PROJECT: KAKONO HYDROELECTRIC POWER PROJECT - IN KARAGWE AND MISENYI DISTRICTS, KAGERA REGION, UNITED REPUBLIC OF TANZANIA

COUNTRY: UNITED REPUBLIC OF TANZANIA

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT and RAP SUMMARY

Date: May 2018

Appraisal Team

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1. INTRODUCTION

The African Development Bank is considering a financial support for the Kakono Hydroelectric Power Project within the Karagwe and Misenyi Districts, Kagera Region of the United Republic of Tanzania (See location map in Annex 1 of this Summary Report). The proposed project comprises of the following key infrastructural components;

- A Run-of the River technology incorporated within Embankment Dam with an annual mean flow of 243m³/sec, installed capacity of 87MW and mean annual energy production of 573Gwh.
- Construction of a new 38.5km, 132kV Transmission Line from the Dam site, Kakono to Kyaka substation and rehabilitation works at the existing 132/33kV substation at Kyaka.

This ESIA Summary Report highlights the key environmental and social (E&S) assessment and management plans designed by the Government of Tanzania (TANESCO) to ensure the proposed project component activities comply with both national and the African Development Bank’s E&S policy requirements (Integrated Safeguard System- ISS).

2. POLICY LEGAL AND ADMINISTRATIVE FRAMEWORK

The ESIA has been carried out in accordance with applicable environmental, social and power sector policies, standards and legislation in Tanzania as well as relevant international ratified conventions. Environmental Regulations in Tanzania are vested in two main Institutions; the Division of Environment (DoE) under the Vice President Office (VPO) and the National Environmental Management Council (NEMC). The Division of Environment provides policy and technical oversight and executes the overall mandate of the Ministry responsible for environment while the NEMC undertakes monitoring and compliance enforcement duties following clearance of EIA/ESIAs. The Project requires compliance with both primary and secondary environmental and social national legislative requirements and the AfDB’s ISS, 2014.

The first ESIA was undertaken in 2014 by NORPLAN AS, Norway in association with NORPLAN Tanzania. This was subsequently updated in September 2017 by TANESCO to comply with AfDB ISS. Both ESIA's were registered and approved by NEMC in 2014 and 2017 respectively.

**AfDB’s Operational Safeguard Review**

The project has been assigned a category 1 by the African Development bank in line with the guidelines within the Bank’s ISS for all power generating plants exceeding a generating capacity threshold of 30MW. Operational Safeguards (OS) 1 which is an umbrella safeguard policy on Environmental Assessment have been triggered because the component activities have the potential to generate significant environmental and social impacts to identified receptors within the project’s area of influence. Operational Safeguard (OS2) has also been triggered because the proposed project components will result in resettlement of Affected Communities due to both physical and economic displacement of people from project related land acquisition. OS3 is also triggered because the creation of the reservoir will affect wetlands which serve as sensitive habitats of various important animal and bird species. OS4 on Pollution Prevention and Hazardous Substances is also triggered since construction will involve use of harmful and possibly some hazardous materials. OS 5 on Labor, Working Conditions, Occupational Health and Safety is applicable since the construction will involve recruitment of a significant number of construction workers.

### 3. PROJECT DESCRIPTION AND JUSTIFICATION

The Kakono Hydropower Project is planned as a concrete gravity run-of-river dam with integrated power station as described below and illustrated in Figure 3.1 overleaf;

**Reservoir**

The reservoir has been planned with a full supply level of 1,190masl (meters above sea level) and will extend about 28km upstream from the dam. The reservoir width is 1,500m at the dam but gradually decreases towards the upstream end. At the confluence with Rubira River some 9–10 km upstream of the dam, the reservoir will extend about 2.5km along the tributary. The inundated area is estimated at 18.3km² and the volume of water for filling of the reservoir is about 200 million m³.

**Concrete Gravity Dam with Spillway and Energy Dissipation**

The concrete gravity dam will be 51m in height above the river bed, creating a hydraulic head of about 32m at full water level of 1.190 masl. For diversion of excess water flow and floods, a 35m long spillway with overflow weirs and four bottom gates will be integrated in the dam structure. The dam axis is chosen at a point in the river where the length of the dam is the shortest.

**Power Station with Intake and Outlet**

The power station will be located at the toe of the dam and consist of the machine hall, the turbines and generators, the transformers and the waterway with intake and outlet including hydraulic steel structures.
High Voltage Cables and 132 kV Switchyard
From the transformers at the power station, the energy will be transmitted through 132 kV PEX cables installed in a concreted culvert to the substation on the southern side of the river just downstream of the right abutment of the concrete dam.

Transmission Line to Kyaka Substation
The 38.8km long 132kV transmission line for connection of Kakono Hydropower Project to the grid terminates at Kyaka Substation. About 120 steel lattice towers are required for crossing of the Kagera Sugar.

Figure 3.1: Technical Design Layout plan for the project

Justification of the Project:
Tanzania has enormous renewable energy potential, which remains untapped to date. This proposed project aims at catalyzing the development of 87MW of the country’s renewable energy potential to unleash social economic development for Tanzania by fostering investment in clean power generation thus contributing to the realization of the SE4All Action Agenda, TVD and AfDB New Deal on Energy objectives to achieve universal access for all by 2025. The project will increase and improve the supply, reliability of electricity in the Northwestern Tanzania and stimulate growth and socioeconomic transformation of Tanzania. The Kagera Region is not connected to the grid, 3 out of 6 districts import power from neighboring Uganda and the rest depend on diesel generators which is very expensive with attendant polluting effects.

4. DESCRIPTION OF THE PROJECT ENVIRONMENT

The ESIA conducted a baseline survey of the entire project area of influence and summarized in the following paragraphs;

3.1 Physical Environment
Soils
The soils are categorised as Fluvisols (young soil in alluvial deposits, originating from river sediments) and Ferrasols (red and yellow weathered soils with high concentration of iron and aluminium oxides and hydroxides).

Rainfall
There are two rainfall seasons, with the longer south-easterly monsoon bringing rain between about March and May, and the shorter north-easterly monsoon from about September to November. Rainfall varies from less than 800 mm over the central part of the basin up to 1,600 mm in the west, where most of the runoff is generated, and along the western shoreline of Lake Victoria.

Air Quality
With respect to air quality, there are no industrial pollution sources in the direct impact zone, and the traffic and transportation density on the nearby roads is very low. The nearest source of point emissions is the Kagera Sugar Factory, which is located about 20 km east of the Kakono dam site. For this reason, it was not considered necessary to measure the background air quality in the project area because it is highly unlikely that the air shed is degraded under present conditions.

Noise
No data exist on the present noise situation. However, due to the remoteness of the project site and the long distances to major roads and settlements, noise levels are considered insignificant.

Hydrology
The river flows are attenuated by a number of lakes, and in particular by two sets of swamps and associated lakes above and below Rusumo Falls. At Kikagati and Nsongezi, the river flows in rapids across a slightly steeper gradient. Results of sampled water quality analysis at Kakono shows that it is generally favorable to aquatic life although it is substandard compared to most natural and unpolluted rivers.

3.2 Biological

Protected Areas
There are no legally protected areas within, or in the immediate vicinity of the direct impact zone of the Kakono Hydropower Project. The nearest protected area is the Rumanyika Orugundu Game Reserve (categorized as IV on the IUCN protected area management categories system), which is located about 15 km west of the Kakono dam. Furthermore, Ibanda Game Reserve, is located west of the Rumanyika Orugundu Game Reserve, approximately 50km from the Kakono dam site. Other protected areas over 50km from the dam site include the Burigi Game Reserve (category IV) and the Minziro Forest Reserve. In conclusion, the Kakono Hydropower Project is located far from the designated game reserves and forest reserves, and its value in terms of legal protection status is correspondingly low.

Vegetation
The vegetation in the direct impact zone of the Kakono Hydropower Project consist of a high diversity of plant species as well as significant volumes of mature trees especially along the riverbanks. The riparian forest contributes to riverbank stability and erosion protection. Moreover, a few species of conservation concern were identified but none of them are endemic to the project area, or have been classified as endangered according to IUCN categories. All the identified plant species are considered to be common across a wider area in the Kagera
basin and elsewhere. The herbaceous plants are also disturbed by heavy grazing pressure. ESIA concludes that overall, the risk to vegetation is rated as low to medium in value.

**Terrestrial Fauna**
The terrestrial fauna in the direct impact zone of the Kakono project is not particularly diverse but it contains a few key species of conservation value such as the hippopotamus (*Hippopotamus amphibious*), African bush elephant (*Loxodonta africana*), lion (*Panthera leo*) classified as vulnerable and leopard (*Panthera pardus*) classified as near threatened. However, all the species occur in low numbers and are not restricted to, or strongly dependent on, the habitats found in the Kakono area. The Kagera River and its riparian environment offer a reliable source of water but it also serves as a barrier to wildlife migration across the river. As the major part of the project area is used for livestock grazing, the large mammal species have been displaced and their populations have reduced.

The woodlands and papyrus flanking both sides of the Kagera River support a rich birdlife. A total of 98 bird species were observed in the project area. The only species of conservation concern is the Grey-crowned Crane (*Balearica regulorum*), which has been categorised as Endangered by the IUCN. The Grey-crowned Crane was observed both in the dry and wet season, and it was also recorded at Nsongezi and Kikagati.

The most notable reptile species in the project-affected section of the Kagera River is the crocodile (*Crocodylus niloticus*), which was sighted frequently during the field work. There were, however, few typical nesting sites such as sandbanks or dry riverbeds along the affected river stretch. The only other reptiles were some skinks, a lizard and a blind snake, as well as anecdotal evidence of a rock python (*Python sebae*) and monitor lizards (*Varanus nilotica*). None of the observed reptiles are considered to be of any ecological conservation concern but the rock python is listed on Appendix II of CITES. Overall, the value and conservation status of the terrestrial fauna, including mammals, birds, reptiles and amphibians, is considered as medium.

**Aquatic Ecology**
Zooplankton was dominated by rotifers (Rotifera), while the phytoplankton consisted of green algae (Chlorophyceae), diatoms (Bacillariophyceae) and bluegreen algae (Cyanophyceae).

Various fish species were caught during the field survey, however, none of the identified fish species are threatened according to the IUCN categories. Interview with fishermen along the Kagera River suggested that fishes breed throughout the year but peak breeding occurs during the rainy seasons. At downstream sites, fishermen reported that fishes migrate upstream mainly for purposes of spawning and the key migratory species they knew are *Labeo victorianus*, *Schilbe intermedius*, *Barbus altianalis*, *Clarias gariepinus*, *Bagrus docmak*, *Synodontis afrofischeri* and mormyrids. Peak spawning was reported to occur during the months of March-May for *Labeo victorianus* and *Schilbe intermedius*; April June for *Clarias gariepinus*; July-August for *Barbus altianalis* and *Bagrus docmak*; and July-September for *Synodontis afrofischeri*. Fish and other organisms are currently not obstructed from moving both longitudinally and laterally within the river system.

### 3.3 Human Environment

**Population and Demographics**
The nearest towns and population centres are Kyaka and Bunazi in Missenyi district, which are located about 35 km east of the dam site, and Kayanga in Karagwe district, which is about
40km south of Kakono. The distance from the reservoir boundary to the nearest settlements in Kakunyu and Businde which is about 2 km, while the village centers are located further away.

According to the 2012 census, Kagera region has a total of 2,458,023 inhabitants of which 1,205,683 are males and 1,252,340 are females. The regional population density is 97 people per km², with an average annual growth estimated at 3.2 and a sex ratio of 95. The Kakono project area is rural and sparsely populated.

**Land use and Tenure**

The dominant land use within the direct impact zone is free-range livestock grazing. The Kitengule and Missenyi Ranches, which are administered by the National Ranching Company (NARCO), have been sub-divided into blocks and leased to private enterprises for beef cattle production, while the remaining land belongs to Kagera Sugar Co. Ltd. and the villages in Businde ward. The only crop cultivation in the direct impact zone consists of few scattered, small-scale farms along the riverbanks in Businde ward. A few settlements were also associated with these farms. In addition, some house structures and temporary shelters belonging to the private block leaseholders and livestock keepers were observed within the planned reservoir area in Kakunyu ward. Apart from NARCO, the largest land owner in the direct impact zone is Kagera Sugar Co. Ltd. whose core business is sugarcane growing and marketing of sugar.

**Economic Livelihoods**

Among the sampled households, about 82% earn their living as farmers, while 18% are attendants and retail trade. Farming in the project area involves crops as well as livestock and is for both commercial and subsistence purposes. Notably, there is very little fishing activity along the river stretch that will be impacted by the Kakono dam. Households are also involved into commercial crop farming although at a limited scale and only for the local market. Main crops grown for sale are bananas and coffee. Commercial livestock production is the dominant land use in the Kakono area. It is practiced by private livestock enterprises that have leased blocks of land from the NARCO.

**Infrastructure and Settlements**

Among the interviewed households, 88% have access to schools and each of the affected villages has one primary school. 71.4% of the households reported an average of 30 minutes walking distance to a pre-primary and a primary school.

More than 73% of the interviewed households use village dispensaries for their health care needs, while 12% use health centers. The accessible hospitals in the vicinity of Kakono are Kagera Sugar Hospital and Mugana Hospital in Missenyi District, while the regional hospital and major referral unit is located in Bukoba about 50 km from Kyaka.

There are no public water supply facilities within the direct impact zone. According to the socio-economic survey, 60% of the respondents lived within a 30 minute walk from a water source for both drinking and productive use. Deep wells were the most common safe water source, while other sources included streams and the Kagera River.

The B182 from Kyaka to Bugene runs through the Karagwe district to the south of the project area. The road is currently being upgraded to bitumen standard and a new bridge is being constructed at Mwisa River. The Kakono dam site can be accessed via a dirt road branching from B182 and crossing the Kitengule ranch.
The main energy source for cooking in the project area is firewood (89%), followed by charcoal (11%), while the main energy source for lighting is kerosene (75%), followed by electricity (7%) and candle (7%), while 11% use other sources. The results of the socio-economic survey showed that 89% of the respondents use pit latrines while 11% use other methods including neighbor’s toilet or even gardens/bush.

Health Status
HIV/AIDS: The results from 2011-2012 HIV/AIDS and malaria indicator survey revealed that the HIV prevalence rate in the Kagera region is 4.8% among the population aged 15-49, which is slightly lower than the national average of 5.1%. HIV prevalence is higher among women (6.2%) than men (3.8%)

Vulnerable Group
The HIV/AIDS prevalence rate is relatively high, so the possibility of child-headed households cannot be totally ruled out. The socio-economic results however, indicated that 21.5% of the households were headed by the elderly aged above 50. Of these, 50% were female and 50% male. All elderly households owned land and land acquisition was through mainly customary allocations and direct purchases. All of these households depend on agriculture for livelihood and the average monthly earning among the elderly-headed households was USD 195 (TShs. 318,555), which is well above the basic needs poverty and the food poverty lines. Another category of people in the Kakono area who might be considered as a vulnerable group are migrants from Uganda, Rwanda or Burundi, who have settled in a few remote places along the Kagera River, particularly in Bugara village. Some of these families were keeping livestock and cultivating crops on the riverbanks within the planned reservoir area.

Cultural and Archaeological
Despite the discovery of a few physical cultural resources in the vicinity of the Kakono project area, the overall significance and conservation value of the cultural heritage within the direct impact zone is considered as low.

5. PROJECT ALTERNATIVES

The ESIA considered project alternate analyses of various options including the No project alternative, different power generating sources/designs and alternative route alignment for the Transmission line for the proposed power plant. The selected designed project was selected due to the following comparative advantages;

- Government and TANESCO will continue to lose revenue that would have been provided by the project;
- The environmental impacts of the no project alternative would be positive in the short term for biodiversity until other hydropower projects (Nsongezi and Kalagadi) are commissioned on the Kagera River.
- Most of the adverse environmental and social impacts can be successfully mitigated – and that potential long-distance fish migrations in the Kagera River are found to be insignificant, and/or can be effectively managed.
- The selected route alignment for the Transmission line offers the least project related impact resulting displacement requiring resettlement.

6. POTENTIAL IMPACTS

The following potential positive and negative environmental and social impacts are anticipated;
**Positive Impacts**

During construction, the key positive impacts will be creation of employment opportunities for an estimated 1000 construction staff (skilled and unskilled) for a period of about four years; income generation activities to the local communities through sale of local construction materials and food by women; improvement in local economy from increased trade activities and potential diffusion and transfer of communication and knowledge from specialist construction staff to the local participants. During operation phase, the most significant positive impact of the project will be the realization of its objective by injecting additional 87 MW of renewable electric energy into the national grid. Further, it is expected that about 60 staff (mostly skilled) will be retained for purposes of running and maintaining the hydropower facilities operation phase.

**Negative Impacts**

At the construction phase, major impacts include impacts on vegetation, impact on aquatic ecology in particular fish, impact on terrestrial fauna, impact on landscape, impact on land tenure and land use rights (Kagera Sugar Co. Ltd., NARCO and the residents of the affected villages will cease to have user rights over the affected pieces of land), impacts on local infrastructure and social services due to influx of migrant workers, impact on community safety and security, increase in the prevalence and spread of HIV/AIDs and other STDs, impacts from air quality and dust, soils and slope stability, poor waste management and noise from construction and related activities from the site. During the operation phase, the major negative impact of the power plant will be associated with air quality, noise and pollution control issues, community safety, conservation of biodiversity and maintenance of environmental flow.

**Climate Change**

Based on the vulnerability analysis conducted by the Bank’s Climate Safeguard System, the project has been classified in Category 1 which requires a review of its climate change risks and adaptation measures. Practical risk management and adaptation options shall be integrated into the project design and implementation plans.

7. **ENVIRONMENTAL MANAGEMENT PLAN (ESMP)**

The ESIA has developed an ESMP to manage the residual environmental and social impacts associated with the project development works. The ESMP contains mitigation measures developed in line with the mitigation hierarchy with their associated cost, names of the responsible implementing units/agencies, monitoring regimes for the adopted performance indicators and evaluation to assess both compliance and performance as summarized in Table 7.1 overleaf;

8. **ENVIRONMENTAL AND SOCIAL MONITORING PROGRAM**

The Environmental and Social Management Plan will be subject to monitoring. The monitoring plan is complementary to the audits, inspections and reporting activities defined in the framework for implementation of the ESMP as summarized in Table 8.1 overleaf. The Table lists the related indicators, the items to be measured, the measurement frequency and the person/institution responsible and monitoring cost estimate.
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<tr>
<th>Impact Source</th>
<th>Mitigation Measures</th>
<th>Responsibility</th>
<th>Estimated Cost</th>
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<tr>
<td><strong>CONSTRUCTION PHASE</strong></td>
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<td>Physical Environment</td>
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<tr>
<td>Soil erosion</td>
<td>• Stabilise the soil mechanically to reduce erosion potential</td>
<td>Contractor</td>
<td>Included in construction cost</td>
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<td></td>
<td>• Re-grading of slopes and re-vegetation of exposed areas</td>
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<td>• Remove the good topsoil first before mixing it with the deeper horizons and keep it</td>
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<td>separate for use in replanting and restoration</td>
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<td>Land contamination</td>
<td>• Installation of secondary containment at fuel storage sites</td>
<td>Contractor</td>
<td>Included in construction cost</td>
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<td></td>
<td>• Store hazardous materials in properly designed storage facilities</td>
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<tr>
<td>Air pollution</td>
<td>• Spray water on access road to avoid dust dispersion if necessary</td>
<td>Contractor</td>
<td>Included in construction cost</td>
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<td></td>
<td>• Tarp trucks transporting loose/friable materials to minimize loss during transportation</td>
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<td></td>
<td>• Maintain and store piles of loose/friable materials and soil in a suitable manner to minimize dust dispersion</td>
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<td>Construction noise</td>
<td>• Schedule noisy activities to daytime hours</td>
<td>Contractor</td>
<td>Included in construction cost</td>
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<td></td>
<td>• Install noise control devices in construction equipment if noise levels exceed the applicable guidelines</td>
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<td></td>
<td>• Instruct the workforce to avoid unnecessary noise</td>
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<tr>
<td>Reservoir filling</td>
<td>• Maintain a minimum flow equal to 80% of the mean annual flow during the filling period</td>
<td>Owner</td>
<td>No cost</td>
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<td>Water pollution</td>
<td>• Avoid unnecessary soil erosion on the riverbanks</td>
<td>Contractor</td>
<td>Included in construction cost</td>
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<td></td>
<td>• Secondary containment to collect diffuse and accidental spills</td>
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<td></td>
<td>• Storage and handling of fuel should be kept away from the river</td>
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<td></td>
<td>• Installation of sanitary water treatment facilities</td>
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<td>Visual impact</td>
<td>• Project components should be designed in such a way that they fit within the natural setting of the site</td>
<td>Contractor</td>
<td>Included in construction cost</td>
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<td></td>
<td>• Landscaping should take advantage of the natural terrain and formations</td>
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<td></td>
<td>• Restoration of construction site to near pre-construction state</td>
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<td></td>
<td>• Use of natural materials as much as possible</td>
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<tr>
<td>Biological Environment</td>
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<tr>
<td>Vegetation clearing</td>
<td>• Vegetation clearance should be minimised as much as possible</td>
<td>Contractor</td>
<td>Included in construction cost</td>
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<td></td>
<td>• Only indigenous plant species should be used for re-vegetation</td>
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<tr>
<td>Reservoir impoundment</td>
<td>• Replanting of riparian tree species along the reservoir shoreline</td>
<td>Owner</td>
<td>Included in catchment management cost (USD 200,000)</td>
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<td></td>
<td>• The riverine forests outside the reservoir should be protected to conserve interesting species such as <em>Coffea eugenioides</em>, <em>Heywoodia lucens</em> and the epiphytic orchids</td>
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<td>Impact Source</td>
<td>Mitigation Measures</td>
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<td>Population influx</td>
<td>• Regulate access to the project site</td>
<td>Contractor</td>
<td>Included in construction cost</td>
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<td></td>
<td>• Workers should be prohibition from collecting firewood</td>
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<tr>
<td>Habitat degradation</td>
<td>• Pre-impoundment clearing of trees in the reservoir to allowing animals to escape before inundation</td>
<td>Contractor</td>
<td>Included in construction cost</td>
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<tr>
<td>Disturbance from construction activity</td>
<td>• Schedule noisy activities to daytime hours</td>
<td>Contractor</td>
<td>Included in construction cost</td>
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<td>• Instruct the workforce to avoid unnecessary noise</td>
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<td>Increased sediment load</td>
<td>• Avoid unnecessary soil erosion on the riverbanks</td>
<td>Contractor</td>
<td>Included in construction cost</td>
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<td></td>
<td>• Restore vegetation cover as soon as possible</td>
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<td>• Sedimentation controls should be implemented, e.g. silt fences and sedimentation ponds</td>
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<td>Risk of pollution</td>
<td>• Avoid unnecessary soil erosion on the riverbanks</td>
<td>Contractor</td>
<td>Included in construction cost</td>
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<td>• Secondary containment to collect diffuse and accidental spills</td>
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<td>• Storage and handling of fuel should be kept away from the river</td>
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<td>Human Environment</td>
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<tr>
<td>Administrative burden</td>
<td>• Capacity-building of local government administration</td>
<td>Owner/Contractor</td>
<td>Included in stakeholder engagement cost (USD 30,000) and capacity building cost (USD 16,000) Contractor: Included in construction cost</td>
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<td>• Support to local authorities in providing basic social services, handling of grievances, community policing, etc.</td>
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<td>• Ensure adequate information-sharing and collaboration with the local authorities</td>
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<td>• Contractors to provide for their own workforce, including health care, water and sanitation, housing, etc.</td>
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<td>Population influx</td>
<td>• Establish transparent recruitment procedures to avoid camp followers in form of job-seekers</td>
<td>Owner/Contractor</td>
<td>Included in community health, safety and security cost (USD 330,000) Contractor: Included in construction cost</td>
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<td></td>
<td>• Priority for recruitment to be given to local residents for less specialised services</td>
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<td>• Opportunities for sub-suppliers and sub-contractors should be awarded to local firms which in turn employ local labour</td>
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<td></td>
<td>• Control worker interactions and conflicts with neighbouring communities</td>
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<td>• Conduct public health campaigns addressing issues of behavioural change, water and sanitation, malaria, HIV/AIDS, etc.</td>
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<td>• Undertake a census survey of affected land owners and establish a cut-off date for compensation as soon as possible</td>
<td>Owner/Contractor</td>
<td>Included in construction cost</td>
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<td>Impact Source</td>
<td>Mitigation Measures</td>
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</tr>
</tbody>
</table>
| Increased disease prevalence| • Collaborate with the local health centres to conduct preventive health campaigns for malaria and HIV/AIDS  
                              • Develop Code of Conduct for workers to prevent unwanted behaviour  
                              • Distribute mosquito nets among workers, their families and if possible to the general population to combat malaria  
                              • Provide sufficient safe water drinking facilities to the workers and communal facilities for the camp-followers and the general population to combat water related diseases  
                              • Provide sufficient sanitary facilities to the workers and communal facilities for the camp-followers to reduce the risk of faecal water pollution and the resultant diseases  
                              • Adopt good engineering practices to avoid creating opportunities for mosquito breeding and to suppress dust levels from construction activities | Owner/Contractor        | Owner: Included in community health, safety and security cost (USD 330,000)  
                              Contractor: Included in construction cost |
| Land acquisition            | • Compensation for land and lost income to the affected institutions  
                              • Compensation for communal land to the affected villages, preferably in a form that can benefit the entire community  
                              • Compensation for assets on land to the owners of the assets  
                              • Support to vulnerable households in their efforts to acquire replacement land and restore their livelihoods | Owner                   | Included in land acquisition and involuntary resettlement cost (USD 14,844,326) |
| Employment opportunities     | • Priority for recruitment to be given to local residents for less specialised and labour intensive services  
                              • Opportunities for sub-suppliers and sub-contractors should be awarded to local firms which in turn employ local labour  
                              • Local residents should be hired for tasks like vegetation clearing of the reservoir, re-vegetation of opened up areas, etc.  
                              • Create opportunities for employment of women in both management and casual placements | Contractor               | Included in construction cost |
| Business opportunities       | • Local companies should be given opportunity for sub-contracts  
                              • Supply services that do not require high capital investments should be forwarded to local companies if possible  
                              • Raw materials should be procured from the project area, if possible and if available |
| Economic displacement        | • Compensation for all losses and support towards livelihood restoration | Owner                   | Included in land acquisition and involuntary resettlement cost (USD 14,844,326) |
| Physical displacement        | • Undertake an enumeration of all households to be physically displaced  
                              • Plan for the resettlement of households to be physically displaced  
                              • Provision of replacement housing with secure tenure | Owner                   | Included in land acquisition and involuntary resettlement cost (USD 14,844,326) |
| Pressure on education services | • Notifications to schools about the construction works and time schedules  
                              • No child labour and avoid recruiting school going youth | Owner/Contractor         | No cost |
<table>
<thead>
<tr>
<th>Impact Source</th>
<th>Mitigation Measures</th>
<th>Responsibility</th>
<th>Estimated Cost</th>
</tr>
</thead>
</table>
| Pressure on health services         | • Strengthen the existing health facilities to enable them handle the additional load  
• Provide adequate health care to project workers and their families so as to avoid adding additional stress to the existing health facilities  
• Facilitate the lower level dispensaries and health centres to conduct preventive campaigns                                                                                                                                                                   | Owner/Contractor                | Owner: Included in community health, safety and security cost (USD 330,000)  
Contractor: Included in construction cost                                                                                                                                                                    |
| Increased water demand              | • Provide sufficient water supply to all workers  
• Contribute to the provision of communal facilities to ensure that the camp-followers have access to drinking water                                                                                                                                                                      | Owner/Contractor                | Owner: Included in community health, safety and security cost (USD 330,000)  
Contractor: Included in construction cost                                                                                                                                                                    |
| Compromised water quality           | • Provide sufficient sanitary facilities for workers at all work sites and communal facilities for the camp-followers  
• Secondary containment to collect diffuse and accidental spills  
• Institute adequate waste management procedures                                                                                                                                                                                                                       | Owner/Contractor                | Owner: Included in community health, safety and security cost (USD 330,000)  
Contractor: Included in construction cost                                                                                                                                                                    |
| Pressure on waste management        | • Prior to construction commencement, establish possibilities for local disposal of non-hazardous wastes  
• Reduce waste volumes through waste prevention, recycling and reuse, treatment and disposal  
• Train and orient all workers, sub-contractors, service providers and third-parties on the waste management procedures                                                                                                                                                         | Owner/Contractor                | Included in construction cost                                                                                                                                                                                |
| Increased traffic volume            | • As much as possible, ensure that project traffic is restricted to the proposed access road  
• Institute traffic controls for project vehicles and equipment  
• Collaborate with the local traffic police to ensure that traffic rules are enforced on shared public roads                                                                                                                                                         | Owner/Contractor                | Owner: Included in community health, safety and security cost (USD 330,000)  
Contractor: Included in construction cost                                                                                                                                                                    |
| Occupation safety risks             | • Institute safe working procedures for all tasks  
• Train and orient workers on job safety  
• Provide personal protective equipment to all workers and visitors on site  
• Ensure that all sub-contractors, service providers and other third-parties abide by the health and safety procedures                                                                                                                                                   | Contractor                      | Included in construction cost                                                                                                                                                                                |
<table>
<thead>
<tr>
<th>Impact Source</th>
<th>Mitigation Measures</th>
<th>Responsibility</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community safety risks</td>
<td>• Information-sharing with communities about the potential safety hazards</td>
<td>Owner/Contractor</td>
<td>Owner: Included in community health, safety and security cost (USD 330,000)</td>
</tr>
<tr>
<td></td>
<td>• Institute safe working procedures and safety considerations when working around communities</td>
<td></td>
<td>Contractor: Included in construction cost</td>
</tr>
<tr>
<td></td>
<td>• Institute project-specific traffic controls and speed limits to reduce the risk of traffic accidents on project roads</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Collaborate with the local traffic police to ensure that traffic rules are enforced on shared public roads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Security threats</td>
<td>• Support local security systems to strengthen community policing and crimehandling measures</td>
<td>Owner/Contractor</td>
<td>Owner: Included in community health, safety and security cost (USD 330,000)</td>
</tr>
<tr>
<td></td>
<td>• Institute strict control measures for project property</td>
<td></td>
<td>Contractor: Included in construction cost</td>
</tr>
<tr>
<td></td>
<td>• Ensure that the conduct of security personnel complies with good international practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Establish a grievance mechanism for addressing security-related grievances</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss of physical cultural resources</td>
<td>• Graves should be relocated in accordance with applicable rules and regulations</td>
<td>Owner/Contractor</td>
<td>Owner: Included in land acquisition and involuntary resettlement cost (USD 14,844,326)</td>
</tr>
<tr>
<td></td>
<td>• Any chance finds should be reported to the responsible authority</td>
<td></td>
<td>Contractor: Included in construction cost</td>
</tr>
<tr>
<td></td>
<td>• Raise awareness among project staff on archaeological materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Changes in cultural values and norms</td>
<td>• Raise awareness to foreign workers on local culture, norms and values</td>
<td>Owner</td>
<td>Cost Included in Environmental and Social Management Unit cost</td>
</tr>
<tr>
<td></td>
<td>• Educate the community on the importance of preserving local culture and traditions</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>OPERATION PHASE</strong></td>
<td><strong>Physical Environment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil erosion</td>
<td>• Erosion protection along the reservoir perimeter if necessary (e.g. targeted tree planting, erosion control mats)</td>
<td>Owner</td>
<td>Included in catchment management cost (USD 200,000)</td>
</tr>
<tr>
<td>Land contamination</td>
<td>• Installation of secondary containment at fuel storage sites</td>
<td>Owner/Contractor</td>
<td>Included in construction cost</td>
</tr>
<tr>
<td></td>
<td>• Store hazardous materials in properly designed storage facilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GHG emissions</td>
<td>• Pre-impoundment clearing of trees in the reservoir</td>
<td>Contractor</td>
<td>Included in construction cost</td>
</tr>
<tr>
<td>Reservoir operation</td>
<td>• Ensure immediate release of a compensatory flow in case of planned or unplanned outages of the power station</td>
<td>Owner/Contractor</td>
<td>Included in construction cost</td>
</tr>
<tr>
<td></td>
<td>• Pre-impoundment clearing of trees in the reservoir</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shoreline erosion</td>
<td>• Riverbank protection and reestablishment of riparian forest</td>
<td>Owner</td>
<td>Included in catchment management cost (USD 200,000)</td>
</tr>
<tr>
<td>Impact Source</td>
<td>Mitigation Measures</td>
<td>Responsibility</td>
<td>Estimated Cost</td>
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</tr>
<tr>
<td>Sediment flushing</td>
<td>• Notify downstream water users about flushing schedule</td>
<td>Owner</td>
<td>Included in emergency preparedness cost (USD 300,000)</td>
</tr>
<tr>
<td>Water pollution</td>
<td>• Secondary containment to collect diffuse and accidental spills</td>
<td>Owner/Contractor</td>
<td>Included in construction cost</td>
</tr>
<tr>
<td>Vegetation succession</td>
<td>• Facilitate the reestablishment of riparian trees along the reservoir shoreline</td>
<td>Owner</td>
<td>Included in catchment management cost (USD 200,000)</td>
</tr>
<tr>
<td>Establishment of invasive</td>
<td>• Removal of invasive plant species during routine vegetation maintenance</td>
<td>Owner/Contractor</td>
<td>Included in fish and fisheries management cost (USD 5,950,000)</td>
</tr>
<tr>
<td>blockage of fish migration</td>
<td>• Restore disturbed areas immediately after the construction and maintenance works</td>
<td>Owner</td>
<td>Included in fish and fisheries management cost (USD 5,950,000)</td>
</tr>
<tr>
<td>Creation of reservoir</td>
<td>• Improve knowledge about fish migrations and fish behaviour in the Kagera River</td>
<td>Owner</td>
<td>Included in fish and fisheries management cost (USD 5,950,000)</td>
</tr>
<tr>
<td>Power plant</td>
<td>• Install angled bar rack (modified trash rack) at turbine intakes to reduce fish en-</td>
<td>Contractor</td>
<td>Included in construction cost</td>
</tr>
<tr>
<td></td>
<td>- tainment and mortality</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Design the spillway with overflow gates of Obermeyer type to ensure immediate release of compensatory flow during planned or unplanned outages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Environment</td>
<td>• Collaborate with the local health centres to conduct preventive health campaigns for malaria and schistosomiasis</td>
<td>Owner</td>
<td>Included in community health, safety and security cost (USD 330,000)</td>
</tr>
<tr>
<td></td>
<td>• Ensure that the local health centres have access to drugs for treatment of schistosomiasis and malaria</td>
<td></td>
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<tr>
<td></td>
<td>• Consider school-based deworming campaigns if the need arises</td>
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<tr>
<td></td>
<td>• Support towards the improvement of sanitary facilities in the neighbouring communities</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>• In the worst case scenario, consider selective chemical control (molluscicides) or biological control (e.g. introduction of species that feed on the intermediate snails hosts)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact Source</td>
<td>Mitigation Measures</td>
<td>Responsibility</td>
<td>Estimated Cost</td>
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</tr>
</tbody>
</table>
| Changes in user rights | • Undertake the necessary procedures to reflect the transfer of land rights including notification to all affected stakeholders  
• Support those stakeholders that might be interested in preparing residual titles for their granted right of occupancy or leaseholds for purposes of reflecting the changes in terms and conditions | Owner          | Included in land acquisition and involuntary resettlement cost (USD 14,844,326) |
<p>| Improved fisheries    | • Develop a fisheries management programme for the reservoir                          | Owner          | Included in fish and fisheries management cost (USD 5,950,000)                  |
| Reduction in incomes  | • Compensation for loss of profits for all stakeholders with developments on land     | Owner          | Included in land acquisition and involuntary resettlement cost (USD 14,844,326) |
| Loss of household resources | • Compensate for loss of access to natural resources                                 | Owner          | Included in land acquisition and involuntary resettlement cost (USD 14,844,326) |
| Livestock diseases    | • Ensure access to veterinary services for the project-affected livestock owners      | Owner          | Included in community health, safety and security cost (USD 330,000)           |
| • Support tsetse fly control initiatives in the project area |                                                        |                |                                                                                |
| Lack of road maintenance | • Ensure that the access road is regularly maintained                                 | Owner          | Included in operating cost                                                    |
| Occupational safety risks | • Institute safe working procedures for all tasks                                   | Owner          | Included in operating cost                                                    |
| • Train and orient workers on job safety |                                                        |                |                                                                                |
| • Provide personal protective equipment to all workers and visitors on site |                                                        |                |                                                                                |
| Dam safety            | • Ensure safe operation of the dam                                                   | Owner          | Included in emergency preparedness cost (USD 300,000)                          |
| • Develop a flood warning system |                                                        |                |                                                                                |
| <strong>TOTAL ESMP BUDGET</strong> |                                                                                     |                | <strong>USD $ 23,936,926.00</strong>                                                       |</p>
<table>
<thead>
<tr>
<th>Management Issue</th>
<th>Performance Indicators</th>
<th>Means of Verification</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
</table>
| Landscape and vegetation management | • Quantity and quality of vegetation clearing  
• Quality of landscaping at restored sites  
• Plant species used for re-vegetation  
• Number and location of spoil heaps  
• Cleanliness of construction site | • Visual inspections  
• Photographic documentation  
• Interviews | Weekly inspections |
| Soil erosion and sedimentation control | • Number and location of silt trap fences / sedimentation ponds  
• Timing and duration of in-stream works  
• Water quality parameters | • Visual inspections  
• Photographic documentation  
• Interviews  
• Water quality measurements in the main river downstream of the construction areas | Weekly inspections  
Monthly water quality measurements (daily during in-stream works) |
| Waste management | • Amounts and types of waste generated, sorted, recycled/reused, treated and disposed  
• Number, location and status of waste disposal sites  
• Number and status of toilet facilities  
• Wastewater quality parameters  
• Quality of secondary containment structures  
• Labelling of hazardous waste  
• Evidence of pollution spill contingency plan | • Visual inspections  
• Photographic documentation  
• Interviews  
• Wastewater quality measurements at source (see Appendix 9) | Weekly inspections  
Weekly wastewater quality measurements |
| Air pollution control | • Frequency of water spraying on roads and stock-piles  
• Evidence that trucks cover loose materials  
• Location and timing of waste burning  
• Ambient air quality (PM$_{10}$) | • Visual inspections  
• Photographic documentation  
• Interviews  
• PM$_{10}$ measurements at construction sites and road sides using standard air sampling equipment (conforming to EC Directive 89/336/EEC and ISO 12103-1) | Weekly inspections  
Weekly air quality measurements |
| Noise management | • Timing of blasting operations  
• Blasting practices  
• Evidence of hearing protection used by workers  
• Evidence of noise control devices  
• Noise levels (dB) | • Visual and auditory inspections  
• Interviews  
• Blasting records  
• Noise level measurements (Leq, dBA) at construction and blasting sites, as well as receptor, using a standard sound level meter | Weekly inspections  
Weekly noise measurements, or daily in case of non-compliance with IFC Noise Level Guidelines |
<table>
<thead>
<tr>
<th>Management Issue</th>
<th>Performance Indicators</th>
<th>Means of Verification</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
</table>
| Physical cultural resources      | • Number of chance finds  
• Evidence of chance finds procedures                                                        | • Visual inspections  
• Photographic documentation  
• Interviews                                                              | Weekly inspections               |
| Occupational health and safety   | • Evidence of OHS Plan and Emergency Preparedness and Response Plan  
• Percentage of workers using personal protective equipment (PPE)  
• Number of workers trained in safety procedures  
• Quality of workers’ accommodation and sanitary facilities  
• Type and quality of health services provided to workers  
• Malaria prevalence rate in workforce  
• HIV/AIDS prevalence rate in workforce  
• Incident statistics (Total Recordable Injuries, Fatalities, Lost Time Injuries, Restricted Work Case, Medical Treatment Case, First Aid Case, Near Miss, Reports on Unwanted Occurrences)  | • Visual inspections  
• Interviews  
• Photographic documentation  
• Incident reports                                                      | Daily monitoring                  |
| Traffic and transportation safety| • Evidence of traffic and transportation safety plan  
• Traffic incident rate  
• Observed speed of construction vehicles  
• Number of drivers trained and equipped with license  
• Evidence of signing, warnings and controls                            | • Visual inspections  
• Speed checks  
• Photographic documentation  
• Interviews                                                             | Monthly inspections and checks |
| Security                         | • Compliance with Voluntary Principles on Security and Human Rights  
• Quality of fencing and site access                                       | • Visual inspections  
• Photographic documentation  
• Interviews                                                               | Weekly inspections               |
<table>
<thead>
<tr>
<th>Management Issue</th>
<th>Performance Indicators</th>
<th>Means of Verification</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
</table>
| Labour management      | • Proportion of local population on overall project workforce
|                        | • Proportion of women employees on overall project workforce
|                        | • Evidence of written contracts
|                        | • Number of worker grievances
|                        | • Age of workers
|                        | • Quality of workers’ accommodation
|                        | • Proportion of unskilled workforce that have had their skills upgraded                 | • Visual inspections
|                        |                                                                                       | • Interviews
|                        |                                                                                       | • Employment contracts |
|                        |                                                                                       |                                | Weekly inspections     |
| Drugs and alcohol policy | • Evidence of drugs and alcohol policy
|                        | • Frequency of drugs and alcohol testing                                               | • Visual inspections
|                        |                                                                                       | • Interviews              | Weekly inspections     |
| Community relations    | • Number of community grievances                                                       | • Visual inspections
|                        |                                                                                       | • Photographic documentation |
|                        |                                                                                       | • Interviews              | Weekly inspections     |
9. ESMP Implementation Arrangement and Training and Capacity Development

PIU
A dedicated Project Implementation Unit shall be set up within TANESCO to manage the implementation of the ESMP. The PIU shall consist of environmental and social safeguard specialists (See Plate 2 in Annex I of this report) who have managed similar bank funded projects. The PIU shall supervise the Contractor to ensure effective implementation of the ESMP. The PIU will prepare quarterly reports on the overall ESMP implementation including the performance and compliance with the Construction Contractors’ ESMP which will be submitted to the Bank and other stakeholders for review and compliance assessment.

Contractors
The Contractors shall develop work specific ESMPs monitor their compliance with the Construction ESMPs. The Contractors will perform routine (monthly and quarterly reports to be shared with the bank) monitoring reporting using pre-established checklists.

Government
The following government institutions will carry out inspections and audits as they may deem fit via inspections and audits, either separately or jointly;
- National Environment Management Council (NEMC)
- Ministry of Lands, Housing and Human Settlements Development
- Ministry of Livestock and Fisheries Development
- Ministry of Water
- Ministry of Natural Resources and Tourism
- Lake Victoria Basin Authority, Sub-Basin Kagera

ESMP Induction Training and Awareness: this training should be for visitors or individuals who do not have direct roles or responsibilities for implementing the ESMP, and should cover basic Project environmental and social commitments.

ESMP Management Training and Awareness: this training focuses attention on management, covering key aspects of the ESMP and providing an overview of the Project’s environmental and social impact management expectations and the supporting processes and procedures prescribed in the ESMS to meet performance expectations.

ESMP Job-specific Training and Awareness: job-specific training should be provided to all personnel who have direct roles and responsibilities for implementing or managing components of the ESMP. This training should also include all people whose specific work activities may have an environmental or social impact.

Estimated Budget for ESMP Implementation
To effectively implement the mitigation and monitoring measures recommended in the ESMP, a total estimated cost of USD$ 23,936,926.00 has been budget exclusive of additional budget to be included within the Contractors costs for supervision. The cost of mitigation by the EPC Contractor shall be included in the contract as part of the project implementation cost.

10. PUBLIC CONSULTATION AND DISCLOSURE
Public participation formed an integral part of the full ESIA process and the consultation of Interested and Affected parties (I&AP’s) is key to ensuring adherence to the legal requirements. The schedule of the meetings held is as shown in Table 10.1 overleaf.
Table 10.1 Types of Stakeholder consultations held with key I&ApS

<table>
<thead>
<tr>
<th>Activity</th>
<th>Purpose</th>
<th>Date</th>
<th>No of People</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Lands, Housing and Human Settlements Development</td>
<td>National level consultation with member of administration</td>
<td>23 June 2013</td>
<td>1</td>
</tr>
<tr>
<td>Karagwe District Authority, Kayanga</td>
<td>To agree on the best way to facilitate broad participation</td>
<td>26 June 2013</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>District level consultation with key stakeholders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kitengule Ranch consultation meeting</td>
<td>Institutional consultation with key stakeholder</td>
<td>26 June 2013</td>
<td>2</td>
</tr>
<tr>
<td>Kitengule Prisons</td>
<td>Institutional consultation with key stakeholder</td>
<td>26 June 2013</td>
<td>1</td>
</tr>
<tr>
<td>District Local Authority meeting, Missenyi</td>
<td>To agree on the best way to facilitate broad participation in Bunazi</td>
<td>27 June 2013</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>District level consultation with key stakeholders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missenyi and Karagwe Government Valuer</td>
<td>District level consultation with a member of compensation/valuation and resettlement administration</td>
<td>27 June 2013</td>
<td>1</td>
</tr>
<tr>
<td>Kyaka village public meeting</td>
<td>Local level consultation with local populace and communal and official authorities in project affected areas</td>
<td>28 June 2013</td>
<td>23</td>
</tr>
<tr>
<td>Kagera Sugar Limited, Kagera</td>
<td>Institutional consultation with key stakeholder in project affected area</td>
<td>28 June 2013</td>
<td>2</td>
</tr>
<tr>
<td>Regional Prison Office</td>
<td>Institutional consultation with key stakeholder in project affected area</td>
<td>1 July 2013</td>
<td>1</td>
</tr>
<tr>
<td>Kagera Regional Government</td>
<td>Regional level public consultation with members of administration</td>
<td>1 July 2013</td>
<td>3</td>
</tr>
<tr>
<td>Lake Victoria Basin Authority, Sub-Basin Kagera</td>
<td>Regional level public consultation with members of administration</td>
<td>1 July 2013</td>
<td>1</td>
</tr>
<tr>
<td>National Ranching Company</td>
<td>Institutional consultation with key stakeholder</td>
<td>10 July 2013</td>
<td>1</td>
</tr>
<tr>
<td>Kagera Sugar Co. Ltd., Dar es Salaam</td>
<td>Institutional consultation with key stakeholder</td>
<td>13 July 2013</td>
<td>1</td>
</tr>
<tr>
<td>Tanzania Forest Services, Dar es Salaam</td>
<td>Institutional consultation with key stakeholder</td>
<td>15 July 2013</td>
<td>1</td>
</tr>
<tr>
<td>Kagera Sugar Co. Ltd., Head Office</td>
<td>Institutional consultation with key stakeholder</td>
<td>30 August 2013</td>
<td></td>
</tr>
<tr>
<td>Missenyi District Council, Land Officials</td>
<td>Institutional consultation with key stakeholder</td>
<td>24 November 2013</td>
<td>1</td>
</tr>
<tr>
<td>Municipal Valuer, Bukoba</td>
<td>Institutional consultation with key stakeholder</td>
<td>25 November 2013</td>
<td>1</td>
</tr>
<tr>
<td>Kyaka Village Council</td>
<td>Local level consultation with local authorities in project affected areas, with particular focus on land acquisition</td>
<td>26 November 2013</td>
<td>24</td>
</tr>
<tr>
<td>Businde and Bugara village public meeting</td>
<td>Local level consultation with local populace and communal and official authorities in project affected areas</td>
<td>27 November 2013</td>
<td>32</td>
</tr>
<tr>
<td>Activity</td>
<td>Purpose</td>
<td>Date</td>
<td>No of People</td>
</tr>
<tr>
<td>--------------------------------------</td>
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</tr>
<tr>
<td>Mwisa Prison</td>
<td>Institutional consultation with key stakeholder</td>
<td>27 November 2013</td>
<td>1</td>
</tr>
<tr>
<td>NARCO and block leaseholders</td>
<td>Institutional consultation with key stakeholder in project affected area</td>
<td>30 November 2013</td>
<td>8</td>
</tr>
<tr>
<td>Kagera Sugar Co. Ltd., Dar es Salaam</td>
<td>Institutional consultation with key stakeholder</td>
<td>5 December 2013</td>
<td>1</td>
</tr>
<tr>
<td>Rumanyika and Ibanda Game Reserve</td>
<td>Institutional consultation with management of the nearest game reserves</td>
<td>2 March 2016</td>
<td>1</td>
</tr>
</tbody>
</table>

The stakeholders were informed about the proposed project and the intention of the proponent to carry out an ESIA to ensure the environmental and socio-economic sustainability of the proposed project and to identify major issues of concerns from stakeholders. The main concerns raised by the communities during the stakeholder meetings included *provision for jobs especially for the youth and women, valuation and payment of compensation for affected institutions and communities for the Power plant and T-line*. TANESCO has developed a Resettlement Action Plan to address the issues of displacement from the project related land acquisition process.

**Grievance Redress Mechanism**

TANESCO has developed a Stakeholder Engagement Plan (SEP) which incorporates a Grievance Redress Mechanism (GRM) to address concerns from the Project Affected Peoples (PAPs) under the RAP. This SEP and GRM shall be sustained and enhanced to address the construction related concerns from the Affected Communities prior to the commencement of construction works.

11. CONCLUSION

This ESIA Summary report responds to the environmental assessment requirements of NEMC and the African Development Bank’s Integrated Safeguard System. Most of the anticipated adverse impacts associated with the project can be readily managed to acceptable levels with implementation of the recommended mitigation measures within the ESMP. In general, the proposed project will result in an appreciable benefits to the country power production and create opportunities for both social and economic development. The project’s ESIA has been registered and approved in both 2014 and 2017 by the NEMC.

The following actions are recommended for completion prior to commencement site construction works;

- Development of robust SEP incorporating a GRM to address construction related concerns from the Affected Communities and Interested Parties. The SEP shall include Community Liaison officers who will serve as first point of contact for the Affected Communities.
- Development of an Environmental and Social Management System (ESMS) by the Contractor to mainstream the ESMP into its daily operational activities.
- Development of a Biodiversity Management Plan to monitor and conserve natural resources and sensitive habitats along the River Basin. This shall include calculation and maintenance of adequate environmental flow downstream of the dam to protect biodiversity.
- A Riparian agreement of all other stakeholders (including Countries) likely to be impacted on both upstream and downstream sides of the dam.
REFERENCES AND CONTACTS

1. Environmental and Social Impact Assessment Report for the Kakono HydroPower Project (87MW) Kagera River, Dated July 2016. Prepared by Norplan, Nedre Skøyen vei 2, N-0276 Oslo, Norway in association with NORPLAN Tanzania, Plot 92, Warioba Street, Mikocheni, Kinondoni, P.O.Box 2820, Dar es Salaam, Tanzania AS.


3. Resettlement Action Plan (RAP) Draft Report for the Proposed Kakono Hydropower Plant and 132kV Transmission Line Project (38.5km), Dated September 2017 and prepared by TANESCO.

For more information, please contact:

For AfDB
- Felix Oku, Senior Environmentalist: foku@afdb.org
- Stella Mando Senior Energy Specialist s.mandago@afdb.org

Annex I: Site Location map of QPEA Project.

Plate 1: Site Location map of Kakono HEPP  Plate 2: Implementation Arrangement
Kakono Hydropower Project Tanzania
Resettlement Action Plan (RAP) Summary

Project Title: Kakono Hydropower Project
Project Number: P-TZ-FAB-02
Country: Republic of Tanzania
Department: PESD
Division: PESD1
Project Category: 1
Date: May 2018

1. INTRODUCTION

The African Development Bank is considering a financial support for the Kakono Hydroelectric Power Project within the Karagwe and Misenyi Districts, Kagera Region of the United Republic of Tanzania (See location map in Annex 1 of this Summary Report). The proposed project comprises of the following key infrastructural components;

- A Run-of the River technology incorporated within Embankment Dam with an annual mean flow of 243m$^3$/sec, installed capacity of 87MW and mean annual energy production of 573Gwh.
- Construction of a new 38.5km, 132kV Transmission Line from the Dam site, Kakono to Kyaka substation and rehabilitation works at the existing 132/33kV substation at Kyaka.

This RAP Summary Report highlights the key arrangement put in place to minimize impacts from displacements (physical an economic) from the acquisition of the lands for the project (Dam site and Right of Way –RoW- for the T-line) by TANESCO in line with the requirements of both national and the African Development Bank’s E&S Integrated Safeguard System- ISS.

2. POLICY LEGAL AND ADMINISTRATIVE FRAMEWORK

The RAP implementation shall be guided by laws, legislation, regulations, and local rules governing the use of land and other assets in Tanzania and AfDB’s Integrated Safeguards System (ISS) and the Involuntary Resettlement Policy (2003). The legal and institutional framework include the following:

(i) Property and land rights, as defined by Tanzanian law and customary practice
(ii) Acquisition of land and other assets, including regulations over the buying and selling of these assets
(iii) Rights and compensation, in particular, the accepted norms influencing peoples’ basic rights to livelihood and social services
(iv) Dispute resolution and grievance mechanisms, specifically the legal and institutional arrangements for filing grievances or complaints and how those grievances are addressed through formal and informal systems of dispute resolution.

The following are the specific laws and regulations relevant to the RAP implementation:
(i) National Land Policy, 1997
(ii) The Land Act, 1999
(iv) The Graveyard removal Act (No. 9 of 1969)
(v) The Land Regulations, 2001
(vi) The Land Disputes Courts Act No. 2 of 2002 Land Use and Spatial Planning

Specific attention shall be paid to the follow areas which represent gaps between the national and AfDB’s ISS requirements;
- Recognizing tenants to have some kind of entitlement
- Replacement value of affected properties (on a like for like or better premise)
- Providing attention to vulnerable groups
- Monitoring the performance of Involuntary Resettlement
- Consultation of Stakeholders (including host communities if any)
- Bank’s recognizing encroachers as PAPs with entitlement

3. SOCIO-ECONOMIC BASELINE INFORMATION

A comprehensive census of the project affected persons with a socio-economic status survey and preliminary assets inventory is an important component in the planning for resettlement of the affected persons. The main objective of the census and socio-economic survey was to prepare an inventory of all the affected assets and affected households, to estimate the extent of resettlement impacts due to project implementation and to prepare RAP for the compensation and assistance.

Full asset inventory and valuation of assets have been undertaken. The HPP project will affect Kagera Sugar land which is not yet developed while the transmission line will affect the Land of National Ranching Company, Kitengule Prison and individual PAP’s approximated to be 77 in number. The socio-economic survey and census on the PAPs within the proposed transmission line project was conducted and 52 PAP’s who were found within the 6.8km stretch of the proposed power transmission line were interviewed. Other individual PAP’s were not around and they were reported to be staying away from Kyaka village mostly in Dar es Salaam Region.

4. Potential Impacts and Mitigation Measures

The implementation of the proposed project will have both positive and negative impacts to the project affected communities and the country at large. Among positive impacts include the following:

**Provision of employment**
Provision of employment opportunities for the local population, and substantial increases in income-generating activities. An estimated 1000 job opportunities (skilled and unskilled) for the construction phase and about 60 for the operation phase are anticipated. Local people will also have the opportunity to establish small scale food service and other indirect economic services to cater for the needs of the construction workers.

**Increased income generation**

The increased income generation activities will provide especially for women additional income which in the existing cultural context implies improved household socio-economic statuses.

**Increase in Power**

The project will result in additional supply of 87MW into the national grid which will reduce Tanzania’s import of Power, supply of power to industry leading to employment, supply of electricity to low income communities including affected communities resulting in decrease in non-polluting sources of energy.

**Negative Impacts**

However, the project is anticipated to have some negative impacts which however can be mitigated and these include:

**Loss of means of livelihood**

For the major part of the transmission line corridor the land is used for agriculture. Some of this land will be taken permanently for the transmission line towers. The rest of the land may still be used for cultivation after completion of the construction works.

**Loss of Residential and Productive Land and resources**

Since no buildings or farms will be permitted within the way leave; transmission line will affect about 43.4 acres of land of potential settlement in Kyaka village area, 157.5 acres of land belonging to the Kagera Sugar Ltd and 56.0 acres belonging to the Kitengule prison. For the actual dam site, the project will affect 710 ha which is 1754.5 acres.

Permanent crops include those that take more than a year to reach full maturity and can be harvested over a long period of time. These include fruit trees, banana trees and timber and shades related trees.

In order to mitigate the negative impacts of the proposed project all affected properties as a resulting of implementing the proposed project will be compensated for in line with the requirements of AfDB’s ISS.

**5. Eligibility and Entitlements**

The eligible individual(s) are those who are directly affected physically and/or economically through the HPP and TL project caused by:

a) The compulsory taking of land and other assets resulting in the following:
   - Relocation or loss of shelter;
   - Loss of assets or access to assets; and
   - Loss of income sources or means of livelihood whether or not the affected persons must move to another location.
b) The forceful denial to access legally designated social economic services, with adverse impacts on livelihood of the displaced individuals.

PAPs were considered irrespective of their tenure status, with respect to land that they own, occupy or use provided they own, occupy or use the affected land prior to the cut-off-date. Cut-off date for eligibility to resettlement entitlements for the entire HPP and TL project is the last day of valuation of properties whereby PAP’s are given Form 69 by the valuer.

Properties that are eligible for compensation are buildings, land, assets on the land such as crops, trees, graves etc. Local communities losing land and/or access to assets under customary rights are eligible for compensation. These criteria have been used to determine which PAPs are considered eligible for compensation and other resettlement assistance, in accordance with Tanzania Laws and AfDB guidelines. For purposes of compensation, cut-off dates take into account only properties which existed before the enumeration of properties and assets along the proposed project is completed.

Table 5.1 below shows the eligibility and entitlement matrix adopted for the RAP implementation to ensure compliance with both national and international lender requirements.

<table>
<thead>
<tr>
<th>Type of PAPs</th>
<th>Type of Loss</th>
<th>Type of Entitlement</th>
<th>Compensation for Loss of Structure</th>
<th>Compensation for Loss of Assets</th>
<th>Compensation for Loss of Income</th>
<th>Moving allowance</th>
<th>Other assistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property Owner</td>
<td>Loss of Land</td>
<td>N/A</td>
<td>Compensation based on market value.</td>
<td>Crops at market cost in scarce season</td>
<td>None</td>
<td>Disturbance allowance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Loss of structure</td>
<td>Compensation at full replacement</td>
<td>Compensation at market price</td>
<td>For lost rental income lump some cash payment of 6 months’ rent per tenant. Loss of business income payment of half turnover for 6 months</td>
<td>Actual cost of transport for 12 tons of goods by road for a 20 Km distance</td>
<td>Disturbance, Accommodation, and Transport Allowances for loss of residential</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Loss of permanent crops and trees</td>
<td></td>
<td>Compensation of crops based on regional/district rates and value of affected land based on market value.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential Tenant</td>
<td>Loss of rental of accommodation</td>
<td>N/A</td>
<td>Replacement cost to enable tenants relocate</td>
<td>N/A</td>
<td>12 tons of goods by road for 20 Km</td>
<td>6 months’ rent equivalent</td>
<td></td>
</tr>
<tr>
<td>Relatives of people buried in graves</td>
<td>Graves and tombstones</td>
<td>Cash compensation based upon the official district approved compensation rates taking into account the type of materials, age and condition of the structure</td>
<td>Cash compensation to relocate graves at standard district rates</td>
<td></td>
<td></td>
<td>Disturbance allowance</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Option for displaced person to relocate grave in alternative burial site provided by municipality</td>
<td></td>
</tr>
</tbody>
</table>
6. Valuation

Preliminary valuation exercise was carried out as part of the project to determine the value of affected land/property/assets which would be used to guide the compensation allowances to be paid to the PAPs by the Government of Tanzania. The preliminary valuation objectives of the were:

- To identify and establish the value of all properties existing within the proposed project.
- To advice on the compensation amounts payable for the identified properties in accordance with local laws relating to compulsory acquisition of land and resettlement of affected persons. Due consideration has also been given to the African Development Bank Policy on Involuntary Resettlement (2003) requirements where local laws fall short of the specified requirements.

At this initial stage the valuer was required to prepare a preliminary valuation report showing for each description of property rightful owner and its compensation value. Detailed valuation was done later with compensation schedules which have been sent for approval by the Chief Government Valuer prior to payment of compensation.

7. Consultation, disclosure and public participation

Public participation and consultation were conducted with different stakeholders in order to provide project information, and share their views with regard to the proposed project design as part of both the ESIA and RAP preparation. These include individuals or groups who will be positively or negatively affected by the project including potential host communities. The consultations held within the proposed project area were aimed at seeking views and concern of the local communities along the project ROW. Secondly, the public forums served to create awareness to the local community and particularly the PAPs on how the project would impact on their daily lives.

Prior to conducting the socio-economic survey, meetings were held with Government officials and other opinion leaders among the community to sensitize them on the project and its effects on the socio-economic aspects of the community. Some of the major feedbacks derived from the consultations with stakeholders are summarised below and in Table 7.1 overleaf:

- Timely information on project design, people wanted to be kept informed regarding the proposed HPP and TL project.
- Employment opportunity for local people: raised the need for local people to be given priority in employment during the construction (for both skilled and unskilled labor)
- Fair and timely compensation rates: requested for timely and adequate compensation for any losses incurred due to project implementation; and
- Majority of PAPs preferred cash compensation instead of in-kind compensation
<table>
<thead>
<tr>
<th>S/N</th>
<th>CONSULTED OFFICES</th>
<th>COMMENTS/CONCERN</th>
<th>RESPONSES</th>
</tr>
</thead>
</table>
| 1   | Regional Commissioner – Kagera | ✓ He welcomes the project and appreciates being involved during this preliminary stage of the project  
✓ There should be attendance sheet for all the meetings which will be conducted for evidence matters.  
✓ He also appreciated the fast tracking of the project.  
✓ The community should be informed about what the project is all about and how their concerns will be addressed in the project planning.  
✓ Public involvement is also among the key issues that should be taken into consideration  
✓ Land acquisition is also a problem within this area, hence when you find anything on the way leave make sure you take pictures | ✓ Noted  
✓ All attendances will be taken during the meetings and all consultations which will be made  
✓ Noted  
✓ Noted  
✓ Pictures are always taken for evidence during the RAP study and valuation exercise |
| 2   | Kagera Regional Prison Office, Kitengule prison and Mwesa Separation Facility | ✓ They are aware of this proposed project as they have received letter from Commissioner of Prison for this project regarding land issues.  
✓ The project is good since it will increase stability of electricity and all Tanzanians will benefit from this project  
✓ They accept the project and would like to know when is it starting? And his office is ready to provide any support and cooperation when needed.  
✓ A big challenge which we normally face in development projects is the issue of compensations; How are you going to deal with compensation issues especially in government institution?  
✓ Have you done EIA for this project?  
✓ Kitengule Prison has an irrigation scheme in planning, hence it should be checked into before the implementation of the project so that it will not interfere.  
✓ Corporate Social Responsibility; how do you plan to implement that? | ✓ Noted  
✓ Noted  
✓ Noted  
✓ EIA was done in 2014 and certificate was issued by NEMC, TANESCO is now updating previous EIA so as to meet AfDB and national requirements.  
✓ A map of the area showing your plan should be shared to TANESCO for crosschecking and reach conclusion on how to implement this TL project and proposed irrigation scheme.  
✓ To give subsidized electricity to the citizens and provide employment to the locals around the project area for example; protecting our poles against theft, after building of the pond they can still do fishing from it |
| 3   | DC, DED and DAS at Karagwe District | ✓ They are aware of this proposed project since they have been involved by TANESCO on each stage of the project.  
✓ They appreciated the coming of the project to Kagera region since it will boost electricity availability; they wish to be fully involved from the beginning.  
✓ Development issues cannot be prohibited.  
✓ A big area is within the government land hence they believe compensation will not be a problem to hinder this development.  
✓ Before the beginning of the project people should be provided with education especially around the villages where this project will pass through. | ✓ Noted  
✓ Noted  
✓ Noted  
✓ Noted and will be taken into consideration during valuation of the properties to avoid those problems.  
✓ Noted, awareness will be provided during this study and it will be a continuous process. |
### Figure 7.1: Sampled concerns from the public consultation exercise

<table>
<thead>
<tr>
<th>S/N</th>
<th>CONSULTED OFFICES</th>
<th>COMMENTS/CONCERN</th>
<th>RESPONSES</th>
</tr>
</thead>
</table>
| 4   | DC, DED and DAS at Missenyi District | ✓ They have no objection regarding this project  
✓ Sensitization should be done at all levels; For instance in case of valuation and compensations issues; they should use experts from respective affected districts  
✓ The project proponent should provide fair and prompt compensation to identified PAPs to avoid complains.  
✓ PAPs should be involved from the initial stage to avoid any contradictions; this will avoid bad outcome of the project  
✓ Employment opportunities should be provide to the youths around the project area | ✓ Noted  
✓ Noted and will be taken into consideration during valuation of the properties to avoid those problems. We believe Missenyi District experts who are in charge of valuation exercise will do as per national land laws requirements.  
✓ Noted, awareness will be provided during this study and it will be a continuous process. Noted, contractors will be advised to give priorities in securing employment to the affected villages (unskilled and semi-skilled labors). |
| 5   | Kyenya district- Mugaba, Businde and Bugara villages | ✓ We are happy with these project as it will increase employment opportunities  
✓ We are requesting TANESCO to supply electricity in our villages as most of the PAP’s are not connected  
✓ Are you going to supply electricity for free  
✓ We are requesting TANESCO to provide HIV/AIDS training during implementation of the project | ✓ Noted  
✓ Noted  
✓ No villagers will be required to pay some amount of money (This will be under rural electrification projects. |
| 6   | Focus Group Discussion with women | ✓ There will be an increase in employment opportunities; when our husbands get employed we also benefit.  
✓ Women are also going to benefit by selling food to the workers hence this will increase their incomes.  
✓ They asked if their children could be provided with education; about HIV/AIDS issues and how to take care of themselves during project implementation.  
✓ They also believe that; after getting electricity they can do different businesses like selling of cold drinks, juice, ice-cream etc.  
✓ They wanted to know which types of employments are going to be available.  
✓ They also have HIV/AIDS programmes with World Vision, AMAREF etc. The programmes would always involve educating them on how to take care of themselves with regards to this disease  
✓ The decision maker within the family is a man while the woman is the one who does a lot of responsibilities including taking care of children school needs like books. | ✓ Noted  
✓ Noted  
✓ During all phases of this project, there will HIV/AIDS campaigns and awareness to educate communities on risks of HIV/AIDS. Those awareness will be conducted by Contractors during construction and TANESCO during operation phase.  
✓ Noted  
✓ Various types of employment such as food vendors, clearing of RoW, It depends on what type of job is advertised such as unskilled and semi-skilled labors.  
✓ Noted, it is good for community to have those HIV programmes. Some of them might be used by the contractor |
| 7   | Focus group discussion with PAPs within 6.5km of proposed TL | ✓ Most of their questions were regarding compensation and valuation issues such as:  
✓ What is RoW?  
✓ What happens if TL is passing through centre of my farms?  
✓ What amount will be paid if TL is passing through my house?  
✓ Are you going to pay for seasonal crops?  
✓ Are graves going to be compensated?  
✓ Residents near to S/S site, what environmental risks will happen? | ✓ Noted |

**RAP Summary**

Page 7 of 15  
Kakono Hydropower Project, Tanzania
8. Institutional Arrangements

A number of organizations and institutions will be involved with the RAP implementation processes at different levels and times. The overall coordination of the implementation of RAP activities will be under TANESCO and other institutions and organizations that have the legal obligations to carry out functions related to resettlement and or compensation of the PAPs. These will include:

- TANESCO will support sensitization of stakeholders on RAP, preparation and monitoring of RAP;
- Local Government Authorities will provide technical support in preparation of RAP, screen, appraise and monitor the implementation of RAP;
- Communities, Villages, Wards, affected groups as the final owner of land, landed properties and assets to be acquired or affected will be the participants in the process;
- Independent NGOs /CBOs and other stakeholders may be engaged to witness the fairness and appropriateness of the whole process. The NGOs will be involved in the monitoring of the resettlement process, establishing direct communication with the affected population, community leaders, TANESCO to facilitate the completion of RAP;
- External and Internal Audits shall include the evaluation of the implementation of the resettlement action plans in routine annual audits. Without undue restrictions, the audits may include assessment of:
  - Resettlement conditions where relevant;
  - Consultation on compensation options, process and procedures;
  - Adequacy of compensation; and
  - Adequacy of specific measures targeting vulnerable people.

TANESCO shall set up Resettlement Committee, compensation committee and Dispute resolution committee comprising of representatives from key offices such as:
- District Commissioners from Missenyi, Karagwe and Kyerwa District
- District Land Officer from Missenyi, Karagwe and Kyerwa District
- District Valuer Officer from Missenyi, Karagwe and Kyerwa District
- TANESCO representative from Research and Environment, Finance and Audit departments
- Ward leaders
- Village leader
- PAP’s representative

9. Implementation schedules

Implementation of RAP consists of several resettlement activities. Efficient implementation of RAP activities requires several measures to be undertaken prior to start up of implementation. The key RAP implementation activities include surveys, PAPs identification and inventory of assets, consultation with PAPs, valuation of affected properties, establishment of cut-off date for eligibility and payment of compensation as summarized in Table 9.1 overleaf. The time frame of 12 months on the implementation schedule ensures that no PAP or affected household will be displaced prior to commencement of construction activities without compensation being paid. The dates within the schedule will be updated to ensure the 12months period is maintained following the necessary approvals to secure funding for the RAP implementation.
Table 9.1: RAP implementation Schedule to be updated

<table>
<thead>
<tr>
<th>Implementation of RAP Items</th>
<th>Months of Year 2017-2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>July</td>
</tr>
<tr>
<td>Preparation and conducting of household surveys of PAP’s</td>
<td></td>
</tr>
<tr>
<td>Identification of affected land and other assets</td>
<td></td>
</tr>
<tr>
<td>Consultations with PAPS and communities</td>
<td></td>
</tr>
<tr>
<td>Identification of categories of affected assets</td>
<td></td>
</tr>
<tr>
<td>Disclosure of affected assets and claimants</td>
<td></td>
</tr>
<tr>
<td>Preparation of valuation methods</td>
<td></td>
</tr>
<tr>
<td>Holding of public hearings to verify entitlements and proposed valuation methods</td>
<td></td>
</tr>
<tr>
<td>Finalization of draft RAP report</td>
<td></td>
</tr>
<tr>
<td>RAP disclosure and circulation</td>
<td></td>
</tr>
<tr>
<td>Response to feedback to draft RAP and RAP finalization</td>
<td></td>
</tr>
<tr>
<td>Submission of final RAP and budget</td>
<td></td>
</tr>
<tr>
<td>Hiring external Consultant for RAP implementation</td>
<td></td>
</tr>
<tr>
<td>Set Up district level committees</td>
<td></td>
</tr>
<tr>
<td>Verification of PAP’s</td>
<td></td>
</tr>
<tr>
<td>Submission of revised RAP</td>
<td></td>
</tr>
<tr>
<td>Mobilization of Compensation Money</td>
<td></td>
</tr>
<tr>
<td>Opening Bank Accounts with Bank</td>
<td></td>
</tr>
<tr>
<td>Certified List of names with Bank Accounts sent to TANESCO by Bank</td>
<td></td>
</tr>
<tr>
<td>Paying Compensation to PAP’s through bank (PAP’s to be issued cheque and sign upon receiving their cheque)</td>
<td></td>
</tr>
<tr>
<td>Finalization of arrangements for grievances mechanisms</td>
<td></td>
</tr>
</tbody>
</table>

10. Costs and budget

The cost for cash compensation of the Affected Properties along the Kakono Hydropower plant and Transmission Line project is estimated to be **Tshs 4,284,176,264/=** as of the time of reporting.

Table 10.1: Summary of compensation cost

<table>
<thead>
<tr>
<th>Compensation item</th>
<th>Total Cost (TShs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compensation for Land</td>
<td>3,921,579,646/=</td>
</tr>
<tr>
<td>Compensation for Buildings/Structures</td>
<td>26,682,300/=</td>
</tr>
<tr>
<td>Compensation for Crops</td>
<td>34,384,000/=</td>
</tr>
<tr>
<td>Disturbance Allowance</td>
<td>296,150,318/=</td>
</tr>
<tr>
<td>Accommodation Allowance</td>
<td>3,780,000/=</td>
</tr>
<tr>
<td>Transport Allowance</td>
<td>1,000,000/=</td>
</tr>
<tr>
<td>Relocation of Graves</td>
<td>600,000/=</td>
</tr>
<tr>
<td><strong>Total Compensation Package</strong></td>
<td><strong>4,284,176,264/=</strong></td>
</tr>
</tbody>
</table>
11. Grievance Redress Mechanism (GRM)

The objective of the grievance management system is to establish for the PAPs and other community members mechanisms for raising complaints related to compensation for loss of land and other livelihood properties and assets and having such complaints resolved as amicably as possible through acceptable and binding corrective actions. The main elements of the GRM are detailed in Figures 11.1 and 11.2 overleaf;

11.1 Grievance Submissions

One of the major challenges in implementing RAP is dissatisfaction among PAPs with regards to compensation amounts. Taking into account the complexity of resolving disputes and grievances, PAPs within the project area were informed about various grievance redress procedures and of their right to appeal if not satisfied. During the surveys and inventory of PAPs and their properties and during consultation processes, concerned individuals or entities became fully aware of the extent of damages to properties, crops and other activities that the Project would entail. Grievances may arise from mistakes related to:

- Amount, levels and time in which compensation is paid to PAPs
- Wrongly recorded personal or community details
- Wrongly recorded assets including land details and/or affected land area
- Change of recipient due to recent death or disability
- Recent change of asset ownership
- Incorrect computation of compensation
- Name missed out of register
- Time and manner of payment of compensations

The Resettlement Action Plan for the proposed project provides a simplified grievance redress mechanism that will enable timely settlement of grievances with the PAPs. The grievance procedures will be anchored and administered at the local level to facilitate access, flexibility and openness to all PAPs. During consultation the PAPs were informed that the villages had their own grievance committees which will deal with land dispute issues and it comprised of 12 members which is gender balanced on 6 men and 6 women. For all issues that will not be resolved at the village level all PAPs were informed about the process to follow if they will have any dissatisfaction. In order to avoid traveling long distance and incurring additional costs PAPS were informed to channel all their queries to the village offices where by the village leaders will be requested to handle all complaints from the PAPS and submit all the complaints to district valuer and copies to TANESCO.
All received written grievances will be registered in the Owner’s database. After registration, the grievance will be assessed and forwarded to the relevant office. The assigned case officers will then investigate the validity of the grievance and plan the way forward.

A fact-finding mission will be conducted together with the complainant and the local authorities as witnesses. Proposals on how the grievance can be resolved will be discussed and the complainant will be advised accordingly.

Upon acceptance by the complainant and the actual implementation of the remedy actions, the complaint will be signed off as resolved. In situations where it will be difficult to reach an acceptable consensus, the complainant will be free to seek for the attention of higher authorities for further mediation or guidance.

Claimants will be required to channel their complaints through their village leaders by filling the relevant forms and writing letters in order to allow the committee to handle their complaints.
12. Monitoring and evaluation

The requirement of the AfDB’s ISS is that displaced people are adequately resettled and livelihoods restored so as to not in a position worse off than they were prior to project implementation. Monitoring and evaluation has been planned as of the RAP implementation to ensure this requirement is met. Both internal and external monitoring evaluation will be carried out during compensation and implementation of the RAP and afterwards to assess compliance and effectiveness. Monitoring will be done by TANESCO while evaluation will be done by external Agency to be appointed.

12.1 External Monitoring
An entity shall be hired as External Monitoring and evaluation agent by TANESCO to carry out independent quarterly review of the RAP implementation process. The external agency could be an independent researcher, consulting agency, university department or an NGO. External monitoring and evaluation will focus on the following aspects of the RAP:
12.2 Evaluation
The following are the objectives of the evaluation:

- General assessment of the compliance of the implementation of the Resettlement Action Plan with general objectives and methods as set in the RAPs;
- Assessment of the compliance of the implementation of the Resettlement Action Plans with laws, regulations and safeguard policies;
- Assessment of the consultation procedures that took place at individual and community level, together with the Central Government and Local Government levels in Tanzania;
- Assessment of fair, adequate and prompt compensation as they have been implemented;
- Evaluation of the impact of the compensation on income and standard of living;
- Identification of actions as part of the on-going monitoring to improve the positive impact of the programme and mitigate its possible negative impact if any.

13 Reporting Requirements
The following are the suggested reporting requirements:

- The Consultants/independent agent shall prepare monthly and quarterly reports on RAP progress implementation to TANESCO;
- The Consultants/ independent agent responsible for supervision and implementing RAP will prepare monthly progress reports on resettlement progress activities;
- TANESCO shall also monitor RAP implementation and submit quarterly reports to AfDB

External monitoring agency submits bi-annual reports directly to TANESCO and determines whether or not RAP goals have been achieved and livelihoods have been restored and suggest suitable recommendations for improvement. Table 13.1 overleaf gives the likely monitoring indicators to be used in the monitoring and evaluation exercise.
**Table 13.1: Monitoring Indicators**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Issue /Impact</th>
<th>Monitoring Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Physical loss of building, land, plot, crops</td>
<td>• Number of PAPs compensated</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Number of Bank Accounts opened</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Number of Buildings demolished</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Number of PAPs able to establish pre-displacement activities, land, crops</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Number of community properties relocated</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Number of trees cleared</td>
</tr>
<tr>
<td>2</td>
<td>Grievances</td>
<td>• Number of grievances received</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Number of grievance resolved</td>
</tr>
<tr>
<td>3</td>
<td>Consultation</td>
<td>• Number of community properties relocated</td>
</tr>
</tbody>
</table>

**14 Conclusions and Recommendations**

The proposed project is important for the development of the broader economy of Tanzania and the Project Affected Communities. It is acknowledge the land acquisition process will leave to displacement (physical and economic) of people and/or assets requiring resettlement. This RAP summary highlights the management provisions which have been put in place to minimise the impact from the project related land acquisition process and/or compensate for the displacements requiring resettlement. While the overall objective of the project is noble, its positive impacts can be enhanced by ensuring that the identified PAPs are adequately compensated with the aim of improving or restoring their livelihoods to the pre-impact standards or better. To achieve this, the implementing agency (TANESCO) should ensure that the provisions within the RAP are effectively implemented, monitored and evaluated.

It is recommended that no construction related activity shall be undertaken within the identified RoW resulting in displacement of PAPs without the relevant compensation payments. The project affected persons shall be given adequate notice, at least 3 months to surrender and remove their property from the proposed project prior to commencement of construction works within the affected Areas.
Annexure

Plate 1: Site Location map of Kakono HEPP
Plate 2: Implementation Arrangement

References

1. Environmental and Social Impact Assessment Report for the Kakono Hydropower Project (87MW) Kagera River, Dated July 2016. Prepared by Norplan, Nedre Skøyen vei 2, N-0276 Oslo, Norway in association with NORPLAN Tanzania, Plot 92, Warioba Street, Miikocheni, Kinondoni, P.O.Box 2820, Dar es Salaam, Tanzania AS.

2. Updated Environmental Impact Assessment for the Kakono HydroPower Plant (87MW) in Kagera River, dated September 2017 and Prepared by TANESCO.

3. Resettlement Action Plan (RAP) Draft Report for the Proposed Kakono Hydropower Plant and 132kV Transmission Line Project (38.5km), Dated September 2017 and prepared by TANESCO.

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