUE had yielded no response. Copies of the letter were sent to the Minister for Trade and Industry as well as to the TRAQUE coordinator Ms. Mariella Sandini.

At another meeting on the 1st of June, 2015 with a representative of the TRAQUE programme, Mr. Ayivi-Houedo and Mr. Fred Berko of Globe Corporation, it came to light that Globe Corporation wanted the equipment installed by the 3rd of June, 2015 and for the training to be done soon after. This was because the Globe Corporation did not want to exceed their given timelines which if allowed to happen without documentary evidence of delay could go against the company at the EU.

The Minister for Trade was also sent a petition letter dated 18th May 2015 requesting his intervention with the same issue because the contractor had abandoned the work being carried out and efforts to get in touch with him had proved futile.

Handing Over to New Contractor

In response to the petition letters sent to the Ministries, a decision was taken to find a new contractor to complete the works with respect to the refurbishment. The contract was awarded to the City Plus Company Limited contractors who had previously worked on the FDA laboratory. The Company commenced work in August 2015 and completed in October, 2015.

Correspondence from SANAS

The Institute received a letter from SANAS indicating the Institute had gone for more than 24 months without being assessed and this was in contravention of the ISO/IEC 17011 requirement.

The Institute had also by deferring its assessment reduced its next assessment visit (in 2016 assessment) by 4 months.

Additionally, the South African National Accreditation System (SANAS) aimed to do the next assessment (re-instatement and surveillance); a two-fold assessment at the Institute in June or July 2015.

TRAQUE Equipment and Visibility

Equipment were delivered for the Chemistry, Mycotoxin, Microbiology and Mushroom Units under the TRAQUE Programme. Installation and testing on the new equipment were done by AGILENT and Globe Corporation.



Fig. 1 Training of Staff of FRI Chemistry Laboratory

The training for Mushroom and Microbiology ISU delayed because the laboratory refurbishment had not been completed by the Contractor.

A team of quality experts on two occasions visited the Institute to follow up on equipment that were in use and those that had not been installed. They posted TRAQUE-EU stickers on these equipment to increase visibility of the equipment received.

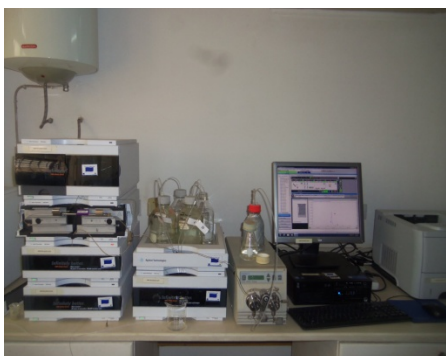


Fig. 2. GCMS donated by TRAQUE



Fig. 3. Incubators donated to Microbiology Laboratory

TRAQUE and the Ghanaian National Accreditation Body

Mr. Ivan Hendrix paid a visit to the Institute in May 2015 to discuss issues with regards setting up a Ghanaian National Accreditation Body. He sought to obtain some baseline information from all testing laboratories in Ghana to be able to assist in setting up the body. The Institute therefore submitted to him a filled-in questionnaire he gave the Institute. He also requested that we provide him with information on other equipment we will need to improve our work and cost estimates as well as a short business plan and information on all tests being carried out in our analytical laboratories and those we hope to add on to extend the scope of accredited tests.

Handing Over the Microbiology Laboratory

The National Authorizing Officer – Mr. Ameyaw, TRAQUE Imprest Administrator and Project Director – Mr. Michael Senayah and a few staff of TRAQUE, the Ministries and FRI attended a brief handing over ceremony at the Microbiology Laboratory to mark the completion of works on the 15th of October, 2015.



Fig. 4 Refurbished Microbiology Laboratory

Staff of the TRAQUE project and MOTI held a meeting in the second quarter of 2017 with some staff of the Internal Quality Management Committee to finalize acceptance of items received from the TRAQUE project. The meeting was held in the Director's Conference Room in the presence of the local contractor representing Globe Corporation, Mr Fred Berko and his assistant. The meeting was to confirm items received and to notify the Institute of warranties / guarantees. It was decided that the CSIR – Food Research Institute would fix minor things that were pending and Mr. Foster Mensah called to install the Merck Millipore water filtration unit as Globe had been unable to do so.

Conclusion

The Institute is very grateful to the TRAQUE programme for all the support to the CSIR Food Research Institute by way of refurbishment of the Microbiology laboratory to a standard microbiology layout with unidirectional flow; for new equipment in the Chemistry, Microbiology and Mushroom Unit that will greatly improve our testing, accuracy, precision and efficiency in our operations. We are also grateful for all other laboratory apparatus and glassware. The assistance the Institute has received through the TRAQUE Programme will place the Institute in a good standing to contribute effectively to its role in a national food control system by providing the needed scientific evidence that helps understand food quality and safety issues that affect public health and find solutions to these problems.

Pending Issues

The tender to survey and estimate the costs for provision of the generator had been awarded to three Electrical companies who have done their surveys for the National Authorizing Officer's action.

Appendix

Food Research Institute Laboratories

Extract from the pack lists for equipment supplied by Globe Corporation under EU-TRAQUE

Containers 1 and 2: expected delivery between 12 and 20 February

Container 3: expected delivery sometime during March

Container 4: expected delivery later in March

Laboratory	Container	Item	Lot	Description	Quantity
FRI Chemistry					
	3	11	1	Part of (tank): Water Purification System (box 3 of 3)	2
				Parts for: Water Purification System (box 2 of 3)	1
				Water Purification System (box 1 of 3)	1
		12	1	Hot Plate with Stirrer	1
		13	1	Water bath, 100°C	1
		24	16	Oven, hot air, 80 L	1
		25	4	Polarimeter, semi-automatic (2 boxes)	1
		28	1	Laboratory knife mill	1
		34	17	Magnetic stirring rods	1
		36	4	Spectrophotometer - UV/VIS	1
		43	4	Refractometer, high precision	1
		72	4	Total fat analysing system, fully automated	1
		89	16	Muffle furnace, > 40L	1
	4	10	2	Gas Chromatograph - Triple Quadrupole Mass Spectrometer	1
				Parts for; (UPS + cables) Gas Chromatograph - Triple Quadrupole Mass Spectrometer	1
		44	2	Part for; (UPS) Atomic Absorption Spectrometer with graphite furnace	1
				Parts for; (UPS) Atomic Absorption Spectrometer with graphite furnace	1
		74	2	HPLC with FLD and ESLD detector	1
FRI Microbiology					
	1	6	1	Water Bath, Stirred, Temperature Controlled	2
		15	1	Pipettor, 20 - 200 µl (12 cardboard boxes)	6
		16	1	Pipettor, 100 - 1000 µL	4
				Pipettor, 100 - 1000 µl (2 boxes)	2
		18	16	Incubator, microbiology, 250L	2
				Incubator^microbiology, 250L	1
		21	16	Autoclave, Front Loading (1 crate + 1 box)	1
				Autoclave, Front Loading (1 wooden crate + 1 cardboard box)	1
		23	1	Colony Counter (2 boxes)	2

Laboratory	Container	Item	Lot	Description	Quantity
		24	16	Oven, hot air, 80L	2
		34	17	Magnetic stirring rods (1 box)	1
		50	1	Vortex Mixer	2
		132	16	Incubator, microbiology, cooled	1
		158	1	Bottle Top Dispenser	2
		164	17	Syringe Filters	20
		168	16	Anaerobic Jar (3 boxes)	20
		170	1	Flame steriliser, portable	4
		175	16	Oven, hot air, 150L	1
	2	7	1	Safety Cabinet, Laminar Flow, Microbiological	2
		17	4	pH Meter, laboratory, incl. consumables (1 box)	2
		18	16	Incubator, microbiology, 250L (1 box)	1
		46	16	Drying cabinet	2
		47	1	Water distilling unit (1 box)	1
		49	17	Test tubes (in 1 crate with item 17.173 below)	1
		51	1	Blender, food microbiology (5 boxes)	2
		53	17	Burner for microbiology (1 box)	4
		166	1	Shaking Incubator (1 crate and 1 box)	1
		173	17	Consumables, microbiology	1
				Part of: Consumables, microbiology (in 1 crate with above item 17.049)	1
	3	48	17	Petri dishes	1
		52	1	Dishwasher for glass ware (2 boxes)	1
		167	1	Centrifuge, micro	1
		169	1	Centrifuge, bench top	1
		171	16	Microwave oven	1
		172	1	Washing machine	1
		173	17	Parts of: Consumables, microbiology (a+b+c+d+s)	1
	4	165	4	DNA based pathogen detection Kits	1
				Part (UPS) for: DNA based pathogen detection Kits	1
				Part of: DNA based pathogen detection Kits (1 box)	1
				Parts for: (20.314 >> must be: 4.165, but check!!!!) DNA based pathogen detection Kits	1
				Parts for; (UPS) DNA based pathogen detection Kits	1
				Photocopiers	4
				UPS	16
				Computers	16
FRI Mushroom Laboratory					
	1	12	1	Hot Plate with Stirrer (1 cardboard box)	2

Laboratory	Container	Item	Lot	Description	Quantity
		18	16	Incubator, microbiology, 250L	1
		21	16	Autoclave, Front Loading (1 crate + 1 box)	1
				Autoclave, Front Loading (wooden crate + 1 cardboard box)	1
		22	1	Microscope, Compound (2 cardboard boxes)	1
		34	17	Magnetic stirring rods (1 cardboard box)	1
		63	16	Oven, Drying	1
		170	1	Flame steriliser, portable	4
	2	17	4	pH Meter, laboratory, incl. consumables	1
		18	16	Incubator, microbiology, 250L (1 box)	1
		100	4	Consumables for: pH Meter, hand held	2
				pH Meter, hand held, incl. consumables (2 boxes)	2
		162	17	Cork borer	3
		201	17	Small equipment, Mushrooms	1
	3	48	17	Petri dishes	3
		77	1	Microscope, Stereo	1
		201	17	Parts for: Small equipment, Mushrooms	1
	4	69	1	Refrigerator, Glass door, 350L	2