**NATIONAL DEVELOPMENT CORPORATION**



**SUMMARY OF PROJECTS FOR PPP ARRANGEMENTS**

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# A: NDC IN A NUTSHELL

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| --- | --- |
| *Institutional Anchoring:* | NDC is an investment wing of the Government of the United Republic of Tanzania. It is a strong, autonomous institution, operating alongside the Ministry responsible for Industry. NDC’s philosophy is to translate policies and strategies into bankable industrial projects. |
| *Governing Body:* | Board of Directors with its members drawn from the public and private sectors and civil societies. |
| *Mandate:* | To stimulate, promote and guide country’s industrailization process through initiation and implementation of basic (heavy and strategic value addition) industries projects for comprehensive economic transformation towards middle-income economy. |
| *Vision:* | Leading Industrialization of Tanzania. |
| *Mission:* | Initiating and implementation of strategic industrial development projects in partnership with the private sector. |
| *Core Values* | Innovation, expertise, competence, excellence, integrity, efficiency, value for money, responsible corporate citizenry, results-oriented performance and transparency. |
| *Objectives:* | * To proactively identify and initiate basic industrial projects on basis of rich natural endowments of feedstock, geographical location and competitive environment; * To stimulate infrastructural development and services so as to spur the development of basic industries in the economy; * To promote entrepreneurship and private sector development, including mobilizing resources for industrial projects through equity financing, loan guaranteeing and managerial services; * To hold shares, on behalf of the Government, in operating joint venture companies responsible for strategic industrial, mineral resources and business activities with a prior determined exit strategy to allow participation of citizenry in the future; and * To advise the Government on general implementation of the industrial development policies. |
| *Functions:* | * Research and Spatial Development Initiatives/ Development Corridors Programme for development of new projects, business cases, feasibility studies, and provision of advisory services to the Govenrment on issues related to national industrialization Policy, legislations and Startegies. * Management and investment in Basic or Heavy Industries and Strategic Value- addition industrial projects. * Capacity Building in terms of human, technological and management resources as per existing Organisation Structure and technical support towards empowering local entrepreneurs and investors in the private sector. |
| *Implementation Strategy:* | Utilization of smart partnership through strategic joint venture, collaboration and networking with Startegic Investors. |
| *Departmentalization:* | NDC has the Managing Director (CEO), who has three technical departments (Heavy Industries-DHI; Strategic Value Addition-DSVAI; and Research, Planning and Industrialists Development-DRPID), and one supporting Department (Finance and Administration- DFA), and Office of the Executive Office’s Support Units (Corporate Secretary, Internal Audit, Procurement and Public Communication Affairs Units). |

# B: PROJECTS FOR JOINT VENTURE OR OTHER PPP ARRANGEMENTS[[2]](#footnote-2)

# 1.0 Lake Natron Soda Ash

NDC is mandated by the Government of Tanzania to fast track extraction and utilisation of the Soda Ash resource for the creation of formidable base for the development of industries. Soda Ash is a mother chemical, which is widely used in textiles, paper, metallurgical industries, desalination plants, refineries, detergents, soap, glass, sodium salts, dyes, and other chemical industries which drive world economies, generate employment (about 500 direct jobs and 3000 indirect jobs), revenues (taxation and foreign exchange from exports and saving from imports of the same). The Soda Ash Project is located in northern part of Tanzania at about 200km northwest of Arusha town. The huge deposit of soda ash is found within Lake Natron and Lake Engaruka basins where northern shore of the Lake Natron touches the territorial boundary line with Kenya. Lake Natron and Lake Engaruka are located in the lift valley (on the Eastern part). Also, the Soda Ash deposit is located near Ngorongoro Conservation Area and hunting blocks. The project will involve setting up of soda ash plant with the capacity of 0.5 million tonnes per annum and later on to be expanded to at least 1.0 million tonnes per annum. In addition, this project is not likely to have any adverse effects on the chemical, hydrological or ecological balance in the Lake. NDC is completing additional basic studies with a view to proceeding to procurement of strategic partners to exploit soda ash from Lake Natron or its vicinity. For instance, Phase I of the Hydrology and Resource Assessment and Environmental and Social Impact Assessment (ESIA) for the project was completed in 2007. Stakeholders’ advices have necessitated study reviews, hence more studies are being finalised for project implementation. Parallel to that NDC is conducting drilling exploration at Engaruka for an alternative source of soda ash outside the lake for exploitation. The exploitation of soda deposits in Lake Natron and the surrounding will lead to establishment and growth of chemical industries in the country. NDC is promoting this project to any strategic investor under PPP arrangement. The estimated cost to finalise bankable studies and establish a plant for soda Ash project is **US$500.0Million.**

# 2.0 Meat Processing

Tanzania is endowed with large numbers of livestock (Second to Sudan in Africa) mainly found in Arusha, Mwanza, Shinyanga, Mara, Dodoma, Singida, Manyara, Sumbawanga and Coast regions. All these regions are potential for establishment of Meat Processing Plants. NDC, in collaboration with NARCO, is promoting the project in order to promote development of vibrant livestock sector through value addition industries in the country. NDC has conducted full feasibility studies, which found that it is feasible to acquire/ adapt modern “state of the art” technologies for establishment of modern abattoirs, meat processing plants and supporting or associated infrastructure including animal fattening, rendering, canning units and distribution units in Arusha, Pwani and Dodoma Regions. Also, this project will lead to investment in feasible hides processing and manufacturing of leather products and upgrading of existing meat processing plants in Arusha and Sumbawanga. NDC is looking for strategic partners to finance and implement the projects in the selected regions and develop their respective market chains. The project will create about 600 jobs. The estimated total investment cost for three Meat Processing Plants is **US$180.0Million**.

# 3.0 Infrastructure (Power and Logistics)

# 3. 1 Power Transmission Lines

Improved Transmission Line is critical to realise the utilisation/consumption of the power to be generated by Independent Power Producers (IPP) including those located at Mchuchuma, Kiwira, and South Ngaka. The power to be generated must be connected to National Power Grid, which is currently not near to the new planned Coal power generating stations. Also, the existing Grid (33-230kV lines) needs to be strengthened and upgraded (to 400kV grid) in order to accommodate over 2,000MW as planned to be generated at Mchuchuma and Ngaka Coal fired power generation plants. The proposed transmission line (interconnector) will improve power evacuation to remote areas and to the neighbouring countries such as Malawi. NDC is promoting this idea and would wish to spearhead construction of the proposed power transmission lines (PTLs) together with any credible strategic investor under PPP arrangement. That is, SPVs or JVCs can be established in order to construct and maintain the power generation plant and Power Transmission Lines for dispatching the electrical energy from generation plants through the interconnection facilities/ points (at Mufindi-Iringa which are installed with metering devices). NDC is ready to collaborate with TANESCO, to relay the electrical energy to National Grid through its Grid Control Centers at an estimated cost of **US$1,100.0Million**. Specific projects are detailed below:

## *3.1.1 Mchuchuma – Mufindi Power Transmission Line (400kV)*

The PTL will connect Mchuchuma Coal Power Station to the nearest National grid point at Mufindi (Iringa). The PTL (or hot line) will be about 250km long to transmit at least 400kV at an estimated cost of US$125.0Million (unit cost of US$500,000 per kilometre). Also, this PTL will be extended to Ngaka Power Station from Mchuchuma about 50-60km at a cost of US$30.0Million. Aim is to evacuate Coal generated power into the Nation grid. NDC collaborates with TANESCO to attract strategic investors to establish a proposed PTL (400kVA). The proposed PTLs will cost around **US$155.0Million**.

## *3.1.2 Kyela/ Kiwira - Karonga Power Inter-Connector (400kV)*

The Kyela/ Kiwira – Karonga Power Inter-connector will supply power (200MW) to Northern Malawi. The envisaged inter-connector intends to supply power for development of Uranium Mine (10MW), Medium Density Fibre Board Plant (30MW) and Heavy Mineral Sands (150MW) smelter in Malawi. This supply requirement has set in TANCOAL to generate its power at the North-Western end of Lake Nyasa, by bringing coal requirements from South Ngaka. NDC is inviting strategic investor to invest in the Kyela- Karonga Power Interconnector project. The proposed PTL will cost around **US$30.0Million**.

## *3.1.3 Kyela/ Kiwira– Mbeya Power Inter-Connector (400kV)*

The Kyela/ Kiwira – Mbeya Power Inter-connector will involve construction of 400kV line. The 100km PTL is envisaged to inter-connect off-take power from XTL Power Project / Plant (which will be established by TANCOAL Power Park) to the National grid at Mbeya Power Station. NDC collaborates with TANESCO to invite interested strategic investor to carry out feasibility and ESIA studies, obtain ESIA Certificate and mobilize funds and procure contractor for construction of the PTL. The proposed PTL will cost around **US$60.0Million**.

## *3.1.4 Ngaka – Songea Power Inter-Connector (220kV)*

Ngaka- Songea Power Inter-connector will involve construction of 220kV line (80Km). The 80km PTL will establish inter-connector to off-take power from TANCOAL Power Plant to the National grid at Songea Power Station. NDC collaborates with TANESCO to invite interested strategic investor to carry out feasibility and ESIA studies, obtain ESIA Certificate and mobilize funds and procure contractor for construction of the PTL. The proposed PTL will cost around **US$55.0Million**.

## *3.1.5 Strengthening of the National Power Grid*

The existing National Power Grid is facing a lot of problems due to tear and wear and capacity limitation. Reinforcement, upgrading and strengthening of the grid is paramount in order to support the transmission of the power to the distribution points. Further, the lines should be upgraded to uphold the over increasing power generation from IPPs. To rescue from deteriorating of the grid and be able to accommodate the upcoming power generation, process for strengthening power grid and upgrading to 400kV in the country has been initiated. The strengthening of the grid is from Iringa – Morogoro – Dar es Salaam; Iringa – Shinyanga – Mwanza; and Singida – Babati – Moshi – Arusha. The strengthening of western part of the country is divided into four parts and will start from Geita-Nyakanazi-Kibondo – Kigoma; Nyakanazi-Rusumo Falls-Kyaka; Mbeya-Tunduma-Sumbawanga; and lastly will be from Sumbawanga-Mpanda-Kigoma. NDC collaborates with power utility (TANESCO) to invite strategic investors to invest in this project. The estimated cost for strengthening the national power grid to the mentioned area is to the tune of **US$ 800.0Million**.

# 3.2 Railway Infrastructure[[3]](#footnote-3)

## *3.2.1 Mtwara-Mchuchuma-Mbambabay Railway Line (1017Km)*

NDC plans to collaborate with Reli Asset Holding Company (RAHCO), TRL and any strategic investor to develop the proposed railway line as a backbone transport system within the Mtwara Development Corridor. The Mchuchuma-Mtwara Mineral Railway Line (with Spur to Liganga) is proposed to link the coal and iron ore mines at Mchuchuma and Liganga to the Mtwara Port. Also, the railway line will be extended to Mbamba Bay port (Lake Nyasa) that will serve Northern parts of Mozambique and Malawi through Heavy Capacity Ferry. This Railway line is expected to move passengers and goods (coal, iron ore concentrate, iron and steel products and other exports from production centers to markets) in the region (Tanzania, Malawi, Zambia and Mozambique via Mtwara Port). Initial feasibility study has been carried out and what is remaining is confirmatory study and design for construction. The construction of a railway line with a total 1017 km distance between Mchuchuma - Mbamba Bay is estimated to cost about **US$2.3 Billion.**

## *3.2.2 Tanga –Arusha-Musoma Railway Line with Spur to Minjingu and Lake Natron*

NDC, as an agent of Development Corridors, collaborates with RAHCO and TRL to promote investment in the Tanga – Arusha- Musoma railway line, a core Northern circuit transport network/ system in the Tanga Development Corridor (TDC) anchoring the Lake Natron Soda Ash project. Tanga Development Corridor is one of the major corridors in the country in the northern part of Tanzania which links Kenya and Uganda. This railway line will link Tanga (Mwambani) along the Indian Ocean and Musoma Port (Tanzania) and Jinja Port (in Uganda) both along Lake Victoria. The development of this railway line involves construction of new railway line between Arusha and Musoma (664Kms) of a new standard gauge with two branch lines to the already operational fertilizer plants at Minjingu and another to the proposed Lake Natron Soda Ash Plant at Wosiwosi (164Kms). Also, it involves the strengthening and upgrading to standard gauge of the dilapidated parts of the railway line (435kms) between Tanga and Arusha so as it become compatible with new Arusha – Musoma railway line. This is a multi-billion project involving strengthening, upgrading and construction of new railway line at an estimated cost of **US$2.3Billion**.

## *3.2.3 Kange- Mwambani Railway Line*

NDC plans to collaborate with RAHCO and private to construct a 12km railway line from Kange to the proposed port at Mwambani in Tanga. The estimated cost for construction of Kange-Mwambani Railway line is given as **US$22.0Million.**

## *3.2.4 Mwambani – Mbegani Railway Line*

NDC plans to collaborate with RAHCO and private investors to construct a 25km railway line (link line) between the proposed ports of Mbegani (Bagamoyo) and Mwambani (Tanga). The estimated cost for construction of Mwambani – Mbegani Railway line is given as **US$45.0Million.**

## *3.2.5 Dar es Salaam – Isaka-Kigali-Gitega-Musongoti (Burundi) Railway Line*

NDC plans to collaborate with RAHCO and private investors to rehabilitate and improve a central railway system within the Central Development Corridor (CDC). This will involve (i) Upgrading of the 982 km of railway line from Dar es Salaam to Isaka from the existing ‘meter/ narrow gauge’ to a ‘standard gauge’, (ii) Upgrading 1094 km of railway line from Isaka- Mwanza and Tabora – Kigoma and arterial lines (Kidatu and Taveta), Singinda and Mpanda) from ‘meter gauge’ to ‘standard gauge’and (iii) Construction of about 620km of new railway line from Isaka – Kigali (Rwanda) and Musongoti (Burundi). The estimated cost for construction of Dar es Salaam – Kigali/ Musongoti Railway line is given as **US$3.2Billion.**

# 3.3 Road Infrastructure[[4]](#footnote-4)

## *3.3.1 Mchuchuma-Liganga-Madaba Road*

The access road starts at Itoni[[5]](#footnote-5) (Njombe) – Mkiu – Mchuchuma – Manda with spur to Liganga (Mundindi) to Madaba (Songea) with total distance of about 300km. The paved road will facilitate transportation of heavy equipment to the Mchuchuma and Liganga project sites. NDC is looking for a strategic investor to develop the proposed road infrastructure. The estimated cost for design and construction of Itoni - Mchuchuma – Liganga - Madaba road is **US$200.0Million.**

## *3.3.2 Kitai – Ngaka –Ndumbi Road*

A road from Kitai – Ngaka – Ndumbi (Lake Nyasa) with total distance of 100km is included for development to access Ngaka (Mbalawala) coalfields and Lake Nyasa for budging the coal to Songwe/Kiwira through Lake Nyasa for construction of a proposed power station. The paved road will transport heavy construction mining equipments and machineries, coal and other products during construction and operation of the projects. The estimated cost for upgrading of the road is **US$100.0Million.**

## *3.3.3 Musoma – Arusha Road*

NDC works with Ministry of Infrastructure and TANROADS to expand, strengthen and upgrade to tarmac standard the Arusha – Musoma road (about 500Kms), Arusha- Lake Natron Soda Ash project sites and a 70km road linking Lake Natron and Longido/ Arusha Nairobi highway. The estimated cost for construction of Arusha-Musoma Road is given as **US$612.6Million.**

## *3.3.4 Matai (Tanzania) – Mbala (Zambia) Road*

The Tanzania-Zambia border crossing trade is at increasing trend. The increasing trend of trade needs to go along with development of several border-crossing roads connecting these two countries. One of the very prominent/ active roads for cross border trade is between Matai (Tanzania) and Mbala (Zambia) with a distance of 80km. The Local Government Authority in Rukwa Region is planning to construct the road connecting these two countries to promote cross border trade and increase revenue collection for development of the local Government. NDC is promoting this project and the estimated total cost for design and construction of the Matai – Mbala Road is **US$90.0Million**.

# 3.4 Port Infrastructure

## *3.4.1 Mtwara Port*

NDC collaborates with TPA to promote the project to improve infrastructure and equipment. The existing Port of Mtwara (in Mtwara Corridor) is mainly designed to handle conventional cargo up to 750,000 MT per annum with the same number of berths if additional equipment for handling containerized traffic are put in place.However, the port’s capacity is underutilized as it is handling a total cargo of 400,000 MT of imports and export (mainly of cashew nuts) per annum. Also, Mtwara Port has poor infrastructure.

With ongoing developments in the Mtwara Development Corridor, several projects have been identified including the anchor project of Mchuchuma Coal and Liganga Steel Complex and other projects dealing with minerals, gas and oil extraction. Also, the Mtwara Port is necessary for neighbouring landlocked countries, such as Malawi, Zambia, and DRC to have an international gateway for market (export and import trade). Thus, Mtwara Port needs to be upgraded, expanded and modernized. The Project envisages putting in place additional equipment for container handling and expansion of the quay wall Westwards by 400 meters and Eastwards by another 400 meter. This project is going to double the number of berths from the current number to five berths. The total area reserved for this expansion is 200 acres. The project (upgrading, expansion and modernizing) will be carried out in phases to enable the port to handle about 20- 25 Million tons of cargo per annum. Parallel to the port development, the following are also envisaged to be developed; commercial centre, ICT park, Research Centre, Hotels, Housing, industrial park and SEZ which will create cargo to justify world class port and construction of railway line. The total estimated cost for expansion and modernising the Mtwara Port is **US$ 2.5Billion**.

## *3.4.2 Tanga (Mwambani) Port*

Tanga Port is a gateway of Tanga Development Corridor (TDC) which serves a northern circuit of Tanzania. Currently, the port has been installed with facilities to handle up to 500,000 tonnes per annum but it is not able to serve big ships and has limited operational areas coupled with poor roads to and from the port. Also, absences of reliable railway services have caused a serious weakness to the functioning of Tanga port. In addition, Tanga port is important due to increasing cross border trade, coming up of soda ash extraction plant at Lake Natron, fertiliser plant at Minjingu, agricultural products in the region and opening up to Uganda to use the same to import and export cargoes to supplement to Mombasa Port. The government has decided to establish a new port at Mwambani where has ample area for expansion and state of the art port facilities can be installed. The new location of the port will be able to accommodate ever increasing cargo to the port and having enough space for expansion as and when a need arises. Initial plans is to dredge and construct a jetty of approximately 210 meters long with an apron width of 15 meters, suitable for installation of 2 Harbour mobile cranes with grab as well as hook and sling attachments for handling bulk and bagged cargo. The length of the proposed jetty is adequate for berthing two self propelled vessels of 2000 tonnes capacity. Further, a covered storage shed with a capacity of 20,000 tonnes for storage of bagged cargo including installation port facilities for cargo handling is planned to upgrading. Upgrading of the Tanga port will also include development of commercial centre, ICT Park, Research Centre, Hotels, Housing, industrial park and SEZ. NDC collaborates with TPA to promote this project to potential strategic investors under PPP arrangement. The estimated cost for construction jetty, yard and dredging of Mwambani Port and installation of the port facilities is estimated to be **US$ 850.0Million**.

## *3.4.3 Mbegani (Bagamoyo) Port*

NDC supports the development of the Mbegani[[6]](#footnote-6) Port (in Bagamoyo) in order to improve port infrastructure and services in the Central Development Corridor. NDC plans to collaborate with Tanzania Port Authority (TPA) in the establishment of new Mbegani Port under PPP arrangement. The cost for construction of Mbegani Port is estimated to be **US$1.0Billion**.

## *3.4.4 Musoma Port*

NDC supports the development of the Musoma Port in order to improve port infrastructure and services in the Tanga Development Corridor. Also, Upgrading of Musoma port is paramount to enable transhipment of cargos to and fro Uganda. NDC plans to collaborate with Tanzania Port Authority (TPA) and any strategic investor to secure investment in the expansion and modernization of the Musoma Port under PPP arrangement. Musoma Port is gateway to EAC, SADC and COMESA markets. Thus, upgrading of Musoma port is paramount to enable transhipment of cargos to and fro Uganda, Kenya, Rwanda, Burundi and Southern Sudan and DRC. The estimated cost for construction of Musoma Port is given as **US$320.0Million.**

## *3.4.5 Mbamba Bay, Itungi and Manda Ports*

NDC will collaborate with TPA and any strategic investor to improve infrastructure and equipment at Mbamba Bay, Itungi and Manda Ports along Lake Nyasa. The existing capacity of the ports is too low for handling containerized traffic. The ports need to be upgraded to the required standard to smoothen transport within Lake Nyasa. Thus, it is imperative to modernize the ports with wide yard, gats/ jetties that extend inland from the shore and equipment and facilities to handle tonnage which will provide for favourable Railway line economics within the context of Mchuchuma, Liganga, Ngaka and other projects in the Mtwara Development Corridor Programme. NDC intends to conduct feasibility study for upgrading, expansion and acquisition of handling facilities for the Lake Nyasa ports. The cost estimate for the project is in the tune of **USD 300.0 million**.

## *3.4.6 Heavy Capacity Ferry (in Lake Nyasa)*

The ferry will operate to link Mbamba Bay (Tanzania), Nkhata Bay (Malawi) and Chipoka (Mozambique) Ports across Lake Nyasa, where the cost of bridge construction is prohibitive. The objective of the project is to configure and improve the Lake Nyasa’s transport services in Tanzania, Malawi and Mozambique with a heavy capacity ferry and hence create an economic growth region which will stimulate cross border trade and investment, especially in physical infrastructure, agriculture, minerals and the tourism sectors. The project will include the introduction of “Heavy Capacity Ro-Ro Ferry Service(s)” across and up/down the lake, lake port upgrades and the reconfiguration of the fleet and routes offered by an internationalised lake transport service with participation from all three riparian states. It will be a continuation of Mtwara - Mbamba Bay Road and the anticipated railway line. The Governments of the United Republic of Tanzania and the Republic of Malawi signed an MoU in October 2003, for the upgrading and construction of the Ports and commissioning of a Heavy Capacity Ferry. NDC has prepared a Project Proposal, in collaboration with both Governments of Tanzania and Malawi, for carrying out feasibility study on the same. The proposal has been submitted to financial institutions to secure funding for study. NDC is promoting this project to any strategic investor to implement the same through either Public-Public or Public Private Partnership (PPP) arrangement. NDC will work with TPA to procure the Heavy Capacity Ferry which is estimated to be **US$30.0Million**.

## *3.4.7 Kasanga Port*

The Kasanga port is mainly used for storing, loading and offloading general cargo in the Lake Tanganyika. Volumes handled have now risen to approximately 700 Tonnes per month (500 Tonnes to Burundi and 200 Tonnes to Kigoma), with cement being the main product shipped from Mbeya to Burundi and Kigoma. Upgrade of Kasanga port proposes that a new quayside be constructed, together with the necessary quayside buildings and purchase of new cargo handling equipment so as to accommodate new cargo to and from Zambia and Democratic Republic of Congo (DRC). The proposed new harbour installation to consist of a sheet piled quay measuring 150m x 50m, a RO-RO ramp, 800 m2 of ware houses (godown), 200 m2 of office space, 300 m2 of workshop, Canteen, ablutions and change rooms, 30t Mobile Crane and Forklift Trucks. In additional to the upgrading of the port, the exercise will also include development of tourist infrastructure to Kalambo Falls, Tourist Centre, Germany Fort and construction of tourist hotel in the area. NDC, in collaboration with the TPA, promotes this project to potential strategic investors to accomplish the above mentioned activities for upgrading the port and development of tourist infrastructure in the area. The project will cost around **US$ 150.0 million.**

# 3.5 Airports and Airstrips

Development of airports of the corridor has been identified as an important aspect for the development of the corridor. The identified airports for upgrading include Mtwara, Rukwa and Kigoma. Most of the airports were built in early 50’s by the colonial government as an alternative to sea and land transport as these were quite unreliable and intermittent, especially to businessmen and officials who travelled on limited time and tight schedules. Since then, air transport has remained the only most reliable means of transport to and from Tanzania’s southern regions. The airports now needs to be upgraded to international/regional standard and hence requires the following: Resurface the runway, Construct/upgrade Terminal Building, Rehabilitation of Aprons, Provide fuel facilities, Install safety facilities including security fence, lighting system, navigational aids, etc. The estimated cost for upgrading the three airports is estimated in the tune of US$270.0Million.

The mega projects in Ludewa District will need an airstrip which will be serving the projects site for any emergence and quick rescue during the development and operation of the projects. Initial site for airstrip has been identified and a feasibility study is expected to be conducted before design and construct of the airstrip. The total for design and construct of the proposed airstrip is estimated at US$ 200.0Million. Thus, the total cost for upgrading of existing airstrips and construction of Ludewa Airstrip is estimated in the tune of **US$ 470 Million.**

# 4.0 Nickel Cluster

This project is an anchor productive project within the Central development Corridor (CDC) which necessitates development of an anchor infrastructural project that links Dar es Salaam to Rwanda, Burundi, and DRC through the Central Railway Line. Nickel deposits are found at Kabanga (Tanzania) and other areas in Burundi and hence provide possibilities for establishing a nickel cluster. Nickel is one of the alloying metal for manufacturing of stainless steel and hence important raw materials (feedstock) in the iron and steel mill/ complex planned to be established either at Liganga (Iron ore mining site), Mtwara (Near to Mtwara Port) or TAMCO (Kibaha near Dar es Salaam Port). Nickel will be used in the Steel Manufacturing Plant that would have an installed capacity to produce about 500Million tons of Stainless steel per year. Studies for extraction of the Nickel ores are ongoing. NDC is planning to establish a Nickel Smelter near the port, preferable at TAMCO Industrial Estate, to undertake beneficiation (value addition) process towards production of Nickel from the concentrate which will be produced from Kabanga mines (Tanzania) and from Burundi. The Concentrate will be transported by Central Railway Line to Kibaha from the mines areas. Studies for extraction of the Nickel ores are ongoing. NDC promotes this project to any strategic investor to develop and implement Nickel smelter Plant that will have a capacity of at least 100 tons a year and will create around 300 direct jobs. The estimated cost for establishing the Nickel Smelting Plant is huge about **US$350.0Million.**

# 5.0 Small Scale Mining and Beneficiation

NDC is mandated to formalize the small scale mining in Tanzania. It focuses on value addition (beneficiation) and specifically target small scale gold miners located in various areas in Tanzania. The program is dealing with reprocessing of the huge gold tailings (Starting with those tailing located at Matinje in Igunga, Nzega) and mining in flesh gold mines. The NDC is looking for a strategic partner to procure modern technology (equipment) for extraction and recovery of gold and other mineral resources through PPP arrangements. About 3,200 jobs (200 direct jobs in the plant and 3000 indirect jobs) will be created. This project is estimated to cost about **US$7.0Million**.

# 6.0 Rubber Plantations and Processing Units

NDC is mandated by the government to continue developing rubber plantations (1,539 ha) at Kalunga, Kilombero (Morogoro) and Kihuhwi, Muheza (Tanga) through adopting value chain development strategy in Tanzania. Kalunga Farm is 750ha, but only 192 ha (25.6%) have been developed to produce latex. Muheza Farm is 789ha and only 318 ha (40%) have been developed. The plantations are developed in order to supply adequate raw materials or feedstock to manufacturers of tyres (e.g. General Tyre East Africa Factory, Arusha) and other products. Specifically, NDC intends to increase farm size and plant but planting rubber to the area which are not yet developed (about 1029 hectares), improve and develop placement infrastructure network in the farms, expand new areas for purpose of developing rubber industry in collaboration with Out-growers, attract private sectors investors to participate in developing the rubber plantations and processing plants for semi-processed rubber raw materials in plantations. Currently, NDC is embarking on carrying out of the rubber value chain analysis and looking for strategic partners to develop the rubber plantations through Joint Venture under the PPP arrangement. This project is expected to create 500 jobs. The estimated cost for preparation of the value chain analysis, development of the plantations, and establishment of the processing factories and rehabilitation of the manufacturing plant will be **US$1.5Million**.

# 7.0 Revival and Expansion of General Tyre East Africa Limited (GTEA) Plant

General Tyre East Africa Limited was established in February 1969 as joint venture between Tanzania Government (majority) and private company with purpose of manufacturing car tyres. The manufacturing factory is located at Themi area in Arusha City, northern Tanzania. The company has a fenced land of measuring 50.4ha, but only 42.9ha have been developed for factory, administration block, and recreation area. The factory has capacity of producing 1,300 tyres per day of different sizes. It has modern plant machinery and equipment although the production has stopped due to several challenges faced during the operation. NDC has been mandated by the Government to plan how to revive the plant operations sustainably as soon as possible. That is, after resuming operations, NDC is planning to expand the factory and integrate backward and forward linkages for long-term sustainability. NDC is promoting this project to strategic investors who will be interested in the revival and expansion of the factory at an estimated cost of **US$650.0Million**.

# 8.0 Palm Oil

NDC is promoting agribusiness and agro-processing in the country with aim of improving agricultural sector in terms of productivity, diversification and adding value to primary commodities, and ensuring markets for the agro produce through Public Private Partnership (PPP) arrangements. The main objective is aimed at augmenting a feedstock supply chain from the agricultural sector (upstream), which would provide agro-processing industries (downstream) with raw materials sufficient in quantities and good quality, to make the industries competitive. Among others, currently NDC is in the process of establishing a large scale an Integrated Oil Palm Project at Kimala Masale village in Kisarawe District, Coastal region, which will comprise oil pal cultivation, oil extraction and refining along with co-generation of power in an area of about **3,891ha**. The area will be extended to **10,000ha** to increase production. In course of process of establishing the oil palm farms and extraction plant, basic infrastructure such as access road, power and water are required to be constructed and installed including internal roads, drains farm structure and machinery, irrigations facilities, etc. The products are aimed to meet domestic needs as well as to export. Currently, the Nava Bharat has been identified as a strategic partner to develop the farms, establish extraction and power plants, and allied infrastructure under PPP arrangement. NDC has estimated the cost of plantations, extraction plant and associated infrastructure at **US$160.0Million.**

# 9.0 Sweet Sorghum & Sesame Edible Oils and Bio fuel

NDC is promoting agribusiness and agro-processing or Value addition industries and bio fuel (ethanol) production as a preferred source of energy to preserve the environment against global warming emanating from burning of fossils fuels in Tanzania. NDC has acquired about 5,000 ha at Kisarawe and 5,000ha at Kilwa (and it is upon completion stages of land valuation, surveying and procurement of additional 15,000 hectares) for production of sweet sorghum. Specific farm areas for sweet sorghum include Kibaha District (Dutuni) in the Coast Region and Kidunda farms in Morogoro region. Also, NDC works hard to utilize acquired land for Sesame/ Simsim large scale commercial farming and edible oil manufacturing plant at Kilwa (Mandawa and Hoteli Tatu). To start with, NDC plans to grow sweet sorghum for: (i) production of ethanol using stalk of the sweet sorghum; (ii) food or malt for breweries using the sweet sorghum grains and (iii) generation of power using Bagasse. NDC intends to collaborate with any strategic investor in this area. It is expected that about 1000 jobs will be created. This Project on Edible Oil and Bio fuel is estimated to cost about **US$30.0Million**.

# 10.0 Textile Mill

NDC plans to establish a modern integrated textile mill in Tanzania. This is one of the value addition (beneficiation) strategies in Tanzania. The NDC has identified an investor from the Aqua Marine who has decided to relocate an existing textile mill to Nyanza Glass works in Mwanza City. The Corporation is obliged to undertake rehabilitation of buildings, water and sewerage systems, power station and lighting fixtures and reservoir. About 1,000 jobs (300 direct jobs in the plant and 700 indirect jobs) will be created. This project will cost about **US$ 0.5Million**.

# 11.0 Tractor Assembly Factory and Farm Implements

Agribusiness and agro-processing has been a major target of the NDC since Tanzania economy mostly depends on agricultural products, albeit it is trying to transform the country to be semi industrialized country. NDC’s main objective is to augmenting a feedstock supply chain from the agricultural sector (upstream), which would provide agro-processing industries (downstream) with raw materials sufficient in quantities and good quality, to make the industries (upstream) competitive. Also, NDC promotes and supports the national resolve by putting into practice to augment KILIMO KWANZA[[7]](#footnote-7) through establishing industries to provide backward and forward linkages for the agricultural sector and increase access to local and foreign markets for value added products. Currently, NDC has dedicated a plot at TAMCO Industrial Estate (Kibaha) for establishing Tractor Assembly Factory and associated farm implements to support KILIMO KWANZA to modernise and enlarge agriculture activities in the country. The tractors and related farm implements will be used in farming and associated activities to increase agricultural production. The cost estimate of establishing a Tractor Assembly and Farm Implements Factory at TAMCO (Kibaha) is **US$ 300.0Million**.

# 12.0 Lapidary/ Refinery

NDC plans to undertake beneficiation/ value addition on gems/ gold. It will collaborate with any strategic investor in the development of Lapidary/ refinery for acquisition of lands, construction, and other procurement, processing, cutting and polishing of gems/ gold. NDC still works towards determining the reliable sources, quantity of gemstones/ gold and feasibility of the proposed Lapidary/ refinery projects. It is crudely estimated that about 500 jobs (100 direct jobs in the Lapidary/ refinery and 400 indirect jobs) will be created. This project will cost about **US$1.0Million**.

# 13.0 Industrial Estates/ Parks

NDC is committed to facilitate industrialization through establishment of manufacturing and processing industries in Tanzania. In line with this, NDC has acquired industrial areas for development of modern industrial parks for various industrial undertakings. The implementation of this project involves development of pre-serviced industrial plots for construction of industrial buildings/ factory sheds to fast-track investment inflows to enhance industrialization pace and thereby fostering the local feedstock to local contents of manufactured goods. NDC has acquired TAMCO (Kibaha), Kange (Tanga) and Mwanza. Also, NDC plans to acquire 500ha and 200ha in Kigoma and Mtwara, respectively. The identified/ earmarked industries in these estates include manufacturing (including cotton spinning, weaving and processing of textile products and biological products), lapidary, assembly lines, agro processing, and the like. The NDC is planning to install basic infrastructure[[8]](#footnote-8) in all these industrial estates in collaboration with any strategic investor under PPP arrangement. Some of the Industrial estates under NDC include:

## 13.1 Tanzania Automobile Manufacturing Company (TAMCO)

This is a 94-hectare plot located at TAMCO in Kibaha Town (40 km from Dar es Salaam City center along the Dar es Salaam-Morogoro highway) within the Central Development Corridor linking the rest of and beyond the country. While about 6ha have been built up, about 84ha is available for developing and leasing or renting serviced plots to investors in manufacturing processes. Currently, NDC is developing a survey and layout design of the power substation, oxidization ponds, water treatment system, and internal roads network to facilitate establishment of industries including Biolarvicides Plant (3,600 square meters); relocation of Tractor Assembly Factory (3,000 square meters) and Nickel Smelter. The estimated cost for the development of the 84ha is **US$10.0Million**.

## 13.2 Kange Industrial Park

The Kange industrial park is located along Tanga-Dar es Salaam highway, about 5 km from the city center. NDC intends to develop and use this park to promote agro processing industries, forestry, fishery and animal husbandry subsectors. The Tanga Port will serve as a gateway to local and export market for the park’s products. The design work for Kange Industrial Park has been completed and NDC is currently working towards installation of utilities and on-site infrastructures. NDC is inviting potential investors under PPP arrangement or otherwise to establish modern industrial facilities for manufacturing and processing (value addition) activities for job creation, foreign exchange earnings and sustainable profits. The estimated cost for the development of park is **US$8.0Million**.

## 13.3 Nyanza Glass Work

NDC own Nyanza Glass Work Company which has built up godowns for raw materials; the factory buildings for manufacturing plant, furnace, and batch plant; dispensary; staff canteen and ample space (about 6.7Ha) for construction of other industrial facilities in Mwanza City. Also, the Nyanza Glass Work Facility has 30 bungalows located at Nyegezi Area about one Kilometer from the factory. NDC invites strategic investors to utilize the existing Nyanza Glass Works facilities under PPP arrangement. The estimated cost for the green area development (6.7ha) is **US$2.0Million**.

## 13.4 Kilimanjaro Machine Tools Center (KMTC)

KMTC is located in the Northern part of Tanzania along the Dar es Salaam – Nairobi via Arusha Highway, about 600 km to Dar es Salaam and 350 km to Nairobi. It is accessible by air through the Kilimanjaro International Airport (KIA) and it is located a few kilometers from the foot of the famous Kilimanjaro Mountain. It was established in 1984 as part of the country’s plan to develop a machinery complex that would include machine tools factory and an assembly plant. However, it has been operating on stand-alone basis and stopped commercial production in 1989. The proposed industrial development activities are detailed below.

## *13.4.1 Existing Industrial Structures/ Facilities*

There are building structures at site that were built more than 20 years ago but have all along been maintained and therefore in good condition. They include office block used for administrative purposes, factory building which accommodates all factory sections where production activities take place, and storage godown used for storage of materials. On machinery and Equipment, most of them are from Eastern Europe and are generally in good condition but obsolete as technology has changed tremendously saving for a few which require minor repairs. The machineries and equipment are designed to perform sheet cutting and bending; surface, radically, column and cylindrical grinding; horizontal and vertical milling and gear cutting, shaping and grinding.

## *13.4.2 New Industrial Facilities on Reserve Land*

NDC plans to utilize the reserve land (about 230ha). The aim is to an integrated industrial cluster to create a captive market for various machine tools and parts and to serve as a nucleus to the planned industrial complex at the KMTC. The architectural design of the park has been completed whereby the following activities have been undertaken: Hydro- geological study, Geo-technical investigation, Topographical survey and Metrological data. NDC plans develop master plan of the park, detailed design layout and preparation of Architectural and Engineering design of basic Infrastructure on the site for agro processing, solar panel manufacturing and pharmaceutical products. NDC is looking for a strategic investor for development of the KMTC under PPP arrangements. The estimated cost for the development of 230ha is amounting to **US$20.0Million**.

# 14.0 Real Estate Properties Development

NDC plans to redevelop its real estate properties located on ideally strategic locations in Dar es Salaam and Mwanza through PPP arrangements. The real estate properties will be renovated or constructed to become economically performing assets in terms of high business incomes instead of just little residential rentals. The NDC has prepared the terms of reference for the redevelopment of the same and feasibility studies to determine the viability of the project. To start with NDC has identified some of its real estate properties including: (i) 50 Mkadini Street Oysterbay, (ii) 310 UN Road Upanga, (iii) 20 Ocean Road Upanga, (iv) 31 Mtoni kwa Azizi Ali, and (v) 489 Kalenga Road Upanga (all in Dar es Salaam City) and (vi) Nyegezi residential estate (in Mwanza City). NDC does not plan to mortgage any of these real estate properties but to invite strategic investors to develop the identified properties under PPP arrangements. NDC has estimated **US$0.6Million** for facilitation (including carrying out of feasibility studies, preparation of tender documents and contracts) of the development of the identified estates properties in collaboration with the private sector under PPP arrangements.

# 15.0 Seven Star Hotel Construction

Tanzania is among the fast growing country in East Africa and is among the most target tourism destination due to geographical advantage of the country blessed with several National Parks and Game Reserves. The country has other tourist attractions apart from wildlife from major national parks such as Serengeti, Ngorongoro, Manyara, Tarangire, Ruaha, etc. Tourism industry is also growing rapidly but the hotel industry has been lagging behind in such way that the influx of tourists and businessmen can’t find enough decent hotels which can provide expected services for leisure or business activities. Tanzania Tourist Board (TTB) is promoting the construction of the hotels which will be able to accommodate the influx of tourist /businessmen. Following that, NDC plans to construct an off-shore Seven Star Hotel in Dar es Salaam or along the coast which will be as a Landmark of the country and attract more tourists and businessmen to accomplish their official activities and desire. The hotel will include all the basics state of the art which modern hotels can provide. NDC has estimated a total cost to construct the Seven Star Hotel to be **US$ 500.0Million**.

# C: PROJECTS UNDER IMPLEMENTATION THROUGH JOINT VENTURE OR OTHER PPP ARRANGEMENTS

# 16.0 Ngaka Coal to Power

This project is located in Mbinga District in Ruvuma Region. The deposit, which is estimated to be 180Millions tons of good quality coal, is being developed/ implemented by TANCOAL Energy Limited (TANCOAL) with shareholders including NDC (30% shareholding) and Intra Energy Corporation (70%), a public-listed Australian company. The deposits being developed include Mhukuru coalfield (about 50-60km from Mchuchuma), Mbalawala coalfield and Mbuyura Mkapa coalfields. Study done at Ngaka revealed reserves of about 400Million tons with about 300Million tons in measured category. TANCOAL has already imported mining equipments worth US$ 8Million. In year 2011, TANCOAL plans to establish an open cut coal mine to initially supply local industry (cement manufacturing plants in Tanzania) and international market (1.5Million tons per annum) and subsequently, to establish a coal-fired power generation plant (at Ngaka for 120MW to songea –Makambako and about 400-800MW in Dar es Salaam by 2013). Also, TANCOAL undertakes a study on how to use coal to establish an industrial cluster to produce power, fertilizer (urea), liquid fuel (diesel/ naphtha) and ash (clinker for cement production). In line with this, TANCOAL plans to collaborate with Tanzania Zambia Railway (TAZARA) for expansion of TAZARA railway line for transportation of coal from coal mine to Dar es Salaam for local and with Tanzania Port Authority (TPA) for international supply through Dar es Salaam Port as an international gateway. NDC is required to share costs according to its respective shareholding, including undertaking of various commitments such as transportation costs for the imported equipment to the project site. NDC owns 30% shares and is facilitating all the project activities including seeking for permits, prospective and mining licenses, water rights, ESIA certificates, certificates of Strategic Investor Status and incentives from the National Investment Steering Committee under the Chairmanship of the Prime Minister and other government approvals. The total project investment will be about **US$1.5Billion** and NDC is required to contribute a total of about **US$200.0Million.**

# 17.0 Biolarvicides Plant

NDC collaborates with the Cuban Biological and Pharmaceutical Laboratories (*Laboratorios Biologicos Farmaceuticos LABIOFAM SA de Cuba)* in implementing a Biolarvicides project to manufacture anti-malaria chemical products to destroy mosquito larva under the Joint Permanent Commission (JPC) between Tanzania and Cuba launched in 1986. The project is located at TAMCO Kibaha town and its factory or Plant will produce 6 million litres of Biolarvicides per annum and plans. The NDC has paid up about US$17Million out of US423.3Million as required vide a turnkey arrangement. Also, NDC needs about US$10Million for development of the infrastructure facilities (power substation and transformer and water reservoir and oxidation ponds) and recruitment and training of local employees (one-year learning-by-doing skills in foreign Country) and marketing of Biolarvicides products to neighbouring countries including Zambia, Malawi, Mozambique and Zimbabwe. The off-take agreement will be signed between NDC and Ministries responsible for Health in Tanzania, Malawi, Zambia, etc. The construction of Biolarvicides Plant is underway and completion is scheduled for July 2012. NDC is required to incur around **US$30.0Million** for successful implementation of this project.

# 18.0 Singida Wind to Power

This project is located in Singida, where there is a large scale wind farm (consists of group of wind turbines for production of electricity). The established SPV or Joint Venture Company is known as Geo Wind Power Ltd (GWPL) whose initial shareholders include Power Pool East Africa Ltd or PPEAL (50%), NDC (26%), and TANESCO (25%). The Government of the United Republic of Tanzania is committed to provide a financial guarantee to a tune of US$116 Million for the concessional loan for same with the Exim Bank of Beijing (as a an export credit agency cum financier of the project through identified Chinese implementing (Engineering Procurement and Construction-EPC) agent known as Dalian International Economic and Technological Cooperation Co Ltd (CDIG). While GWPL will construct and maintain the power generation plant, dispatch the electrical energy through interconnection facilities from plant to the interconnection points (installed with metering devices), TANESCO will relay the electrical energy to National Grid through its Grid control Center. Initially, GWPL is scheduled to commence power production in 2013, to be increased to 100MW in 204 and 300MW thereafter. NDC owns 26% shares and is facilitating all the project activities including seeking for permits, prospective and mining licenses, water rights, ESIA certificates, certificates of Strategic Investor Status and incentives from the National Investment Steering Committee under the Chairmanship of the Prime Minister and other government approvals. The GWPL plans to implement the project at a cost of **US$ 210.0Million** and NDC is obliged to contribute **US$60.0Million**.

# 19.0 Kasi Mpya Sponge Iron

NDC, in collaboration with the MM Steel Resources (MMSR) PLC, have established a joint venture company (Maganga Matitu Resource Development Limited- MMRDL) for production of sponge iron using Maganga Matitu Iron ore and Katewaka coal located in Ludewa District in Njombe Region. Sponge iron can be produced through pellet making and lump ore pre-reduction using coals in a rotary kiln followed by electric smelting to semi-steel (metal) in an electro slag resistance furnace (ESRF) or pig iron (hot metal) in an electric arc furnace (EAF). The main smelting materials include coke, lime or dolomite and silica. The NDC and MMSRPL have established an SPV in the name of Maganga Matitu Resources Development Limited (MMRDL). The MMRDL will produce about 330,000 MT of sponge iron along with 250,000MT of Steel Billets and captive power generation plant for 45MW using waste (hot exhaust gases) heat recovery boilers. The production of sponge iron will either augment or replace steel scrap which is currently in short supply. The project components include run off/ iron ore mine (812,000MT per annum) at Maganga Matitu and coal mine (for 330,000MT per annum) at Katewaka, sponge iron (330,000MT per annum) plant and Steel melting shop (250,000MT of billets per annum) at Amani Village near Maganga Matitu, and Captive power plant (for 45MW) at Maganga Matitu and development of two townships for employees at Shaurimoyo Village (for iron ore mine and sponge iron plant employees) and at Kimerembe Village (for coal mine employees). Currently, the project is at the stage of conducting due diligence/ drilling exploration (project confirmation/confirmatory studies which started in May 2010 - December 2011). MMSR will start construction activities in 2012/13 and Sponge iron production in 2013/14. NDC owns 25% shares and is facilitating all the project activities including seeking for permits, prospective and mining licenses, water rights, ESIA certificates, certificates of Strategic Investor Status and incentives from the National Investment Steering Committee under the Chairmanship of the Prime Minister and other government approvals. This project will create about 500 direct employment and 2000 indirect employment opportunities. NDC is required to incur **US$150.0Million** on this project as its contribution on pro rata basis.

# 20.0 Mchuchuma Coal to Electricity and Liganga Iron Ore to Steel

This project is located at Nkomang’ombe Village, Ludewa District – Iringa Region about 946km from Dar es Salaam (Southwest of Tanzania). The government conducted a study in 1997 and found a total coal reserve of 454.1Mt (125.30Mt - proven category; and 328.80Mt – Indicative category). Also, the study revealed that available coal is good for power generation with heat value or Calorific Value (CV) of 3,600-7,500 Kcal/kg. The project will develop a coal mine to produce 3Million tonnes per annum and a mine mouth thermal power station to generate at least 600MW (in 4 phases each to produce 150MW), which will yield US$450Million per annum.

Also, the project will extract and process Liganga Iron ore reserve estimated to be over 2 Billion tones, planned to produce 3.0Million tones of iron ore per annum for production of 1.25M tons of steel iron per annum (hence 667 years) at a yield value of US$450Million per annum (at a unit price of US$360 per ton of Steel Iron). The iron ore is contained in igneous rocks with traces of minerals such as Nickel, Cobalt, Copper, Platinum, Metals, Vanadium and Titanium, Magnetite which could be a major source of raw materials from iron and steel industry.

The project is ready for investment under PPP arrangement since NDC has entered into JV agreement with a Sichaun Hongda (Group) and formulated the SPV known as Tanzania China International Mineral Resources Limited (TCIMRL) for development of coal mine and coal-fired power station (at Mchuchuma) and Iron ore mine and steel complex (at Liganga). TCIMRL will take 6 months to verify the data and information on Mchuchuma Coal fields and 36 months for construction of the Power Plant and 12 Months for exploration and 36 months for development of Steel Mill at Liganga Iron Ore mine. NDC may need financial resources in order to meet its component obligations as per its interests in the project. The total investment in the twin Power Generation Plant and Steel Mill project is US$3.0Billion and total jobs to be created are estimated to be about 4000 jobs during 2013-2015. NDC owns 20% shares and is facilitating all the project activities including seeking for permits, prospective and mining licenses, water rights, ESIA certificates, certificates of Strategic Investor Status and incentives from the National Investment Steering Committee (under the Chairmanship of the Prime Minister) and other government approvals. NDC may be obliged to incur about **US$1.5Million** to facilitate the entire cycle of project development and implementation.

# D: SUMMARY OF PIPELINE OR RESERACH PROJECTS

# 21.0 Tanzania-Malawi Cross-border Integrated Industrial Cluster

This project will anchor the Uhuru Development Corridor (UhDC) along the TAZARA railway line. NDC, in collaboration with the Malawi Development Corporation (MDC), plans to invest in a cross-border integrated industrial cluster at the border between Tanzania and Malawi. The Integrated Industrial Cluster will produce fertilizer (Urea), coal to liquid (CTL) and power generation, smelting and mineral beneficiation (from Heavy Mineral Sands located in Malawi and pig iron), *inter alia.* This concept has received high acceptance among stakeholders from various sector of the economy in Tanzania. Also, similar concept has been sold and found favourable to Malawi as well. NDC is aware of the identified and proven Technology from China for the same. In addition, the related processes including identification of alternative configuration options and procurement of a consultant to carry out a feasibility study are at advanced stage. NDC is ready to support and work with any strategic investor to develop an integrated industrial cluster under PPP arrangement. This project is estimated to cost about **US$5.0Billion.**

# 22.0 Geothermal and Solar Power Projects

NDC is planning to establish geothermal plants for power generation by using geothermally heated groundwater from the Earth’s crust. The geothermal hot springs/ steams are useful for driving steam turbines for power generation. Geothermal exploration in Tanzania took place from 1976 to 1979. Reconnaissance missions and surface exploration were carried out in some areas of the country including Lake Natron and Lake Manyara in Arusha; Maji-Moto in Musoma –Mara and Mbeya region. Following the above, the mission concluded that most of the thermal manifestations in Northern Tanzania indicated the existence of the geothermal resources that could be used for power generation. For instance, areas around Mount Oldonyi Lengai indicate possible high temperature resources which is a good sign for geothermal power generation. Other areas with said signs are Lake Natron, Ngorongoro Caldera and Lake Manyara. In line with this, NDC has identified concessions with geothermal hot springs at Lake Ngozi in Rungwe District (Mbeya), Oldoinyo Lengai in Monduli District (Arusha) and Kisaki, Kilombero District (Morogoro). Initially, NDC plans to carry out a comprehensive feasibility study to establish a 300MW geothermal power generation around the identified area in Arusha near Mount Oldonyi Lengai. However, the main challenge which NDC faces is the issue of access to the identified concessions (as the current owners sell the same at high price, about US$5.0Million per concession, despite the unknown quality of the geothermal concession. Also, studies have found that the geothermal power generation process is expensive as it costs about US$6.0Million per single bore hole, which can produce around 150MW (i.e. US$40,000 per MW).

In addition, NDC is looking for land for development of Solar Photovoltaic Power Plants (SPPPs), with the purpose of selling electricity to national grid and end users (standing alone off-grid power generation). NDC is looking for a strategic investor[[9]](#footnote-9) for SPPP project development, construction (EPC), financing (Public and equity) and management (O&M) under any PPP arrangement. The project can be quickly built and interconnected and will improve significant use of local resources in development, construction and O&M of photovoltaic energy production (SPPPs).

Overall, NDC is promoting both geothermal and solar energy projects to strategic investors to invest in the Geothermal[[10]](#footnote-10) and Solar[[11]](#footnote-11) Power Generation Plants in the identified and other potential areas. The strategic investors will participate in the SPVs as provider of finances and management to the Joint Venture Company (JVC). While the JVCs will construct and maintain the power generation plants, dispatch the electrical energy through interconnection facilities from plant to the interconnection points (installed with metering devices), the power utility (TANESCO) will purchase and evacuate the electrical energy to National Grid through its Grid control Center. It is estimated that the acquisition of concession, carrying out a feasibility study and initial establishment of the 100MW Geothermal Power generation station in any of the identified area will cost **about US$350.0Million** while about 300 acres (121ha) can produce 100MW and 500 jobs at an estimated investment cost of **US$400.0 Million**.

# 23.0 Pangani Quarry and Concrete Prefabs Factory

NDC works with Reli Assets Holding Company Limited (*RAHCO*) to develop a quarry and construct Concrete Prefabs factory at Pangani Quarry. The Pangani Quarry Project will engage in mining of hard rock for production of boulders to be crushed into ballast, aggregate, slippers and chippings for prefab concrete elements of different shapes. NDC and RAHCO promotes this project to any interested strategic investor towards establishment of the SPV for operationalization of the project, reinstallation of power supply and rehabilitation of infrastructure (railway line, residential houses, access roads, water supply pumps and sewerage system), crushing plant, and other activities for the purpose of developing and implementing the project. Also, NDC and RAHCO will support the SPV in all negotiations with Central Government Authorities and other Local and Regional entities, securing all necessary licenses, permits, land rights and agreements including a Project Development Agreement (“PDA”) with the Government. NDC and RAHCO are inviting strategic investors to invest in this project. A total number of jobs to be created are estimated to be about 400 jobs during 2013-2015. The total investment in the Pangani Quarry Project is estimated to cost around **US$10.0Million**

# 24.0 Fruit Processing Plants

NDC promotes investment in processing of fruits for manufacturing of fruits concentrates, juice and canning. NDC has planned to establish the Fruit Processing plants in Tanga (Kange) and Coast Region (TAMCO) industrial parks. This project will produce fruits and concentrates and canned juices and hence generate huge saving of foreign exchanges which are used for importing the canned juices. NDC plans to collaborate with relevant Ministries and Institutions to supports this industry and to promote value addition activities in Tanzania. NDC attracts interested strategic investors to invest in the project. About 150 jobs are to be directly created by the project and 800 indirect jobs will be created during 2013-2014.

The project cost is estimated to be about **US$35.0Million**.

# E: CAPACITY BUILDING TO SUPPORT PROJECTS DEVELOPMENT

# 25.0 Spatial Development Initiative (SDI)/ Development Corridors (DC)

NDC hosts the Regional SADC based SDI/DC Programme which deals with coordination of technical and financial assistance for development and implementation of anchor industrial and infrastructural projects, due diligence studies, regional SDI Strategies and related activities to turn natural resources (comparative advantages) into dynamic competitive advantages; maximize investment in anchor industrial and infrastructural projects as well as ports (for international gateways), which are intended to open up the countries and lead growth in an integrated economic development corridors; facilitate efficient exploration to achieve beneficial multiplier effects, higher growth rates and wealth generation based on unrealized/ unexploited enormous economic potentials; and strengthen interdependencies in the sub-region. Although complex, SDIs/ DC Programmes have shown to work in fostering private sector development, growth and development and greater integration.

In line with this, NDC receives financial and technical assistance for Tanzania Phase two SDI program from the Development Bank of Southern Africa (DBSA) through the Regional Spatial Development Initiative Programme (RSDIP). Specifically, through the RSDIP resources, NDC coordinates the Spatial Development Initiatives Programme which supports studies on research projects and packaging of research projects information memorandum/ documentation (PIM) for promotion of industrial and infrastructural projects in development Corridors Mtwara (Mtwara-Mbambabay Railway line), Tanga (Tanga-Musoma Railway lines), Uhuru (along TAZARA Railway line) and Central (along Central Railway line). For instance, NDC, in collaboration with the DBSA, has conducted most of the studies on infrastructural requirements and business cases and feasibility studies on viable projects and mobilizes resources for implementation of bankable projects within Mtwara Development Corridor (MtDC) alone. This is because the DBSA funding is limited. The NDC is seeking additional financial resources for funding of feasibility studies on anchor or trunk infrastructural systems and anchor industrial projects (agricultural, agro processing, manufacturing and other industrial clusters) and support processes of procuring potential investors in such projects in all development corridors. The estimated costs to develop projects within the development corridors are **US$1.5Billion.**

# 26.0 Institutional Capacity Building

Globalisation has sparred out unprecedented want for constant institutional reassessment so as to keep in touch with dynamics pertaining both in the internal and external environments. To this end, institutional capacity building in general and human resource development in particular, has become a distinguishing and necessary index of sustainability and competitiveness. Consistent with the need of identifying new competitive niches, NDC has initiated a far reaching review of its mandate and functions (total reengineering to sustain business in the current environment) towards industrial development promotion by vigorously identifying, promoting and investing in industrial investment opportunities. Whereas it has to pursue its main function of being the, has to build capacities that it stands to lead the country along the required development path to an industrialised and middle income country come 2025. The challenges, however, are enormous particularly for development institutions of the developing world.

So as to fast track the needful capacity building, NDC is of the view that Human Resources Development is a key to sustainability of the institution and on the anticipated projects executions. For instance, NDC needs to train and retrain its employees to have an adequate skills and knowledge to tackle different project development obstacles as mandated by the Government. Further, NDC with the undergoing changes as per reengineering needs to have an appropriate conducive working environment with modern working tools and facilities. To build the required capacity, retain and maintain the human resources with required standard and modern conducive working environment, NDC has estimated a **total of USD 300.0Million**.

# 27.0 Community Empowerment and Economic Development

NDC implements processes which are people-centred and hence very keen on implementing Corporate Social Responsibilities (CSR). NDC plans to collaborate with Local Government Authorities (LGAs) and National Economic Empowerment Council (NEEC) of Tanzania to promote local economic development through: First, full engagement of people (local entrepreneurs) on carrying initial risks through procurement of shares as individuals, groups/ cluster as well as an association; Second, mobilization of local people to utilize/ exploit their resources for their economic gains; Third, preparation and delivery of training modules and seminars to improve knowledge and skills of people on industrial entrepreneurship and standards; Fourth, development of industrial areas and related infrastructures for incubation and facilitation of graduates and entrepreneurs to perform productive or industrial activities; Fifth, promotion of networking or linkage between local producers/ entrepreneurs and financial institutions to guarantee large scale inputs and production of industrial feedstock for sustainable industrialization and lastly, conducting analytical reviews, dissemination and advocacy roles to influence policies and legislations impacting on economic empowerment. The estimated social obligation cost to undertake corporate social responsibilities (CSR) in identified project areas is **US$0.5Billion.**

1. Director of Research, Planning and Industrial Development (email: [ggwanga@gmail.com](mailto:ggwanga@gmail.com), Mobile: +255574577481). [↑](#footnote-ref-1)
2. Figures on project costs and employment are estimates. [↑](#footnote-ref-2)
3. The estimated cost per km of railway line ranges between US$1.5 - 2.0Million. [↑](#footnote-ref-3)
4. Estimated cost per km of 60 meters Bitumen road is US$923,000, of double layers tarmac road is US$300,000 and of gravel road is US$ 100,000. [↑](#footnote-ref-4)
5. Itoni (Njombe) is located between the Makambako – Songea Trunk Road. [↑](#footnote-ref-5)
6. Dubai World has indicated interest in developing Mbegani Port. [↑](#footnote-ref-6)
7. Tanzania has introduced a KILIMO KWANZA as National resolve to accelerate agricultural transformation in the country. KILIMO KWANZA comprises a holistic set of policy instruments and strategic interventions towards addressing the various sectoral challenges and taking advantage of the numerous opportunities to modernize and commercialize agriculture in the country. [↑](#footnote-ref-7)
8. The green area development and boundary wall construction charges are considered as US$ 50,000 per ha and US$ 100,000 per km, respectively. Also, unit cost of High Tension lines of 33kV and 132kV per km is estimated to be US$40,000 and 500,000 respectively, while the substation 50MVA 123kV/33kV costs US$6.0Million. In addition, an estimated cost for development of each square meter of industrial park is US$5,000.0 and Street lighting fixture with PCC poles and accessories per km costs US$5,000. [↑](#footnote-ref-8)
9. SunAfrica, SunEdison and LR Group have deep PV and project development experiences which backed with financial strength have indicated interest in this project. [↑](#footnote-ref-9)
10. Reykjavik Geothermal Consulting Co. (R.G of Cayman Islands) and Geothermal Power Limited (Mauritius) in collaboration with Interstate Company Limited have indicated interest to work with NDC on the project. [↑](#footnote-ref-10)
11. Solar Power Company from Texas-USA has indicated interest in this project [↑](#footnote-ref-11)