

OCCUPIED PALESTINIAN TERRITORY

WEST BANK AND GAZA

AVIAN AND HUMAN INFLUENZA PREVENTION AND CONTROL PROJECT

Addendum to the

ENVIRONMENTAL ASSESSMENT

AND ENVIRONMENTAL MANAGEMENT PLAN

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General Information:

This document has been prepared with the assistance of the World Bank via the UNDP/PAPP implementing agency of the project, for the Ministry of Agriculture \ Veterinary services, and with the contribution of the Environment Quality Authority.

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Abbreviations

DVOs	District Veterinary Offices
EMP	Environmental Management Plan
EQA	Environment Quality Authority
ER	Environment Quality Authority Representative
FAO	Food and Agriculture Organization
MOA	Ministry of Agriculture
MOH	Ministry of Health
PIU	Project Implementation Unit
PPE	Personnel Protective Equipment
SS	Site Supervisor
UNDP	United Nations Development Program



1. Introduction:

The Addendum of the Environmental Assessment is considered an integral part of the Environmental Management Plan (EMP) presented in 2007. It has been updated in a manner to accommodate for all new activities that were not planned at the time of preparation of the EMP. Therefore, only the activities that will be implemented in the next phase and were not considered at the time of the EMP preparation will be assessed in this document. The EMP section that is related to small works must be attached to any bidding documents related to such activities as an integral part of it, as it is foreseen that the upgrading of the District Veterinary Offices (DVOs) will be of small scale and most likely that environmental specifications may not be taken into account otherwise as it will be procured under "shopping" procedures.

2. Background:

That World Bank has approved a Grant of 3 US Million Dollars in September 2006 to fund emergency activities to ensure the establishment of necessary measures for surveillance and minimize the risk of Highly Pathogenic Avian Influenza in both animal and human populations. This Grant is implemented through the United Nations Development Program (UNDP) in coordination with the Palestinian authorities. This included critical startup activities and foundations for activities under the Bank's Global Program for Avian Influenza and Human Pandemic Preparedness and Response. Another grant was approved from the World's Bank special financing trust to finance the second stage of this project, which was implemented by the Palestinian Authority; however this grant was closed on March 31, 2009 due to administrative and implementation difficulties.

A World Bank Supervision mission took place from April 21 to May 6, 2009 to review and assess progress of the Avian and Human Influenza Facility Grant for Avian Influenza Prevention and Control Project (TF057369) (US\$3 million), The World Bank and the UNDP, together with the Palestinian Authority officials identified and agreed on certain new activities designed to rehabilitate the surveillance and diagnostic capacity of the DVOs, provide further technical training, studies and assessments, dissemination workshop, and other activities consistent with Grant objectives. The details are contained in the mission's Aide-Memoire. A reallocation of funds for the remaining uncommitted balance of the grant was also discussed and a procurement plan drafted and cleared with the Bank.

The construction contracts of the laboratories rehabilitation were evaluated for environmental safeguards, and UNDP Supervising engineers confirmed that related clauses in the contracts were implemented.

3. Project description:

The project is divided into two components that will be maintained in the next phase. The project will be extended for one year, i.e. closing date is May 2010. The components of the project are:

Component 1: Animal Health Component: the Activities in the Animal Health Component include:

- 1) Strengthening of the DVOs including:
 - a. Rehabilitation of DVOs that includes repairing buildings and small works.



- b. Procurement of office and field equipment for the DVOs (computers, printers, scanners, furniture...ect).
- 2) Procurement of Laboratory equipment for the peripheral laboratories (Centrifuge, autoclaves, microscope...etc)
- 3) Procurement of Portable small car refrigerator, containers for international shipment of specimens, Surveillance related IT equipment.
- 4) Development of Knowledge, Attitudes and practices survey for Avian Influenza.

Component 2: Capacity Building Component, the activities included in this component are:

- 1) Regional Dissemination workshop, including facilitation and preparation of this workshop
- 2) Update the Environmental management plan that was conducted in 2007; preparation of this document.
- 3) Trainings

4. Potential Environmental Impacts and Proposed Mitigation Measures

Activities under the extension phase of the project are not expected to generate significant adverse environmental effects as they are focused on public sector capacity building and improved readiness for dealing with outbreaks of Avian Influenza in domestic poultry. These activities are expected to have a positive environmental impact as the project's investment in facilities, equipment, laboratories, and training for border inspection points and laboratories will improve the effectiveness and safety over existing Avian Influenza handling and testing procedures by meeting international standards established.

The main areas of environmental risks from the project activities are laboratory biosafety and waste management. In addition, minor environmental disturbances may occur during rehabilitation and the small works of DVOs. Most of the key potential impacts could be avoided or minimized as described below by integrating environmental and public health safety aspects in the preparation/design and implementation of project activities. This would be reinforced by mainstreaming of environmental safeguards into bidding contracts for small works and laboratory biosafety. In addition, waste management procedures for laboratories are recommended to be developed as part of the implementation of this plan according to the medical waste bylaw (that is currently been reviewed in the legislative committee of the ministerial cabinet, and training on these procedures should take place to facilitate the management of waste accordingly in the laboratories of MOA and its autopsy rooms in DVOs.

The following are the Project activities and components that may give rise to potential adverse environmental effects:

(I) *Animal Health Component: Strengthening of veterinary services:*

(i) Rehabilitation of DVOs that includes repairing buildings and small works. The impacts from these works is relatively small and can be summarized in air and noise pollution, water pollution, interruption of services, improper waste management or hazardous waste. The mitigation of these impacts is



relatively simple and can be achieved by good construction practices. Each impact is presented in table 1 with its mitigations measures. In addition, some of the DVOs might include autopsy room, and therefore the biosafety and proper waste management resulting from the operation of the autopsy rooms is addressed in the EMP. (Table 2)

(ii) The project rehabilitated two peripheral laboratories for MOA and purchased some equipment such as standby generators for them, in addition it is foreseen that some of the DVOs will include an autopsy room. The operation of these laboratories and autopsy rooms might cause a risk of cross contamination, improper waste management. Mitigation measures include developing procedures for biosafety and medical waste management.

The central laboratory has at least 2 employees who have been trained as trainer by FAO project on biosafety. Some of the employees of the central laboratory were also trained, but none of the employees of the peripheral labs nor the operators of the autopsy rooms were trained on biosafety. It is recommended that central laboratory of MOA conducts in-house training for the 5 employees of the peripheral laboratories as well for the operators of the autopsy rooms on biosafety and supports them in developing procedures to ensure biosafety measures and procedures. It is also recommended that the project should provide advanced training for at least one employee in each laboratory and in each autopsy room to become a biosafety officer of the laboratory or the autopsy room he/she works in to inspect implementation of the procedures and to regularly update them. It is recommended that the project should purchase needed equipment (if any) to ensure biosafety procedures are being implemented. It is recommended to develop medical waste management procedures in the laboratories; these procedures should be elaborated by each laboratory director and in coordination with the ER. The basis for these procedures are the international accepted lab waste management practices and the draft medical waste bylaw. In addition, chemicals such as disinfectants should be carefully used according to the defined procedures, in order to prevent excessive chemical inflow into the natural environment, and to prevent possible poisoning (Table 2).

The laboratories have autoclave that can be used to treat infectious waste; however the autopsy rooms are not equipped with any devices or infrastructure for medical waste management. Therefore it is recommended that if DVOs rehabilitation includes Autopsy rooms, proper infrastructure/facilities should be provided by the project to manage pathology wastes produced.

(iii) The Knowledge, Attitudes and Practices survey will not have any environmental negative impacts and could be considered as an important component for design and delivery of communications tools for good hygiene, safe culling and disposal of animal carcasses and animal waste management

(iv) Improvement in the international shipment of specimen practices by procurement of refrigerators, and containers for shipping will improve the biosecurity of handling these specimen, since has positive environmental impact. The only negative impact that might occur from the refrigerators is by selecting a refrigerator that use CFC gas in the cooling that result in ozone depletion layer. During selection of refrigerators, specifications should include that the cooling gas should be CFC free. In addition, it is recommended to train some of the veterinary staff on international shipping procedures of specimen.



(II) Capacity development: Regional workshop and training will have no negative environmental impact, but have positive impact by exchanging experience in the region on the topic and enhancing the knowhow.

The primary potential risks can be grouped into two categories:

- a) Release of chemicals and infectious agents into the environment from inadequate Laboratory and autopsy rooms biosafety protocols and improper waste management.
- b) Minor impacts due to rehabilitation and/or small works of DVOs.

The major environmental impacts identified above and their mitigation measures are presented in the Environmental Management Plan (Tables 1 and 2), along with their respective monitoring requirements.



Table 1: EMP for the activity: Small Works for rehabilitation of DVOs

Potential Impacts/ issues	Mitigation Measures
<p>Noise pollution: Noise from the construction machinery and equipment will disturb others especially in areas with hospitals, homes for the elderly, and schools.</p>	<ul style="list-style-type: none"> Working hours are during daylight to minimize possible disturbance to nearby residents unless otherwise described in the construction permit. During operations the engines, generators, air compressors and other powered mechanical equipment shall be covered, and equipment should be placed as far away from residential areas as possible
<p>Air pollution: Dust, debris, and particulate matters from the construction will blow to surrounding structures causing nuisance to surrounding families and businesses, especially to Vulnerable people (children, elders, and people with respiratory diseases).</p>	<ul style="list-style-type: none"> The contractor will spray water to reduce the dust when the weather is dry or windy and periodically clean any stagnant debris. The surrounding environment (sidewalks, roads) shall be kept free of debris to minimize dust There will be no open burning of construction / waste material at the site There will be no excessive idling of construction vehicles at sites
<p>In adequate Waste management and poorly managed residual of the small works:</p>	<ul style="list-style-type: none"> Contractor will reduce waste generation as much as possible, for example: excavate only necessary amounts to reduce debris production, purchase of paints and equipment should have minimal packaging...etc. Mineral construction and demolition wastes will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers. Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos) Construction waste will be disposed only in a site approved by the municipality. Any illegal waste dumping is prohibited. The contractor will include information on waste management (amounts of waste and their disposal method and location) in the weekly environmental log.
<p>Unclean working environment cause by inadequate sanitation for the workers at the construction site.</p>	<ul style="list-style-type: none"> The contractor will provide temporary Sanitation facility for the workers if it is not available on site.
<p>Water Resources pollution</p>	<ul style="list-style-type: none"> The approach to handling sanitary wastes and wastewater from building sites (installation or reconstruction) must be approved by the municipalities.

Potential Impacts/ issues	Mitigation Measures
<p>Pedestrian security and traffic, direct or indirect hazards to public traffic and pedestrians by construction activities:</p> <p>Construction site may cause safety concern for pedestrians, especially for school children, during construction.</p> <p>Traffic congestion during construction may be caused by the increase of heavy traffic (of the construction itself and from traffic detours)</p>	<ul style="list-style-type: none"> • The waste water should either be connected to the municipal sewerage network or to a septic tank. • If a septic tank is installed it should be constructed in a manner that prevents leakage of wastewater. • Cesspits for wastewater drainage are prohibited as they leak and pollute the groundwater. • Wastewater to be drained in a manner that prevents pollution of any water resources including water networks and rain harvesting systems. • Any sewerage lines that will be constructed/ rehabilitated should not be located above water pipes. • Construction vehicles and machinery will be washed only in designated areas where runoff will not pollute.
<p>Pedestrian security and traffic, direct or indirect hazards to public traffic and pedestrians by construction activities:</p> <p>Construction site may cause safety concern for pedestrians, especially for school children, during construction.</p> <p>Traffic congestion during construction may be caused by the increase of heavy traffic (of the construction itself and from traffic detours)</p>	<p>The contractor will insure that the construction site is properly secured and construction related traffic regulated.</p> <ul style="list-style-type: none"> • The contractor places a clear sign indicating the construction activities and schedule for completion of tasks. • Coordinates with the police if there will be any rerouting for proper traffic management. • Signposting, warning signs, barriers and traffic diversions shall be clearly visible and the public warned of all potential hazards. • Traffic management system and staff training, especially for site access and near-site heavy traffic. • Provision of safe passages and crossings for pedestrians where construction traffic interferes. • Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement • Ensuring safe and continuous access to office facilities, shops and residences during renovation activities.
<p>Disturbance: Nearby offices and residents will be disturbed by prolonged construction</p> <p>Workers are subject to accidents: Workers may be subjected to working accidents and injuries</p>	<ul style="list-style-type: none"> • The contractor will perform construction activities within appropriate time frame that does not disturb work of officers or the quality of the life of the local community. • Workers' use PPE that complies with international good practice (hardhats, as needed masks and safety glasses, and safety boots)
<p>Site after completion of work is not clean: after construction is finished, temporary constructions, scaffolding, gear, and waste has not been removed.</p>	<ul style="list-style-type: none"> • The contractor will clean the site carefully and remove all waste materials (as indicated in the waste management section). • The contractor will remove any temporarily infrastructure and equipment used at during the construction.



Potential Impacts/ issues	Mitigation Measures
Damage to large trees	<ul style="list-style-type: none"> • A survey and an inventory shall be made of large trees in the vicinity of the construction activity, large trees shall be marked and their root system protected, and any damage to the trees avoided.
Toxic Materials / Hazardous waste management	<ul style="list-style-type: none"> • Paints with toxic ingredients or solvents or lead-based paints will not be used • If hazardous wastes are generated then temporarily storage on site of all hazardous or toxic substances will be in safe containers labeled with details of composition, properties and handling information. • The containers of hazardous substances shall be placed in a leak-proof container to prevent spillage and Leaching. • The wastes shall be transported by specially licensed carriers and disposed in a licensed facility.
Toxic Materials / Asbestos handling	<p>if asbestos is located on the project site:</p> <ul style="list-style-type: none"> • ER is immediately informed and called to the site to do the monitoring and advice. • Asbestos shall be marked clearly as hazardous material • When possible the asbestos will be appropriately contained and sealed to minimize exposure • The asbestos prior to removal (if removal is necessary) will be treated with a wetting agent to minimize asbestos dust • Asbestos will be handled and disposed by skilled & experienced professionals • If asbestos material is stored temporarily, the wastes should be securely enclosed inside closed containments and marked appropriately. • Security measures will be taken against unauthorized removal from the site. • The removed asbestos will not be reused
Interruption or limitation of access to power, or telephone lines, or water network, sanitation system, or other services	<ul style="list-style-type: none"> • The contractor will implement necessary measures to prevent any interruption to public services. • If work will be done outside the premises, the contractor should identify the location of the public infrastructure to avoid their damage. • If damage occurs as a result of the contractors work, the contractor should repair any damage or interruption for the services and report immediately to the UNDP supervisor.

Monitoring Requirements for small works:

- 1) UNDP Fills Check Lists 1 and 2 (Annex 1 and 2)
- 2) All legally required permits have been acquired for construction and/or rehabilitation before work started
- 3) The ER has been notified about the upcoming activities.

- 4) UNDP include in the purchase order and /or the bidding documents all EMP mitigation measure for the small works (Table 1) In addition, they should require a weekly environmental log from the contractor that describes the status of the implementation of the mitigation measures.
- 5) Supervisor from UNDP at the site ensures that all EMP mitigation measures were taken into account by the contractor as part of the overall supervision of the work.
- 6) Daily monitoring during construction is needed by UNDP.
- 7) Weekly environmental log from contractor should be submitted.
- 8) At least one site visit from the EQA representative during the small work execution.
- 9) UNDP- PIU provides compensation for transportation costs that will take place outside the governorate in which he/she is working.
- 10) MOA should obtain a license from the municipality if the type of small works requires that, for example building additional room (according to the law).
- 11) If interruption of services (such as water, sanitation, electricity, phone... etc) occur at the site, then the UNDP supervisor immediately will report the incident to the ER and the relevant agency such as: water supplier, municipality, electricity company ...etc.

Budget for small works: Minor

Responsibility for Mitigation for small works: Contractor is responsible for implementing all mitigation measures identified in this section, and also responsible to give instructions to all workers that are related to the implementation of the mitigation measures identified in Table 1.

Responsibility for Monitoring and Supervision for small works: UNDP continuous monitoring, EQA overall monitoring



Table 2: EMP for activities excluding small works

Activities	Potential Impacts/ issues	Mitigation Measures	Monitoring Requirements	budget	Responsibility for Mitigation	Responsibility for Monitoring and Supervision
<p>Operation of autopsy rooms that has been renovated or constructed in the small works by the project</p>	<p>Poor medical waste management and biosafety in autopsy rooms due to inadequate Infrastructure</p>	<p>Infectious materials to be treated before disposal. Disinfectants need to be carefully used according to the defined procedures, in order to prevent excessive chemical inflow into the natural and surrounding environment, and to prevent possible poisoning. Procedures for waste management for autopsy rooms should be done in accordance with the medical waste bylaw (draft) and in coordination with ER and displayed in an obvious location.</p>	<p>The PIU will ensure that newly constructed and/or rehabilitated autopsy rooms include sufficient infrastructure and equipment proper for medical waste handling and disposal; this includes: Special facilities for segregation of medical waste (including soiled / contaminated instruments "sharps", pathogenic wastes, and highly infectious waste) from other waste disposal. Facility that will allow proper storage for the carcass of the autopsy process: one of the following options: a) Storage at -20 Degrees Celsius of all highly infected animals</p>	<p>Between 2,000 USD and 4,000 USD for each DVO that has an autopsy room</p>	<p>MOA will develop waste management procedures and implement them in the autopsy rooms UNDP – PIU procure the needed equipment for proper medical waste management (autoclave or refrigerator)</p>	<p>ER</p>





Activities	Potential Impacts/ issues	Mitigation Measures	Monitoring Requirements	budget	Responsibility for Mitigation	Responsibility for Monitoring and Supervision
			<p>until their disposal (not more than a week of storage).</p> <p>b) Place in 10% FORMALDEHYDE SOLUTION of for 24 hours</p> <p>c) Autoclave at 121 degrees C at 1 bar and for 60 minutes.</p> <p>MOA Provide in house training on biosafety for all non trained employees of the autopsy rooms.</p> <p>UNDP-PIU support the implementation of the MOA in-house training as soon as possible.</p> <p>UNDP – PIU support the advanced training for one employee from each autopsy room to become biosafety officers in their facilities.</p>	<p>The cost of the training is 7000USD for international consultant to</p>		



Activities	Potential Impacts/ issues	Mitigation Measures	Monitoring Requirements	budget	Responsibility for Mitigation	Responsibility for Monitoring and Supervision
Operation of the renovated peripheral laboratories and equipment purchase for the laboratories	Cross-contamination or infections caused by viral and/or microbial agents.	Follow appropriate Biosafety Level Standards	<p>The employees of autopsy rooms that will be trained as biosafety officers will be responsible for setting up procedures on biosafety and update and exchange experience with the other autopsy rooms.</p> <p>Inspection of premises, staff training and introduction of safety procedures at all diagnostic labs:</p> <p>The central laboratory of MOA has 2 staff members who are trained as trainers on biosafety. MOA Provide in house training on biosafety for all non trained employees of the laboratories. UNDP-PIU support the implementation of the MOA in-house training as soon as possible.</p>	<p>conduct training locally (included in this training the biosafety officers of the laboratories)</p> <p>The cost is included in the 7,000 USD for training the biosafety officers in the autopsy rooms</p>	MOA	<p>Internal supervision from MOA.</p> <p>Report on biosafety procedures and their implementation to be submitted to ER.</p>



Activities	Potential Impacts/ issues	Mitigation Measures	Monitoring Requirements	budget	Responsibility for Mitigation	Responsibility for Monitoring and Supervision
			<p>UNDP – PIU support the advanced training for 3 employees in the laboratories to become biosafety officers in their labs.</p> <p>The three employees that will be trained as biosafety officers will be responsible for setting up procedures on biosafety and update and exchange experience with the other 2 laboratories.</p>			
<p>Operation of the renovated peripheral laboratories and equipment purchase for the laboratories</p> 	<p>Poor management of lab waste, air or water borne releases of viral agents and pathogens</p>	<p>Follow internationally accepted lab waste management practices.</p> <p>Chemicals such as disinfectants need to be carefully used according to the defined procedures, in order to prevent excessive chemical</p>	<p>Prepare waste management procedures in the laboratories that are based on the bylaw of the medical waste, and the internationally accepted lab waste management practices.</p> <p>Procedures should include proper procedures for chemicals use in the laboratory to</p>	<p>minor</p>	<p>Done by MOA In coordination with ER</p> <p>UNDP – PIU procure the needed equipment for proper medical waste management</p>	<p>ER</p> <p>Report on waste management practices to be submitted to EQA and MOH according to the medical bylaw.</p>

Activities	Potential Impacts/ issues	Mitigation Measures	Monitoring Requirements	budget	Responsibility for Mitigation	Responsibility for Monitoring and Supervision
		<p>inflow into the natural and surrounding environment, and to prevent possible poisoning</p>	<p>reduce hazardous waste and excessive outflow to the environment.</p> <p>ER will provide technical advice to MOA in developing procedures for medical waste management upon request.</p> <p>Keep waste register according to the bylaw.</p> <p>The Laboratory will prepare a monthly report to the ER about waste management. A copy of this report to be given to the UNDP – Further submitted to the World Bank Missions.</p> <p>Random inspection of implementation of the Waste management procedures by ER.</p>			

Activities	Potential Impacts/ issues	Mitigation Measures	Monitoring Requirements	budget	Responsibility for Mitigation	Responsibility for Monitoring and Supervision
Operation of the Stand by Electricity Generators for Hebron and Nablus that were procured by the project	Fire Hazards	Fire Extinguishers nearby the generator and operational. Detect for fuel leaks regularly. Laboratory staff should be trained on fire fighting procedure	Purchase of fire extinguisher	Minor	PIU purchase the extinguisher MOA inspects the engine regularly	ER
	Air pollution	Ensure proper operation and regular maintenance to the standby generators. Use only in case of emergency, and once a month to maintain battery Ensure that the three ways ventilation is ventilated (open windows and doors during the operation). The cooling gas should be CFC free.	The laboratories have schedule for regular maintenance and keep records of all problems occurring and keep maintenance records.	Minor	Laboratory Manager	ER
Purchase of small car refrigerators	Air pollution	The cooling gas should be CFC free.	PIU should include this specification in the purchase order.	none	UNDP-PIU	ER



5. Monitoring and Supervision

I. For Small works:

In order to ensure that this EMP will be implemented during the execution of the activities of this project, a monitoring and supervision setup should be considered. That setup includes all related responsible bodies in the small works implementation, i.e. the contractor, the implementing agency (UNDP), the owner (MOA), and the environmental representative (EQA). Supervision and monitoring are as follow:

The contractor:

- Supervise and monitor own employees for implementation of the contract including the EMP mitigation measures related to small works.
- Will prepare weekly environmental log and submit it to the UNDP site supervisor.

MOA – the beneficiary of the small work:

- Obtain a license for the small works if needed

UNDP – the implementing agency:

UNDP allocates a site supervisor (SS) either full or part time based, this site supervisor will be representing the UNDP and responsible for:

- Fill in check lists 1 and approve it by ER.
- Fill in check list 2 and approve it by ER.
- Report to ER the schedule of the small work before it starts.
- Monitoring the construction activities at the site to ensure that they are being executed according to the signed contract.
- Ensuring the implementation of the EMP which is part of the contract, and to ensure that identified and appropriate control measures are effective and in compliance with the EMP.
- Acting as a main point of contact between the contractor and the ER as well as the contact person with any other institutions needed such as (municipality, electricity company, water supplier, phone company...etc).

The environmental representative: the environmental representative should be from EQA since it is the official body responsible for environmental protection and safeguarding the environment. EQA should allocate a person among its staff to follow and monitor implementation of the EMP which must be approved by EQA according to working laws and procedures. The EQA representative (ER) is responsible for:

- Following up the implementation of the EMP and checking whether the mitigation measures are in compliance with the EMP or not.
- Approving any deviation from the mitigation measures that would be taken in the site as needed in the EMP.
- Visiting the site of construction to monitor and to do the needed inspections.
- Providing advice to the client and the contractor regarding environmental matters if needed.
- Feeding back on the reports submitted from the client.



II. For all activities other than small works:

UNDP – PIU – the implementing agency

- The PIU prepares a monthly report on the progress of the implementation of the EMP, the report includes the achievements and all problems facing the PIU.
- The PIU will compensate the ER for travel cost to the autopsy rooms and peripheral laboratories.

The ER:

- The ER gives feedback on the monthly report that is prepared by the PIU on the progress of the implementation of the EMP and support in identification of solutions for problems faced in implementation.
- The ER is willing to advise the PIU on the implementation of the Mitigation measures when needed.
- The ER is to be informed on any problems that will prevent the implementation of any mitigation measure and the ER will be willing to support the PIU in looking for alternatives and solutions to ensure social safeguards have been taken into considerations in all project phases.
- The ER conducts inspection visits to MOA laboratories and to the MOA autopsy rooms and gives them advice on the implementation of the mitigation measures if needed.
- The ER is willing to support MOA in developing the procedures for the laboratories on medical waste management.
- The ER will prepare a short summary of the field visits to the autopsy rooms and peripheral laboratories with recommendations and comments

6. Implementation arrangements

I. For small works:

The contractor: the contractor is responsible for executing the work as shown and detailed in the contract, which should be signed with the UNDP including all details and specifications of work, the EMP should be annexed with the project contract. The contractor or his representative at the site is responsible for:

- Coordinating and managing all the activities during the construction phase including the environmental ones.
- Executing all tasks and activities shown in the contract, according to specifications and details provided there.
- Monitoring the construction activities to ensure that identified and appropriate control measures are effective and in compliance with the EMP.
- Implementing the approved EMP, and allocating all needed requirements for its success. The contractor should pay for all costs of implementing the EMP. The contractor has the chance of consulting the client (UNDP) and EQA as well as any other related body like the municipality in implementing any part of the EMP.
- Providing instructions to the site personnel on the tasks required to implement the EMP for example, what to do, and what not to do.



- Ensuring correct procedures are followed in the event of an environmental incident, i.e spill of oils.
- Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the site environmental representative through the client's representative.
- Completing weekly environmental log (Annex)
- Documenting of any incidents and the way of handling them with immediate reporting to UNDP site supervisor. Incidents report. Include, description, damage, corrective actions, reporting.
- Reporting (should be in the reporting section below)

UNDP – the implementing agency:

- Include in the purchase order or bidding document for the small works:
 - a) the EMP mitigation measures for small works (Table 1).
 - b) Reporting requirements (as in reporting section for contractor)

II. for all activities other than small works:

ER:

- ER provides advice to the laboratory directors and autopsy rooms on medical waste management.
- ER gives feedback to the laboratory directors on the waste management procedures.
- ER inspects laboratories to ensure that procedures are in place and being implemented.

MOA:

- Director of each laboratory monitors that waste procedures are being implemented by all employees.
- Director of each lab Maintains waste register and ensure correct waste management procedures are being implemented
- Director of each laboratory write a monthly report on waste management and includes in it the waste register information.

7. Reporting

The contractor

- Report weekly (environmental log) to the UNDP Eng. Showing the progress of work and all implemented mitigations aiming at implementing the EMP, as well as all incidents and the way of handling them up to date of the report.
- Should report immediately to UNDP ENG in any incidents that may cause environmental effect (either writing or calling).



UNDP

- Report Check list No. 1 and gets approval on it from ER.
- Report Check list No. 2 and gets approval on it from ER.
- Forward the weekly environmental log to the ER.
- UNDP Inform EQA representative on the schedule of the small works before starting the works (starting date, ending date, type of work, and required additional consultation for particular tasks before starting)
- Inform the ER about any incidents that may cause environmental effect and the corrective actions taken.
- Feeding back to the contractor if he/she consult UNDP on any matter
- Report to ER at the end of the small work describing the mitigation measures implemented. The report should include documentation of all incidents that occurred at the site and description of all corrective actions taken. The report should document any deviations from EMP, with explanation on what was done to minimize the environmental impact if the mitigation measure could not be realized as indicated in the plan; such deviation could only be done if prior approval from ER was obtained.
- UNDP-PIU will include in its regular reporting to the world bank a section on the status of the implementation of the EMP.

The ER

- Feedback on the reports sent by UNDP SS (Check lists 1 and 2, weekly log, and the final report on implementation of the mitigation measures).
- Provide feedback to the UNDP SS and to the contractor after site visits.
- Feeding back to the UNDP SS. Or to the contractor if they consult him/her on any matter.
- Feedback to MOA on the implementation of the procedures prepared by MOA.

MOA

- Prepare a monthly report on implementation of the waste management procedures that includes waste register and submit to ER.



8. Implementation Schedules

Mitigation Measure	Frequency	Duration	Monitoring
Contractor prepares a weekly environmental log describing the mitigation measures	Weekly	Implementation of this measure will last as long as small works is ongoing	SS-UNDP
Mechanical equipment are closed and placed far away from residential areas.	Continuous - during Small Works activities	Implementation of this measure will last as long as small works is ongoing	SS-UNDP ER
Limit construction hours to minimize possible disturbance to local livelihood.	During Small Works	During the execution of the small work	SS-UNDP
<ul style="list-style-type: none"> Spraying water to reduce the dust when the weather is dry and periodically clean stagnant debris Cleaning is periodically done according to needs during the construction activities. Surrounding environment shall be kept free from debris 	<p>When the weather is dry and windy.</p> <p>Cleaning of the site from debris is done regularly.</p> <p>Continuous during small works activities</p>	<p>As long as there is debris on site and as long as there are activities generating dust.</p> <p>Implementation of this measure will last as long as small works is ongoing.</p>	<p>SS-UNDP</p> <p>The ER will check that through reports and site visits.</p>
Using environment-friendly construction materials and equipments	Continuous - during Small Works activities	During the execution of the small work	SS-UNDP
<ul style="list-style-type: none"> Reducing waste generated whenever feasible. Contractor will separate and recycle (or send to recycling) viable materials whenever feasible. Construction and Debris wastes separated from other wastes. All wastes should be properly handled. Any illegal waste dumping or burning will 	Continuous - during construction activities	<p>As long as the construction works are going, and as far as there are wastes during the process</p>	<p>The contractor should follow that issue with his staff at site.</p> <p>SS-UNPD</p> <p>The ER check during site visits.</p>

Mitigation Measure	Frequency	Duration	Monitoring
<ul style="list-style-type: none"> Waste management information included in the weekly environmental log. 			
<ul style="list-style-type: none"> Providing temporary sanitation facility for the workers Removing all temporary infrastructure used for the small works and any equipment used in the site. 	<p>At the beginning of construction activities</p> <p>At the end of the small works activities.</p>	<p>As long as the work is ongoing</p>	<p>The UNDP SS. Should approve.</p> <p>SS- UNDP</p>
<ul style="list-style-type: none"> Constructing or reconstruction of sanitation should be approved by the Municipality Wastewater should be drained to either septic tank (that does not leak) or to wastewater system Construction vehicles and machinery washed in designated areas 	<p>Once</p> <p>Continuous</p>	<p>Before works commence</p> <p>As long as the work is ongoing.</p>	<p>SS-UNDP ER</p>
<ul style="list-style-type: none"> Construction site is properly secured and traffic regulated: Coordinates with police (if rerouting needed). Post signs and warnings in case of rerouting Provision of safe passages and crossings where construction traffic interferes Adjustment of working hours to minimize traffic congestion Ensure safe access to facilities, shops, and other facilities in the area during renovation activities. 	<p>At the beginning of construction activities</p> <p>Re-routing is done whenever it is needed</p> <p>When needed</p> <p>Continuous</p> <p>Continuous</p> <p>Continuous</p>	<p>As far as the construction work is ongoing, till the handing over the work.</p>	<p>The UNDP SS should approve that As well as the ER</p>
<ul style="list-style-type: none"> Performing construction activities within appropriate time frame which does not disturb work of officers or living of local 	<p>Continuous - during construction activities</p>	<p>As long as the construction work is ongoing.</p>	<p>The UNDP SS. ER should approve and follow that</p>



Mitigation Measure	Frequency	Duration	Monitoring
residents			
<ul style="list-style-type: none"> Implementing necessary measures to prevent any interruption to access to public services. Repairing any damage or interruption for such services. 	<p>Continuous - during construction activities.</p> <p>Whenever it is happened</p>	<p>As long as the construction work is ongoing.</p> <p>As long as the services are subject to interruption.</p>	<p>The UNDP SS According to his notice and the contractor's reports should monitor that</p>
Putting signboard summarizing the construction activities and schedule for completion of tasks.	At the beginning of the work	As long as the work is ongoing.	The UNDP SS. And the ER approve that
Cleaning the site carefully and remove all waste materials as spelled out in the construction bidding	At the end of the work in the project	The period of handing over the work.	The UNDP SS
Workers use needed occupational safety tools for the workers like hard hats, special shoes, gloves, etc.	Since the beginning of the project-continuous	As far as the work is ongoing and all the working hours	The UNDP SS. Monitor that on daily bases, ER does in the site visits
Large trees are protected:	before start	As long as small works execution is taking place	UNDP SS and ER
<ul style="list-style-type: none"> Surveying large trees and marking them Protection of the root system of the large trees and avoid damage to the large trees Paints with toxic ingredients or solvents or lead based paints will not be used. If hazardous waste is generated then temporarily storage should be in safe containers (leak proof) and labeled properly Hazardous waste generated to be transported to a licensed facility. 	<p>Continuous</p> <p>At the time of the purchase the paints specifications should be checked.</p> <p>When hazardous wastes is generated</p> <p>When hazardous wastes is generated</p>	<p>As long as small works execution is taking place</p>	<p>Sample should be approved by the SS-UNDP ER</p>
ER is immediately informed on existence of asbestos and called to the site.	If asbestos is found on the site	As long as handling asbestos is taking place	UNDP

Mitigation Measure	Frequency	Duration	Monitoring
<ul style="list-style-type: none"> • Asbestos shall be marked as hazardous waste • When possible asbestos properly contained and sealed. • If removal is necessary, asbestos should be treated with a wetting agent to minimize asbestos dust • asbestos to be handled with skilled professionals • Removed asbestos will not be reused • Security measures to be taken to prevent unauthorized removal from the site. 	<p>If asbestos is found on the site</p>	<p>As long as handling asbestos is taking place</p>	<p>ER ER</p>
<ul style="list-style-type: none"> • Infectious materials treated before disposal from autopsy rooms <ul style="list-style-type: none"> ○ Purchase of treatment/storage equipment for the autopsy rooms for disinfection • Disinfectants used according to defined procedures in autopsy rooms: <ul style="list-style-type: none"> ○ Procedures are prepared • Procedures for waste management in autopsy are implemented <ul style="list-style-type: none"> ○ Procedures for waste management are prepared 	<p>During operation of autopsy rooms (after small works is finished)</p>	<p>As long as the autopsy rooms are operational</p>	<p>ER</p>
<p>Follow appropriate biosafety level standards in peripheral laboratories:</p> <ul style="list-style-type: none"> • Training for laboratory employees on biosafety is done • Advanced training for 3 employees of the 3 labs is done to be biosafety officers • Procedures on biosafety in each lab is prepared 	<p>During operation of laboratories Once as soon as possible Once as soon as possible Once after the trainings is completed Continuous during</p>	<p>As long as the laboratories are operational</p>	<p>ER</p>



Mitigation Measure	Frequency of laboratories operation	Duration	Monitoring
<ul style="list-style-type: none"> • Procedure on biosafety in each lab is implemented. • Review and Update procedures on biosafety in laboratories <p>Follow internationally accepted lab waste management practices:</p> <ul style="list-style-type: none"> • Prepare waste management procedures. • Prepare waste registers for the laboratories • Waste procedures are implemented in the laboratories. 	<p>Every six months</p> <p>During operation of laboratories As soon as possible (once) Continuous Continuous</p>	<p>As long as the laboratories are operational</p> <p>As long as the laboratories are operational</p>	<p>ER</p> <p>ER</p>
<p>Mitigation of fire incidents in the laboratories and nearby the standby generators:</p> <ul style="list-style-type: none"> • Laboratories and standby generator room are equipped with fire extinguishers; maintenance of fire extinguishers is done according to specifications of extinguishers • Fire emergency plans are in place and communicated to staff, all emergency exists are clearly highlighted in the laboratories • Laboratory staff should be trained on fire fighting procedure • Standby generators are maintained regularly according to a plan and maintenance records are kept. • Standby generators are operated according to manual 	<p>Continuous</p>	<p>As long as the laboratories are operational</p>	<p>ER</p>
<p>Cooling gas of the small car refrigerators is CFC free</p>	<p>Once upon purchase</p>		<p>ER</p>

9. Institutional arrangements

EQA:

- EQA has an official representative named from the first phase and will follow up the EMP monitoring.
- EQA is ready and willing to offer needed advice for the UNDP, the contractor, and MOA laboratory and autopsy rooms employees on all environmental safeguards issues.

UNDP:

- UNDP-PIU has an official site supervisor responsible for ensuring implementing of the EMP.
- UNDP and through its site supervisor is ready to take any needed action with the contractor in case he/she does not implement the mitigation measures.
- UNDP-PIU will secure transportation means or compensate for travel expenses to the site visits of the ER.
- UNDP-PIU will include in its operational plan / activities the mitigation measures identified to be implemented by PIU, such as:

- a) Procurement of needed equipment as identified in the EMP
 - b) Coordinate, arrange and sponsor the training on biosafety (the in-house training and the advanced training)
- Include in all purchase orders specifications identified in the EMP.

MOA

- Will implement the necessary mitigation measures described in Table 2 with regards to autopsy rooms and laboratories
- Will implement the in-house training for the peripheral laboratory employees
- Will send three employees to attend an advanced training on biosafety.
- Will obtain all required licenses before small works start.



10. Legal Agreements

In keeping with good practice, all legal agreements dealing with the Project implementation, made between the World Bank, the Palestinian Authority and Implementing Units will reflect the major findings and issues pointed out in this Environmental Assessment and shall be consistent with the project implementation plan or operations manual.

11. Bidding contracts:

All Bidding documents of the small works should include the construction EMP as clauses in it. All costs of mitigation measures are to be encountered by the small works selected contractors. UNDP supervising engineers will ensure that the EMP is part of the contract.

12. Consultation with stakeholders

Name	Organization	Email
Dr. Khawlah Njoum	MOA \ Veterinary Services	khawla97@yahoo.com
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Mahmoud Abu Shanab	EQA	ma_shanab@yahoo.com



Annex 1 – Check list No. 1 – Small works site check list

Name of project: Rehabilitation of DVO office in X

Name of Engineer: UNDP Engineer

Date of site study completed: Date which the UNDP Engineer visited the site and assessed the following list.

Information Source: Name of the MOA person from which information were obtained.

Proposed output: office rehabilitation (i.e. paint, floors), construction of new rooms...etc (need to include if autopsy room is being included in the work)

Issues to be checked

Environmental issue	Yes	No	Remarks/Recommendation actions
Adequacy for space for construction			
Adequacy to access the construction site			
Freedom from squatters or titling conflict with local residents			
Potential interruption or limitation of access to dwelling or business on the site			
Potential impact to high architectural or cultural value on the site or within the immediate vicinity			
Interruption or limitation of access to sidewalks, power and telephone lines, water and sewerage, sanitation system, and other environmental services.			



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Encroachment/reduction of gardens or green areas			
Ownership of the facility (if not MOA, then approval by owner is required)			
Other issues: Describe:			

Summary of Overall Assessment: Prepare a short summary of an overall assessment based on the site screening results above. What recommendation/suggestion is made on the specific civil works project?

Report: Send this report to the ER.

Following the completion of this small works Site Checklist, and after approval from the ER, the process for preparing adequate bidding documents to process the civil works would commence. The procurement should include the EMP for small works as part of the Technical specifications that need to be monitored.



Annex 2: Check list No. 2 – Design check list

Name of project: Rehabilitation of DVO office in X

Name of Engineer: UNDP Engineer

Date of site study completed: Date which the study was completed.

Information Source: Name of the MOA person from which information were obtained.

Proposed output: office rehabilitation (i.e. paint, floors), construction of new rooms...etc (need to include if autopsy room is being included in the work)

Issues to be checked

Design Criteria	Yes	No	Remarks
Maximizing the blending of architectural design to important cultural site next or nearby to the site.			
Maximizing natural light in order to minimize artificial light needs.			
Maximizing natural ventilation systems, minimizing the necessities of air conditioning			
Maximizing rain water storage for the irrigation of gardens and green zones in the office (where applicable)			
Promoting the usage of environment-friendly materials (avoid asbestos and other hazardous or toxic materials)			
Planting of native species in gardens and green areas in the offices			



(where applicable)			
Stabilization of slopes using vegetative measures (where required)			
Installation of solar system for heating water (where required)			
Others (describe)			

Summary of Overall Assessment: *Prepare a short summary of an overall assessment based on the design criteria screening results above. What recommendation/suggestion is made to the project?*

The above checklist should be provided to the ER for feedback.

The results of this check list are to be integrated for the design of the small works.



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16/9/2009