

United Nations Development Programme

Renewable Energy /PV Cells

Draft Project Document March, 2015

United Nations Development Programme Country: occupied Palestinian territory **Project Document**

Renewable Energy Generation through Solar Panels for **Project Title**

Hospitals in the Gaza Strip.

UNDAF

By 2016, Palestinians in the oPt have improved equitable Outcome(s): access to quality health services provided by the national

health systems

Expected CP Essential infrastructure for economic and social Outcome(s):

development improved

Expected Output(s): Project Outcome:

> Promote diversification of energy sources through the introduction of new technologies in conventional and renewable energies.

Project outputs:

1. Four hospitals dialysis wards will be operated by using PV solar cells which will reduce the electricity consumption and will save energy and cost as well as maintain a green environment.

2. The concept of renewable energy is introduced to the society through awareness campaigns.

Executing Entity: UNDP UNDP Implementing Agencies:

Brief Description

Towards addressing the needs of the energy sector in Gaza, the program will provide alternative methods by proposing a renewable energy source (Autonomous Photovoltaic System) as a sustainable solution. Solar photovoltaic panels offer a cost-effective and environmentally friendly solution for rural and remote areas. Solar power improves people's lives by providing energy to schools and better healthcare services, through the use of modern technologies refrigeration, heating, radio, television, mobile phones, computers, as well as the Internet. In many countries and in numerous remote areas, solar energy has turned into an approach to better rural economies.

Gaza is considered as a relatively rich area of solar energy. The annual average solar intensity of the year is about 222 W/m2 which is considered to be an optimal environment for the operation of PV cells.

The project aims to preserve the basic health and medical services to kidney patients in Gaza by deploying solar systems to provide a continuous power source for dialysis units within the existing five hospitals in the Gaza Strip in order to provide dialysis service within the facilities. :

- 1. Provide alternative energy during power cutting in Gaza strip.
- 2. Reduce CO2 and fuel consumption during operating of generator in case of cutting power situation.
- 3. Raise the standard living of people in green environment without pollution.
- 4. Decrease the load on the national electricity grid.

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Programme Period: Months	12	Total resources required U
Key Result Area (Strategic Plan)		Total allocated resour
		Regular
Atlas Award ID:		Other:
<u></u>		o Donor Islamic
		o Donor
Start date: May. 2015		o Donor
End Date: April. 2016		o Government
т ф 2023		Unfunded budget:
PAC Meeting Date		US\$1,140,000
		In-kind Contributions
Management Arrangements		

Total re	esources required US\$ 1,140,000
Total	allocated resources: US\$ o.o
• Do	 gular
	9
 Otl 	her:
	o Donor Islamic Relief-Canada
	o Donor
	o Donor
	o Government
Unfund	ded budget:
	US\$1,140,000
In-kind	Contributions

Agreed by (Executing Entity): Agreed by (UNDP):

I. SITUATION ANALYSIS

Around 500 patients in the Gaza Strip suffer from kidney failure while 25% of them need kidney transplants. It is worth mentioning that Gaza strip is under siege since 2007. Therefore, Health sector undergoes shortage of various types of medicine and equipment.

The Gaza Strip is suffering from a continuous deficit in electricity since 2006. The current electricity deficit is 35% of 350 MW which is the current demand of Gaza strip, and this is expected to increase in the near future. As the electricity supplied from Egypt and Israel is fixed at 22 MW and 120 MW, respectively, the only way to improve supply and to reduce deficit is by increasing the weekly amount of industrial fuel to Gaza's power plant to 3.5 million liters. This should increase the output of the power plant to from 80 MW to 120 MW.

The current 35% deficit is translated to 8-12 hours daily cuts of electricity, depending on the availability of fuel. This pattern may still get worse due to faults in the electricity distribution networks or to loss of feeding lines, during escalations.

Unfortunately, the main electricity network lines that serve residential, commercial and industrial areas also serve vital facilities in the Gaza Strip such as hospitals, water facilities and water pumping stations. Hence, they are all under a direct risk of sudden electricity outages. During peak hours all residential and public service facilities are served on an equal basis. This results in tremendous shortages which, in turn, affect the provision of proper health, education, industrial and other services in Gaza. UNDP carried out an assessment of health facilities in Gaza Strip guided by WHO in 2010 that revealed weak infrastructure in some of the hospitals and clinics and bad physical infrastructure to suit the purpose of carrying out safe health care services.

II. STRATEGY

The program aims at addressing the needs of the energy sector in Gaza, UNDP initiative will provide renewable energy source as a sustainable solution to the current crisis. Solar photovoltaic (PV) panels offer a cost-effective and environmental friendly solution for rural and remote areas. UNDP/PAPP technical team will be working in close cooperation with the concerned national stakeholders, namely, Ministry of Health (MOH). All interventions will be in line with the National Development Plan 2014-2017 and the Palestinian Energy and Natural Resources (PENRA) plans regarding the use of renewable energy.

The program is centered on community and governmental support, thus, the activities design will be based on consultations and inclusion of adequate range of stakeholders at the community level as well as in the private sector. The program constitutes a necessary complement to the other UNDP programs in Gaza in connection with energy programs.

Project expected results

Project Outcome

The project aims at achieving the following outcome:

Promote diversification of energy sources through the introduction of new technologies in conventional and renewable energy.

Project outputs

- PV solar cells will be utilized in the Health sector to reduce the electricity consumption, save energy and cost as well as maintain a green environment in four hospitals to operate the dialysis sections in these hospitals.
- The concept of renewable energy is mainstreamed in the main infrastructure sub-sectors, where, 190 Kilo Watts of the energy is generated.

Key Activities

• Output 1: The construction of solar cells for four hospitals dialysis sections to be fully operated through solar power. This component will be executed in close cooperation with the Ministry of

Health (MoH) and will be connected to the main electrical distribution board with an option to use the national power grid in case of cloudy days or malfunction of the cells.

• Output: public awareness for the concept of using renewable energy as an alternative for the national grid and to reduce the co2 emission and to restore the environment.

III. RESULTS AND RESOURCES FRAMEWORK

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

Outcome 2

Essential infrastructure for economic and social development improved

Output 5

Access to effective social, economic, public services and public utilities enhanced.

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Output 5

Access to effective social, economic, public services and public utilities enhanced.

- Outcome indicators as stated in the Country Programme Results and Resources Framework, including baseline and targets: Outcome Indicators and targets
- 190 Kw of electrical energy provided from alternative sources other than the main grid.
- 2,000 working opportunities created.
- Baseline:
- Number of dialysis sections operated with PV cells is nil.

Applicable Key Result Area (from UNDAF outcome 4)

Partnership Strategy: UNDP/PAPP, MoH, and PENRA.

Project title and ID (ATLAS Award ID): Proposal ID:

INTENDED OUTPUTS	OUTPUT TARGETS	INDICATIVE ACTIVITIES	RESPONSIBLE PARTIES	INPUTS
				USD (without GMS)

Output 1: Tender documents production.	 Four hospitals are assigned by the Ministry of Health for PV cells installation. 	 MOU with MoH, and PENRA prepared and signed. Recruitment and mobilize UNDP 	UNDP, MoH, and PENRA ,
	 Letter of intent issued for the contractors. TOR prepared and issued for the qualified contractors. Steering committee formulated for the project. Award the contract for 	 Recrotifient and mobilize on DP supervision team. Forming Steering committee of concerned parties. Review and finalise TOR and BOQ. Tendering documents prepared and revised by steering committee. Bidding process finalized. 	
	design, build and operate.		
Output 2 Contractor selection and work commencement.	 Contractor selected and contract commencement. Mobilization and sites' acquisition. Construction works of the civil works. Procurement of the supplier issued. System component inspected at the installation locations. System testing process and commissioning. Handing over of the project 	 Award the contracts and start construction works. Monitor construction works and approve payments to contractors against work accomplished. Update payments schedule and monitoring time framework. Monitor the number of workmanship involved in the construction works. Apply quality assurance to the works and materials. Developing reporting system. Inspection and testing certificates issued and approved by . Commissioning report for the system produced. Daily Monitoring of the system operation. 	UNDP, MoH, PENRA and selected contractor.
Output 3	•	Workshops and public meetings with	UNDP, MoH, PENRA
Public awareness campaigns for the concept of PV cells.		the beneficiaries.Local news broadcasting for the event.	
Total of Activities including PIU (US\$)			

IV. ANNUAL WORK PLAN

EXPECTED OUTPUTS	PLANNED ACTIVITIES				Yea	r 2015				Year	2016			RESPONSIB LE PARTY	PLANNED BUDGET US\$
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar		
Output 1:															
	Recruitment and mobilize UNDP supervision team.	Х												UNDP	
Public facilities	TOR prepared and issued for the qualified contractors.	X													
	Steering committee formulated for the project	Х												UNDP, MoH, PENRA and IRC	
	Award the contract for design, build and operate.		Х	Х										UNDP	
	Contractor selected and contract commencement			Х										UNDP	
	Advance payment to the contractors of 20% of contract.			Х										UNDP	
	Mobilization and sites' acquisition.			Х	Х									UNDP	

	Construction works of the civil works for the seven sites. Engineer approval of solar PV system		X	X	X	X	X					UNDP, MoH, PENRA and IRC UNDP
	System component inspected at the installation locations.						X	X				UNDP
	System testing process and commissioning.								X			UNDP, MoH, PENRA and IRC
	Handing over of the project and starting of the liability period								Х			
Output 2												
Public awareness campaigns for the concept of PV cells.	Workshops and public meetings with the beneficiaries.							X	X	X	×	UNDP, MoH, PENRA and IRC
Total												

V. MANAGEMENT ARRANGEMENTS

The implementation of the project will be undertaken by UNDP in Direct Implementation Modality (DIM) in close cooperation with the Ministry of Health (MoH) and Palestinian Energy and Natural Resources Authority (PENRA)

- MoH will allocate the four hospitals that will suitable to apply solar energy and have enough space for the PV cells.
- Memorandum of Understandings (MOU) will be drafted between the UNDP/PAPP, MoH. The MOU will outline the responsibility of each of the parties and will ensure the project is implemented in the most effective, transparent and accountable way.
- UNDP, as the Implementing Agency, will have financial responsibility and be accountable to for the funds' disbursement. Through its participation on the project Board, UNDP/PAPP will provide supervision, monitoring and financial control in accordance with UNDP/PAPP rules and regulations. In addition UNDP/PAPP will certify the satisfactory completion of the project activities.
- Recruitment of competent team to carry out the project activities and processes.
- A highly qualified and specialized contractor with strong financial status will be selected to execute the works with close cooperation of the steering committee.
- Follow up of all work activities and relevant actions to assure the progress is according to preset plans and approve payments to contractors against completion of proper work activities.
- Formation of technical team from the steering committee to carry on the inspection of the photo voltaic systems' parts and witness the testing and commissioning of the system.
- UNDP in coordination with the stakeholders will select the necessary human resources for the operation and maintenance of the PV system, and will make the necessary training and capacity building for the team.
- UNDP and PENRA will conduct the public awareness for the targeted group identified by the steering committee to raise awareness of the importance of the alternative sources for energy and green energy concept. The targeted group will be agreed upon with the steering committee.
- Daily technical follow up by expert to the product quality and system performance.
- Prepare quarterly and final reports covering technical and financial aspects as well as lessons learned and risk log. Preparation of liquidation reports for money advances and closing the project all as per the OFID requirements.
- Issue press releases and inauguration ceremonies for the operation of the PV systems.

PROJECT BOARD

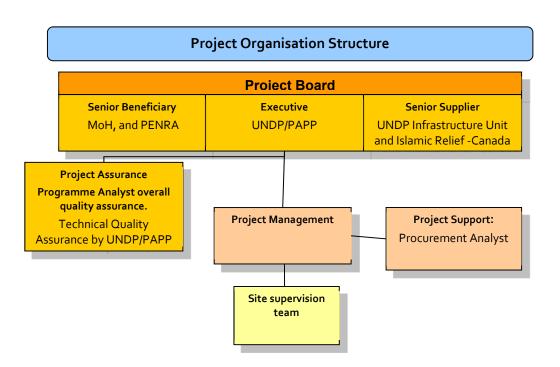
- 1. A steering committee for a project will be formulated which include in its members representatives from UNDP/PAPP, MoH, and PENRA. The role of the steering committee is to monitor the progress of the ongoing activities; solve problems that might rise during the implementation. The formulation of the steering committee will ensure the following criteria:
 - To be chaired by the UNDP/PAPP to ensure that the project process is going in accordance with UNDP rules, regulations and policies as well as to meet donor requirements.
 - Senior supplier representative to provide guidance regarding the technical feasibility of the project.
 - Senior beneficiary's representative from PENRA and MOH.

The steering committee will meet on regular basis or as necessary when raised by the project manager appointed by the implementation agency in addition to that it will be consulted by the project manager for decisions normally in terms of time and budget have been exceeded.

Project Assurance is the responsibility of UNDP/PAPP and the Project Board member. The infrastructure unit including program specialist and analysts will take the quality assurance responsibility for the Project implementation by carrying out objective and thorough project monitoring functions. This role ensures appropriate project management milestones are managed and completed.

Project Management: The Project Manager has the authority to run the project on a day-to-day basis on behalf of UNDP/PAPP within the constraints laid down by the Project Board. The Project Manager is responsible for 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. The Project Management is appointed by the executing agency.

The above project management structure can be illustrated as follows



UNDP/PAPP will utilize its standard Management, Procurement, Contracting, and Financial procedures in the implementation of the project.

VI. MONITORING FRAMEWORK AND EVALUATION

The UNDP will undertake the overall daily supervision and monitoring of project activities in close cooperation with the project counterparts. UNDP will provide financial oversight of the project. UNDP will prepare periodic progress and financial reports on project implementation as well as preparing a terminal report no later than two months after the completion of the project activities. The UNDP will also assign a Project Officer, from amongst the UNDP staff to participate on behalf of UNDP in the Project monitoring and evaluation. The UNDP/PAPP will assign from amongst its staff a Project Management who will be responsible for the day-to-day management of the project. The UNDP Project manager will

- 1. Prepare a detailed BOQ and technical specifications for the project components and will evaluate the process for the selection of the contractor.
- 2. Develop an implementation and financial work plan to the planned activities according to the planned time frame and implementation modality.
- 3. Review and verify all tender documents and specifications of materials and tools for the implementation of the project activities.
- 4. Participate with other parties in the steering committee meetings in identifying a list of eligible criteria for selecting skilled workers for the operation and maintenance of the PV systems.
- 5. Undertake overall supervision and monitoring of project activities will be responsible for the day-to-day project implementation and supervision.
- 6. Conduct regular inspection visits to the project sites to verify the technical quality and cost effectiveness of works undertaken.
- 7. Prepare monthly progress reports.
- 8. Ensure that work progresses according to schedule, and that problems that arise on site are solved with a minimum inconvenience and without delay meetings.

Quality Management for Project Activity Results

OUTPUT 1: Procurement of the Photo Voltaic systems' components and all related accessories, inspection, testing and commissioning of the systems.							
Activity Result 1 (Atlas Activity ID)	Allocation of four cells for the operat	Start Date: May, 2015 End Date: April, 2016					
Purpose	Preparation of the design and tender documents for the solar system (PV cells) and to allocate the site to host various systems' components and operate the allocated facilities through the use of solar energy.						
Description	-MOU signed with UNDP and MoH and PENRA. - detailed designs and BOQ and other tender documents - Review and evaluate tenders						
Quality Criteria		Quality Method	Date of Assessment				
MOU & Action plan		Signed documents	May 2015				
Technical specificatio components	ns for solar system	Tender documents /Field visits	Jun 2015				
Steering Committee		All stakeholders represented /regular meetings	Jun 2015				

OUTPUT 2: Contractor selection and work commencement.							
Activity Result 1 (Atlas Activity ID)	- Award the contracts and Starting of construction and installation works. Start Date: July, 2015 End Date: March. 2016						
Purpose	Operate the dialysis sections for four hospitals.						
Description	 Award the contracts and start construction works. Update payments schedule and monitoring time framework. Apply quality assurance to the works and materials. 						
Quality Criteria	C	Quality Method	Date of Assessment				

Criteria for selecting o	contractors	Committee formed for selection based on price and qualification	Jun,2015			
Quality assurance app	olication	Approval of material, workmanship and method.	Daily from July.2015/April.2016			
Number of working da	ays will be created.	Field visits, Reports	July.2015/April.2016			
OUTPUT 3: Procured commissioning of the	•	tem components and all related equipm	nent, inspection, testing and			
Activity Result 1	Installation of th	e solar system components, testing and	Start July.2015			
(Atlas Activity ID)	commissioning.		End Date: April.2016			
Purpose	Start the operation of the four hospitals through solar energy					
Description	 On site of the 	nt of the PV system. ne manufacturer inspection and testing. ning and operation.				
Quality Criteria		Quality Method	Date of Assessment			
Criteria for selecti maintenance technici	J 1	Committee formed for selection (MoH, PENRA)	Dec. 2015			
Inspection of the li components.	ist of solar system	Field visits, inspection reports.	Oct 2015.			

OUTPUT 4: increase public awareness for the use of green energy.						
Activity Result 1 (Atlas Activity ID)	· "					
Purpose	To introduce the concept of using solar energy as a clean source.					
Description	-Develop public awareness relevant activities					

	- Dissemination of the good and/or bad practices as well as lessons learned among communities concerning the solar energy subject Development and publications of promotional materials.								
Quality Criteria		Quality Method	Date of Assessment						
Conduct awareness activities for the PV cells use.		Materials developed, seminars Field visits Progress reports	Oct. 2015						

VII. LEGAL CONTEXT

If the country has signed the <u>Standard Basic Assistance Agreement (SBAA)</u>, the following standard text must be quoted:

This project document shall be the instrument referred to as such in Article 1 of the SBAA between the Government of (country) and UNDP, signed on (date).

Consistent with the Article III of the Standard Basic Assistance Agreement, the responsibility for the safety and security of the executing agency and its personnel and property, and of UNDP's property in the executing agency's custody, rests with the executing agency.

The executing agency shall:

- a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
- b) Assume all risks and liabilities related to the executing agency's 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. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

The executing agency agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by Council Committee established pursuant resolution 1267 The list be the Security (1999). can accessed http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

If the country has not signed the SBAA, the following standard text is quoted:

The project document shall be the instrument envisaged in the <u>Supplemental Provisions</u> to the Project Document, attached hereto.

Consistent with the above Supplemental Provisions, the responsibility for the safety and security of the executing agency and its personnel and property, and of UNDP's property in the executing agency's custody, rests with the executing agency.

The executing agency shall:

- a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
- b) Assume all risks and liabilities related to the executing agency's 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. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

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http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

VIII. ANNEXES

Annex 1: Risk Analysis.

Project Title:	Construction of Desalination plant and	Award ID:	Date: Dec. 2013
water	networks and tanks for Gaza city		

Annex 1

Table 1: Detailed Risk Management Matrix

Area	Risk	Mitigation Measures	Options for Programme Responses
Operational Risks			
Administration / Operations	 Mobility restrictions of the project staff due to the security situation either caused by the Israelis (incursions, shelling) or by internal clashes Shortage of material might hinder mobility thus restrict work and prevent progress Difficulty in access to sites prevents progress and causes significant delay. 	 UNDP security office in coordination with the UNRWA Security Liaison person coordinate for the day-to-day travel of the staff and issue security clearance for ensuring the safety of the staff Specific arrangements with partner organizations and stakeholders for protection of premises and working locations Local Police approached in cases of travel of international staff and for any unexpected hazard or land handover. Access Coordination advantage to get the construction materials and plant equipment from Israel and benefit from UNDP experience in this regard. 	- Police could be consulted for increasing the safety of staff in hazardous situations
Programme Risks			

Project Implementation / Progress	 Any militant act from the Israelis or tensions between local factions may affect the successful implementation of the project Mobility restrictions due to disputes about the sites acquisition and internal political disputes. Shortage of material might hinder mobility of both staff and beneficiaries thus restrict proper monitoring of project progress General insecurity prevents proper monitoring of the different activities The project is suspended for political reasons. 	 Access Coordination advantage to get the construction materials and plant equipment from Israel and benefit from UNDP experience in this regard. Special arrangement with the local police for delivering protection to the project During project implementation, UNDP undertakes regular monitoring and verification visits Local Police will be approached in cases of travel of international staff and for any unexpected hazard Participatory planning to ensure inclusion of all respective stakeholders in the steering committee. Continuous monitoring of delivery of key milestones; joint planning sessions for project delivery. The MOU will include changes in the sites' acquisition respect. Contingency/ miscellaneous amount will be reserved in order to use in such incidence 	 Partner organizations, community representatives and stakeholders are informed about the situation and requested to ensure proper management. Police and stakeholders are requested to improve project implementation and facilitation. Local market will be investigated for spare parts and construction materials.
Project outcome	 Major Security crises e.g. total incursion into the Gaza Strip or Total closure of access of people and goods. 	Establishment of early warning mechanisms Assessment to inform activities design and planning	 UNDP reviews intervention strategy to respond to crises UNDP suspends support

Special Clauses. In case of government cost-sharing through the project which is not within the CPAP, the following clauses should be included:

- 1. The schedule of payments and UNDP bank account details.
- 2. The value of the payment, if made in a currency other than United States dollars, shall be determined by applying the United Nations operational rate of exchange in effect on the date of payment. Should there be a change in the United Nations operational rate of exchange prior to the full utilization by the UNDP of the payment, the value of the balance of funds still held at that time will be adjusted accordingly. If, in such a case, a loss in the value of the balance of funds is recorded, UNDP shall inform the Government with a view to determining whether any further financing could be provided by the Government. Should such further financing not be available, the assistance to be provided to the project may be reduced, suspended or terminated by UNDP.
- 3. The above schedule of payments takes into account the requirement that the payments shall be made in advance of the implementation of planned activities. It may be amended to be consistent with the progress of project delivery.
- 4. UNDP shall receive and administer the payment in accordance with the regulations, rules and directives of UNDP.
- 5. All financial accounts and statements shall be expressed in United States dollars.
- 6. If unforeseen increases in expenditures or commitments are expected or realized (whether owing to inflationary factors, fluctuation in exchange rates or unforeseen contingencies), UNDP shall submit to the government on a timely basis a supplementary estimate showing the further financing that will be necessary. The Government shall use its best endeavours to obtain the additional funds required.
- 7. If the payments referred above are not received in accordance with the payment schedule, or if the additional financing required in accordance with paragraph []above is not forthcoming from the Government or other sources, the assistance to be provided to the project under this Agreement may be reduced, suspended or terminated by UNDP.
- 8. Any interest income attributable to the contribution shall be credited to UNDP Account and shall be utilized in accordance with established UNDP procedures. In accordance with the decisions and directives of UNDP's Executive Board:

The contribution shall be charged:

- (a) [...%]cost recovery for the provision of general management support (GMS) by UNDP headquarters and country offices
- (b) Direct cost for implementation support services (ISS) provided by UNDP and/or an executing entity/implementing partner.
- 9. Ownership of equipment, supplies and other properties financed from the contribution shall vest in UNDP. Matters relating to the transfer of ownership by UNDP shall be determined in accordance with the relevant policies and procedures of UNDP.
- 10. The contribution shall be subject exclusively to the internal and external auditing procedures provided for in the financial regulations, rules and directives of UNDP."