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Project Document Format for non-CPAP Countries or Projects outside a CPAP

Country: State of Palestine – Gaza Strip

Construction of Khan Younis Waste Water Treatment Plant
KY WWTP

5 September, 2013

Project Title:

Construction of Khan Younis Waste Water Treatment Plant, KY WWTP

UNDAF Outcome(s)

By 2016, Palestinian institutions more effectively manage and regulate urban development and natural resources to ensure the equitable provision of sustainable infrastructure and to safeguard cultural heritage

Expected CP Outcome(s):

Natural resources and environment protected;

Public and social infrastructure developed.

Expected Output(s):

- Khan Younis waste water treatment plant of a capacity of 26,600 cubic meters per day constructed, and operated for one year after commissioning;
- Effluent and emergency pressure pipeline of 18.6 kilometers length constructed;
- Al Fukhari infiltration basins of 97 dunums area to recharge treated waste water into aquifer constructed;
- Main electrical power supply line of around 3,000 meter length to operate KY WWTP constructed;
- Constructability review, pre-contract services and construction supervision for the construction of KY WWTP performed;
- The implementation and operational capacity of the Coastal Municipalities Water Utility enhanced.

Executing Agency: UNDP/PAPP

Implementing Agencies: UNDP/PAPP

Brief Description

Khan Younis Governorate is located at the southern part of the Gaza Strip and it is currently inhabited by more than 320,000 residents. It has been sustaining for long-term an absolute absence of a functional waste water treatment plant, where raw sewage is still being disposed off in the environment without treatment. The long term's at random practice of discharging raw sewage has resulted in serious chemical and biological pollution in environment, water aquifer, sea water and marine life, thus, rendering Khan Younis residents living under direct impacts induced by water-borne diseases.

Khan Younis Waste Water Treatment Plant (KY WWTP) is a strategic environmental project aims at protecting public health, water resources and environment of Khan Younis resident while contributing to developing public and social infrastructure in the Gaza Strip. In addition, it will contribute to achieving the Palestinian Water Authority objective for balanced water management through providing a new non-conventional water source of treated waste water that will be recharged into aquifer to ultimately be used for agricultural purposes.

The overall project comprises constructing the first phase of KY WWTP at a flow capacity of 26,600 cubic meters per day to serve 217,000 residents in year 2018; complete with its effluent and emergency pressure pipeline, infiltration basins and electrical power supply line and undertaking one year operation after commissioning to be a comprehensive, functional and operational treatment plant.

To enhance the implementation capacity of national partners, the Coastal Municipalities Water Utility (CMWU) will implement two components of the project namely; the construction of 70 percent of effluent and emergency pressure pipeline and the construction of infiltration basins under UNDP/PAPP's full coordination and supervision of the overall project. To exchange knowledge and proper codes of practice to CMWU as final operator of the project, one year operation after commissioning will be carried out by the international contract who will commission the plant.

Throughout the project, more than 40,000 working days will be generated for unemployed local workers that will contribute to promoting their socio-economical conditions through a dignified livelihood.

Programme Period: September 2013 – March 2018

Key Result Area (Strategic Plan): Protecting natural resources and the environment / Increased access to waste water services

Atlas Award ID: 00047395

Start date: September 2013

End Date: March 2018

PAC Meeting Date: _____

Management Arrangements: _____

Total resources required:	**USD 58,004,549**
Total allocated resources:	**USD 58,004,549**
• Regular	
• Other:	
○ Donor: **GoJ**	**USD 14,829,549**
○ Donor: **Kuwait Fund/IDB**	**USD 42,000,000**
○ Donor: **UNDP**	**USD 1,175,000**
○ Donor	
○	

Unfunded budget: _____

In-kind Contributions: _____

Agreed by / Date:

Frode Mauring

Special Representative of the Administrator, UNDP/PAPP

I. SITUATION ANALYSIS

1.1. Country Context

The Gaza Strip is a narrow territory located at the south eastern coast of the Mediterranean Sea. It is merely comprised of a total area of 365 square kilometers and currently inhabited by more than 1.64 million residents. While overburdened with a high population density of around 4,500 persons per square kilometer, it lacks renewable natural resources.

The Gaza Strip has been subject to the Israeli occupation since 1967; associated with bad levels of human development performance. After the 1993's Israeli-Palestinian declaration of Principles, the Palestinian National Authority (PNA) was authorized and established pursuant to May 4, 1994 Cairo Agreement and a transfer of powers and responsibilities in the Gaza Strip took place from Israel to the PNA.

The first Palestinian Legislative Council was elected in 1996 and economical trends stared to develop. Afterwards, the Israeli Palestinian negotiations proved unfruitful and the second intifada erupted in the fall of 2000. The successive political and military measures imposed by Israeli against the occupied Palestinian territory (oPt) have enforced a notable decline of the socio-economic conditions.

In 2005 Israel withdrew its forces and settlers unilaterally from the Gaza Strip as part of its disengagement plan. Pursuant to the Palestinian legislative elections took place in 2006, an internal conflict erupted between the Palestinian factions; featured with unsettled situations, and Hamas movement seized the control of the Gaza Strip in June 2007.

After June 2007, Israel imposed economic sanctions with external blockade and restrictions on labor, trade and financial investment flows on the Gaza Strip that triggered a collapse in economical situations and contributed to undermining the human development effectiveness.

In December 2008- January 2009, Israel launched the military cast lead war against the Gaza Strip. Aside from the high level of causalities, the living standards and socio-economic conditions have worsened at then to unprecedented levels.

In November 2012, Israel launched another military war against the Gaza strip, which has derived more causalities and damages to public infrastructure and has further exacerbated the already fragile socio-economic conditions.

While 75% of Palestinians in the Gaza Strip are under the age of thirty, and when 21.1% of residents were living below the deep poverty line in 2011, the unemployment rate is 31.5% and 38.8% suffered from poverty in 2012. (Palestinian Central Bureau of Statistics, June 2012)

Such tangled political and socio-economic conditions, coupled with lack of financial resources, have deactivated the Palestinian national developmental plans and terminated by rapid erosion of livelihoods, serious depletion of the limited natural resources and grave deterioration of existing infrastructures and environment; especially that related to waste water/health sectors.

When, on the other hand, the UN General Assembly voted in 29 November 2012 for Palestine as non-member state, the international community is incited now with a propulsive attribute to act toward ending the de-development status in the state of Palestine to actualize a resilient nation with empowered lives and dignified environment.

1.2. Problem Statement/Needs

1.2.1. Detailed Description of Waste Water Sector in the Gaza Strip

The Gaza Strip is located in a semi-arid region and has very limited water resources. The average daily mean temperature ranges from 25 °C in summer to 13 °C in winter. With mild winters last for three months; the average annual rainfall is ranging between 400 mm in the northern parts to 200 mm in the southern parts.

The Gaza Strip's small water aquifer, which only comprises 15% of the total yield of the shared coastal aquifer, is the unique source available for drinking, domestic and agriculture purposes.

To meet the increasing population and agricultural demands, the aquifer has being intensively over drafted over the past decades with an extreme water imbalance of more than 120 million cubic meters per annum in year 2012. This imbalance is equilibrated by saline water and sea water intrusion that resulted in sharp increment of aquifer's salinity.

Nowadays, over 90% of the water aquifer has a quality far beyond the WHO's recommended values. Having the case being as such, the water security in the Gaza Strip is considered to be at a very critical level.

The waste water sector, in particular, has been subject to underinvestment since the main cities in the Gaza Strip are still deprived from comprehensive waste water systems connected with functional treatment plants.

At present, the Gaza Strip population's access to sewage facilities varies from areas where more than 80% of households are sewer-connected to areas where there is no sewage system at all. On average, it is estimated that about 72% of the population is connected to sewage networks, while others are still using sewage cesspits.

The Gaza Strip has mainly three old ineffective waste water treatment plants; operating at over capacity. Consequently, 70-80% in approximate of the domestic waste water is disposed off in environment either without treatment or partially treated.

Over 40 million cubic meters of waste water are generated annually from the Gaza Strip. While 30 million passes through sewage networks to non functional treatment plants, the rest passes through cesspits or temporary collection lagoons which infiltrates to ground water and causing it to become polluted.

Currently, over 100,000 cubic meters per day of raw sewage or partially treated waste water are discharged to Mediterranean Sea via Wadi Gaza and other outlet pipelines, causing serious pollution to sea water and marine life.

In response to exacerbated water/waste water conditions, the Palestinian Water Authority (PWA) had developed a waste water master plan in year 2000 and proposed to establish three main central treatment plants in the Gaza Strip, all to be located on the agricultural areas close to the eastern borders of the Gaza Strip.

The PWA, strategic plan has incorporated several elements to maximize water availability in the Gaza Strip. It highly recommends enhancement of water aquifer by recharging treated waste water into it for ultimate reuse for agricultural purposes.

However, the prevailing political conditions coupled with lack of financial resources have deactivated the Palestinian national plans to achieve water security from one side, and have hindered the efforts to put in place proper solutions to the poor conditions of the waste water sector from the other side. Concurrently, and due to difficulties of providing construction materials, the existing infrastructural facilities are deferred to persistent deterioration that is thrusting the status of the water sanitation on a brink of collapse.

Under such conditions, the muddle practice of dumping raw sewage in environment without treatment has been widening inclusive more insertion of chemical and biological pollutants to environment, water aquifer, sea water and marine life, thus, exposing whole residents of Gaza Strip to consequential health and environmental hazards. Thereby, unless a comprehensive development introduced, the current situation is a little short of becoming a catastrophic.

When Amnesty International reported on Oct. 2009 that water situation in Gaza is dire[1], UNEP reported in its post-conflict assessment report of September 2009, after Israel military cast lead war on Gaza, that the state of the environment in the Gaza Strip is bleak of any perspective, and recommended that one or more new modern sewage treatment plants should be constructed in the Gaza Strip[2].

1.2.2. Status of Waste Water Sector in Khan Younis Governorate

Khan Younis Governorate is located in the southern part of the Gaza Strip and currently inhabited by more than 320,000 residents. Having a total area of 108 square kilometers, it covers the urban areas of seven municipalities; Khan Younis city and the surrounding six eastern villages, including the agricultural lands located in the eastern parts of the area.

Khan Younis city; that forms the Governorate's main and central community, is considered the second largest city of the Gaza Strip. It is currently inhabited by more than 215,000 residents and has a total area of 59 square kilometers; however, it lives under minimum infrastructural needs.

With a projected growth rate declining from 3.8% at present to 2.8% in year 2025, the total population of Khan Younis Governorate is expected to ascend at then to 490,000 residents.

Khan Younis Governorate has been sustaining for long-term an absolute absence of a waste water collections system and a functional waste water treatment plant.

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[1] Amnesty International, Troubled Waters – Palestinians Denied Access to Water, October 2009.

[2] UNEP, Environment Assessment of the Gaza Strip, following the escalation of hostilities in December 2008 – January 2009, September 2009

More than 70% of the residents of Khan Younis Governorate are not sewer connected and are accustomed to disposing off their generated raw sewage through more than 30,000 cesspits and open lagoons. These ad-hoc systems allow waste water to filtrate to the water aquifer and making it seriously polluted with extreme increment of nitrate concentration in particular.

Results of recent analysis showed that 90% of the drinking water pumped from Khan Younis water wells has nitrate concentration far beyond the WHO's recommended values (50 mg/l). While the average concentration is about 225 mg/l, the maximum concentration is reaching 450 mg/l in some water wells. The high concentration of nitrate in drinking water is one of the leading causes for methemoglobinaemia (blue baby phenomena).

The other 30% of residents were lately connected to sewage collection networks established since 2004 in central parts of Khan Younis city. Given such a situation with an absence of a functional waste water treatment plant, the collected raw sewage, in addition to sewage evacuated by vacuum trucks from existing cesspits, is still being dumped in a non furbished storm water lagoon located in close to Al Amal residential zone in the north-western side of Khan Younis city, and diverted to other four collection lagoons established in 2008 in the sand dunes area located in western side of Khan Younis city, which were upgraded to 6 ones in 2013.

These temporary lagoons are imposing serious pollutants into the western shallow aquifer, which is considered the lonely segment of the coastal aquifer that still containing qualitative water in the Gaza Strip. Water quality sampling of agricultural wells located close to those lagoons in Al Mawasi area has detected high level of bacteriological contamination. The Fecal coli-form and Total coli-form (indicators of biological contamination) found to be too numerous to count, while it should be 0.00 No/100 ml as per the WHO guidelines. The Ammonia concentration was very high as well at a value of 3.4 mg/l.

Through these lagoons, more than 12,000 cubic meters per day of partially treated waste water are currently discharged to the Mediterranean Sea. This practice has created another spot of environmental pollution to sea water and marine life at Khan Younis beach, which was considered the safest segment of the whole Gaza Strip shore. Such pollution is imposing high risks on public health; especially during summer vacation when the sea is the only recreational spot in the area.

Due to absence of a functional waste water treatment plant, the long-term at random practice of discharging raw sewage has been exposing residents to direct biological pollution other than causing serious pollution to water aquifer, sea water and marine life, thus, rendering whole Khan younis residents living under direct environmental and health risks.

The prevalence of water born-diseases in Khan Younis area such as, diarrheas, dysenteries, salmoellosis, viral hepatitis A, typhoid fever, guardian and amoeba histolytic, in addition n to the prevalence of methemoglobinaemia, is from the high rates among the Gaza Strip. In summer vacations, the number of residents; the majority of them being children, admitted to health care centers due to infection caused by water born diseases is doubled in Khan Younis.

Therefore, the construction of Khan Younis Waste Water Treatment Plant is considered a very crucial and vital need to protect public health and environment of whole Khan Younis residents. The importunity of its implementation was also indicated when it was highlighted in a brief sent from the UN Special Coordinator for the Middle East Peace Process to the Security Council on 18 May 2010.

1.3. Project Goals

Khan Younis Waste Water Treatment Plant project is a strategic environmental project aims at protecting public health, water resources and environment of more than 320,000 residents of Khan Younis Governorate. It will contribute to developing public and social infrastructure forward for developed nation-wide networks in the Gaza Strip.

The Project's strategic plan was developed by providing a detailed design of an extendable waste water treatment plant to serve the population of Khan Younis Governorate up to year 2025, while constructing it into two phases reference to available resources.

Throughout the project, the first phase of Khan Younis Waste Water Treatment Plant will be constructed in according to international codes, at a flow capacity of 26,600 cubic meters per day and load estimates to serve 217,000 residents in year 2018; complete with its effluent and infiltration schemes to be a comprehensive, functional and operational treatment plant.

Throughout the constructed infiltration basins, more than 9 million cubic meters of treated waste water will annually be recharged into the poor local aquifer to enhancing it and, thus, providing a new non-conventional water source to be used for agricultural purposes in the extended agricultural lands at the eastern parts of Khan Younis.

II. STRATEGY

2.1 National Strategy in the oPt

The construction of Khan Younis Water Treatment Plant, Phase I, project will contribute to achieving the infrastructure objectives of the Palestinian National Development Plan 2011-2013 for the water sector. It will contribute to establishing a dignified environment to enhancing the quality of daily life of Palestinians through developing integrated and sustainable infrastructure networks and nation-wide facilities for treating waste water for public health reasons and for sustainable utilization and conservation of natural resources and protection of the environment.

In light of the Palestinian Water Resources Management Strategy, the construction of Khan Younis Water Treatment Plant, Phase I, was prioritized by the Palestinian Water Authority as one of the most strategic environmental projects that not only needed to protecting public health and environment of Khan Younis residents, but to fulfilling the PWA's objectives in achieving water security by developing a new non-conventional water source and protecting the available limited water resources as well.

Furthermore, it comes in a line with the policy principles of the Palestinian Water Authority to enhancing the national institutional capacities in water and sanitation sector by enhancing the implementation and operational capacity of the Coastal Municipalities Water Utility (CMWU) as service provider and final operator of KY WWTP.

2.2 UNDP Strategy

The project's planned outputs are in line with the priorities of intervention identified in the UNDP/PAPP Consolidated Plan of Assistance for years 2012-2014, Development for Freedom, to develop integrated and sustainable national infrastructure networks that will contribute to protecting the natural resources and the environment.

Towards its completion, the project will contribute to achieving the performance results of the UNDP/PAPP's outcome 3; Protecting Natural Resources and the Environment, through achieving the performance targets of output 3 by providing access to waste water collection and treatment services to 217,000 residents in Khan Younis. Collaterally, it will contribute to achieving the performance results of outcome 4 by developing public and social infrastructure in the Gaza strip.

The project will contribute to empowering the national ownership by enhancing the implementation and operational capacity of CMWU as local service provider, in addition to generating employment opportunities for unemployed people to enhance their livelihoods.

The project will contribute to achieving target 10 of goal no.7 of the MDGs.

III. PROJECT DESCRIPTION

3.1 Project Outcomes

Natural resources and environment protected;

Public and social infrastructure developed.

3.2 Outputs

The project expected outputs are:

- Khan Younis waste water treatment plant of a capacity of 26,600 cubic meters per day constructed, and operated for one year after commissioning.
- Effluent and emergency pressure pipeline of 18.6 kilometers length constructed.
- Al Fukhari infiltration basins of 97 dunums area to recharge treated waste water into aquifer constructed.
- Main electrical power supply line of around 3,000 meter length to operate KY WWTP constructed.
- Constructability review, pre-contract services and construction supervision for the construction of KY WWTP performed.
- The implementation and operational capacity of the Coastal Municipalities Water Utility enhanced.

3.3 Project Key Activities

The project outcomes and outputs will be achieved through performing the under mentioned activities, which will be financed under this project proposal.

The project different activities will be implemented by UNDP/PAPP, as the Executing Entity responsible for the whole accountability, management and implementation of the overall project, in close cooperation with the Palestinian Water Authority (PWA), the Coastal Municipalities Water Utility (CMWU) and Khan Younis Municipality.

Throughout the project, the first phase of Khan Younis Waste Water Treatment Plant will be constructed in according to international codes complete with its effluent and infiltration scheme to be a comprehensive, functional and operational treatment plant.

Within the overall project's work plan and allocated budget, and under the UNDP/PAPP's full coordination and supervision of the overall project, the CMWU will implement 70% the emergency pressure pipeline from Sofa and Saleh Eldeen streets' junction to the sea shore in addition to the infiltration basins.

One year operation after commissioning of the treatment plant will be carried out by the international contractor, who will construct and commission the plant, within the CMWU's full participation, support and cooperation, aiming at exchanging knowledge and proper codes of practice to CMWU as final operator of KY WWTP,.

The comprehensive project shall include the following necessary components:

3.3.1 Constructing Main Steel Pressure Pipeline from Existing Terminal PS # 8 to KY WWTP (Partially Completed & other part Committed)

In November 2006, and through the Government of Japan's allocated fund, UNDP/PAPP implemented the construction of around 1 km length of the main steel pressure pipeline from the constructed terminal pimping station, PS No. 8, toward KY WWTP site. Khan Younis municipality implemented another 1 km length of this pipeline. A grant is currently secured by UNRWA to implement the remaining 2.7 km length of this steel pressure pipeline toward KY WWTP, however, it is not yet implemented due to Israeli's deny of accessing the required steel pipes and required materials to Gaza.

3.3.2 Providing the Detailed Design for the Construction of KY WWTP, Phase I (Completed December 2010)

Through the Government of Japan's allocated fund, UNDP/PAPP had launched an expression of interest and Request For Proposal to solicit a joint venture of international and local consultancy firms to carry out and provide the detailed design for the construction of Khan Younis Waste Water Treatment Plant.

A contract was signed between UNDP/PAPP and a joint venture consortium between; SOGREAH Consultants and Universal Group for Engineering and Consulting, and the Detailed Design was approved by PWA and completed on December 2010.

The documents for pre-qualification of contractors and tender documents for the construction works are currently available to launching the construction stage of KY WWTP and its effluent and infiltration schemes; however the documents will be vetted through the Constructability Review ahead the construction stage.

3.3.3 Constructing KY WWTP, Phase I, and carrying out one year operation after commissioning

The first phase of Khan Younis waste water treatment plant will be constructed in according to international practice, complete with all required structural, mechanical and electrical works to be a functional and operational treatment plant based on a flow capacity of 26,600 cubic meters per day and load estimates to serve 217,000 of Khan Younis residents for the year 2018.

KY WWTP site is located at the south eastern side of Khan Younis; far from the eastern borders by around 450 meter in its southern corner and by around 700 meters in its northern corner. It will be constructed on a long strip of land (171 m x 680 m) with a total area of around115 dunums (11.5 hectares).The land is already owned by Khan Younis Municipality and dedicated for the project.

In order to achieve wastewater treatment objectives, the following processes are necessary:

- Pre-treatment including screening and degeasing/degritting;
- Secondary treatment including nitrogen removal;

- Tertiary treatment.

The secondary treatment by activated sludge process technology was chosen. The KY WWTP includes the following treatment steps:

Effluent treatment:

- Pre-treatment including fine screening as well as grit and grease removal;
- Aeration tanks and clarification tanks;
- Tertiary treatment including sand filtration and UV disinfection;
- Treated effluent outlet pumping station.

Sludge treatment:

- Gravity thickening;
- Sludge drying on open drying beds;
- Sludge composting.

The KY WWTP includes also:

- Pretreatment building;
- Blower building for biological treatment;
- Tertiary treatment building;
- Administration building, including laboratory, control room, etc..;
- Workshop;
- Electrical substations and generators;
- Piping and connection systems;
- Internal roads and site access;
- Architectural and landscaping integration of works.

After constructing and commissioning the treatment plant, one year operation after commissioning of KY WWTP will be carried out by the same international contractor, who will construct and commission the plant.

Aiming at exchanging knowledge and proper codes of practice to CMWU, as service provider and final operator of KY WWTP, this activity will be undertaken within the CMWU's participation, support and cooperation to equip the CMWU with the necessary experience required to properly operate the treatment plant and to ensure the project's long-term sustainability.

3.3.4 Constructing the Effluent and Emergency Pressure Pipelines to Infiltration Basins and Sea Outfall

In order to ensure proper and environmentally sound disposal of treated waste water, an effluent and emergency steel pressure pipeline will be constructed, with dual use to pump treated effluent from the effluent pumping station located at KY WWTP site to Al Fukhari infiltration basins or to the sea in emergency cases, with a total length of around 18.6 kilometers.

The effluent and emergency pressure pipeline will be operated in the following operation modes:

A. Normal Mode:

Normally, the effluent pressure pipeline will transfer the treated effluent to the infiltration basins at Al Fukhari area, where the treated effluent will infiltrate into the aquifer to eventually saving a new non-conventional water resource for agricultural purposes.

B. Emergency Mode:

The effluent pressure pipeline will transfer the effluent to the sea outfall in the emergency operation modes at following cases only:

- Maintenance works in the treatment plant leading to lower water quality that is not adequate for infiltration, so the partially treated effluent will be pumped directly to the sea.
- Emergency cases in the plant or maintenance and/or emergency cases in the infiltration basins.

The selected diameters for the different sections of the steel pressure pipeline are ranging between 920 -1030 mm.

UNDP/PAPP will implement 30% of effluent and emergency pressure pipeline at a total length of 5.6 kilometers from the KY WWTP site to the infiltration basins.

Within the overall project's work plan and allocated budget, and under the UNDP/PAPP's full coordination and supervision of the overall project, the CMWU will implement 70% the effluent and emergency pressure pipeline at total length of 13 kilometers from Sofa and Saleh Eldeen streets' junction to the sea shore.

3.3.5 Constructing the Infiltration Basins.

Infiltration basins (IBs) are permeable earthen basins, designed and operated to treat and disperse treated waste water. IBs are typically operated in conjunction with municipal wastewater treatment systems/plants.

In order to benefit from the treated waste water, infiltration system would be constructed to infiltrate the treated waste water of KY WWTP into the aquifer for ultimate reuse for agricultural purposes.

Results of successive geotechnical investigations implemented in different areas in Khan Younis showed that Khuz'aa /Al Fukhari site is the best area for the infiltration purposes, thus, it was chosen as the infiltrations basins for the project.

The site is located in agricultural land in Al Fukhari area in the south eastern part of Khan Younis Governorate. The site has available top area of around 97 dunnums with a trapezoidal shape.

The top soil consists of sandy silty clayey layer with thickness between 1 to 6m above clay layer with thickness between 4 to 6 m. Thus; infiltration basins can't be constructed directly on ground. The clay layer will be excavated and removed from site; then the basins will be backfilled by suitable soil with high hydraulic conductivity until reaching design level of each basin.

The site has been divided into 6 basins each with bottom area of 11,200 m2. The influent flow rate that will be received by the infiltration basins was considered as the average flow for KY WWTP phase I; 26,600 cubic meters per day.

Rapid infiltration of treated wastewater based on a relatively high rate of infiltration into soil followed by rapid percolation, either vertically or laterally away, was considered in the design. The infiltration basin system is managed by repetitive cycles of flooding, infiltration and drying.

After construction, operation and maintenance activities will control the hydraulic loading cycle, where regular drying period is necessary for the system performance. To maximize infiltration, the drying periods should be long enough to re-aerate the soil, to dry and oxidize the filtered solids. The loading cycle system that will be taken is to operate 2 days for flooding and 4 days for drying.

The infiltration basins will be established and equipped by the required facilities of access roads, chamber valve rooms, administration building, in addition to the required landscaping and lightning.

Within the overall project's work plan and allocated budget and under the UNDP/PAPP's full coordination and supervision of the overall project, the CMWU will implement the infiltration basins.

3.3.6 Constructing the Main Electrical Power Supply Line to KY WWTP, Phase I

KY WWTP will be provided with the required electricity through the main electrical medium tension line MT/(22 KV), passing parallel to Salah Eden street.

The main electrical power supply line will be constructed with all required wires, columns, transformers, accessories, etc... with a total length of around 3,000 meters between the existing main electrical line MT/(22KV) and KY WWTP site.

Gaza Electrical Distribution Corporation (GEDCO) issued a commitment letter addressed to Khan Younis Municipality on 5 July 2011 to do its utmost efforts to supply the electrical power of 4 MVA required to operate and maintain the treatment plant.

3.3.7 Carrying out the Constructability Review, Pre-Contract Services and Construction Supervision for the Construction of KY WWTP, Phase I

Ahead the tendering stage, Constructability Review will be carried out by a third party's professional consultancy firm, other than the designer, to vet the tender documents to correct conflicts and inconsistencies and make certain that they are coordinated and work requirements are clear to result in minimized disputes and claims during the construction's phase and reduced impacts to the project.

The construction of such large scale waste water treatment plant with sophisticated technology, along with its effluent and infiltration schemes, is complex and requires that many international and local contracting firms will be working at the same time to construct the different components of KY WWTP project.

Therefore, in order to ensure proper selection of contractors, smooth implementation of construction works and intact compliance with international standards in terms of quality and meeting the required treatment outputs, a joint venture consultant of specialized and experienced international and local consultancy firms (to exchange knowledge to local professionals as well) will be contracted by UNDP to support performing the tendering and evaluation processes through the pre-contract stage and performing the construction supervision and commissioning of all construction components of KY WWTP project.

The joint venture consultant will be accountable in front of UNDP/PAPP to the specified quality of the constructed and operated treatment plant and its effluent and infiltration schemes.

3.4 Project Budget/Cost

In late 2005, UNDP/PAPP had been entrusted by the Government of Japan with a grant total of USD 14,829,549 for the implementation and construction of sewage treatment plant and main inlet steel pressure line in Khan Younis to solve the sanitary and environmental problems of Khan Younis residents.

Based on the detailed design report, which was completed in December 2010, the project overall cost is estimated in the order of USD 58,004,549 needed for the implementation and construction of the first phase of Khan Younis Waste Water Treatment Plant Project complete with its effluent and infiltration schemes and operating it for one year after commissioning to be a comprehensive, functional and operational treatment plant.

Hence, the total financing gap is amounting USD 43,175,000.

The Kuwait Fund for Arab Economic Development and the Islamic Development Bank (IsDB) has showed a great interest to solve the sanitary and environmental problems of Khan Younis residents. In 2011, the Kuwait Fund committed to cover the financing gap through the IsDB for the implementation and construction of Khan Younis Waste Water Treatment Plant and its effluent and infiltration schemes.

On 1st October 2012, UNDP, UNSCO, IsDB, PWA and CMWU have met in Cairo for final negotiations to do discuss and agree upon the implementation arrangements and the fund contributions for KY WWTP project. Negotiation continued between different parties and successfully concluded on 5 September 2013.

The Kuwait Fund for Arab Economic Development through the IsDB has generously entrusted UNDDP/PAPP with a grant total amounting USD 42,000,000 for the implementation and construction of the first phase of KY WWTP with its effluent and infiltration schemes and operating it for one year after commissioning.

It was agreed as well that UNDP will contribute with a total fund of USD 1,175,000 from its own core resources of which USD 1,053,000 for the UNDP direct implementation cost and USD 122,000 for the contingency budget.

The project cost estimate and co-financing plan is summarized as follow while the detailed cost breakdown is provided in Annex A.

Summary of Cost Estimate *

Construction of Khan Younis WWTP, Phase I					
Project Overall Budget – (Kuwait Fund + GoJ + UNDP Co-finance Fund) - USD					
No.	**Project Activities**	**Total**	**Kuwait Fund/IDB Contribution**	**GoJ Contribution**	**UNDP Contribution**
1	Constructing Main Steel Pressure Pipeline from Pumping Station No. 8 to KY WWTP	527,303	0	527,303	0
2	Providing the Detailed Design for the Construction of KY WWTP	946,804	0	946,804	0
3	Constructing KY WWTP, Phase I, including One Year Operation After Commissioning	28,400,000	16,700,000	11,700,000	0
4	Constructing the Effluent and Emergency Pressure Pipelines to Infiltration Basins and Sea Outfall	8,600,000	8,600,000	0	0
5	Constructing the Infiltration Basins	7,400,000	7,400,000	0	0
6	Constructing the Main Electrical Power Supply Line to KY WWTP	600,000	600,000	0	0
7	Carrying out the Constructability Review, Pre-Contract Services and Construction Supervision	1,370,000	1,000,000	370,000	0
8	CMWU Direct Implementation Cost	536,000	536,000	0	0
9	UNDP Direct Implementation Cost	1,203,629	0	150,629	1,053,000
10	Miscellaneous	36,328	0	36,328	0
11	**Sub –Total 1**	**49,620,064**	**34,836,000**	**13,731,064**	**1,053,000**
12	UNDP GMS (8% GOJ & 7% Kuwait Fund/IDB)	3,537,005	2,438,520	1,098,485	0
13	**Sub –Total 2**	**53,157,069**	**37,274,520**	**14,829,549**	**1,053,000**
14	Contingencies	4,847,480	4,725,480	0	122,000
15	**Grand Total**	**58,004,549**	**42,000,000**	**14,829,549**	**1,175,000**

* Detailed cost breakdown is provided in Annex A.

IV. Results and Resources Framework

Intended Outcome as stated in the Country Programme Results and Resource Framework:

Natural resources and environment protected and public and social infrastructure developed

Outcome indicators as stated in the Country Programme Results and Resources Framework, including baseline and targets:

Indicators

- Availability of functional waste water treatment plants in the Gaza Strip;
- % of residents has access to safe waste water treatment services;
- Quantity of raw sewage disposed off in the environment without treatment;
- Quantity of treated waste water recharged into the water aquifer to enhancing it.

Baselines:

- Waste water treatment plants in Gaza Strip are obsolete due to increased load and poor design;
- 0% of residents in Khan Younis has access to safe waste water treatment services as Khan Younis has an absolute absence of a functional treatment plant;
- Waste water disposed off in the environment without treatment through 30,000 household's cesspits and temporary collection lagoons in Khan Younis;
- 12,000 cubic meters per day of partially treated waste water discharged from temporary lagoons to the Mediterranean Sea in Khan Younis;
- More than 120 million cubic meters abstracted annually from the water aquifer of the Gaza Strip.

Targets:

- Functional waste water treatment plant of a capacity of 26,600 cubic meters per day in place for Khan Younis residents;
- 217,000 residents in Khan Younis in the Gaza Strip have access to safe municipal waste water treatment services;
- 12,000 cubic meters per day of raw sewage discharged from temporary lagoons to the Mediterranean Sea in Khan Younis stopped;
- More than 9 million cubic meters of treated waste water recharged annually into Khan Younis aquifer to ultimately be used for agricultural purposes.

Applicable MYFF Service Line:

Partnership Strategy: The project will be implemented by UNDP/PAPP in close cooperation with the Palestinian Water Authority, the Coastal Municipalities Water Utility and Khan Younis Municipality.

Project title and ID (ATLAS Award ID): Construction of Khan Younis Waste Water Treatment Plant. Proposal ID: Award Number: 00041529 – Project Number: 00047395

INTENDED OUTPUTS	OUTPUT TARGETS FOR (YEARS)	INDICATIVE ACTIVITIES	RESPONSIBLE PARTIES	INPUTS
Output 1 Khan Younis waste water treatment plant of a capacity of 26,600 cubic meters per day constructed, and operated for one year after commissioning. **Baselines:** Khan Younis has an absolute absence of functional	**Target years: 2013-2018**	▪ Prepare LOA and Exchange of Letters between UNDP, PWA, CMWU and Khan Younis Municipality for the implementation of KY WWTP project. ▪ Carry out constructability review for project's tender documents. ▪ Launch tendering processes by carrying out pre-qualification of international contractors.	UNDP/PAPP	LOA; Exchange of Letters; UNDP/PAPP direct Implementation team; JV consultant team for pre-contract services and

waste water treatment plant. Raw sewage disposed off in the environment without treatment through 30,000 household's cesspits. Collected waste water disposed off in temporary collection lagoons in north and west of Khan Younis. 12,000 cubic meters per day of partially treated waste water sewage discharged to the Mediterranean Sea. **Indicators and targets:** Functional waste water treatment plant of a capacity of 26,600 cubic meters per day constructed and operated for one year after commissioning. 217,000 residents in Khan Younis have access to safe waste water treatment services; projected sewer connected population on year 2018. 6 temporary sewage collection lagoons in west of Khan Younis closed. 12,000 cubic meters per day of sewage discharged to the Mediterranean Sea stopped.		▪ Carry out tendering processes for the construction works. ▪ Review, evaluate bids and award contract. ▪ Mobilize UNDP/PAPP's direct implementation team. ▪ Mobilize the JV consultant's team for construction supervision. ▪ Undertake the on-site construction works. ▪ Carry out the construction supervision including monitoring quality and on-site progress. ▪ Coordinate materials' access to the Gaza Strip. ▪ Approve payments to contractor against accomplished work. ▪ Finalize the construction works. ▪ Commissioning of the treatment plant. ▪ Hand over the treatment plant to the local operator.		construction supervision; Contracts; International contractor; Materials and equipment; Vehicles; USD 30,505,000 through GoJ and Kuwait Fund/IDB.
Output 2: Effluent and Emergency Pressure pipeline of 18.6 kilometers length constructed. **Baselines:** Khan Younis has absolute absence of comprehensive waste water treatment plant with an effluent and emergency pressure pipeline. **Indicators and targets:** Effluent and emergency pressure pipeline of 18.6 kilometers length with diameters of 920-1030 mm constructed.	**Target years: 2013-2017**	▪ Carry out constructability review for project's tender documents by UNDP/PAPP. **For 30% segment of pressure pipeline implemented by UNDP, UNDP will undertake the following activities:** ▪ Launch tendering processes by carrying out pre-qualification of local contractors. ▪ Carry out tendering processes for the construction works. ▪ Review, evaluate bids and award contract. ▪ Mobilize UNDP/PAPP's direct implementation team. ▪ Mobilize the JV consultant's team for construction supervision. ▪ Undertake the on-site construction works. ▪ Carry out the construction supervision including monitoring quality and on-site progress. ▪ Coordinate materials' access to the Gaza Strip. ▪ Approve payments to contractor against accomplished work. ▪ Finalize the construction works. ▪ Commissioning of the pressure pipeline. ▪ Hand over the pressure pipeline to the local operator. **For 70% segment of pressure pipeline implemented by CMWU,**	UNDP/PAPP CMWU	LOA; Exchange of Letters; UNDP/PAPP direct implementation team; JV consultant team for construction supervision; CMWU direct implementation team; Contracts; Local contractors; Materials and equipment; Vehicles; USD 9,202,000 through Kuwait Fund/IDB. (USD 2,782,000 UNDP implementation + USD 6,420,000 CMWU

		the CMWU will undertake the following activities in full cooperation with and under supervision of UNDP/PAPP: ▪ Launch tendering processes by carrying out pre-qualification of local contractors. ▪ Carry out tendering processes for the construction works. ▪ Review, evaluate bids and award contract. ▪ Mobilize the CMWU's direct implementation team. ▪ Undertake the on-site construction works. ▪ Carry out the construction supervision including monitoring quality and on-site progress. ▪ Coordinate materials' access to the Gaza Strip. ▪ Approve payments to contractor against accomplished work. ▪ Keep continuous liaison and cooperation with the UNDP direct implementation team and the JV consultant's team, who will carry out the overall supervision for the construction works including monitoring quality and on-site progress. ▪ Report on progress to UNDP/PAPP. ▪ Finalize the construction works ▪ Commissioning of the pressure pipeline. ▪ Handing over the pressure pipeline to the local operator.		implementation).
Output 3: Al Fukhari infiltration basins of 97 dunums area to recharge treated waste water into aquifer constructed. **Baselines:** Around 5.2 million cubic meters of untreated waste water filtrated annually to water aquifer via cesspits in Khan Younis. Around 4.3 million cubic meters of partially treated waste water lost annually by discharging them to the Mediterranean Sea in Khan Younis. No availability of water sources fit for agricultural purposes in the south-eastern side of Khan Younis. More than 120 million cubic meters abstracted annually from water aquifer of the Gaza Strip. **Indicators and targets:** Al Fukhari infiltration basins constructed on a land area of 97 dunums in south eastern side of Khan Younis. More than 9 million cubic meters of treated waste	**Target years: 2013-2016**	▪ Carry out constructability review for project's tender documents by UNDP/PAPP. **CMWU will undertake the following activities in full cooperation with and under supervision of UNDP/PAPP:** ▪ Launch tendering processes by carrying out pre-qualification of local contractors. ▪ Carry out tendering processes for the construction works. ▪ Review, evaluate bids and award contract. ▪ Mobilize the CMWU's direct implementation team. ▪ Undertake the on-site construction works. ▪ Carry out the construction supervision including monitoring quality and on-site progress. ▪ Coordinate materials' access to the Gaza Strip. ▪ Approve payments to contractor against accomplished work. ▪ Keep continuous liaison and cooperation with the UNDP direct implementation team and the JV consultant's team, who will carry out the overall supervision for the construction works including monitoring quality and on-site progress. ▪ Report on progress to UNDP. ▪ Finalize the construction works	UNDP/PAPP CMWU	LOA; Exchange of Letters; UNDP/PAPP direct implementation team; CMWU direct implementation team; JV consultant team for construction supervision; Contracts; Local contractor; Materials and equipment; Vehicles; USD 7,918,000 through Kuwait Fund/IDB.

water recharged annually to enhance the water aquifer in Al Fukhari area; year 2018 projection. Water availability for agricultural purposes increased in the south-eastern side of Khan Younis.		▪ Commissioning of the infiltration basins. ▪ Handing over the infiltration basins to the local operator.		
Output 4: Main electrical power supply line of around 3,000 meter length to operate KY WWTP constructed. **Baselines:** Khan Younis Waste Water Treatment Plant site has no power supply connection. **Indicators and targets:** Main electrical power supply line of 2,630 meter length to provide 4 MVA to operate KY WWTP constructed.	**Target years: 2015-2016**	▪ Carry out constructability review for project's tender documents. ▪ Launch tendering processes by carrying out pre-qualification of local contractors. ▪ Carry out tendering processes for the construction works. ▪ Review, evaluate bids and award contract. ▪ Mobilize UNDP/PAPP's direct implementation team. ▪ Mobilize the JV consultant's team for construction supervision. ▪ Undertake the on-site construction works. ▪ Carry out the construction supervision including monitoring quality and on-site progress. ▪ Coordinate materials' access to the Gaza Strip. ▪ Approve payments to contractor against accomplished work. ▪ Finalize the construction works ▪ Commissioning of the main electrical power supply line. ▪ Hand over the main electrical power supply line to the local operator.	UNDP/PAPP	LOA; Exchange of Letters; UNDP/PAPP direct Implementation team; JV consultant team for pre-contract services and construction supervision; Contracts; Local contractor; Materials and equipment; Vehicles; USD 642,000 through Kuwait Fund/IDB.
Output 5: Constructability review, pre-contract services and construction supervision for the construction of KY WWTP performed. **Baselines:** Constructability review, pre-contract services and construction supervision of large scale treatment plants with complexity and sophisticated technology need to be supported by experienced international consultants **Indicators and targets:** Tender documents reviewed by a third party international consultant to minimize contractual conflicts and disputes. Construction contracts awarded to most responsive bidders.	**Target years: 2013-2018**	▪ Carry out tendering processes for consultancy services for the constructability review. ▪ Review, evaluate bids and award the contract of consultancy services of constructability review. ▪ Carry out the constructability review for the tender documents of all project components. ▪ Prepare the final tender documents by the design consultant. ▪ Carry out pre-qualification of JV consultants for the pre-contract services and construction supervision. ▪ Carry out tendering processes for consultancy services for the pre-contract services and construction supervision. ▪ Review, evaluate bids and award the contract of consultancy services of pre-contract services and construction supervision. ▪ Mobilize UNDP/PAPP's direct implementation team. ▪ Mobilize the JV consultant's team for the pre-contract services and construction supervision. ▪ Provide consultancy support in tendering, reviewing, evaluating	UNDP/PAPP PWA CMWU	LOA; Exchange of Letters; UNDP/PAPP direct Implementation team; International consultant for constructability review; JV consultant team for pre-contract services and construction supervision; Contracts; International contactor; Local contractors; Materials and equipment; Vehicles; USD 1,469,600 through

Khan Younis Waste Water Treatment Plant constructed in compliance with international standards in terms of quality and meeting the required biological outputs of treatment process. Khan Younis Waste Water treatment Plant project operated effectively for one year after commissioning.		bids and awarding the construction works' contracts. ▪ Carry out the construction supervision tasks for all construction works including monitoring quality and on-site progress. ▪ Support coordination of accessing materials to the Gaza Strip. ▪ Review payments of contractors against accomplished work. ▪ Keep continuous liaison and coordination with UNDP/PAPP direct implementation team, CMWU direct implementation team, PWA, Khan Younis Municipality and all concerned parties. ▪ Report on progress to UNDP/PAPP. ▪ Assure the finalization of the construction works. ▪ Assure proper commissioning of the treatment plant, effluent and emergency pressure pipeline, infiltration basins and main electrical power supply line. ▪ Work to hand over all project components to the local operator. ▪ Monitor operation and effectiveness of the treatment plant during the defect liability period.		Kuwait Fund/IDB and GoJ.
Output 6: The implementation and operational capacity of Coastal Municipalities Water Utility enhanced. **Baselines:** Lack of local capacity to effectively implement and operate waste water treatment plants. **Indicators and targets:** CMWU's implementation capacity enhanced through implementing 70% of the effluent and emergency pressure pipeline and the infiltration basins. Managerial and implementation skills of 10 key staff of CMWU enhanced by on-site practice. Operational skills of 5 key staff of CMWU enhanced by on-site training and practice through operating the treatment plant for one year.	**Target years: 2013-2018**	**CMWU will undertake the following activities in full cooperation with and under supervision of UNDP/PAPP:** ▪ Mobilize the CMWU's management and administrative team. ▪ Launch tendering processes by carrying out pre-qualification of local contractors for the pressure pipeline and infiltration basins. ▪ Carry out tendering processes for the construction works. ▪ Review, evaluate bids and award contracts. ▪ Mobilize the CMWU's direct implementation team; ▪ Carry out the construction supervision for construction works including monitoring quality and on-site progress. ▪ Coordinate materials' access to the Gaza Strip. ▪ Approve payments to contractor against accomplished work. ▪ Keep continuous liaison and cooperation with the UNDP direct implementation team and the JV consultant team, who will carry out the overall supervision for the construction works including monitoring quality and on-site progress. ▪ Assure finalizing the construction works. ▪ Assure proper commissioning of the pressure pipeline and infiltration basin. ▪ Work to handing over the pressure pipeline and infiltration basin to the local operator. ▪ Mobilize the CMWU's operation team. ▪ Carry out the on-site activities of the one year operation after commissioning jointly with the international contractor to	UNDP/PAPP CMWU	LOA; Exchange of Letters; UNDP/PAPP direct implementation team; CMWU management and administrative team; CMWU direct implementation team; JV consultant team for construction supervision; Contracts; Local contractors; International contractor; CMWU operation team; Spare parts; Vehicles; USD 573,520 through Kuwait Fund/IDB.

		exchange knowledge and proper codes of practice. ▪ Report on progress to UNDP/PAPP.		
		▪ Establish UNDP/PAPP's direct implementation team including: Project Manager, project engineer, electro mechanical engineer, project assistant in addition to providing operation, procurement, finance, logistic and security supports. ▪ Undertake effective management and implementation tasks of all project activities.	UNDP/PAPP	UNDP/PAPP Staff, Project Manager and direct implementation team; Management, operation and logistic support; USD 1,053,000 + 122,000 contingencies through UNDP.

V. ANNUAL WORK PLAN

Year: 2013-2018

EXPECTED OUTPUTS *And baseline, indicators including annual targets*	PLANNED ACTIVITIES *List activity results and associated actions*	TIMEFRAME																				RESPONSIBLE PARTY	PLANNED BUDGET		
		2013		2014				2015				2016				2017				2018							
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		Funding Source	Budget Description	Amount USD
Output 1 Khan Younis waste water treatment plant of a capacity of 26,600 cubic meters per day constructed, and operated for one year after commissioning. **Baselines:** Khan Younis has an absolute absence of functional waste water treatment plant. Raw sewage disposed off in the environment without treatment through 30,000 household's cesspits. Collected waste water disposed off in temporary collection lagoons in north western Khan Younis. 12,000 cubic meters per day of partially treated waste water sewage discharged to the Mediterranean Sea. **Indicators and targets:** Functional waste water treatment plant of a capacity	Prepare LOA and Exchange of Letters between UNDP, PWA,CMWU and Khan Younis Municipality																						UNDP/PAPP, PWA, CMWU & Khan Younis Municipality	GoJ, Kuwait Fund/IDB		30,505,000
	Carry out constructability review for project's tender documents																						UNDP/PAPP, PWA, CMWU	GoJ, Kuwait Fund/IDB		
	Carry out pre-qualification of international contractors																						UNDP/PAPP	GoJ, Kuwait Fund/IDB		
	Carry out tendering processes for construction works																						UNDP/PAPP	GoJ, Kuwait Fund/IDB		
	Review, evaluate bids and award contract.																						UNDP/PAPP, PWA, CMWU	GoJ, Kuwait Fund/IDB		
	Mobilize UNDP's direct implementation team																						UNDP/PAPP	GoJ, Kuwait Fund/IDB		
	Mobilize JV consultant's team for construction supervision																						UNDP/PAPP	GoJ, Kuwait Fund/IDB		
	Undertake the on-site construction works																						UNDP/PAPP	GoJ, Kuwait Fund/IDB		
	Carry out the construction supervision including monitoring quality and on-site progress																						UNDP/PAPP	GoJ, Kuwait Fund/IDB		

of 26,600 cubic meters per day constructed. 217,000 residents in Khan Younis have access to safe waste water treatment services; projected sewer connected population on year 2018. 6 temporary sewage collection lagoons in north western Khan Younis closed. 12,000 cubic meters per day of sewage discharged to the Mediterranean Sea stopped.	Coordinate materials' access to the Gaza Strip	UNDP/PAPP, PWA, CMWU	GoJ, Kuwait Fund/IDB		
	Approve payments to contractor against accomplished work	UNDP/PAPP	GoJ, Kuwait Fund/IDB		
	Finalize construction works and commissioning of the treatment plant	UNDP/PAPP, PWA, CMWU	GoJ, Kuwait Fund/IDB		
	Hand over the treatment Plant to the local operator	UNDP/PAPP, PWA, CMWU	GoJ, Kuwait Fund/IDB		
	Carry out one year operation after commissioning	UNDP/PAPP, PWA, CMWU	GoJ, Kuwait Fund/IDB		
	Final testing, commissioning and final handing over	UNDP/PAPP, PWA, CMWU	GoJ, Kuwait Fund/IDB		
Output 2: Effluent and Emergency Pressure pipeline of 18.6 kilometers length constructed. **Baselines:** Khan Younis has absolute absence of comprehensive waste water treatment plant with an effluent and emergency pressure pipeline. **Indicators and targets:** Effluent and emergency pressure pipeline of diameter 920-1030 mm and 18.6 Km total length constructed.	**For 30% of pressure pipeline implemented by UNDP, UNDP will undertake the following activities**				2,782,000
	Carry out constructability review for project's tender documents by UNDP	UNDP/PAPP, PWA, CMWU	Kuwait Fund/IDB		
	Carry out pre-qualification of local contractors	UNDP/PAPP	Kuwait Fund/IDB		
	Carry out tendering processes for the construction works	UNDP/PAPP	Kuwait Fund/IDB		
	Review, evaluate bids and award contract.	UNDP/PAPP, PWA, CMWU	Kuwait Fund/IDB		
	Mobilize UNDP's direct implementation team	UNDP/PAPP	Kuwait Fund/IDB		
	Mobilize JV consultant's team for construction supervision	UNDP/PAPP	Kuwait Fund/IDB		
	Undertake the on-site construction works	UNDP/PAPP	Kuwait Fund/IDB		

	Carry out the construction supervision including monitoring quality and on-site progress	UNDP/PAPP	Kuwait Fund/IDB		
	Coordinate materials' access to the Gaza Strip	UNDP/PAPP, PWA, CMWU	Kuwait Fund/IDB		
	Approve payments to contractor against accomplished work	UNDP/PAPP	Kuwait Fund/IDB		
	Finalize the construction works and commissioning of the pressure pipeline	UNDP/PAPP, PWA, CMWU	Kuwait Fund/IDB		
	Hand over the pressure pipeline to local operator	UNDP/PAPP, PWA, CMWU	Kuwait Fund/IDB		
	For 70% of pressure pipeline implemented by CMWU, the CMWU will undertake the following activities in full cooperation with and under supervision of UNDP/PAPP				
	Carry out constructability review for project's tender documents by UNDP	UNDP/PAPP, PWA, CMWU	Kuwait Fund/IDB		
	Carry out pre-qualification of local contractors	CMWU, UNDP/PAPP	Kuwait Fund/IDB		
	Carry out tendering processes for the construction works	CMWU, UNDP/PAPP	Kuwait Fund/IDB		
	Review, evaluate bids and award contract	CMWU, UNDP/PAPP, PWA	Kuwait Fund/IDB		6,420,000
	Mobilize CMWU's direct implementation team	CMWU	Kuwait Fund/IDB		
	Undertake the on-site construction works	CMWU, UNDP/PAPP	Kuwait Fund/IDB		
	Carry out the construction supervision including monitoring quality and on-site progress	CMWU, UNDP/PAPP	Kuwait Fund/IDB		

	Coordinate materials' access to the Gaza Strip	CMWU, UNDP/PAPP, PWA	Kuwait Fund/IDB		
	Approve payments to contractor against accomplished work	CMWU, UNDP/PAPP	Kuwait Fund/IDB		
	Keep continuous liaison with UNDP and JV consultant teams	CMWU, UNDP/PAPP	Kuwait Fund/IDB		
	Report on Progress to UNDP	CMWU	Kuwait Fund/IDB		
	Finalize the construction works and commissioning of the pressure pipeline	CMWU, UNDP/PAPP, PWA	Kuwait Fund/IDB		
	Hand over the pressure pipeline to local operator	CMWU, UNDP/PAPP, PWA	Kuwait Fund/IDB		
Output 3: Al Fukhari infiltration basins of 97 dunums area to recharge treated waste water into aquifer constructed. **Baselines:** Around 5.2 million cubic meters of untreated waste water filtrated annually to water aquifer via cesspits in Khan Younis. Around 4.3 million cubic meters of partially treated waste water lost annually by discharging them to the Mediterranean Sea in Khan	**CMWU will undertake the following activities in full cooperation with and under supervision of UNDP/PAPP**				7,918,000
	Carry out constructability review for project's tender documents by UNDP	UNDP/PAPP, PWA, CMWU	Kuwait Fund/IDB		
	Carry out pre-qualification of local contractors	CMWU, UNDP/PAPP	Kuwait Fund/IDB		
	Carry out tendering processes for construction works	CMWU, UNDP/PAPP	Kuwait Fund/IDB		
	Review, evaluate bids and award contract	CMWU, UNDP/PAPP, PWA	Kuwait Fund/IDB		
	Mobilize CMWU's direct implementation team	CMWU	Kuwait Fund/IDB		
	Undertake the on-site	CMWU, UNDP/PAPP	Kuwait		

Younis. No availability of water sources fit for agricultural purposes in the south-eastern side of Khan Younis. More than 120 million cubic meters over abstracted annually from water aquifer of the Gaza Strip. **Indicators and targets:** Al Fukhari infiltration basins constructed on a land area of 97 dunums in south eastern side of Khan Younis. More than 9 million cubic meters of treated waste water recharged annually to enhance the water aquifer in Al Fukhari area; year 2018 projection. Water availability for agricultural purposes increased in the south-eastern side of Khan Younis.	Carry out the construction supervision including monitoring quality and on-site progress																						CMWU, UNDP/PAPP	Kuwait Fund/IDB		
	Coordinate materials' access to the Gaza Strip																						CMWU, UNDP/PAPP, PWA	Kuwait Fund/IDB		
	contractor against accomplished work																						CMWU, UNDP/PAPP	Kuwait Fund/IDB		
	Keep continuous liaison with UNDP and JV consultant teams																						CMWU, UNDP/PAPP	Kuwait Fund/IDB		
	Report on Progress to UNDP																						CMWU	Kuwait Fund/IDB		
	Finalize the construction works and commissioning of the infiltration basins																						CMWU, UNDP/PAPP, PWA	Kuwait Fund/IDB		
	Hand over the infiltration basins to local operator																						CMWU, UNDP/PAPP, PWA	Kuwait Fund/IDB		
Output 4: Main electrical power supply line of around 3,000 meter length to operate KY WWTP constructed. **Baselines:** Khan Younis Waste Water Treatment Plant site has no power supply connection. **Indicators and targets:**	Carry out constructability review for project's tender documents																						UNDP/PAPP, PWA, CMWU	Kuwait Fund/IDB		642,000
	Carry out pre-qualification of local contractors																						UNDP/PAPP	Kuwait		
	Carry out tendering processes for construction																						UNDP/PAPP	Kuwait Fund/IDB		
	Review, evaluate bids and award contract																						UNDP/PAPP, PWA, CMWU	Kuwait Fund/IDB		

Main electrical power supply line of 3,000 meter length to provide 4 MVA to operate KY WWTP constructed.	Mobilize UNDP's direct implementation team																							UNDP/PAPP	Kuwait Fund/IDB		
	Mobilize JV consultant's team for construction supervision																							UNDP/PAPP	Kuwait		
	Undertake the on-site construction works																							UNDP/PAPP	Kuwait Fund/IDB		
	Carry out the construction supervision including monitoring quality and on-site progress																							UNDP/PAPP	Kuwait Fund/IDB		
	Coordinate materials' access to the Gaza Strip																							UNDP/PAPP, PWA, CMWU	Kuwait Fund/IDB		
	Approve payments to contractor against accomplished work																							UNDP/PAPP	Kuwait Fund/IDB		
	Finalize the construction works and commissioning of the main electrical power supply line																							UNDP/PAPP, PWA, CMWU	Kuwait Fund/IDB		
	Hand over the main electrical power supply line to the local operator																							UNDP/PAPP, PWA, CMWU	Kuwait Fund/IDB		
Output 5: Constructability review, pre-contract services and construction supervision for the construction of KY WWTP performed. **Baselines:** Constructability review, pre-contract services and construction supervision of large scale treatment plants with complexity and	Carry out tendering processes for consultancy services for the constructability review																							UNDP/PAPP	Kuwait Fund/IDB, GoJ		1,469,600
	Review, evaluate bids and award the contract of consultancy services for the constructability review																							UNDP/PAPP, PWA, CMWU	Kuwait GoJ		
	Carry out the constructability review for the tender documents of all project components																							UNDP/PAPP	Kuwait Fund/IDB, GoJ		

sophisticated technology need support by experienced international consultants **Indicators and targets:** Tender documents reviewed by a third party international consultant for less conflicts and contractual claims. Construction contracts awarded to most responsive bidders. Khan Younis Waste Water treatment Plant constructed in compliance with international standards in terms of quality and meeting the required biological outputs of treatment process. Khan Younis Waste Water treatment Plant project operated effectively for one year after commissioning.	Carry out pre-qualification of JV consultants for the pre-contract services and construction supervision	UNDP/PAPP, PWA, CMWU	Kuwait Fund/IDB, GoJ	
	Carry out tendering processes for consultancy services for the pre-contract services and construction supervision	UNDP/PAPP	Kuwait Fund/IDB, GoJ	
	Review, evaluate bids and award consultancy services contract	UNDP/PAPP, PWA, CMWU	Kuwait Fund/IDB, GoJ	
	Mobilize UNDP's direct implementation team	UNDP/PAPP	Kuwait Fund/IDB, GoJ	
	Mobilize JV consultant's team for the pre-contract services and construction supervision	UNDP/PAPP	Kuwait Fund/IDB, GoJ	
	Provide consultancy support in tendering, reviewing, evaluating bids and awarding the construction works' contracts	UNDP/PAPP	Kuwait Fund/IDB, GoJ	
	Carry out the construction supervision tasks for all construction works, monitoring quality and on-site progress	UNDP/PAPP	Kuwait Fund/IDB, GoJ	
	Support coordination of accessing materials to the Gaza Strip	UNDP/PAPP, PWA, CMWU	Kuwait Fund/IDB, GoJ	
	Review payments of contractors against accomplished work	UNDP/PAPP		

	Keep continuous liaison with UNDP team, CMWU team, PWA, Khan Younis Municipality and all concerned parties	UNDP/PAPP	Kuwait Fund/IDB, GoJ		
	Report on progress to UNDP	UNDP/PAPP	Kuwait Fund/IDB, GoJ		
	Assure the finalization of the construction works	UNDP/PAPP	Kuwait Fund/IDB, GoJ		
	Assure commissioning of treatment plant, pressure pipeline, infiltration basins and electrical power supply line	UNDP/PAPP, PWA, CMWU	Kuwait Fund/IDB,		
	Work to hand over all project components to the local operator	UNDP/PAPP, PWA, CMWU	Kuwait [illegible] GoJ		
	Monitor operation and effectiveness of treatment plant and other components during the defect liability period	UNDP/PAPP PWA, CMWU	[illegible] Fund/IDB, GoJ		
Output 6: The implementation and operational capacity of Coastal Municipalities Water Utility enhanced. **Baselines:** Lack of local capacity to effectively implement and operate waste water treatment plants. **Indicators and targets:** CMWU's implementation	CMWU will undertake the following activities in full cooperation with and under supervision of UNDP/PAPP				573,520
	Mobilize the CMWU's management, administrative team	CMWU	[illegible] Fund/IDB		
	Participate in carrying out	CMWU	Kuwait [illegible]		
	carrying out pre-qualification of local pipeline and infiltration basin	CMWU, UNDP/PAPP	Kuwait Fund/IDB		

capacity enhanced through implementing 70% of the effluent and emergency pressure pipeline and the infiltration basins. Managerial and implementation skills of 10 key staff of CMWU enhanced by on-site practice. Operational skills of 5 key staff of CMWU enhanced by on-site training and practice through operating the treatment plant for one year.	Carry out tendering processes for the construction works																						UNDP/PAPP	Fund/IDB		
	Review, evaluate bids and award contracts																						CMWU, PWA	Kuwait Fund/IDB		
	Mobilize CMWU's direct implementation team																						CMWU	Kuwait Fund/IDB		
	Carry out the construction supervision including monitoring quality and on-site progress																						CMWU, UNDP/PAPP	Kuwait Fund/IDB		
	Coordinate materials' access to the Gaza Strip																						CMWU, UNDP/PAPP, PWA	Kuwait Fund/IDB		
	Approve payments to contractor against accomplished work																						CMWU, UNDP/PAPP	Kuwait Fund/IDB		
	Keep continuous coordination with UNDP and JV consultant who will carry out the overall supervision for construction works																						CMWU, UNDP/PAPP	Kuwait Fund/IDB		
	Assure proper commissioning and handing over of pressure pipeline and infiltration basins																						CMWU, UNDP/PAPP, PWA	Kuwait Fund/IDB		
	Mobilize the CMWU's operation team																						CMWU	Kuwait Fund/IDB		
	Carry out the on-site activities of one year operation jointly with the international contractor																						CMWU, UNDP/PAPP	Kuwait Fund/IDB		
	Provide auditing activities																						CMWU, UNDP/PAPP	Kuwait Fund/IDB		

	Report on progress to UNDP			CMWU	Kuwait Fund/IDB		
Establish UNDP/PAPP direct implementation team including: Project Manager, project engineer, electro mechanical engineer and project assistant, in addition to providing operation, procurement, finance, logistic and security supports. Undertake effective management and implementation tasks for all project activities.				UNDP/PAPP	UNDP		1,053,000 + (122,000 UNDP contingencies can be added)
Planned Budget							**51,363,120**
UNDP Contingencies for DIC							**122,000**
Kuwait Fund/IDB Contingencies							**4,725,480**
Total Planned Budget							**56,210,600**
GoJ Budget for utilized for implementing inlet pressure pipeline & detailed design							1,793,949
Project Overall Budget *							**58,004,549**

* Refer to detailed cost breakdown in Annex A

VI. PROJECT MANAGEMENT AND IMPLEMENTATION ARRANGEMENT

1. Implementation modalities

UNDP/PAPP delivers through the Direct Execution (DEX) modality. The DEX modality, which takes into account the institutional capacities, the legal setting and evolving situational context, has been effective in addressing the socio-economic needs of the Palestinian people, which is UNDP/PAPP's primary mandate, as stipulated by the General Assembly. UNDP/PAPP works in partnership with national authorities, civil society, the private sector, and the international community and UN sister agencies.

UNDP/PAPP is the Executing Entity of the whole project. The Executing Entity is the entity responsible and accountable for managing and implementing the project, including the monitoring and evaluation of project interventions and achieving project outputs.

Throughout the implementation processes, UNDP/PAPP plans to profoundly rely on international and local partners/ counterparts and local human and capital resources to achieve the programme's goals. The capacity of potential implementing partners and sub-contractors will be assessed through standard UNDP procedures.

Besides, UNDP/PAPP will utilize its full technical and financial capacities through the process to assure quality implementation of proposed interventions.

In light of the agreed upon management arrangements discussed among all partners during a meeting held in Cairo on 1st October 2012, and under the UNDP/PAPP's full coordination and supervision of the overall project, the CMWU will implement two components of the project namely; 70% the emergency pressure pipeline (from Sofa and Saleh Eldeen streets' junction to the sea shore) in addition to the infiltration basins. Concurrently, the CMWU's capacity will be enhanced by undertaking different implementation and operation acts by CMWU throughout the project lifecycle.

2. Management Arrangements

2.1 Management Organization Structure

The project will be managed by a Project Management Unit (PMU) under a controlled management environment aligned with the internationally recognized Prince II modality for large projects. This unit is organized and controlled by the Project Manager who is responsible for managing a team of experts to do the work, and is accountable for implementing the project according to the established results framework. The Project Manager draws up the project plans that describe what the project team will actually be doing and when they expect to finish.

The Project Management Unit is mainly composed of technical and administrative team supported by procurement, financial management, monitoring and quality assurance. This project will benefit from the established infrastructure of the UNDP infrastructure department in Gaza, especially in relation to procedures, systems, expertise and human power, which will significantly reduce the start-up and the running cost of the project as described in more details in the project document.

The Project Management Unit led by the Project Manager reports to the Project Board on regular basis, and is responsible to keep them informed of progress and highlighting any problems he/she can foresee. The Board in its turn approves project plans on annual basis and offers oversight using management by exception, which means that they intervene in project implementation when exceptions to the approved plan are deemed necessary.

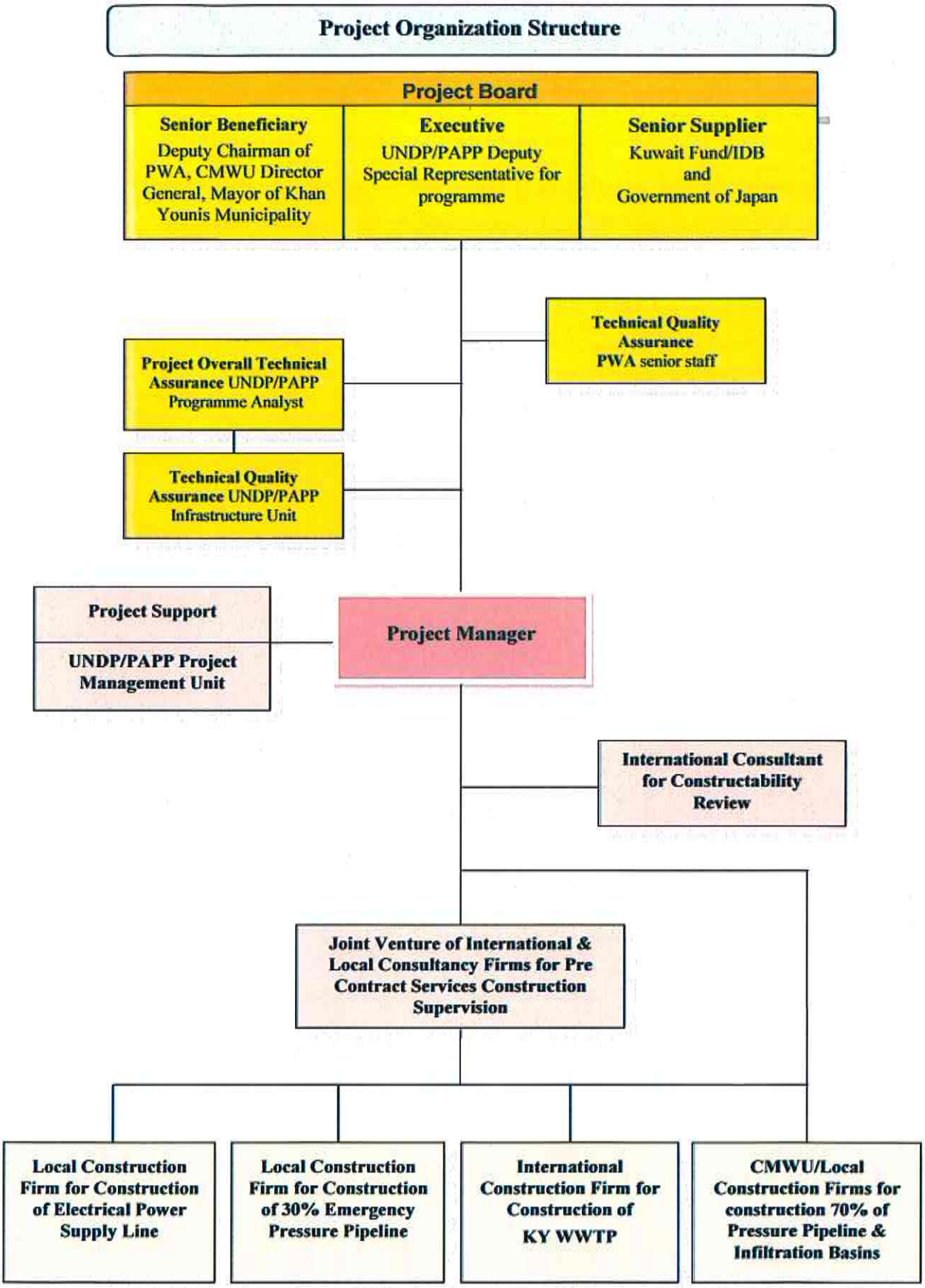
The Project Board consists of the following roles:

- **Senior Beneficiary:** to ensure the realization of project benefits from the perspective of project beneficiaries. This role will be represented by PWA, CMWU, and the Khan Younis Municipality.
- **Senior Supplier:** represents that main provider of guidance and contribution regarding the financial feasibility of the project (Kuwait Fund/IDB and Government of Japan)
- **Executive:** representing the entity accountable for the achievement of results and represented by the UNDP/PAPP Deputy Special Representative, Programme.

The above Project Board is composed of, the Islamic Development Bank and the Government of Japan as the senior supplier, UNDP/PAPP as the executive role, and the Palestinian Authority represented by the Palestinian Water Authority (PWA) and the Coastal Municipalities' Water Utility (CMWU) as the senior beneficiary. They are organized to jointly coordinate and oversee to ensure that the project delivers the required outcome within budget, on time and to the appropriate quality.

The Project Board will be supported by the Assurance function. Overall Assurance for this project will be the delegated responsibility of UNDP Programme Analyst who will be supported by infrastructure Unit. In cooperation, PWA will delegate a staff member to assure the overall quality of the project and he will report to the PWA representative in the Project Board. The Project Assurance role supports the Project Board by carrying out regular objective and independent project oversight and monitoring functions. It ensures that appropriate project management milestones are managed and completed. This function will help the board to check that the project remains viable in terms of costs and benefits, that the beneficiaries' requirements are being met, and that the project is delivering suitable solutions on the ground.

Project evaluation and financial auditing will be conducted, in accordance to UNDP applicable policies and procedures, in annual basis or once during the project lifecycle.


Project Organization Structure
Project Board
Senior Beneficiary
Deputy Chairman of PWA, CMWU Director General, Mayor of Khan Younis Municipality
Executive
UNDP/PAPP Deputy Special Representative for programme
Senior Supplier
Kuwait Fund/IDB and Government of Japan
Technical Quality Assurance PWA senior staff
Project Overall Technical Assurance UNDP/PAPP Programme Analyst
Technical Quality Assurance UNDP/PAPP Infrastructure Unit
Project Support
UNDP/PAPP Project Management Unit
Project Manager
International Consultant for Constructability Review
Joint Venture of International & Local Consultancy Firms for Pre Contract Services Construction Supervision
Local Construction Firm for Construction of Electrical Power Supply Line
Local Construction Firm for Construction of 30% Emergency Pressure Pipeline
International Construction Firm for Construction of KY WWTP
CMWU/Local Construction Firms for construction 70% of Pressure Pipeline & Infiltration Basins

2.2 Summary of the inputs to be provided by all partners:

In light of the agreed upon management arrangements discussed among all partners during a meeting held in Cairo on October 1st 2012, the roles and responsibilities of the different partners are according to the following:

2.2.1 Executive Role: UNDP will conduct the following:

- UNDP will assign a Program Analyst to monitor and follow-up on all managerial issues, including administrative and financial aspects related to the project. The Programme Analyst will ensure the quality of the project throughout the implementation process;
- UNDP will assign a Project Manager who will be responsible for overall and day-to- day management and decision-making for the project. The Project Manager's prime responsibility is to ensure that the project produces the results specified in the project document to the required standard of quality and within the specified constraints of time and cost;
- To ensure effective implementation of the project and to constantly monitor the progress of the different construction works and activities of such large scale waste water treatment plant with its sophisticated technology and to enable commissioning it with specified quality standards and desired outputs of the treatment process, the Project Manager will be assisted by a joint venture of specialized international and local consultancy firms to carry out the pre-contract services and the day-to-day construction supervision tasks for all project components;
- UNDP shall receive and administer the payment in accordance with the regulations, rules and directives of UNDP;
- UNDP/PAPP will prepare the Letter of Agreement for the implementation of this project to be signed by the UNDP and the CMWU. The letter of Agreement will identify the roles and responsibilities of the different partners towards the realization of the projects outputs and the achievements of all project's objectives;
- UNDP/PAPP will transfer the agreed upon amount to the CMWU, according to an agreed upon payment schedules. This amount is mainly to cover the CMWU's implementation cost for the construction and commissioning of the estimated 70% the effluent and emergency pressure pipeline and the infiltration basins;
- UNDP/PAPP will review all received progress reports from the CMWU to ensure full accountability and compliance with UNDP/PAPP rules and regulations;
- UNDP/PAPP will recruit international consultancy firm to carry out the constructability review for the tender documents of the project's components and start the tendering process;
- UNDP/PAPP will recruit a joint venture of international and local consultancy firms for pre-contractual services and construction supervision[3];
- UNDP/PAPP will follow global UNDP procurement rules and regulations; therefore, this project will be tendered internationally. All tender documents will be available for international companies in the Global UNDP intranet website, the UNITED NATIONS Global Market (UNGM) website as well as the United Nations Development Business (UNDB) to ensure access to information to all international interested companies;
- UNDP/PAPP with full cooperation with PWA and CMWU will evaluate the received tenders and will award the contract to the most responsive bidder all according to UNDP financial rules and regulations;

[3]As a pre-requisite for UNDP/PAPP to implement this project, PWA advised that an international firm is recruited to provide UNDP/PAPP and PWA with support and guidance on pre-contractual services, including the evaluation of tender documents for the construction of the treatment plant, and to oversee and supervise the complicated different project activities, including the infiltration basins that will be implemented through the CMWU. UNDP/PAPP wanted to utilize its local expertise in the supervision of this project's activities. However, PWA insisted that this is done through an international firm to support both UNDP/PAPP and PWA in the supervision of this project. Through its experience in the implementation of the Northern treatment Plant in the Gaza Strip, and the huge challenges and difficulties PWA faced during implementation, PWA pre-requisite was to recruit an international consultant for this purpose.

- UNDP/PAPP will be fully accountable for the full implementation and realization of the project's activities and that international standards will be applied;
- UNDP/PAPP will ensure that the project board meets on quarterly basis to discuss the project progress and challenges;
- UNDP will report to the Islamic Development Bank and the Government of Japan on quarterly basis as well as upon request by the Islamic Development Bank and the Government of Japan whereas the accountability of the project results and financial management rests with UNDP/PAPP.

2.2.2 The Palestinian Water Authority (PWA):

The Palestinian Water Authority as the water sector strategy and policy leader and the regulator of the water sector and responsible for making sure of the project implementation according to the plan, will conduct the following:

- Sign an Exchange of Letters with UNDP, CMWU and Khan Younis Municipality regarding the cooperation and implementation of this project;
- Cooperate and liaise with UNDP and CMWU for a successful implementation of the project;
- Receive from the implementing agencies routine and ad hoc reports as needed on the progress and obstacles of the whole project;
- Cooperate with UNDP, CMWU, the Palestinian Land Authority and all concerned authorities to follow up on the land acquisition issue of Al Fukhari infiltration basins;
- Coordinate with the Palestinian Energy Authority to secure the power supply needed to run the treatment facility, and study options with the implementing agencies;
- Review the project overall designs and endorse the project and tender documents of all related facilities and works; keeping the technical and contractual liability on the implementing agencies side;
- Assign one member from its own staff to participate in the evaluation of the construction supervision tenders as well as the construction tenders;
- As part of their regular quality assurance role and to ensure that this project is being implemented according to the PWA quality standards, PWA will follow up to assure the overall quality of the project;
- Play a main role towards the establishment of the operational setup of the project's components;
- Play a main role in the settlement of disputes among the stakeholders;
- PWA will probably during the implementation stages of the program revert the regulatory functions to the planned Regulatory Water Council should it be established during the implementation period.

2.2.3 The Coastal Municipalities Water Utility (CMWU):

The Coastal Municipalities Water Utility (CMWU), as service provider and final operator of the treatment plant and will be fully responsible for project's management, operation and maintenance after being constructed and commissioned, will conduct and be responsible for the following:

- Sign a Letter of Agreement with UNDP and the Exchange of Letters with UNDP, PWA and Khan Younis Municipality regarding the cooperation and implementation of this project;
- Implement, construct and commission 13 kilometers length of the effluent and emergency steel pressure pipeline from Sofa and Saleh Eldeen streets' junction to the sea shore, with diameters ranging between 920-1030 mm, as per the project's detailed design, tender documents and specifications;
- Implement, construct and commission Al Fukhari infiltration basins of 97 dunums area as per the project's detailed design, tender documents and specifications;
- Provide all managerial, administrative, procurement, technical, financial and logistic support required for efficient implementation of the above mentioned project two components within constrained budget and timeframe;

- Assign from their staff a sufficient team to carry out the management, tendering, coordination, on-site monitoring and supervision tasks to efficiently implement the above mentioned project two components and the agreed upon activities;
- Follow up, in cooperation with PWA, the land acquisition issue for the infiltration basins, and work closely with all concerned authorities to secure the required land and the construction permits;
- Open a separate bank account to receive funds from UNDP for the implementation of the agreed upon activities;
- Send UNDP monthly and quarterly progress and financial reports with all supporting documents on the implementation of the above mentioned project two components and the agreed upon activities;
- After constructing and commissioning the treatment plant, the CMWU shall assign amongst its staff a sufficient professional team responsible for the management, operation and maintenance of the treatment plant, who will work closely with the contractor's team who will operate the treatment plant during the one year operation after commissioning of the plant.

2.2.4 Municipality of Khan Younis

Khan Younis Municipality, as main beneficiary of the project, will conduct the following:

- Sign an Exchange of Letters with UNDP, PWA and CMWU regarding the cooperation and implementation of this project;
- Work very closely with the PWA, CMWU, Palestinian Land Authority, all concerned authorities and land owners to secure the required land for the construction of Al Fukhari infiltration basins and the construction permits;
- Play a key role with UNDP in responding to the residents' concerns;
- Support in presenting the project objectives to the residents of Khan Younis Governorate;
- Participate at the project board as senior beneficiary of the project;
- Participate at the project board quarterly and annual review meetings.

3. Project Communication Plan

Effective communication with all stakeholders (UNDP, Donors, beneficiaries), is fundamental to the project's success and therefore will be planned during the Project Planning Phase.

Information and communication needs of the stakeholders relative to the progress of the project will be determined and highlighted as a communications plan/matrix. The Project Manager, with the help of the communications unit will be able to develop and complete the plan. Communications aspects will then be budgeted for where appropriate.

The plan will identify the means/medium and frequency of communication between the different stakeholders. It will include: List of stakeholders and their information requirements, communication mechanisms to be used such as written reports, press releases, workshops, frequency and information collection and collation, roles and responsibilities of key individuals responsible for ensuring communication is adequate and timely.

4. Project Visibility Plan

Throughout the project life's cycle, UNDP will ensure highlighting the role of the Kuwait Fund for Arab Economic Development, the Islamic Development Bank and the Government of Japan in line with the Donors and UNDP communication guidelines, making sure that the Kuwait Fund, the Islamic Development Bank and Government of Japan Logos appears in the relevant newspapers advertisements, project signs, workshops, documents and publications, etc... The main format for the logos representations is as follows:

سلطة المياه الفلسطينية PALESTINIAN WATER AUTHORITY	مصلحة مياه بلديات الساحل COASTAL MUNICIPALITIES WATER UTILITY			من الشعب الياباني From the People of Japan	UNDP Empowered lives. Resilient nations.
Palestinian Water Authority	Coastal Municipalities Water Utility	Kuwait Fund for Arab Economic Development	Islamic Development Bank	Government of Japan	UNDP/PAPP

5. Security Arrangements

UNDP and in coordination with UNDSS will provide security update on daily basis for all staff, and will carry out the required coordination with all counterparts and concerned authorities for the materials entry.

The responsibility for the safety and security of UNDP staff and its personnel and property rests with the UNDP. UNDP shall put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the Gaza Strip; assume all risks and liabilities related to the UNDP security, and the full implementation of the security plan. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. As a result, the security cost to the project is considered in the project budget.

6. Project Contingency Plan

Reference to the detailed Risk Management Matrix of Annex B; and in case of inability to enter the required construction materials and equipment to the Gaza Strip due to political constrains; UNDP, PWA and CMWU agreed upon a contingency plan to be undertaken under a worst case scenario aiming to support the targeted beneficiaries. The agreed upon contingency plan is found under Annex C.

VII. Monitoring Framework And Evaluation

General Provisions

The Project Manager will prepare a Communication and Monitoring plan (C&M plan) in support of programme objectives with details on external and internal monitoring and communication activities. The Project Manager will need to ensure adequate monitoring of all project activities and should draw on counterparts' resources for activity monitoring in a bid to strengthen capacities in this regard.

The contribution of achieved project outputs to the intended outcome will be monitored by the Gaza Office programming team. Provisions for project evaluation in support of lessons learned in the implementation should be taken in consideration. The Project Board should make recommendations for the application of such an evaluation, building on dialogue with local stakeholders.

Regular Monitoring Activities

On a quarterly basis, a quality assessment shall record progress towards the completion of key results, based on quality criteria and methods captured in the Quality Management table below. An Issue Log shall be activated in Atlas and updated by the Project Manager to facilitate tracking and resolution of potential problems or requests for change.

A risk log shall be activated in Atlas and regularly updated by reviewing the external environment that may affect the project implementation.

Based on the above information recorded in Atlas, a Quarterly Progress Report (QPR) shall be submitted by the Project Manager to the Project Board through Project Assurance, using the standard report format available in the Executive Snapshot.

A project Lesson-learned log shall be activated and regularly updated to ensure on-going learning and adaptation within the organization and to facilitate the preparation of the Lessons-learned Report at the end of the project. A Monitoring Schedule Plan shall be activated in Atlas and updated to track key management actions/events.

An annual Progress Report shall be prepared by the Project Manager and shared with the Project Board. As minimum requirement, the annual Progress Report shall consist of the Atlas standard format for the QPR covering the reporting period with updated information for each above element of the QPR as well as a summary of results achieved against pre-defined targets at the output level.

Based on the above report, an annual project review shall be conducted during the last quarter of the year or soon after, to assess the performance of the project and appraise the Work Plan for the next year. In the second year, this review will be a final assessment. This review is driven by the Project Board and may involve other stakeholders, as required. It shall focus on the extent to which progress is being made towards outputs, and that these remain aligned to appropriate outcomes.

Quality Management for Project Activity Results

OUTPUT 1: Khan Younis waste water treatment plant of a capacity of 26,600 cubic meters per day constructed, and operated for one year after commissioning		
Activity Result (Atlas Activity ID)	*Functional waste water treatment plant of capacity of 26,600 cubic meters per day constructed.*	Start Date: 2013 End Date: 2018
Purpose	To protecting public health, natural resources and environment of Khan Younis residents.	
Description	*The first phase of Khan Younis waste water treatment plant will be constructed, complete with all required structural, mechanical and electrical works to be functional and operational treatment plant based on flow capacity of 26,600 cubic meters per day and load estimates to serve 217,000 of Khan Younis residents for the year 2018.*	

Quality Criteria *How/with what indicators the quality of the activity result will be measured?*	**Quality Method** *Means of verification. What method will be used to determine if quality criteria has been met?*	**Date of Assessment** *When will the assessment of quality be performed?*
Functional waste water treatment plant of capacity of 26,600 cubic meters per day constructed and operated for one year after commissioning.	Tender and contract documents; Formulated monitoring plans; Field visits; Lab tests; Progress and final reports; Commissioning test; Final handing over documents.	Quarterly After completion of construction works
KY WWTP operated for one year after commissioning.	Tender and contract documents; Formulated operational plans; Field visits; Lab tests; Progress and final reports; Final commissioning tests; Final handing over documents.	Quarterly After completion of one year of operation
217,000 residents in Khan Younis have access to safe waste water treatment services; in year 2018.	Formulated operational plan; Field visits; PWA and CMWU Reports.	After commissioning of the treatment plant
6 temporary sewage collection lagoons in north western Khan Youins closed.	Formulated operational plan; Field visits; PWA and CMWU Reports.	After commissioning of the treatment plant
Around 12, 000 cubic meters per day of sewage discharged to the Mediterranean Sea stopped.	Formulated operational plan; Field visits; PWA and CMWU Reports.	After commissioning of the treatment plant

OUTPUT 2: Effluent and emergency pressure pipeline of 18.6 kilometers constructed		
Activity Result (Atlas Activity ID)	*Effluent and Emergency Pressure pipeline of diameter 920-1030 mm and 18.6 kilometers length constructed.*	Start Date: 2013 End Date: 2017
Purpose	*To ensure proper and environmentally sound disposal of treated waste water.*	
Description	*For proper and environmentally sound disposal of treated waste water, an effluent and emergency steel pressure pipeline will be constructed with dual use to pump the treated effluent from the effluent pump station at KY WWTP site to Al Fukhari infiltration basins or to the sea in emergency cases; with total length of around 18.6 kilometers.*	

Quality Criteria *How/with what indicators the quality of the*	**Quality Method** *Means of verification. What method will*	**Date of Assessment** *When will the assessment of*

activity result will be measured?	*be used to determine if quality criteria has been met?*	*quality be performed?*
Effluent and Emergency Pressure pipeline of diameter 920-1030 mm and 18.6 kilometers length constructed as per specifications.	Tender and contract documents; Formulated monitoring plan; Field visits; Lab tests; CMWU progress reports; Progress and final reports;	Quarterly After completion of construction works

OUTPUT 3: Al Fukhari infiltration basins of 97 dunums area to recharge treated waste water into aquifer constructed		
Activity Result (Atlas Activity ID)	*Al Fukhari infiltration basins constructed on a land area of 97 dunums.*	Start Date: 2013 End Date: 2016
Purpose	*To infiltrate the treated waste water into Al Fukhari water aquifer to enhance it and to ultimately be used for agricultural purposes.*	
Description	*The infiltration basins will be established in agricultural land in Al Fukhari area, located in south eastern part of Khan Younis, at available top area of around 97 dunums to annually infiltrate more than 9 million cubic of treated waste water produced from of KY WWTP, phase I, by year 2018.*	

Quality Criteria *How/with what indicators the quality of the activity result will be measured?*	**Quality Method** *Means of verification. What method will be used to determine if quality criteria has been met?*	**Date of Assessment** *When will the assessment of quality be performed?*
Al Fukhari infiltration basins constructed as per specification on a land area of 97 dunums in south eastern side of Khan Younis.	Tender and contract documents; Formulated monitoring plan; Field visits; Lab tests; CMWU progress reports; Progress and final reports.	Quarterly After completion of construction works
More than 9 million cubic meters of treated waste water recharged annually into Al Fukhari aquifer to enhance it; year 2018 projection.	Formulated operational plan; Field visits; PWA and CMWU Reports.	After commissioning of the treatment plant

OUTPUT 4: Main electrical power supply line of around 3,000 meter length to operate KY WWTP constructed		
Activity Result (Atlas Activity ID)	*Main electrical power supply connection line to provide 4 MVA to operate KY WWTP constructed.*	Start Date: 2015 End Date: 2016
Purpose	*To provide the required power supply to run and operate KY WWT.P*	
Description	*The main electrical power supply line required to connect KY WWTP with the main electrical line MT/(22kv), passing parallel to Salah Eden street, will be constructed at a total length of around 3,000 meters.*	

Quality Criteria *How/with what indicators the quality of the activity result will be measured?*	**Quality Method** *Means of verification. What method will be used to determine if quality criteria has been met?*	**Date of Assessment** *When will the assessment of quality be performed?*
Main electrical power supply line of around 3,000 meter length to provide 4 MVA to operate KY WWTP constructed as per specification.	Tender and contract documents; Formulated monitoring plan; Field visits; Commissioning tests; Progress and final reports.	Quarterly After completion of construction works

OUTPUT 5: Constructability review, pre-contract services and construction supervision for the construction of KY WWTP performed		
Activity Result (Atlas Activity ID)	*Constructability review, Pre-contract services and construction supervision effectively performed by experienced international and local consultancy firms.*	Start Date: 2013 End Date: 2018
Purpose	*Constructability Review to vet the tender documents to correct conflicts and inconsistencies and make certain that they are coordinated and work requirements are clear to minimize disputes and claims during the construction's phase.* *Pre-contract services and construction supervision to ensure smooth implementation of construction works and compliance with international standards in terms of quality and meeting the required outputs of the treatment process.*	
Description	*Ahead the tendering stage, Constructability Review will be carried out by a third party's professional consultancy firm, other than the designer, to vet the tender documents.* *The construction of such large scale waste water treatment plan, along with its effluent and infiltration schemes, is complex and requires that many international and local contracting firms will be working at the same time to construct the project's different components. Therefore, a joint venture consultant of experienced international and local consultancy firms will be contracted by UNDP to support performing the tendering and evaluation processes through the pre-contract services and performing the construction supervision and commissioning of all construction components of the project.*	

Quality Criteria *How/with what indicators the quality of the activity result will be measured?*	**Quality Method** *Means of verification. What method will be used to determine if quality criteria has been met?*	**Date of Assessment** *When will the assessment of quality be performed?*
Tender documents reviewed by a third party international consultant for less conflicts and contractual claims.	Tender and contract documents; Formulated revision work plan; Final evaluation report; Handed over corrected documents.	Quarterly After completion of consultancy works
Construction contracts awarded to most responsive bidders.	Tender and contract documents; Final evaluation and awarding reports. CAPs Approval.	Quarterly After completion of evaluation process
Khan Younis Waste Water treatment Plant constructed in compliance with international standards in terms of quality and meeting the required outputs of treatment process.	Tender and contract documents; Formulated monitoring plans; Field visits; Lab tests; Progress and final reports; Commissioning tests & handing over documents.	Quarterly After completion of construction works
Khan Younis Waste Water treatment Plant project operated effectively for one year after commissioning.	Tender and contract documents; Formulated operational plans; Field visits; Lab tests; Progress and final reports; Final commissioning tests; Final handing over documents.	Quarterly After completion of one year operation works

OUTPUT 6: The implementation and operational capacity of the Coastal Municipalities Water Utility enhanced		
Activity Result (Atlas Activity ID)	*70% of effluent and emergency pressure pipeline and infiltration basins implemented by CMWU*	Start Date: 2013 End Date: 2018
Purpose	*To empower the capacity of national partner, CMWU, with necessary experience to implement large scale projects and to equip them, as local operator, with the required skills to effectively*	

	operate the plant and to guarantee its long-term sustainability.
Description	*Under the UNDP/PAPP's full coordination and supervision of the overall project, the CMWU will implement 70% the emergency pressure pipeline in addition to the infiltration basins.* *Cordially, the operational capacity of CMWU will be enhanced by their participation in operating the plant, along with the contractor who will construct the plant, throughout the one year operation after commissioning of KY WWTP.*

Quality Criteria *How/with what indicators the quality of the activity result will be measured?*	**Quality Method** *Means of verification. What method will be used to determine if quality criteria has been met?*	**Date of Assessment** *When will the assessment of quality be performed?*
CMWU's implementation capacity enhanced through implementing 70% of the effluent and emergency pressure pipeline and infiltration basins.	Tender and contract documents; Formulated implementation plan; Field visits; Progress and final reports; Evaluation report.	Quarterly After completion of construction works
Managerial and implementation skills of 10 key staff of CMWU enhanced by on-site practice	Formulated implementation plan; Daily Practice and technical Meetings; List of attendee; Progress and final reports; Evaluation report.	Quarterly After completion of construction works
Operational skills of 5 key staff of CMWU enhanced by on-site training and practice through operating the treatment plant for one year.	Formulated operational & maintenance plan; Technical meetings; List of attendee; Operational manuals; Progress and final reports; Evaluation report.	Quarterly After completion of one year of operation

VIII. ANNEXES

Annex A

A.1: Cost Breakdown – Government of Japan Contribution

Construction of Khan Younis WWTP, Phase I						
GoJ Contribution – USD						
No.	**Project Activities**	**GoJ Overall Contribution** As per 2005 Project Document	**GoJ Overall Contribution** Total as per Note Verbal	**GoJ Overall Contribution** As Revised on 24 July 2007	**GoJ Overall Contribution** Revised based on UNDP/IDB Agreement	**GoJ Components** To be Implemented Jointly with Kuwait Fund
1	Constructing Main Steel Pressure Pipeline from Pump Station No. to KY WWTP	1,000,000	1,000,000	1,000,000	527,303	0
2	Providing the Detailed Design for the Construction of KY WWTP	0	0	1,100,000	946,804	0
3	Construction of KY WWTP, Phase I, (Including effluent and emergency pressure pipeline, electrical power supply line and one year operation)	12,550,000	12,550,000	11,450,000	11,700,000	11,700,000
4	Constructing the Infiltration Basins	0	0	0	0	0
5	Consultancy Services for the Construction Supervision, Constructability Review and Preparing Tender Documents	0	0	0	370,000	370,000
6	UNDP Direct Implementation Cost (staffing cost)	150,000	150,000	150,000	150,629	0
7	**Sub-total 1**	**13,700,000**	**13,700,000**	**13,700,000**	**13,694,736**	**12,070,000**
8	Contingencies and Miscellaneous	31,481	31,064	31,064	36,328	0
9	**Sub-total 2**	**13,731,481**	**13,731,064**	**13,731,064**	**13,731,064**	**12,070,000**
10	Total GMS (GoJ 8%)	1,098,519	1,098,485	1,098,485	1,098,485	965,600
11	**Grand Total**	**14,830,000**	**14,829,549**	**14,829,549**	**14,829,549**	**13,035,600**

A.2: Cost Breakdown – Co-finance Fund as per UNDP & IDB Signed Agreement

Construction of Khan Younis WWTP, Phase I					
(Kuwait Fund + GoJ + UNDP Co-finance Fund) – USD					
No.	**Project Activities**	**Total**	**Kuwait Fund/IDB Contribution**	**GoJ Contribution**	**UNDP Contribution**
1	Constructing KYWWTP, Phase I, Part of the Effluent and Emergency [illegible] Supply Line with One Year Operation	[illegible]	[illegible]	[illegible]	[illegible]
2	Constructing the Effluent and Emergency Pressure Pipeline with 13 [illegible]	6,000,000	6,000,000	0	0
3	Constructing the Infiltration Basins (CMWU Implementation)	7,400,000	7,400,000	0	0
4	**Total Construction Cost**	**45,000,000**	**33,300,000**	**11,700,000**	**0**
5	Consultancy Services for the Construction Supervision,	1,370,000	1,000,000	370,000	0
6	Technical Services for CMWU (Direct Implementation Cost) (4% from item 2+3)	536,000	536,000	0	0
7	UNDP Direct Implementation Cost	1,053,000	0	0	1,053,000
8	GMS (8% from GoJ fund and 7% from Kuwaiti Fund)	3,404,120	2,438,520	965,600	0
9	**Total Administrative Cost**	**6,363,120**	**3,974,520**	**1,335,600**	**1,053,000**
10	**Total Construction and Administrative Cost (Item 9+4)**	**51,363,120**	**37,274,520**	**13,035,600**	**1,053,000**
11	Contingency	4,847,480	[illegible]	0	[illegible]
12	**Grand Total**	**56,210,600**	**42,000,000**	**13,035,600**	**1,175,000**

A.3: Cost Breakdown – Components to be implemented by UNDP as per UNDP & IDB Signed Agreement

Construction of Khan Younis WWTP, Phase I					
(Kuwait Fund + GoJ + UNDP Co-finance Fund) - USD					
No.	**Project Activities**	**Total**	**Kuwait Fund/IDB Contribution**	**GoJ Contribution**	**UNDP Contribution**
1	Constructing KYWWTP, Phase I, Part of the Effluent and Emergency Pressure Pipeline with 5.6 Kilometers Length and Electrical Power Supply Line with One Year Operation	31,600,000	19,900,000	11,700,000	0
2	**Total Construction Cost**	**31,600,000**	**19,900,000**	**11,700,000**	**0**
3	Consultancy Services for the Construction Supervision, Constructability Review and Preparing Tender Documents	1,370,000	1,000,000	370,000	0
4	UNDP Direct Implementation Cost	1,053,000	0	0	1,053,000
5	GMS (8% from GoJ fund and 7% from Kuwaiti Fund)	2,428,600	1,463,000	965,600	0
6	**Total Administrative Cost**	**4,851,600**	**2,463,000**	**1,335,600**	**1,053,000**
7	**Total Construction and Administrative Cost**	**36,451,600**	**22,363,000**	**13,035,600**	**1,053,000**
8	Contingency	4,847,480	4,725,480	0	122,000
9	**Grand Total**	**41,299,080**	**27,088,480**	**13,035,600**	**1,175,000**

A.4: Cost Breakdown – Components to be implemented by CMWU as per UNDP & IDB Signed Agreement

Construction of Khan Younis WWTP, Phase I					
Kuwait Fund Contribution - USD					
No.	Project Activities	Total	Contribution	GoJ Contribution	UNDP Contribution
1	Constructing the Effluent and Emergency Pressure Pipeline with 13 Kilometers Length (CMWU Implementation)	6,000,000	6,000,000	0	0
2	Constructing the Infiltration Basins (CMWU Implementation)	7,400,000	7,400,000	0	0
3	**Total Construction Cost**	**13,400,000**	**13,400,000**	**0**	**0**
4	Technical Services for CMWU (Direct Implementation Cost) (4% from item 2+3)	[illegible]	[illegible]	-	-
5	**CMWU Total Construction and Administrative Cost**	**13,936,000**	**13,936,000**	**0**	**0**
6	UNDP GMS (7% from Kuwaiti Fund)	975,520	975,520	0	0
7	**Grand Total**	**14,911,520**	**14,911,520**	**0**	**0**

A.5: Cost Breakdown – Project Overall Budget – (Kuwait Fund + GoJ + UNDP Overall Co-finance Fund)

Construction of Khan Younis WWTP, Phase I					
Project Overall Budget – (Kuwait Fund + GoJ + UNDP Overall Co-finance Fund) – USD					
No.	**Project Activities**	**Total**	**Kuwait Fund/IDB Contribution**	**GoJ Contribution**	**UNDP Contribution**
1 - Components Implemented through GoJ Contribution					
1	Constructing Main Steel Pressure Pipeline from Pump station No. 8 to KY WWTP (Completed)	527,303	0	527,303	0
2	Providing the Detailed Design for the Construction of KY WWTP (Completed)				
3	UNDP Direct Implementation Cost (Disbursed)	150,629	0	150,629	0
4	Contingencies (67.3% disbursed)	36,328	0	36,328	0
5	GMS 8%	132,885	0	132,885	0
	Grand Total 1	**1,793,949**	**0**	**1,793,949**	**0**
2 - Components to be Jointly Implemented through Kuwait Fund + GoJ + UNDP Contributions (2013-2018)					
1	Constructing KYWWTP, Phase I, Part of the Effluent and Emergency Pressure pipeline with 5.6 kilometers Length and Electrical Power Supply Line with One Year Operation	31,600,000	19,900,000	11,700,000	0
2	Constructing the Effluent and Emergency Pressure Pipeline with 13 Kilometers Length (CMWU Implementation)	6,000,000	6,000,000	0	0
3	Constructing the Infiltration Basins (CMWU Implementation)	7,400,000	7,400,000	0	0
4	**Total Construction Cost**	**45,000,000**	**33,300,000**	**11,700,000**	**0**

5	Consultancy Services for the Construction Supervision Constructability Review and Preparing Tender Documents				
6	Technical Services for CMWU (Direct Implementation Cost) (4% from item 2+3)	536,000	536,000	0	0
7	UNDP Direct Implementation Cost	1,053,000	0	0	1,053,000
8	GMS (8% from GoJ fund and 7% from Kuwaiti Fund)	3,404,120	2,438,520	965,600	0
9	**Total Administrative Cost**	**6,363,120**	**3,974,520**	**1,335,600**	**1,053,000**
10	**Total Construction and Administrative Cost (Item 9+4)**	**51,363,120**	**37,274,520**	**13,035,600**	**1,053,000**
11	Contingency	4,847,480	4,725,480	0	122,000
12	**Grand Total 2**	**56,210,600**	**42,000,000**	**13,035,600**	**1,175,000**
13	**Project Overall Budget**	**58,004,549**	**42,000,000**	**14,829,549**	**1,175,000**

A.6: Cost Breakdown – UNDP Direct Implementation Cost based on UNDP & IDB Signed Agreement

Construction of Khan Younis WWTP, Phase I				
UNDP Contribution				
UNDP Project Management and Implementation Staff				
No.	**Nomination**	**Man month**	**Budget**	**Comments**
1	Programme/Project Manager	54	270,000	100% salary
2	Project Engineer	36	139,896	100% salary
3	Electromechanical Engineer	36	139,896	100% salary
4	Project Assistant	24	79,464	100% salary
5	**Sub-total -1**		629,256	
Project Implementation Requirements; Security, Vehicles, Equipment, Communication, Transfer of Knowledge and New Tech., M&E, GOE & ISS				
	Nomination	**Unit**	**Budget**	
6	Security support and requirements for project staff	L.S.	31,250	Based on staff man months
7	4X4 vehicle	1	30,000	
8	Computers & printers	6 + 2	[illegible]	
9	Media and communication plan	L.S.	50,000	
10	Training; transfer of knowledge and new tech.	L.S.	[illegible]	
11	Audit, monitoring and evaluation	L.S.	120,000	
12	GOE & ISS		128.494	
13	**Sub-total -2**		423,744	
14	**Total (5+13)**		1,053,000	Budget items will be subject to revision based on actual needs & disbursement
15	**Contingencies**		122,000	
16	**Grand Total (14+15)**		1,175,000	Budget items will be subject to revision based on actual needs & disbursement

Annex B

Detailed Risk Management Matrix

#	Description	Date Identified	Type	Impact	Threat Likelihood	Threat Impact	Risk Level	Countermeasures / Mngt response
1	Israeli Military Operation on Gaza.	Sep. 2013	Political	Project delayed or cancelled. Force majeure claims raised by contractors.	Unlikely	Moderate	Low	Coordination with the Israeli concerned authorities, donors and counterparts.
2	Shortage of allocated fund to cover consultation, construction works and direct implementation costs.	Sep. 2013	Strategic Financial	Reduction of scope of work. Progress delayed. Project outputs not achieved.	Moderately likely	Moderate	Medium	Consultation and coordination with donors and counterparts. Resource mobilization.
3	PWA, CMWU and Khan Younis Municipality not able to acquire the infiltration basins' land.	Sep. 2013	Strategic Operational	Progress delayed. Infiltration basins will not be implemented.	Moderately likely	Moderate	Medium	Coordination with counterparts and concerned authorities to accelerate acquisition of land.
4	Object of some Al Fukhari residents to construct the infiltration basins.	Sep. 2013	Strategic Financial Operational	Project progress delayed. Claims raised by contractors. Infiltration basins will not be implemented.	likely	Severe	High	Coordinate with counterparts to carry out an in-advance public awareness campaign and enhance community participation.
5	Difficulties in access required equipment and construction materials to Gaza Strip.	Sep. 2013	Strategic Operational Financial	Essential components delayed or not implemented. Claims raised by consultant and contractors.	likely	Severe	High	Coordination with the Israeli concerned authorities, donors and counterparts. Contingency plan reviewed and developed.
6	Restriction on access of international staff in Gaza and mobility of staff and workmanship on site due to security conditions.	Sep. 2013	Operational Financial	Project progress delayed. Claims raised by consultant and contractors.	Moderately Likely	Moderate	Medium	Operation to support staff access and grant a security clearance for site as permanent working site. UNDSS provide security updates.
7	Fuel shortage and regular electricity cut.	Sep. 2013	Operational	Restrict work activities. Project progress delayed.	Likely	Minor	Medium	Alternative fuel and electrical source to be provided by contractors and counterparts.
8	GEDCO not able to provide the required electrical power to operate the treatment plant.	Sep. 2013	Strategic Financial Operational	Commissioning delayed. Claims raised by contractors. The plant not operated.	Unlikely	Severe	Medium	Conduct joint cooperation meetings with counterparts to agree upon a work plan and timeframe.

Annex C

Construction of Khan Younis Waste Water Treatment Plant Project

Contingency Plan

Reference to the detailed Risk Management Matrix of Annex B, and in case of long delays or inability to enter the required construction materials and equipment into the Gaza Strip due to political constrains, UNDP, PWA and CMWU agreed upon a contingency plan as an alternative to implementing the Construction of Khan Younis Waste Water Treatment Plant project:

- UNDP, PWA and CMWU will utilize all efforts, discuss and identify alternatives to facilitate accessing the project's construction materials into the Gaza Strip.
- Discuss and indentify alternatives to engage donors and international and regional community to facilitate accessing project's materials into the Gaza Strip through Rafah crossing.

At a worst case scenario and aiming at supporting the targeted beneficiaries of Khan Younis Governorate, UNDP, PWA and CMWU agreed upon a contingency plan which includes the following activities:

- UNDP, PWA and CMWU will discuss and identify alternative works and activities related to Khan Younis Waste Water Treatment Plant and its complementary waste water collection systems such as:
- Re -assisting the waste water plan in Khan Younis area and re-designing a treatment plant/s by applying more conventional method of natural biological treatment, which requires more land but with low profile technology and less materials.
- Rehabilitating and upgrading of existing waste water facilities that characterized by acceptable effluent of waste water quality in Khan Younis area.
- Rehabilitating and upgrading of waste water networks related to those facilities.
- Develop a comprehensive water and waste water quality monitoring campaign in whole Khan Younis Governorate.
- Increasing public awareness and launching campaigns targeting whole residents of Khan Younis Governorate;
- Considering supply or manufacturing some items, where applicable, from the local market.

UNDP/PAPP **PWA** **CMWU**