



United Nations Development Programme

Solid waste management and composting in Beit Lahia

Project Document
June, 2010

United Nations Development Programme

Country: occupied Palestinian territory

Project Document

Project Title Solid waste management and composting in Beit Lahia

UNDAF Outcome(s): N/A

Expected CP Outcome(s): Essential infrastructure for economic and social development improved
(Those linked to the project and extracted from the CP)

Expected Output(s):
(Those that will result from the project)

Project Outcome:
Improved Capacity of Northern Joint solid waste council and Beit Lahia Municipality to manage the generated municipal and agricultural waste

Project outputs:

1. Compost facility in Beit Lahia rehabilitated and equipped to maintain compost production
2. Increased rate of solid waste primary collection
3. Improved waste recovery through production of compost
4. Improved Northern Joint solid waste council Beit Lahia municipality staff operation and management skills to sustain production of compost

Executing Entity: UNDP/PAPP

Implementing Agencies: Beit Lahia Municipality, NCWMC and CRIC- Centro Regionale di Intervento per la cooperazione

Brief Description

Weak and fragmented solid waste management is considered one of the main environmental problems in Gaza Strip. Beit Lahia municipality located in the northern governorate lacks the capacity to manage effectively the generated quantities in the amount of 80 tons/day due to lack of environmentally sound management system for reduction and recycling of generated waste; equipments, and financial resources. As a result solid waste has become a real threat to the public health and the environment as well. It is estimated that 60% of the domestic solid waste is organic which can be utilized as organic fertilizer in cultivated areas in Beit Lahia.

The project will focus on reuse of the organic materials emerging from agricultural and domestic waste in full conformance with the solid waste strategy in Opt. Composting activity will be undertaken by the project to preserve the local Ecosystem in Gaza Strip through reducing the use of chemical fertilizers that contributes to groundwater contamination as well as increasing the lifespan of existing and planned landfills. The intervention will include support for primary collection of solid waste in Beit Lahia utilizing donkey carts, separation of organic material, composting and training programme and public awareness campaign targeting the residents and municipal staff.

Programme Period: 2010-2011(12Months)
Key Result Area (Strategic Plan): Access to effective social, economic, and public utilities
Atlas Award ID: PAL 10_59090
Start date: July 2010
End Date: June 2011
PAC Meeting Date: May 25, 2010
Management Arrangements: UNDP DEX

Total resources required	US\$ 322,411
Total allocated resources:	US\$ 322,411
• Regular	_____
• Other:	_____
o Donor	Italian Cooperation
o Donor	_____
o Government	_____
Unfunded budget:	_____
In-kind Contributions	_____

Agreed by (UNDP):



Jens Toyberg-Prandzen
The Special Representative of the Administrator, UNDP/PAPP

I. SITUATION ANALYSIS

In the Gaza Strip the environment status has been rapidly deteriorated and reached to an alarming level as a result of sewage contamination of groundwater, excessive exploitation of natural resources, and degradation of coastal areas and uncontrolled dumping of solid waste. All these environmental and public health are compounded by the existence of poor infrastructure and lack of institutional capacity.

Weak and fragmented solid waste management is considered the second fundamental environmental problem in Gaza Strip and one of the leading causes of degradation of its natural resources. The current waste management practices are characterized by poor quality of services for the collection and disposal in uncontrolled landfills where municipal and medical waste are mixed and are disposed of through the practice of open-air. Runoff and infiltration of leachate are the potential risks to groundwater aquifers which is the main source of water supply.

The report of the United Nations Environment Program-UNEP estimated that the "Environmental costs of damage directly linked to the escalation of hostilities in December 2008 and January 2009" sum up to 44 million U.S. \$, of which U.S. \$ 4.79 million cost for the restoration of the system for the disposal of solid waste.

The daily production of solid waste in the Gaza Strip is estimated to be 1,000-1,350 tons whereas 60% out of this quantity is organic waste. Collecting, transporting and disposing of solid waste represent a heavy burden for the municipalities in the Gaza Strip. The main influential aspects affecting the whole process especially the disposal of solid waste are political, institutional, social, financial, economical and technical aspects. The technical aspects are concerned with the planning, implementation, and maintenance of collection and transfer systems, waste recovery, and final disposal of solid waste. The Municipalities in Gaza Strip have great difficulties in trying to define their current SWM costs. Financial resources often barely cover collection and transport costs, leaving no resources for safe disposal.

The problem of solid waste (SW) in Beit Lahia municipality poses serious public health risks. The quantity of SW generated is in the magnitude of 70 – 80 tons per day, which need to be transported to uncontrolled dumping site located at Beit Hanoun near the eastern border of Gaza Strip. The disposal facility in Beit Hanoun is located near the border with Israel, and the service providers were unable to access the landfill during the Cast lead operation, 22,000 tons were accumulated in the waste transfer stations. Meanwhile, the response of the community on accumulated waste has been increasing the practice of open-air-burn (dirty burn) and an at random accumulation.

Solid waste recycling will lead to reduction of waste need to be transferred to the dumping sites and will contribute to generating new jobs opportunity within the growing poverty environment in the Gaza Strip. In this context this project comes as immediate response to improve solid waste management in Beit Lahia through installing and operating a composting facility to be located in the north –east of Beit Lahia area.



II. STRATEGY

UNDP is continuously intensifying efforts to assist countries in post conflict and crisis sconflict as a means to smooth the progress of the achievement of Millennium Development Goals (MDGs).

This project clearly and directly contributes to the realization of the 7th Development Goal of the MDGs which seeks to ensure environmental sustainability that has been deteriorating throughout the last three years of impsed blockade on Gaza Strip.

The project in hand is in line with the national solid waste management strategy and environment sector strategy for years 2011-2013. The project will enhance the capacities of Beit Lahia Municipality and the northern solid waste management council to improve their waste management systems and services. This will contribute to protection of the natural resources in the targeted Governorate and contribute to protection of Beit Laiha's population public health.

UNDP/PAPP has identified this project as a part of its early recovery initiative aiming at restoration access for essential services at the crisis affected areas in the Gaza Strip and improving their livelihood. In this context the project provides support to improve the primary collection of domestic and agricultural waste, and ultimate disposal of the generated waste through implementing a system for solid waste recycling and composting. The collection of agricultural waste at the point of accumulating fields (farmers markets and rural areas) will be carried out by operators equipped with animal-drawn carts, to collect and transport the solid waste to the proposed composting site.

The composting site, which already exists in the selected area, will be rehabilitated, completed and put into operation for carrying out processing activities. The organic fraction of the solid waste will be separated from the waste delivered to the site manually by operators. The remaining component of the waste will be transported to the nearby landfill by the Solid Waste Management Council "SWMC". The separated organic fraction will be processed through the shredder machines and then piled for aerobic digestion. The end product of bio-digestion "matured compost" will be distributed to local farmers for the maintenance of soil fertility.

The project activities will entail training of operators to professionally manage the cycle of compost production and processing operation as well as supplying needed tools and equipment for safe and proper performance. In addition, advocacy workshop will be carried out for SWMC staff, Beit Lahia municipality, NGO's and private sector working in the solid waste management as well as civil society to illustrate the results of the intervention. This project will be a pilot project at municipal level to be replicated by other municipalities in the Gaza Strip. At large the project activities will support achieving the following:

- The volume of targeted waste arriving at the Municipal landfill will be decreased by 60% due to utilization of organic fraction in composting process. Accordingly, relevant transfer and disposal expenses will be reduced as a result of the reduction in the transferred quantity to the municipal landfill.
- The produced compost will be utilized in agriculture and therefore minimizing the amounts of chemical fertilizers used currently in Agriculture sector. Thus, the environmental quality will be improved through increasing the soil fertility in an acceptable manner.
- Communication tools developed through the project will contribute to increased public awareness on waste recycling and will encourage private sector involvement at a later stage in this field.

The project will be implemented in partnership with Municipality of Beit Lahia and CRIC_Centro Regionale di Intervento per la cooperazione "CRIC". CRIC has established strong and stable relation with local counterparts in Gaza including Beit Lahia Municipality through implementing number of initiatives since 1998. It has provided support to the municipality of Beit Lahia in the field of solid waste management in year 2002. During the project proposal preparation, CRIC has actively participated in several meeting with project counterparts including Beit Lahia Municipality and the Northern Joint solid waste council, minutes of meeting attached in Annex A. the proposed project activities accommodate the lessons learnt from CRIC experience in this field and complement its previous implemented activities towards improving solid waste management system in Beit Lahia.

Project expected results

Project Outcome

The project aims at achieving the following outcome:

- Improved Capacity of Northern Joint solid waste council and Beit Lahia Municipality to manage the generated municipal and agricultural waste

Project outputs

1. Composting facility is rehabilitated and equipped to maintain compost production
2. Increased rate of primary solid waste collection
3. Improved waste recovery through production of compost
4. Improved Beit Lahia municipality staff operation and management skills to sustain production of compost

Key Activities

- Output 1: Implementation of construction works and starting up of the compost facility in Beit Lahia. This activity will complement the works needed for fully operating the 4,000 m² of site to be ready to host compost activities and administration premises. The activity includes finishing works for existing administrative building and weighing balance in addition to the works of levelling, new concrete platform, shed roads, electricity & water networks and fence. Implementation will be carried out through local contracting firms. The existing shredding machines will be transported and assembled to be ready for operation.
- Output 2: Organization of the collection of Solid Waste (SW) from agricultural areas (farmers markets) and rural areas, through the use of 10 carts pulled by donkeys for a period of 7.5 months. Primary collection of solid waste at a rate of 7 tons daily is expected throughout this output.
- Output 3: Separation of the organic part of the transferred SW and processing it through the shredding machines preparing it for composting. Ten operators will be hired for the production of compost. Three tons of compost is expected to be prepared on daily basis. Composting cycle will last for three months. Meanwhile the organic material had to be shovelled constantly by operators and according to the direction of experts. Compost will be distributed as soil conditioner to farmers and in future is expected to generate revenues sufficient to cover its annual operational cost (selling of compost and separated recyclable materials). The non organic solid waste (40% of the collected SW) will be hauled to the transfer station using the SWMC machines.
- Output 4: An Expert will be recruited to conduct training for the compost activity starting from the collection phase until the final product is produced. He will develop the necessary curriculum and train the workers and SWMC prior to initiating collection and separation processes by two weeks. Then, training will continue throughout the period of collection and separation processes in order to achieve a good quality of compost at the end of the production cycle. He will be also conducting Awareness campaign for Beit Lahia residents in at least two workshops in coordination with the steering committee and all stakeholders. The campaign will extend to cover seminars to private sector, NGOs, SWMCs and Municipal officials working in SW sector. The goal of these seminars is meant to illustrate the pros and cons of the compost produced as well as the benefits of the recycling process of solid waste on the environment and health in general. It will present as well the investment opportunities to be captured in this sector thus improving the economical status of the local community.

CRIC will prepare by the end of project an investment plan for the composting plant outlining the needs and relevant running cost for managing the site and documenting the best practice to achieve the best quality of compost. The investment plan will include details cost in connection with the following:

- The cost of the staff and labours needed to successfully operate the plant.
- The cost of necessary tools and equipment for safe implementation.
- The cost of energy and water consumption.
- The cost of materials necessary for the production of compost and packaging.
- The cost estimate for maintenance of machines
- The cost estimate that will cover the Depreciation of machines.

- The cost estimate will cover the collection, separation and the transfer of the non organic materials.
- The cost of continuous awareness campaign, training and marketing.
- The cost of periodic laboratory tests.

The plan also will assess the potential local market to absorb the produced compost quantities and recyclable items. The price of good quality of compost is currently increasing in the local market where as the revenue generated from selling the product will contribute to the sustainability of the composting plant.

Summary of project budget

The project budget is in the amount of US\$ 322,411 and summarized as follows while detailed budget is provided at Annex B.

	Budget line	US\$
1.	Preparation of composting sites, rehabilitation and installing of equipments	120,962
2.	Cash for work: Solid waste primary collection and tools	39,526
3.	Compost production operational cost for 7.5 months	24,390
4.	Awareness campaigns and staff training	9,750
5.	Project management cost CRIC	92,752
6.	Contingency	4,938
7.	UNDP monitoring and quality Assurance	9,000
8.	Total Programmable amount	301,318
9.	UNDP GMS COST 7 %	21,092
10	Total Project budget	322,411

The budget was converted to US\$ using UN exchange rate for June 2010:

EURO = 1.221 US\$

Total project cost in EURO: 264,055

III. RESULTS AND RESOURCES FRAMEWORK

<p>Project Outcome: Improved capacity of Beit Lahia Municipality to manage generated municipal and Agricultural waste</p>				
<p>Outcome indicators as stated in the Country Programme Results and Resources Framework, including baseline and targets: Outcome Indicators and targets</p> <ul style="list-style-type: none"> 60% of annually generated solid waste quantities utilized as compost 1,500 tons of compost produced Primary solid waste at targeted areas increased by 10 % <p>Baseline:</p> <ul style="list-style-type: none"> 50 % of Agricultural areas in Beit Lahia receive SW collection services once every two weeks. There is no composting activity in Beit Lahia. Farmers heavily use chemicals fertilizers instead of compost as organic fertilizers 				
<p>Applicable Key Result Area (from 2008-11 Strategic Plan): Access to effective social, economic, public services and utilities improved</p>				
<p>Partnership Strategy: : UNDP/PAPP,CRIC, Municipality of Beit Lahia</p>				
<p>Project title and ID (ATLAS Award ID): Solid waste management and composting in Beit Lahia Proposal ID: PAL 10 59090</p>				
INTENDED OUTPUTS IV.	OUTPUT TARGETS FOR (YEARS)	INDICATIVE ACTIVITIES	RESPONSIBLE PARTIES	INPUTS
<p>Output 1: Compost facility in Beit Lahia rehabilitated and equipped to maintain compost production</p> <p>Base line:</p> <ul style="list-style-type: none"> 4 dunums allocated by land authority to Beit Lahia Municipality as composting <i>site and 60% prepared for composting activity.</i> Administrative building is constructed but not finished Shredding machines are procured and stored. Weigh balance is procured and stored 	<p><i>Equipments installed and site prepared to receive collected cost for recycling process</i></p>	<ul style="list-style-type: none"> Recruitment and mobilize CRIC supervision team. Review and finalise projects detailed designs and BOQ Prepare tender documents Solicit local contractors Award the contracts and start construction works. Monitor construction works and approve payments to contractors against work accomplished. 	<p><i>CRIC & UNDP</i></p>	<p>Construction materials Equipments Local contractors</p> <p>Cost: 120,962 US\$</p>

<p>Indicators:</p> <ul style="list-style-type: none"> • Equipped administrative building. • Functional Weigh balance • Functional composting machines are set up. • 4,000 M2 area ready for receiving solid waste. • Erected Fence and shed • Available supply of Electricity service. 		<ul style="list-style-type: none"> • Finalise construction and installation of equipment 		
<p>Output 2 Increased rate of solid waste primary collection</p> <p>Base line:</p> <ul style="list-style-type: none"> • 500 Solid waste containers are distributed within Beit Lahia area. • 70-80 Tons per day of solid waste produced in Beit Lahia. <p>Indicator:</p> <ul style="list-style-type: none"> • # of tons collected. • # of containers distributed. 	<p>150 new steel containers donated by CRIC and stored in Beit Lahia Municipality stores distributed at the targeted areas</p> <p>1,000 tons of solid waste quantity collected</p>	<ul style="list-style-type: none"> • Select 10 skilled workers • Distribute new steel container at the targeted areas • Organise and supervise workers 	<p><i>CRIC&UNDP</i></p>	<p>Workers Tools Containers</p> <p>Cost: 39,526</p>
<p>Output 3 Improved waste recovery through production of compost</p> <p>Beas line: No composting activity in BeitLahia</p> <p>Indicator: # of tons of matured compost produced</p>	<p>1,500 tons of compost produced</p>	<ul style="list-style-type: none"> • Ten operators are recruited to separate and handle the organic matter and other activities within the compost site. • Uniforms and tools are procured • Shredding and storing the final compost at a rate of approximately 12 Tons/day. • Daily Monitoring of the maturation of compost. • Analyzing the compost quality in local laboratories 	<p><i>CRIC& UNDP</i></p>	<p>Skilled workers Fuel, electricity, water organic solid waste cost: 24,390 US\$</p>
<p>Output 4 Improved Beit Lahia municipality staff operation and management skills to sustain production of compost</p> <p>Beas line: -No trained operators that can run the composting site -Local community and private sector are not aware of importance of composting</p> <p>Indicator:</p>	<p>On job training for the municipality facility operators provide</p> <p>2 awareness workshop conducted</p>	<ul style="list-style-type: none"> • Select professional trainers. • Conduct seminars, training courses , and on job training • Daily technical follow up by expert to the compost quality • Conduct environmental awareness activities targeting people living in Beit Lahia. • Conduct joint field visits to the compost site. • Prepare investment plan for the project 	<p><i>CRIC&UNDP</i></p>	<p>Trainer Training hall rent Consultant Cost : 9,750 US\$</p>

# of workshops with stakeholders conducted				
# of Farmers adopted composting as environmental friendly fertilizer.				
		Management and quality assurance and contingency	CRIC&UNDP	Project team 106,690 US\$
<i>Total of programmable activities</i>				301,318 US\$

V. ANNUAL WORK PLAN

YEAR:

EXPECTED OUTPUTS <i>And baseline, indicators including annual targets</i>	PLANNED ACTIVITIES <i>List activity results and associated actions</i>	TIMEFRAME 2010				TIMEFRAME 2011				RESPONSIBLE PARTY	PLANNED BUDGET		
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		Funding Source	Budget Description	Amount \$
Output 1: Compost facility in Beit Lahia rehabilitated and equipped to maintain compost production	prepare site assessment, design and tender document			x						UNDP&CRIC	Italy	Contracts companies	120,962
	Preparing site /work space/ Machines setup			x								Contracts individuals	
	Bidding and awarding contracts			x									
Output 2 Increased rate of solid waste primary collection	Collecting and transporting # of tonnes of solid waste to the composting site				x	x	x	x		UNDP & CRIC	Italy	Contracts individuals	39,526
Output 3: Improved waste recovery through production of compost	Separate, shred and pile organic fraction				x	x	x	x		UNDP & CRIC	Italy	Contracts individuals	24,390
	Monitor process of compost until maturation				x	x	x	x					
	Conduct laboratory testing/Packaging and storing							x					
Output 4: Output 4: improved Beit Lahia municipality staff operation and management skills to sustain production of compost	Training: Recruitment of workers Training them before				x	x	x	x		UNDP & CRIC	Italy	Contracts individuals	9,750
	Awareness: Prepare TOR for the awareness campaign									UNDP&CRIC	Italy	Rent Miscellaneous Stationery	
	Hold meetings and workshops including documentations				x	x	x	x					

	Marketing: Undertake cost benefit analysis for composting						x				UNDP & CRIC	Italy	Contract individuals			
	Hold workshops and meetings			x			x	X								
	Promote and distribute compost to local farmers						x	X								
	CRIC Project management and supervision			X	X	X	X	X			CRIC	Italy	Contracts individual	92,752		
	Contingency										CRIC	Italy	Contingency	4,938		
	UNDP quality assurance cost			X	X	X	X	X			UNDP	Italy	Contracts individual	9,000		
	GMS 7 %			X	X	X		X			UNDP	Italy	GMS	21,092		
	Total project cost													322,411		

VI. MANAGEMENT ARRANGEMENTS

Implementation modalities

UNDP/PAPP delivers through the Direct Execution (DEX) modality which will be the mechanism for the implementation of this project and works in partnership with national authorities, civil society, the private sector; the international community and UN sister agencies. UNDP/PAPP will engage in partnership with CRIC_Centro Regionale di Intervento per la cooperazione "CRIC". CRIC has established strong and stable relation with local counterparts in Gaza including Beit Lahia Municipality through implementing number of initiatives in the field of solid waste management since 1998.

In order to ensure the ability of CRIC to implement the project activities its capacity has been assessed applying UNDP standard procedures. UNDP/PAPP will enter into cooperation agreement with CRIC for implementing the project activities where CRIC will be accountable to UNDP/PAPP for delivering the desired project outputs stated in this project document and will undertake the following:

- utilizing its expertise in the field of solid waste management and compost production and cooperate directly with the northern solid waste management council to deliver the planned outputs presented in the Project document throughout day to day management.
- Set up a steering committee for the project including all stakeholders.
- Supervise implementation project activities and relevant actions to assure the progress is according to preset plans.
- Prepare all necessary tender documents and submit them for UNDP review
- Carry out procurement in accordance with UNDP/PAPP rules and regulations and in close coordination with UNDP and SWMC till the awarding is finalized.
- Supervise construction works and approve payments to contractors against completion of proper work activities.
- Recruit in coordination with UNDP the necessary human resources.
- Supervise the processes within the composting cycle and direct the necessary changes and corrective actions. Prepare quarterly and final reports covering technical and financial aspects as well as lessons learned and risk log in accordance with UNDP/PAPP requirements

Planning and management of activities

CRIC in cooperation with UNDP/PAPP will assign a Project Manager who will be 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. In order to ensure effective implementation and continuous activities progress monitoring, the Project Manager will be assisted by Project site engineer, and administrative assistant.

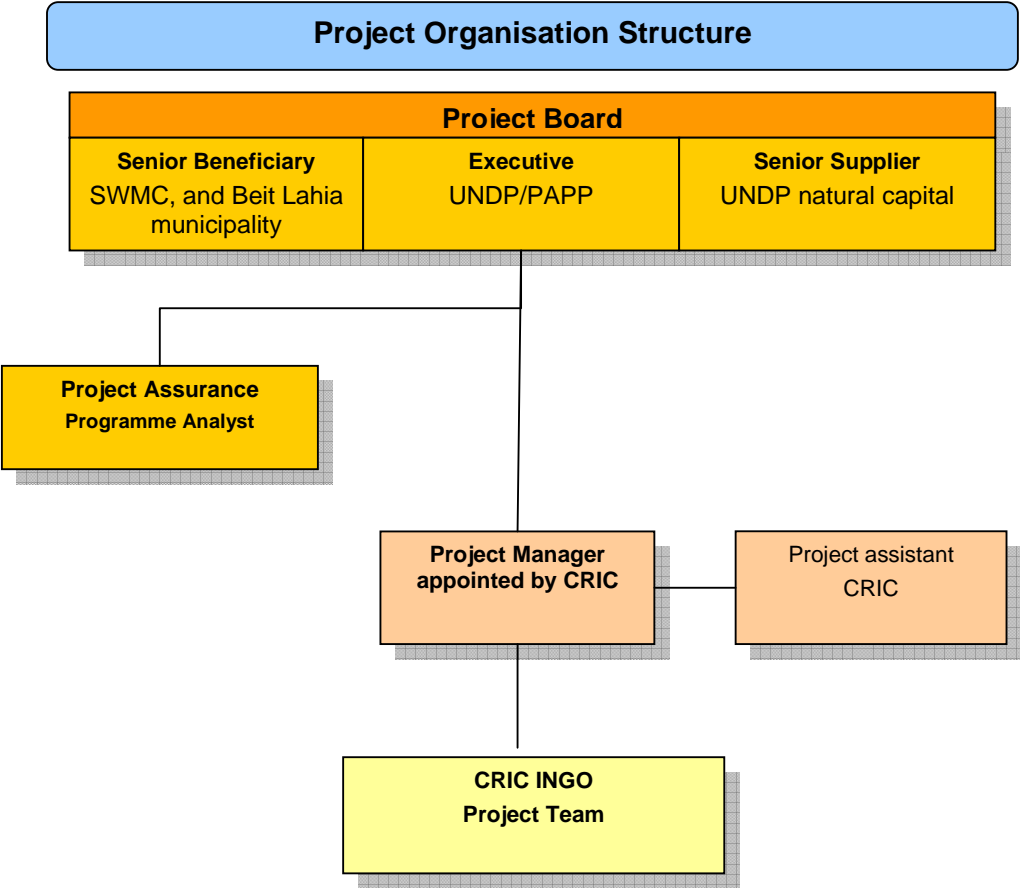
Project oversight and assurance

The project board will be established to undertake project oversight and assurance responsibility. The Project Board is a group responsible for making management decisions on a consensus basis for the project when guidance is required by the Project Manager, including recommendations for approval of project revisions. Project reviews by the board are made at designated decision points during the running of the project, or as necessary when raised by the Project Manager. The Board will be consulted by the Project Manager for decisions when project tolerances (i.e. constraints normally in terms of time and budget) have been exceeded. The Project Board will convene quarterly. The Project Board consists of the following:

- *Executive* : representing the project ownership to chair the group (Deputy Special Representative, Programme),
- *Senior Supplier*: to provide guidance regarding the technical feasibility of the project (Natural Capital Team Leader)
- *Senior Beneficiary*: to ensure the realization of project benefits from the perspective of project beneficiaries (representatives from Beit Lahia Municipality and Solid Waste Service Council, SWSC)

The project board makes decisions on a consensus basis. Final decision making on project activities and accountability however rests with UNDP in accordance with its applicable regulations, rules, policies and procedures.

Project Assurance for this project will be the delegated responsibility for UNDP Programme Analyst. 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.



VII. MONITORING FRAMEWORK AND EVALUATION

The UNDP will undertake quality assurance and monitoring of delivering project results in close cooperation with the project counterparts. UNDP will provide financial oversight of the project. Regular monitoring and field visits will be carried out by UNDP programme analyst to monitor the progress towards achieving the project results.

CRIC will prepare technical and financial progress reports on quarterly basis as well as preparing a terminal report no later than two months after the completion of the project activities and submit them for UNDP review and approval.

The designated UNDP/PAPP programme analyst will undertake the following responsibilities:

1. Review the developed implementation and financial work plan prepared by CRIC according to the agreed upon time frame and implementation modality.
2. Review and verify all tender documents and specifications of materials and tools for the implementation of the project activities.
3. Participate with CRIC and other parties in the steering committee
4. Conduct regular inspection visits to the project sites to verify the technical quality and cost effectiveness of works undertaken in coordination with project counterparts
5. Review monthly progress reports prepared by Project Manager.
6. 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: Composting site is equipped and rehabilitated for composting (wet & green) waste in Biet Lahia		
Activity Result 1 (Atlas Activity ID)	4 dunums including management facilities will be prepared to undertake composting and management activities	Start Date: July 2010 End Date: September 2010
Purpose	Preparation of the compost site to host various compost processes and administration building in addition to the necessary utilities.	
Description	<ul style="list-style-type: none"> -MOU signed with UNDP and CRIC - detailed designs and BOQ and other tender documents - Review and evaluate tenders - Award the contracts Start construction works - Monitor construction works and approve payments to contractors against work accomplished - Finalise construction and hand over to the end user 	
Quality Criteria <i>how/with what indicators the quality of the activity result will be measured?</i>	Quality Method <i>Means of verification. what method will be used to determine if quality criteria has been met?</i>	Date of Assessment <i>When will the assessment of quality be performed?</i>
MOU & Action plan	Signed documents	September 2010
TOR for CRIC staff	Selection and recruitment	July 2010
Technical specifications for rehabilitation composting site	Tender documents /Awarded contracts /Field visits	August 2010
Steering Committee review	All stakeholders represented /regular meetings	september 2010

OUTPUT 2: Increased rate of primary collection of solid waste at targeted areas		
Activity Result 1 (Atlas Activity ID)	The solid waste is collected from households and agricultural areas in Beit Lahia	Start Date: July 2010 End Date: March 2011
Purpose	Improve the capacity of solid waste management council to manage the solid waste on daily basis.	
Description	Recruitment and training of human resource The solid waste will be collected and transferred by donkey carts to the composting site	
Quality Criteria <i>how/with what indicators the quality of the activity result will be measured?</i>	Quality Method <i>Means of verification. what method will be used to determine if quality criteria has been met?</i>	Date of Assessment <i>When will the assessment of quality be performed?</i>
Criteria for selecting workers	Committee formed for selection CRIC &SWMC & MoB	July2010
TOR of Trainers / Selection	Curriculum, Training, workshop	July 2010
Number of working days will be created.	Field visits, Reports	August 2010/March 2011
Quantities of solid waste collected	Field visits, Reports	August 2010/March 2011
OUTPUT 3: Improved waste recovery through production of compost		
Activity Result 1 (Atlas Activity ID)	Separation, shredding and piling of organic solid waste for composting. Nonorganic material will be transferred to the <i>sub transfer station</i>	Start Date: July 2010 End Date: March 2011
Purpose	Recycle of the organic materials into the form of soil conditioner that will support the	

	farmer's Cultivating activities. Extended the age of sub transfer station and the land fill and save relevant expenses through reduction of the solid waste quantities.		
Description	Recruit solid waste operators and training. Separating and composting the organic waste into form of soil conditioner using aerobic decomposition of organic material.		
Quality Criteria <i>how/with what indicators the quality of the activity result will be measured?</i>	Quality Method <i>Means of verification. what method will be used to determine if quality criteria has been met?</i>	Date of Assessment <i>When will the assessment of quality be performed?</i>	
Criteria for selecting operators	Committee formed for selection (CRIC & SWMC & MoB)	July 2010	
Separating and composting 900 tons of solid waste	Field visits ,reports	August 2010/ March 2011	
Number of working days will be created.	Field visits ,reports	August 2010/ March 2011	
Quantity of Produced compost	Field visits ,reports	November 2010/ March 2011	

OUTPUT 4: Improved operational and management skills of Beit Lahia municipality and joint service council staff to sustain compost production			
Activity Result 1 (Atlas Activity ID)	Conduct Training and public awareness campaign in connection with solid waste compost.	Start Date: July 2010 End Date: March 2011	
Purpose	This activity will promote the use of compost produced from organic solid waste as soil conditioner among the villagers in the north of Gaza. It will encourage private sector to invest in solid waste management and increase the participation of the Palestinian communities in management process of solid waste.		
Description	<ul style="list-style-type: none"> -Develop Training and public awareness relevant activities targeting framers, private sector, and other interested stakeholder - Dissemination of the good and/or bad practices as well as lessons learned among communities concerning the compost subject. - Development and publications of promotional materials - Monitor composting process and making corrective actions to achieve good quality of soil conditioner. 		
Quality Criteria <i>how/with what indicators the quality of the activity result will be measured?</i>	Quality Method <i>Means of verification. what method will be used to determine if quality criteria has been met?</i>	Date of Assessment <i>When will the assessment of quality be performed?</i>	
Training	Curriculum, meetings, quality of collected and composted products	August 2010- March 2011	
A public awareness campaign (activities and publication of materials) is implemented in the targeted communities and sectors (farmers and stakeholders).	Materials developed Field visits Progress reports	Sep 2010	
Participation of the beneficiaries in the process	Members of the Local Committees Meetings organized	August 2010 /Feb 2011	

VIII. ANNEXES

Annex A

Minutes of meeting with the project counterparts during project preparation

Annex B

Detailed Budget Breakdown

Annex C

Detailed Risk Management

Annex A: Minutes of Meeting



Meeting Minutes

Solid Waste Management and Composting in Bait Lahia Area – Gaza Strip

Date	Sunday 21 March, 2010	Time	02:00 PM
Venue	UNDP		
Participants	1. Ms. Iman Al-Husseiny UNDP		
	2. Mr. Muhammad Mezyad UNDP		
	3. Mr. Pasquale Zambrano CRIC		
	4. Ms. Bruna Taccardi CRIC		
	5. Mr. Muhammad L. Helou SWMC-Gaza North		
	6. Mr. Khalil Kurd SWMC-Gaza North		
	7. Mr. Nour Al-Madhoun Bait Lahia Municipality		
	8. Mr. Khalil Matar Bait Lahia Municipality		
	9. Mr. Younis Ghalia Bait Lahia Municipality		

Meeting Agenda

This meeting comes to clarify the roles and responsibilities of project team and to further discuss any remarks with regard to the project proposal submitted by CRIC on behalf of Bait Lahia Municipality. In light of delegating project implementation to the Solid Waste Management Council in Gaza North (SWMC-GN), (the counterpart); and since the SWMC-GN was handed the project proposal in the previous meeting held on Tuesday 16 March, 2010, today's meeting will explore any remarks from the part of SWMC-GN, or from UNDP before submittal of the final proposal.

Summary of Discussion

Ms. Iman Al-Husseiny of UNDP confirmed the following:

- The SWMC-GN is the counterpart of this project based on delegation given by the Mayor of Bait Lahia Municipality in an official letter issued by the Mayor and confirmed in a meeting held by UNDP representatives with the Mayor on Thursday 18 March, 2010.
- The location of project activities remain unchanged i.e., in the town of Bait Lahia.
- One of the outputs required from CRIC is the business plan and the use of product revenue to sustain activities after end of UNDP intervention in the project.
- Risks should be presented in the project proposal in addition to mitigation measures.
- Further technical details need to be submitted with the final proposal i.e., detailed plans and bill of quantity.
- Memorandum of Understanding (MoU) between CRIC and the SWMC-GN should be prepared and signed
- That public awareness and training should be further detailed i.e., training will provided for free according to current proposal, will there be a need for specialists? And what will be the budget line for such services?

Mr. Pasquale Zambrano, CRIC Country Representative expressed CRIC's approval to work with the SWMC-GN in light of the delegation letter; however it is important to know whether the SWMC-GN is capable of meeting the obligations of Bait Lahia Municipality according to the initial proposal submitted by CRIC on behalf of Bait Lahia Municipality. CRIC will discuss any details with the SWMC-GN, then will communicate final proposal with UNDP. Furthermore, CRIC wants to know when the MoU can be signed; before or after UNDP approval on the project proposal.



مجلس إدارة النفايات الصلبة في محافظة شمال غزة Solid Waste Management Council in Gaza North Governorate

Mr. Muhammad L. Helou, Director of SWMC-Gaza North confirmed that the Council is bound to meet all obligations on the part of Bait Lahia Municipality such as in-kind contribution in terms of equipments; however it is essential for the Council to be presented with specific expectations and requirements.

Remarks on the project proposal:

- SWMC-Gaza North: remarks can be summarized in the following points:
 - a. Overall update of Proposal Content: in terms of technical activities such as the use of farmers' waste where the SWMC-GN has repeated its skepticism over expected green quantities of green waste to be collected from markets and farms.
 - b. Technical Specifications: the specified concrete pad with an area of 600 m² seems too small to store the amount of green waste (later compost), specified in the project proposal (5-6 tons daily). Additionally, there's no operational plan to account for the time procedure of piling of green waste against withdrawal of final product where the proposal expects the final product to appear after 6 months.
 - c. Donkey Carts: the SWMC-GN calculated that the area designed for composting activities can receive green waste within a period span of 30 days (based on a 5-6 tons daily collected green waste mentioned in the project proposal), however it does not seem practical nor acceptable to lay off the 25 donkey carts without duties (daily collection) for 4 or 5 months while waiting for the discharge of final product from the storage area making room for new green waste.

Elaboration on remarks raised by SWMC-GN:

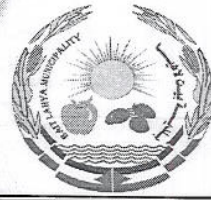
- Mr. Younis Ghalia of Bait Lahia Municipality: elaborated on remarks raised by SWMC-GN correcting that composting period takes less than 6 months (approximately 3 months) and that the area surrounding the 600 m² concrete pad can be used to store the material during the curing period making appropriate bottom layer of sand beneath. This way, donkey carts can still perform daily collection duties.
- Ms. Bruna Taccardi of CRIC: stated that it is important to realize that the purpose of this project is reducing the amounts of waste for landfilling. Also, the 5-6 tons of green waste to be collected daily were assumed as the best scenario or the maximum amount foreseen. Additionally, organic waste from household can also be used (regarding SWMC-GN skeptic remark on quantities of green waste). Furthermore, the sand layer will act as filter in the area next to the proposed concrete pad.

UNDP position on the above discussion:

Ms. Hussieni encouraged the healthy discussion among the attendees, however she reminded that environmental standards should be met (responding to the newly proposed sand layer and probable seepage of pollutants to groundwater aquifer); referring to a pilot project implemented in Rafah Governorate using a different approach than the one presented in this project proposal.

Conclusion:

- UNDP asked to speed up the process, fulfill requirements mentioned in previous meeting, and to submit final proposal after resolving the technical remarks as soon as possible.
- Next Meeting: to be decided.



المرفقات: -----

المخترمين

السادة/ UNDP

تحية طيبة وبعد

الموضوع/ الاحتياجات الضرورية لاستكمال مشروع الكمبوست

لاستكمال مشروع الكمبوست نحن بحاجة الى الاتي :-

اولا :- العمال

بداية عمل المشروع تحتاج الى تشغيل عدد من العمال للقيام بالعمل داخل المحطة وعملية فرز وجمع للمخلفات العضوية التي قد تتراكم في المناطق الزراعية وكذلك جمع المخلفات العضوية من المنازل والاسواق واحضارها الى المحطة (موقع المشروع) بواسطة كارات تجرها الحيوانات هذا العمل يساعد في الاسراع من عمل المحطة وتجهيز الدبال وتعريف المواطنين بعمل المحطة ومكانها ونوعية المواد التي يتم اعادتها استخدامها

الرقم	وصف العمل	العدد	الاجرة الشهرية \$	المبلغ المطلوب /سنة \$
1-	عامل للقيام بالعمل داخل المحطة للقيام بعملية تغذية ماكنة التقطيع والتشوين والتقليب لمدة 12 شهر	3	400	14400=12×400×3
2-	عامل مع كارة لفرز وجمع وتوصيل المخلفات العضوية للمحطة لمدة سنة	15	400	57600=12×400×12
	الاجمالي			\$ 72.000

ثانيا:- الحماية الخارجية

عمل سياج شائك حول الموقع الذي يبلغ مساحته اربعة دونمات

م	الوصف	السعر بالدولار بالسوق	اجمالي السعر بالدولار
1-	شيك مجلفن مع زوايا وسلك شوك	18650	\$18650
2-	توريد وتركيب بوابة رئيسية	1200	\$1200
	الاجمالي	\$ 19850	\$ 19850

ثالثا :- الكهراء

الرقم	وصف الاعمال	الوحدة	سعر الوحدة \$	اجمالي المبلغ \$
1-	اشترك ان شبكة الكهراء	مقطوعة	2300	2300
2-	تمديد شبكة كهراء بطول 500 متر مع كل ما يلزم (اعمدة وكابيل ومرابط وكشافات لانارة الموقع) من الخول وحتى موقع المحطة	مقطوعة	11500	13500
3-	طابلون كهراء	مقطوعة	2400	2600
	الاجمالي			18400

رابعا :- عمل ارضية للمكان بتكلفة \$ 33200

شراء وتوريد 3000 م³ كركار لعمل طبقة بسمك 30سم

شراء وتوريد 3000 م³ بسكورس لعمل طبقة بسمك 20سم

خامسا :- شراء ماكنة تعبئة وتغليف

الماكنة ستستخدم لتعبئة المنتج النهائي (الدبال) في اكياس يتم تشوينها في المحطة بتكلفة تقريبية \$ 18000 .



المرفقات: -----

سادسا: - اجراء الفحوص المخبرية

اجراء الفحوصات الازمة للتربة وكذلك الفحوصات الازمة للمنتج النهائي من الدبال (compost) بتكلفة تقديرية \$ 2500.

سابعا: - استكمال الاعمال بالمبنى وانشاء معرشات

الرقم	الوصف	المبلغ اللازم	اجمال المبلغ \$
1-	تجهيز المبنى	1620	1650
2-	انشاء معرش فوق الماكيناتمساحة 80 م2	10136	10200
3-	انشاء معرش للتشوين لمساحة 420 م2	27300	27300
	الاجمال		39150

ثامنا: - اعمال تجهيز الميزان

توريد وتركيب اجهزة كمبيوتر مع كل ما يلزم \$ 6500

اجمال المبلغ المطلوب لبدء تشغيل المشروع \$209600

لذلك نرجو من سيادتكم العمل على توفير هذه المعدات والادوات لتمكين من انجاز هذا المشروع البيئي والاستفادة منه على اكمل وجه .

بمزيد الاحترام ،،

ا. عز الدين الدحنون

رئيس بلدية بيت لاهيا



PALESTINE NATIONAL AUTHORITY

السلطة الوطنية الفلسطينية

MINISTRY OF LOCAL GOVERNMENT



وزارة الحكم المحلي

BAIT LAHIA MUNICIPALITY

بلدية بيت لاهيا

التاريخ: / / ٢٠١٠ م

الأخت / م. إيمان الحسيني المحترمة...

مديرة الهندسة - مؤسسة UNDP - غزة

الموضوع: مشروع الكمبوست

تحية طيبة وبعد...

بالإشارة إلى الموضوع أعلاه نفيدكم بأننا فوضنا مجلس إدارة النفايات الصلبة بالتنسيق والمتابعة معكم ومع مؤسسة

كريك لإنجاز هذا المشروع .

أملين لكم التوفيق والنجاح

مع مزيد الاحترام والتقدير

أ.عز الدين الدحنون

رئيس بلدية بيت لاهيا



Annex B: Detailed Budget Breakdown

No	ITEMS	unit	months	U/price	Q.ty	total cost \$
1.1	Output 1: Compost Facility in Beit Lahia municipality rehabilitated and equipped to maintain compost production					
	ACTIVITIES					
1.1.1	construction works					
1.1.1.1	Clearing, grubbing, removing and disposing off of all larger vegetation and loose debris from the area to the nearby transfer station operated by SWMC-GN. (Lump sum)	sq.m		1.5	5300	7,950
1.1.1.2	Spreading layer of 20cm thick fat clay with necessary compaction to achieve desirable level and optimum dry density.	sq.m		2	4000	8,000
1.1.1.3	Spreading layer of 25cm thick crushed material with necessary compaction to achieve desirable level and optimum dry density.	sq.m		3	2000	6,000
1.1.1.4	15 cm thick reinforced concrete pavement. (work includes leveling, compaction with layer of kurkar, formworks, reinforcing grid and joints).	sq.m		70	340	23,800
1.1.1.5	Supply and install protection fence.	l.m		23	280	6,440
1.1.1.6	Steel Sheds, 10m x 40m and 6m x 15m and 20x12 respectively, work includes: galvanized steel pipes, trusses, and metal corrugated steel sheets in addition to 1m side curtains.	sq.m		90	400	36,000
1.1.1.7	Supply and install 300cm x 600cm gate made of steel galvanized steel pipes on the perimeter and across making an "X" shape for support. All accessories shall be supplied including locks and hinges.	l.s		500	1	500
1.1.1.8	Concrete Pond / rectangular (leachate collection)	l.s		2000	1	2,000
	Sub-total construction works					90,690
1.1.2	WATER supply installation					
1.1.2.1	1. Water Supply (pipes+ittings+hose(s))			500	1	500
1.1.2.2	2. 1000 liter Water Storage Tank			200	2	400
1.1.2.3	3. Water Pumps (2HP)			500	2	1,000
	sub-total water network installation					1,900
1.1.3	ELECTRICAL WORKS					
1.1.3.1	Conduits, Light Pole, Arm+Lights (on light poles), Pedestal (for light pole), Electric Board (160 Amp), Earthing, License.			28372.38	1	28,372
	Total electrical works					28,372
	Total cost of output 1					120,962
1.2	Output 1.2 increased rate of primary collection					
1.2.1	Tools and equipment					
1.2.1.1	Spade (wide)			23	30	690
1.2.2	Broom (industrial)			3	100	300
1.2.1.2	Cultivator Rake			7	30	210
1.2.3	Regular Rake			7	30	210
1.2.1.3	Wheel Barrow			75	20	1,500
1.2.4	Draw Hoe			10	30	300
1.2.1.4	PVC Nilon Roll			54	1	54
1.2.5	Heavy Duty Plastic Gloves			1	200	200
1.2.1.5	Work T-shirt + pants (light)			35	60	2,100
1.2.6	Plastic Jacket			16	60	960
1.2.1.6	Plastic Pants			16	60	960
1.2.7	Heavy Duty Work Boots			35	60	2,100
1.2.1.7	Fire Extinguisher			121	2	242
	Total tools and equipment					9,826

1.2.2	Sawing machine and 1000 sacs			4200	1	4,200
	Project activities and salaries					
1.2.3	Organization of waste collection (10 workers)		7.5	340	10	25,500
	Total cost of Output 2					39,526
1.3	Output 3 : improved waste recovery through production of compost					
	Activities and salaries					
1.3.1	Processing organic waste (10 workers)		7.5	300	10	22,500
1.3.3	Insurance of equipment and local personnel			540	1	540
1.3.4	Compost analysis			1350	1	1,350
	Total output 3					24,390
1.4	Output 4: improved management and operation skills					
1.4.1	Awareness campaign and visibility (including 2 workshops + PR material)			3000	1	3,000
1.3.2	Training		7.5	500	1	3,750
1.4.2	Landscaping plan and mitigation measures (including marketing of product through presentation of use of product in planting/gardening activities around site perimeter.			3000	1	3,000
	Total cost of output 4					9,750
1.5	project management and quality assurance cost					
	CRIC Direct Management Cost					
1.6	Management and operation costs					
1.6.1	Project manager			10	5,000.00	50,000
1.6.2	Ngo HQ monitor mission			1	3,500.00	3,500
1.6.3	Accountant part-time			10	536	5,360
1.6.4	Logistician part time			6	536	3,216
1.6.5	site engineer local		10	700	1	7,000
1.6.5	total personnel					69,076
1.6.6	operation costs					
1.6.7	Running costs / Miscellaneous (fuel generator, stationery, maintenance equip., cleaning off., hospitality...)			10	550	5,500
1.6.8	Rent office			10	810	8,100
1.6.9	Rent car and fuel			10	900	9,000
1.6.10	Computer/printer/office tools			1	1,076.00	1,076
1.6.11	Organization costs sub-total					23,676
	Total CRIC management and operation cost					92,752
	contingency					4,938
	UNDP monitoring and quality assurance					9,000
	Total management and quality assurance cost					106,690
	Total programmable amount					301,318
	UNDP GMS 7%					21,092
	Total project budget					322,411

EURO = 1.221 US\$

EURO 264,055

Note:

cost as indicated at UNDP project proposal for the Italian cooperation in EROU

total programmable	239,450	
UNDP monitoring and quality assurance cost	7,330	
UNDP GMS 7%	17,275	
Total project budget	264,055	EURO

Table 1: Detailed Risk Management Matrix

Area	Risk	Mitigation Measures	Options for Programme Responses
Operational Risks			
Administration / Operations	<ul style="list-style-type: none"> - 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 - Fighting prevents progress and causes significant delay 	<ul style="list-style-type: none"> - 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 - Provide security update on daily basis for all staff 	<ul style="list-style-type: none"> - Police could be consulted for increasing the safety of staff in hazardous situations - Take security measures and mitigation for staff travels in cases of security alerts. - Suspend the travel of staff in exceptional security situations
Programme Risks			
Project Implementation / Progress	<ul style="list-style-type: none"> - Any militant act from the Israelis or tensions between local factions may affect the successful implementation of the project - Mobility restrictions of the project programming staff or the beneficiaries due to the security situation either caused by the Israelis (incursions, shelling) or by internal clashes - 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 and administrative cost of INGO is running. - The available shredding machine doesn't function properly is in compatible with the scope of work 	<ul style="list-style-type: none"> - UNDP security office in coordination with the UNRWA Security Liaison office coordinate the day-to-day travel of the staff and issue security clearance for ensuring the safety of the staff - 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 - Provide security update on a daily basis for all staff - Participatory planning to ensure inclusion of all respective stakeholders - Continuous monitoring of delivery of key milestones; joint planning sessions for project delivery. - The MOU will include changes in that respect. - Contingency amount will be reserved in order to use in such incidence 	<ul style="list-style-type: none"> - Partner organizations, community representatives and stakeholders are informed about the situation and requested to ensure proper management. - Police and stakeholders are requested to improve protection - UNDP suspends support. - local market will be investing for spare parts.

<p>Project outcome</p>	<ul style="list-style-type: none"> - Major Security crises e.g. total incursion into the Gaza Strip or Total closure of access of people and goods. 	<ul style="list-style-type: none"> - Establishment of early warning mechanisms - Assessment to inform activities design and planning 	<ul style="list-style-type: none"> - UNDP reviews intervention strategy to respond to crises - UNDP suspends support
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