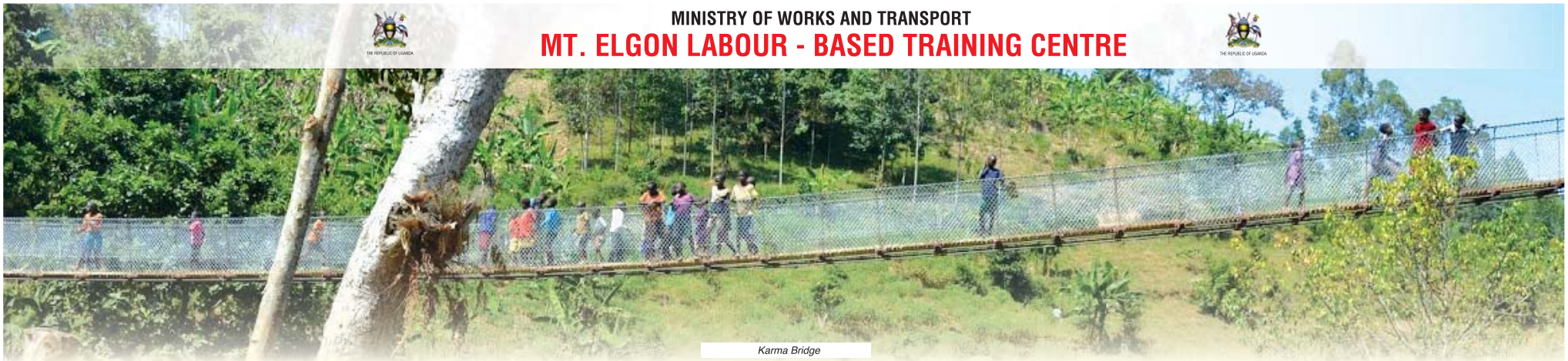
MINISTRY OF WORKS AND TRANSPORT

MT. ELGON LABOUR - BASED TRAINING CENTRE



Karma Bridge

BACKGROUND

Mt. Elgon Labour - Based Training Centre was established in1995 by then Ministry of Works, Housing and Communications with support from the Nordic Development Fund and backstopped from the International Labour Organisation (ILO). The training centre has since continued to receive support from the Government of Uganda and DANIDA through provision of additional infrastructure, training, operational costs and technical assistance. The training centre is now full established as the National Labour-Based Training Centre in the country. The mandate of the Centre is to develop capacity in both public and private sectors in the use of Labour Based Methods for road construction. Labour based methods world over have proved to offer a lot of benefits in relation to employment creation besides being gender sensitive and environmentally friendly. Since its establishment, over 360 staff from construction firms and staff from 56 districts have been trained. Further, about 502 km of gravel roads and 14.4km of Low Cost Sealed roads have been constructed through trial roads and training model roads creating over 530,000 jobs per day.

DEFINITION OF LABOUR BASED TECHNOLOGY The term "labour-based" is used to describe a technology in which labour, supported by light equipment, is used as a cost-effective method of constructing and maintaining infrastructure to a required standard.

BENEFITS OF LABOUR BASEDTECHNOLOGY Employment creation. Use of labour to work on the road creates employment for the local people and hence increases their house hold income. 1 km of gravel road can create about 1056 person days;
Cost effectiveness. It has been established that the cost of constructing a road using labour based method is cheaper than equipment based methods;
Gender sensitive. The use of labour based methods encourages the use of both men and women; Environmentally friendly. The use of labour eliminates the use of heavy equipments which emit a lot of gases into the environment;

Ownership. Involvement of local people in the construction develops a sense of ownership in the facility and can hence be able to protect it;

Use of local materials. Materials used during construction are locally available hence eliminating the need for foreign exchange.

Skills transfer. The local people involved in the construction develop skills which they use later in the maintenance of the roads;

NEW DEVELOPMENTS AT MELTC Two new course modules have been introduced into the MELTC training curriculum namely Low Cost Sealing and Stone masonry Arch bridge construction. Bridges to prosperity comes to Uganda Bridges to Prosperity (B2P) is an international nongovernmental organization (non-profit) which assists isolated communities in obtaining access to essential health care, education, and economic opportunities by building footbridges over impassable rivers. B2P has built more than 250 bridges in 20 countries around the world, and recently expanded into Uganda.

B2P and MoWT began field work and meetings in October 2016 to investigate a potential partnership and carry out a rapid needs assessment. The MoU was fully signed by both parties to the partnership on 11th August, 2017. The partnership aims to tackle poor and inefficient connectivity in isolated rural communities, especially those in hilly terrains which are highly susceptible to natural calamities e.g. seasonal floods. The current lack of bridges can in creases travel times and cost of mobility to access resources. By constructing cable foot bridges, the partnership will promote access to essential health care, agriculture, tourism, education, and other economic opportunities. The Partnership is in alignment with Strategic, Policy and Legislative mandates of the MoWT, and in particular the partnership is in line with NDP II's development objectives which include; Increasing the Stock and Quality of Strategic Infrastructure to Accelerate the Country's Competitiveness, obtain middle income status by 2020 and Enhance transportation of agricultural products. The 5-year program involves construction of Cable Footbridges over impassable rivers and streams in the rural isolated areas of Uganda. The bridges are capable of spanning between 20 and 120 meters. The bridges are able to pass pedestrians, animals, as well as motorcycles (but not cars and HVs).

There will be construction of 10 Cable Foot bridges over a 5-year period in locations identified through a systematic needs assessment process and approved by the top management of the Ministry. The program will also have a capacity building component through a "Training of Trainers" initiative with MELTC. This will impart skills at different levels to disseminate the technology to other isolated communities with connectivity challenges. The Capacity Building / Training will be rolled-out through MELTC for both Public and Private Sector. The program will also give accreditation of Standards for Footbridges technology in Uganda and also conduct a Nationwide Needs Assessment. This will in the end enable the Ministry to scale up and roll out technology across Uganda to fully tackle transportation bottlenecks for rural areas.

UNDER THE WORKING ARRANGEMENTS THE TERMS WILL BE ASFOLLOWS: 50 % co- funding (About UGX. 125 million per bridge) by the MOWT in accordance with MoU. The value/cost may vary depending on type of bridge, span, and other site conditions. B2P will incur expenses for local labor and local materials on behalf of MoWT, as B2P is overall program manager MoWT will reimburse B2P on a quarterly basis. BRIDGE SITES SELECTED Site 1 – Kama Bridge – Mbale/Sironko Districts: This bridge is serving as a Training of Trainers program between B2P and MELTC. It is a 90-meter span suspended bridge which connects Mbale and Sironko Districts. Site 2 – Namawukulu – Bududa District 95-meter span suspended bridge This bridge was identified for its high nearby population (approximately 1,800), and a busy crossing point (close to the Sub county HQ, government services, primary/secondary schools, health center, etc) Site 3 –Namakhokolo – Bududa/Mbale Districts 105m span suspended bridge This bridge was identified for its high nearby population (approximately 4,000), and a high need for a safe crossing (there has been approximately 12 deaths in 3 years), because the existing timber bridge is in poor condition.

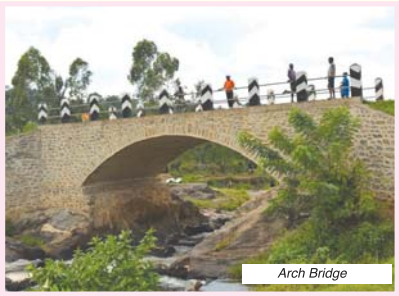
Low cost seal road works in Soroti Municipality

LOW COST SEALING Low cost Sealing for low volume roads was introduced in 2010 and it's being promoted by the Centre. The need for sealing of roads stems from the fact that good quality gravel is depleting and yet the natural renewal process is slow. The conventional sealing method requires high quality materials which usually have to be hauled for long distances. Moreover, most roads with low traffic volume may not require material with such high specification. The use of locally available materials for sealing of roads has been identified as key in reducing the costs of construction. The Centre offers training in the design and construction of roads using Low Cost Seal technology. The training is intended for district and contractor staff.

Stone masonry arch bridge The need for provision of cheap and yet durable structures for rural communities prompted the introduction of stone masonry arch bridges. The bridge is strong and yet easy to construct. Most of the materials used are readily available in most parts of the country. Participants are given the skills on how to design and construct stone masonry arch bridges. The arch bridge is a cheaper alternative to concrete reinforced bridges and yet it requires simple skills to be constructed.

TRAINING METHODOLOGY

Training at the centre is conducted in two stages. The first stage comprises class room training and field training at the training model road. The second stage comprises execution of a trial contract in the districts. Courses at MELTC are in modular form with a learning centred approach. The training methods employed range from interactive classroom sessions, exercises, case studies, discussions, short workshops, seminars and practical demonstrations, both at the training model road and during trial contracts. MELTC also organises and facilitates study tours, field excursions and attachments for enriching trainees with ideas through exposure. The provision of outreach training and support facilitates transfer of knowledge and skills in the workplace. These highly interactive training methods give participating trainees the opportunity to share a wide range of experiences. The Ministry of Work and Transport has developed Management Information Systems (MIS) for roadwork management which MELTC has incorporated as one of the modules in the courses offered to district technical staff.



Arch Bridge

TARGET GROUP The training programmes at MELTC are designed for: Technical and non-technical officers from Ministries and District Local Governments such as District Engineers and Technicians, Labour, Gender, Community and Environment Officers as well as policy makers. The details of the course content are outlined in the MELTC course manual which can be obtained on request.

DISTRICT TECHNICAL STAFF TRAINING

Labour-based Contract Management for District Engineers This course is intended to develop the Engineer's knowledge, skills and attitude needed to mobilize human and local resources for the rehabilitation and maintenance of infrastructure in a manner responsive to the concerns of environment, gender, labour, health and safety including HIV/AIDS among other aspect for a sustainable development.
Labour-based Contract Management for Supervisors of works The course equips technicians and Supervisors in the road construction industry with the necessary skills, knowledge and attitude to enable them to support the Engineers: prepare contract documents, identify projects and make use of appropriate technology choice to be used, monitor, evaluate and report progress of work during implementation among others. Labour-based Contract Management for Road Inspectors/ assistant Engineering Officers Since Road Inspectors are responsible for the day-to-day inspection of the construction sites, this course helps them to develop skills, knowledge and attitude in managing productivities, quality control, daily work planning, compliance to gender and safety, environmental concerns among others.

Non-technical courses, workshops and seminars Infrastructure development calls for participation and transparency of the persons involved in the planning and implementation of road works at all levels from the social, economic and environmental perspectives. This course is intended to enlighten the non-technical district staff and politicians on their roles and responsibilities; impart necessary skills and discuss the mechanisms of their participation to ensure that environment, gender, labour, human rights, health and workplace safety issues are addressed in the overall road improvement and maintenance period. All these are aimed at providing an enabling environment for sustainable infrastructure development and maintenance.

CONTRACTING FIRMS

Managing Directors The contract managers are enlightened on the potential benefits of labour based technology and to identify LBRW resources and operations for a sustainable contracting business. Forepersons and assistant Forepersons: The site Supervisors are the key contractor personnel. MELTC mentors them to master the labour-based road works terminologies, operations and their sequences, construction materials and their correct handling procedures, application of the appropriate labour based work methods, etc Consultancy Firms Training (Engineers and Technicians) MELTC helps build capacity of the technical support units, which offers technical expertise to a group of districts.

TOT on Routine Road Maintenance (RMM) Contracting: MELTC trains Engineers and senior technicians both from public and private organisations through; introducing an interactive practical approach to training in road maintenance, introducing basic Principal of routine road maintenance, gaining familiarity, knowledge and skills in RRM contracting, etc.
Non-governmental organisations MELTC helps in the training of Engineers and technicians from non-governmental organisations involved in road works and other innovative designs.

International Training courses for Engineers and Supervisors: Most developing countries are widely adopting employment intensive methods and other innovations to address the problem of unemployment and poverty for sustainable development. The use of labour-based methods for infrastructure development requires specialized skills, knowledge and attitude that are not common. MELTC has the capacity to provide these requirements. It has adequate capacity in terms of resources, personnel and physical facilities to conduct international courses for Engineers and Supervisors in close collaboration with ILO.

Community Access Innovations (CaRS) 1) MELTC helps in the training of Engineers and technicians both from public and private organisations in innovative design like footbridges and footsteps on non-motorised access aimed at improving connectivity between isolated communities. **2)** Model Road practical training. To strengthen the trainee's understanding and application of the appropriate technology, the Centre operates a training model-training road that is usually within its proximity. The site is particularly important for training in effective work organisation. It also helps to mentor the trainee on the real world site conditions as it covers a wide range of activities that the trainees are expected to encounter in the field. **3)** Trial contract outreach support: MELTC provides outreach support services to trainees in the respective districts or place of business location. The trainees are equipped to demonstrate ability to produce good quality work meeting the set standards by the Ministry of Works and Transport. The Centre at this stage evaluates the trainees with other independent assessors being awarded certificates. Trial contract evaluation: MELTC in collaboration with the respective district officials undertakes contract evaluation during the implementation period of the trial contract. The contractor staff is assessed to pass the practical training before they can be awarded certificates.

Namahkokolo Bridge