



## Tracking Sheet

PROJECT ATLAS NAME: BRUCELLA

PROPOSAL #:            AWARD #:            PROJECT #:54948    DONOR (NAME): SPAIN

AGREEMENTS    CONTRACTS    LETTERS/MEMO'S    AWP    PROJECT DOC.    OTHERS:

Subject: Pro doc for Brucella proj # 54948

TITLE	NAME	DATE IN	ACTION	DATE OUT	SIGNATURE
PROGRAMME ANALYST	NASSER FAQIH	15 MAY 09	APPROVED		INITIALED ON PRO DOC
TEAM LEADER	GEOFF PREWITT	15 MAY 09	APPROVED		INITIALED ON PRO DOC
PROGRAMME SUPPORT (INCLUDING PA/TRAVEL/ ENGINEERING/PROCUREMENT / HR/ FINANCE/OPERATIONS)					
COMMUNICATIONS					
SECURITY					
EXECUTIVE OFFICE	<i>Abud</i>	<i>19/5/09</i>	<i>cleared</i>	<i>19/5/09</i>	<i>[Signature]</i>
DSR (O)					
DSR (P)					
SR					

Comments:

**Dear Geoff , please sign on the inside memo & this tracking sheet  
 thanx**

*Project Document was previously cleared however not  
 signed. Abud*



**UNITED NATIONS DEVELOPMENT PROGRAMME**  
**Programme of Assistance to the Palestinian People**

PROJECT DOCUMENT

**Number:** PAL/05/J  
**Award ID** 46247  
**Title:** Brucellosis Control Programme II  
**Duration:** 48 months  
**Project site:** West Bank & Gaza Strip  
**ACC/UNDP sector & subsector:** 0600 Agriculture, forestry and fisheries  
 0630 livestock and livestock products  
**Local Implementing Institution:** Ministry of Agriculture  
 Directorate of Veterinary Services  
**Executing Agency:** UNDP/PAPP  
**Estimated starting Date:** January 2007

<b>UNDP and Cost Sharing Financing</b>		
<u>Trust Funds: Government of Spain</u>		
Programme Amount	1,395,190\$	
<u>Support Cost (8%)</u>	111,615	\$
<b>Total:</b>	1,283,575	\$

*After implementing the first phase of Palestinian Brucellosis Control Program, the Palestinian Territories have progressed towards the achievement of an animal prevalence of less than 2%, as recommended by FAO, OIE and WHO, which has resulted in a reduction of brucellosis human cases. However, in order to sustain the results achieved and to further progress towards international standards of prevalence, it is necessary to capitalize on achievements made during the previous phases.*

*The present project intends to continue the efforts made under the PBCP to control the zoonotic disease, as recommended by the international organizations, after what an evaluation of the results of the PCBP should be undertaken. By doing so, the project seeks to strengthen certain components related to ensuring proper management of national veterinary services capable of organizing an intensive and sustained control and surveillance programme.*

**On behalf of**

United Nations  
 Development Programme

**Signature**

**Date**

**Name/Title**

*Jens Toyberg-Frandzen  
 Special Representative of the  
 Administrator*

UN official exchange rate at the date of signature of project document: 1 US\$ =4.15 NIS

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## **ACRONYMS**

<b>GIS</b>	Geographic Information System
<b>KAP</b>	Knowledge, Attitude, Practice
<b>FAO</b>	Food and Agriculture Organization
<b>MIS</b>	Management Information System
<b>MoA</b>	Ministry of Agriculture
<b>MoH</b>	Ministry of Health
<b>MOU</b>	Memorandum of Understanding
<b>NGO</b>	Non governmental organization
<b>NPC</b>	National Project Coordinator
<b>OIE</b>	World Organization for Animal Health
<b>PA</b>	Palestinian Authority
<b>PBCP</b>	Palestinian Brucellosis Control Programme
<b>PMO</b>	Programme Management Officer
<b>PTs</b>	Palestinian Territories
<b>SC</b>	Steering Committee
<b>UNDP/PAPP</b>	United Nations Development Programme / Programme of Assistance to the Palestinian People
<b>WBGs</b>	West Bank & Gaza Strip
<b>WHO</b>	World Health Organization

## **A. SITUATION ANALYSIS**

### ***A.1 Background***

Since 1998, the Ministry of Agriculture in collaboration with UNDP/PAPP has been implementing the Palestinian Brucellosis Control Programme (PBCP) following the FAO, WHO and OIE guidelines. The PBCP has benefited from the financial support of the Governments of Argentina, Japan and Spain, as well as the technical support of the World Health Organization (WHO). The Brucellosis programme which was funded by the Government of Spain for a total duration of five years and implemented in two phases (a first phase of two years and a second phase of three) concluded by the end of the year 2005.

There are two phases involved in flushing out the ravaging effects of Brucellosis: control and eradication. According to the recommendations of FAO, WHO and OIE, progress towards eradication requires an intervention campaign implemented in gradual stages. On the medium term, a comprehensive vaccination programme would provide the tools to control animal Brucellosis in all relevant species and to reduce the number of human cases to adequately low levels within a 10 years period. In the long term (15 - 20 years), the full control of the disease would lead to the total elimination of human and animal Brucellosis from the region. When a significant reduction in herd and flock prevalence is accomplished, the control programme should be reviewed and alternative strategies may be considered.

Accordingly, the PBCP's design was based on a two-stage implementation scheme spanning a total duration of ten to twelve years in order to sustain the control of Brucellosis and prepare the grounds for the disease's full eradication in the WBGS. In the first stage, PBCP's specific objective is to reduce the prevalence of Brucellosis infection in animals to a minimum level, thus reducing the number of human cases by boosting the animals' level of immunity and reducing contamination. In the second stage, the PBCP aims at developing and implementing new policies geared towards the eradication of the disease.

After more than five years of implementing the Palestinian Brucellosis Control Program, the Palestinian Territories have progressed towards the achievement of an animal prevalence of less than 2%, as recommended by FAO, OIE and WHO, which has resulted in a significant reduction of human Brucellosis cases. However, in order to sustain the results achieved and to further progress towards international standards of disease prevalence, it is necessary to capitalize on achievements made during the previous phases.

### ***A.2. Context***

Socio-economic, health and agricultural factors are closely linked in the PTs. The agricultural sector accounts for 9,8% of the total Gross Domestic Product (GDP). The agricultural sector provides approximately 13% of all employment in the PTs. About 44,7%<sup>1</sup> of the agricultural output is contributed by the livestock subsector.

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<sup>1</sup> The value of livestock production (meat, dairy, table eggs) registered approximately US\$ 382 million. The contributions of these sectors were as follows: 58.2% meat, 28.1% dairy, 9.4% table eggs from the total livestock production of the Palestinian Territory. In the West Bank, livestock production represents 82.1% and in Gaza Strip, it represents 17.9%. The major contributions based on geographical locations of the Palestinian Territory were from Hebron (24.5%), Jenin (11.4%) and Nablus (9.6%). The value of meat production was concentrated in Hebron, Jenin and Nablus governorates, while the value of milk production was concentrated in Hebron, Nablus and Jenin, on the other hand, the value of eggs production was concentrated in Hebron, Gaza and Ramallah & Al-Bireh respectively. PCBS, Agricultural Statistics 2002-2003

At present there are approximately 0,8 million sheep, 0,3 million goats, 33,235 cattle (18,000 dairy), 2,8 millions layer and 37 millions broilers<sup>2</sup>. 7 % of the total sheep population is represented by the Assaf *improved* breed and the rest by Awasi local breed. 1% of the total goat population is represented by the Damascus (Shami) improved breed and the remaining by the local Baladi breed. Small ruminant raising represent an important source of occupation and provides a significant source of income for Palestinian families. There are approximately 6,000 cattle owners and 30,000 sheep and goat owners. Nearly 18,900 Palestinians are employed as permanent or part-time workers in the livestock subsector<sup>3</sup>.

Brucellosis is a major zoonotic disease found all over the world. However, *Brucella melitensis* is particularly prevalent throughout the Mediterranean countries, affecting both animals and human beings. While there are different species of *Brucella* that generate disease in animals, some of them are specific to a particular host while others are less specific and adapt to different hosts. Furthermore, some species are pathogenic for human beings while others are not. The degree of infection largely depends on husbandry practices and control measures within the affected area.

The magnitude of this highly contagious disease can be traced back to both (1) its economic impact on the animal industry, causing an adverse effect on total animal protein supplies, and (2) the severe infection hazard it represents to human health, through either direct contact with infected animals or, more frequently, the consumption of contaminated milk and dairy products.

It is estimated that Brucellosis causes heavy and tangible economic losses in the animal production subsector due to setbacks such as livestock abortions, sterility, decreased milk production, as well as the high cost of veterinary animal care services and the price of replacing infected animals. In addition, the disease poses a problem for the flow of free animal movement and exportation.

For sheep and goat producers the sources of economic losses stem from decreased breeding outputs and reduced milk production. It is, however, generally agreed that the impact of the disease in small ruminants is greater in terms of the adverse effects infection may have on human health in the rural population due to the high rate of human contamination related to the agent (*B. Melitensis*), as well as the vulnerability factors concerned with the traditional mode of sheep and goat product consumption.<sup>4</sup>

Brucellosis in PTs is mainly transmitted to humans by the consumption of infected milk and milk products which are consumed without applying basic preventive measures such as heat treatment and by close contact with infectious animals (occupational disease). Transmission can also occur by direct contact with infectious sources (aborted foetus, and foetal and maternal envelopes and fluids). The underlying causes are related to inappropriate farming practices, weak capacity to control animal movements, insufficient monitoring measures, low capacity of enforcement of rules and regulations, etc.

The extent of Brucellosis in animals and humans, the nature of the disease, the particular circumstances of the Palestinian production systems and the habits of milk product consumption within the Palestinian population at large clearly justify a strong intervention in the form of Brucellosis control.

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<sup>2</sup> PCBS, Agricultural Statistics 2002-2003

<sup>3</sup> Animal Production Department of the Directorate General of Extension and Rural Development / Ministry of Agriculture.

<sup>4</sup> FAO, WHO, OIE Guidelines for a Regional Brucellosis Control Programme for the Middle East. France, September 1995

### A.3. Problem Statement

As shown in table 1 and 2, the implementation of the PBCP since 1998 has visibly contributed to reducing the incidence of human and animal Brucellosis in the PTs. Indeed, despite the deteriorating political and security situation in the PTs for the years 2001-2002 and the simultaneous mobility and accessibility setbacks, factors that prevented the mass vaccination campaigns from becoming fully successful, the project managed to considerably lower the rate of animal prevalence.

In fact, since 1999, the programme has managed to vaccinate more than 2.5 million heads of sheep and goats all over the WBGS. The table 1 below shows the numbers and the geographic distribution of the vaccinated animals over the period 1999-2004.

**Table1. Geographic distribution of vaccinated animals 1999-2004**

District	1999	2000	2001	2002	2003	2004
Hebron	220569	62402	65738	137698	201168	61164
Bethlehem	96361	14480	19248	21842	97596	34068
Jericho	71377	24623	22585	34540	67629	32020
Jerusalem	33041	15127	5625	6375	47106	19816
Ramallah	91957	34659	19085	36507	74889	25685
Salfit	16206	1145	6757	7704	27521	18352
Nablus	96716	34035	26135	30109	79636	41434
Qalqilya	30005	25478	10175	19702	35326	18389
Tulkarim	19139	11329	10857	12057	42231	23622
Jenin	109955	27570	24275	24866	107970	34474
Tubas	46355	17860	10965	12941	38944	33198
Gaza						10000
<b>Total</b>	<b>831681</b>	<b>277337</b>	<b>221445</b>	<b>344341</b>	<b>820016</b>	<b>352222</b>

As a result of adopting the vaccination strategy and the implementation of the Brucellosis Control programme, the prevalence of Brucella in human has sharply decreased. According to the official data from the Ministry of Health, the numbers of human Brucellosis cases were around 800 per year in 1998, but since the implementation of PBCP, the cases dropped to less than one third of that initial figure, as shown in Table 2.

**Table 2. Incidence of Human Brucellosis 1998-2004.**

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006
Human cases	837	747	304	273	166	267	153	79	206

Prior to the implementation of the National Brucellosis Control Programme, no updated and reliable information on the prevalence of the disease in sheep and goats was available. In 1988, a prevalence survey was designed and conducted using the screening method (Rose-Bengal test dilution 25/75). The obtained results indicated that the prevalence among animals was around 16% and 70% among the flocks.

The current prevalence rate among sheep and goats is not accurately known. However, the results of routine monitoring activities (abortions submissions, testing of on-farm samples, etc.) as well as the reports provided by the MoH indicate a decrease in the occurrence of the disease in both humans and animals, which is expected to be at a rate of approximately 6%. During the present 2005 campaign, an active surveillance mechanism (Epi-surveillance) will be implemented to find out the accurate prevalence rates among sheep, goats and flocks. This data will serve as a baseline indicator for the current proposal and will help to evaluate the Palestinian Brucellosis Control Programme after 6 years of mass vaccination.

Although the PBCP has now been operating for almost 7 years, and therefore has reached a stage where alternative strategies could be considered, the Veterinary Department of the MoA estimates that the control strategy should be continued for at least four additional years. Although eradication of the disease represents the ultimate project goal, control remains the sole reasonable aim compatible with the circumstances of the current situation. Due to the inadequacy of available tools needed to achieve total eradication, effective enforcement measures, capabilities and systems for accurate diagnosis and surveillance coupled with the availability of adequate financial and operational resources must remain incoming components.

The present project intends to continue the efforts made under the PBCP in order to ensure the completion of a 10-12 years cycle of zoonotic disease control, as recommended by the international organizations, after which an evaluation of the results of the PBCP should be undertaken. By doing so, the project seeks to strengthen certain components related to ensuring proper management of national veterinary services capable of organizing an intensive and sustained control and surveillance programme.

#### **Building Veterinary Services Capacity**

The capacity of the Veterinary Services of the MoA to diagnose brucella has improved with the adoption of the PBCP, training of human resources and specifically with the generalization of internationally recognized tests for the diagnosis such as Elisa Test. However, management, diagnostic and treatment capacities need to be further supported in order to enable the Veterinary Services to better evaluate and sustain the results in the long term. Human capabilities to systematize collected data, to provide rapid and effective differential diagnostic services, and effectively conduct brucellosis control campaigns are continuously in need to be supported. Diagnosis could be strengthened by generalizing specific techniques for small ruminants such as Complement Fixation Test, and by increasing the capacity to cultivate and isolate brucella in Palestinian laboratories. Moreover, the overall capacity of the Veterinary Services and the MOA to assume full management and financial responsibilities of the Brucellosis Programme after the completion of the proposed project should be reinforced through the design and development of exit strategies which will foresee the necessary budget and therefore will ensure long term sustainability.

#### **Surveillance and monitoring of Brucellosis**

A multi-disciplinary collaboration among the laboratory, the veterinary field services and the public health services is imperative to the implementation of a successful control program. The laboratory provides the expertise in diagnosis, the veterinary services are in charge of the eradication program and the public health services are expected to diagnose the human population and treat infected patients. Brucellosis has been designated a notifiable disease. The sovereignty of the veterinary services and the public health services lends to independent diagnosis of the disease among the animal and the human populations, respectively. This can be advantageous in the sense that a double surveillance system is applied in the diagnosis of the disease. The occurrence of the infection in the livestock is notified to the public health services to increase the



physicians' awareness to the possible existence of the disease in the human population. Similarly, when the physicians identify infected persons they should notify the veterinary services to initiate surveillance of the livestock to track the infection source. The main drawback in this approach however, is that it leads to the development of different monitoring approaches thereby disrupting harmonization.

Coordination between relevant institutions involved in monitoring of zoonotic diseases such as the MoA, MoH, research centres and universities and NGOs is still a challenge that needs to be addressed. Strengthening of the surveillance activities through improvement of diagnostic capabilities for detecting human Brucellosis in hospitals as well as in private clinics and reporting of cases should be made obligatory to both the epidemiological units in the Veterinary Services and in the Public Health Sector. The National Zoonotic Committee created in 1995, if given appropriate responsibilities, could play a major role in improving harmonization, coordination, exchange of information and ultimately monitoring and prevention of Brucellosis. This requires the assessment of the current monitoring and surveillance systems. The exchange of information include as well continuous communication and harmonization with international competent institutions namely, FAO, OIE and WHO.

#### **Legal regulations and enforcement**

The sustainability and efficacy of a program such as the PBCP relies to a great extent on the capacity to sustain the program with legal and enforcement measures. In the PTs, the authority of the veterinary services need to be reinforced in aspects such as compulsory notification of any suspected cases by the owner and/or relevant local authorities; authority to collect samples for laboratory investigation; sanitation measures and other appropriate procedures on infected premises; powers to introduce control of livestock movements and to stop vehicles and herds so that animals may be inspected; powers to designate protection and surveillance zones for the purpose of implementing further intensive control measures; powers to implement emergency vaccination campaigns, and eventually powers to enforce compulsory quarantines of infected premises, preferably with slaughter of infected animals, and ring vaccination, and powers of seizure of relevant material; payment of compensation etc. The barriers preventing the effective adoption of enforcement measures and regulations need to be assessed, and an action plan for the removal of these barriers need to be developed in accordance with the strategy adopted towards brucellosis control.

#### **Public Awareness**

Public education programmes to raise the awareness level of producer groups and general population on relevant aspects of Brucellosis should be continued and disseminated. Good farming practices need to be further promoted among livestock keepers, especially in Bedouins communities. In addition, specific training should be designed to address health and veterinary professionals both from the public and private sector.

### **B. DEVELOPMENTAL STRATEGIES**

#### ***B.1. National Strategy:***

The Palestinian strategy for sustainable agriculture in terms of agriculture and animal production seeks to progress towards the following development objectives:

- Self-sufficiency of the small ruminant sub-sector with respect to the production of high value proteins safe for human consumption;
- Prevention and control, by the public health sub-sector, of infectious diseases, including Brucellosis, and provision of high standard case definition, treatment and management.

- Improve the surveillance systems related to the infectious and zoonotic diseases in order to achieve an epidemiological map for the PTs
- Harmonize the Palestinian legislation with the international standards in terms of animal health and international trade

The Palestinian strategy also calls for an inter-sectoral collaboration and a participatory approach, essential for the successful implementation of a Brucellosis Control Programme, and through which both the animal and the human Brucellosis issues will be tackled as follows:

For the surveillance and control strategies for animal Brucellosis, the strategy of the Veterinary Services of the Ministry of Agriculture of the Palestinian Authority is aiming at:

1. Establishing the necessary regulations for the control of animal Brucellosis;
2. Implementing a surveillance and control programme for animal Brucellosis based on mass vaccination, taking into account the FAO/WHO/OIE Guidelines for a Regional Brucellosis Control Programme for the Middle-East (Amman, Jordan, 14-17 February 1993) and amended to meet the recommendations of the FAO/WHO/OIE Round Table on the use of the Rev. 1 vaccine for small ruminants and cattle (Alfort, France, 21-22 September 1995).
3. Establishing a number of activities to support the implementation and evaluation of the surveillance and control programme, including strengthening of the laboratory capacities, animal disease surveillance system, training, extension and information dissemination to farmers and other stakeholders, etc.

For the Surveillance and control strategies for human Brucellosis, the strategy of the Public Health Department of the Ministry of Health of the PA is aiming at:

- Establishing the necessary regulations to control the human Brucellosis;
- Controlling infectious diseases including major zoonosis, in particular Brucellosis, through the implementation of preventive measures and the delivery of health education package;
- Establishing of a surveillance and data management system to detect and monitor conditions, to support epidemiological investigations and to provide the information for evaluation of control activities;
- Strengthening laboratory services to support surveillance activities and preventive services;
- Standardizing case definition and case management.

## ***B.2 UNDP/PAPP Strategy and Related Programmes:***

The programme is directly in accord with UNDP/PAPP's short and long term goals of poverty reduction and good governance. Development of the agricultural sector is crucial to the economic development of the PTs. Expansion of agricultural production and productivity resulting in higher farm family income is essential for reducing poverty as well as improving food security of the Palestinian people. UNDP/PAPP has gained considerable experience in the WBGS through the implementation of several key agricultural support projects, which all combine a mix of technical and capital assistance and aim at supporting human resources development, institutional capacity building, enhancement of sustainable agriculture through food security, economic growth, community development, gender mainstreaming, development of policies, strategies and laws as well as improvement of the social conditions.

Under the umbrella of the UNDP/PAPP, the Ministry of Agriculture of the Palestinian Authority in cooperation with specialized local and international NGOs put forward clear

agriculture policy, strategy and action plan to enhance and develop the agriculture sector. The major projects funded through the UNDP/PAPP are as follows:

Palestinian Brucellosis Control Programme funded by the Spanish Government, Argentinean Government and the Japanese Government with technical support from WHO aims at reducing the incidence of Brucellosis in animal and humans through yearly mass vaccination campaigns and building the public and private institutional, human and physical capacities to control the disease.

Bedouin Development Project funded by the Italian Government which aims at improving the livelihoods of Bedouins on a sustainable basis through strengthening the Bedouins bargaining power in purchasing feed for their animals and in selling their products through the establishment of a Palestinian Bedouin Corporation for investment and development. In addition, the project aims at increasing the productivity of Bedouins' activities in animal husbandry through the provision of veterinary mobile clinics, demonstration and pilot farms and training in flock and farm management.

Both the Brucellosis and the Bedouin project constitute a good opportunity for synergies. The Bedouin project is an excellent platform to record information about the Bedouin livestock health status, as well as to conduct awareness activities in addition to the provision of brucellosis vaccines. The Bedouin project will continue to bring support to the project through the veterinary mobile clinics.

Capacity Building in Agricultural Policy Analysis and Planning funded by the Dutch Government aimed at strengthening the institutional and human capacities of the MoA's through up-streaming, gender mainstreaming and advisory services, training and preparation of agriculture policy, strategy, legislation, medium term plan and organizational structure.

Support to the Ministry of Agriculture funded by the Japanese Government aimed at strengthening the administrative and financial department of the MOA as well as build the capacity of the research and extension staff;

Adaptive Research and Extension Project funded by the Japanese Government aimed at designing and development of a proactive research and extension policy and strategic & medium term plan as well as the rehabilitation of agricultural research and extension stations.

Employment Generation in Agriculture through land improvement and development funded by the Japanese Government aimed at generating employment and increasing cultivable area in the West Bank districts in an attempt to contribute to food security and alleviation of poverty.

Participatory Natural Resources Management Programme through a loan from the International Fund for Agriculture Development (IFAD) and funded by the Palestine Liberation Organization aims at increasing the income and raise living standards of small farmers where there are dew income generating possibilities through land development and improvement and institutional support.

Rangelands Rehabilitation and Water Harvesting funded by the Spanish Government and the Japanese Government which aims at ameliorating the living conditions of Palestinian poor farmers through the re-introduction of native fodder shrubs, land development and water harvesting schemes, employment generation, capacity building, preparation of socio-economic studies and database as well as preparation of alternative feed resources manual and awareness material and provision of household micro-finance projects.

## **C. RESULTS FRAMEWORK**

### ***C.1 Project Outcome – Overall Goal***

The Project's overall goal is the control of animal and human brucellosis in the West Bank and Gaza Strip. More specifically, the project main objectives are:

1. To reduce human and animal brucellosis incidence in the West Bank and Gaza Strip to its minimum level through mass vaccination of all flocks.
2. To develop and improve the institutional capacities of the Palestinian Authority to control and monitor the Brucellosis.

## ***C.2 Expected Outputs and Activities***

### **Output 1: Yearly Vaccination campaigns conducted**

Between 2007 and 2010, four vaccination campaigns will be conducted following the next scheme:

**2007:** mass vaccination for new born\young animals as well as in focal points (Hebron and Bedouin Communities)

**2008:** mass vaccinations for all flocks

**2009:** mass vaccination for new born\young animals as well as in focal points (Hebron and Bedouin Communities and other hot spots)

**2009:** mass vaccination for all flocks and Epi-Surveillance

Activity 1.1 Purchasing and testing of the Vaccines.

Mass vaccination campaigns will necessitate the purchase of REV1 vaccines, disposable material, chemicals and diagnostic lab kits. Upon reception of the vaccines, a test will be carried out in order to make the right calibration of the doses. Procurement of the vaccines will be done through WHO from Spain.

Activity 1.2 Conducting Mass vaccination campaign

Each district covers all animals using the staff of the MOA according to an action plan developed at the beginning of each campaign by the General Director of the Veterinary Services and the Project Manager. A workshop will be held at the beginning of each campaign to explain the work plan and the targeted results of the year. Monitoring and follow-up of the working staff: field visits and check up the working teams. The duration of each campaign is of 5 months (April-September).

Activity 1.3 Collection of data. The vaccination campaign will include the collection of data regarding farmers and numbers of animals (vaccinated and not vaccinated) in a specific registration form which include all needed information about farmer, date of vaccination and the signature of the veterinary staff, etc. The collected data will be included in the MIS/brucellosis database

Activity 1.4: Sero monitoring for the vaccinated animals to test the titer of antibodies.

Veterinary staff randomly selects animals (20-30 days post/vaccination) to undertake blood sample and send to laboratory for testing (Rose Bengal). This activity is carried out throughout the whole period of the vaccination campaign.

### **Output 2: Harmonization and coordination of monitoring system is strengthened**

The objective of a harmonized monitoring system will be to monitor and evaluate the results of the brucellosis programme through surveillance system which will identify, diagnose and report all human cases and monitor program performance. A main component of the monitoring system will include institutional building among the relevant staff in Palestinian institutions, specially the MoA.

Activity 2.1 Conduct a comprehensive assessment of the present surveillance systems and available human resources and logistics. The study will identify the needs in terms of information flows, administrative, institutional and legal structures required for the

purpose of enhancing control and monitoring of zoonotic diseases, as well as harmonization with international standards.

Activity 2.2 Review existing laws and regulations and assess the barriers preventing the effective adoption of enforcement measures and regulations. This will include a realistic analysis of capacities and powers of the related institutions (veterinary authorities) to enforce those regulations and remedial actions.

Activity 2.3 Promote the institutionalization of coordinating structures among relevant institutions including MoA, MoH, NGOs, private sector, research centers, etc. This will include the formulation of standards and harmonization of procedures.

Activity 2.4 Support computerized data base and Management Information System that links all directorates related to zoonotic diseases control in MoA, so that decision-making, planning and control would become more efficient and more effective.

Activity 2.5 Develop within the monitoring system a specific alert system and action programme in case of emergency/ outbreak.

Activity 2.6 Initiate the discussion at a national level to evaluate/ review the PBCP and to analyze the convenience and possibilities to adopt alternatives strategies for zoonotic diseases control in the PTs, and specifically Brucellosis.

### **Output 3: Veterinarian human and management capacities are improved**

To strengthen the capabilities of veterinary services in order to provide better advice on Brucellosis as well as on other zoonotic diseases. In addition, the project will enhance the diagnostic competencies of the public health sector concerning detection and reporting on human Brucellosis, and increase public awareness, particularly among the groups at risk. Moreover, it is anticipated that the human capabilities of the laboratory technicians of MoA both in WB and Gaza Strip will be brought up to date with the latest developments. In addition, exit strategies to ensure management and financial sustainability of the programme after the project will be designed.

Activity 3.1 Identify education and training gaps among trainers and educators working with the MoA, MoH, NGOs and private veterinarians in all districts in the West Bank, and develop education and training guidelines with appropriate indicators to assess the skills-upgrade.

Activity 3.2 Develop capabilities to improve the intervention skills of veterinary district officers in dealing with outbreaks and hot spots.

Activity 3.3 Conduct training courses on data management, health education, epidemiological surveillance and good veterinary practices. The target groups will be veterinarians (MoA and private), livestock inspectors, and relevant personnel from MoH.

Activity 3.4 Identify specific training needs and update the human capabilities of the laboratory technicians of MoA both in WB and Gaza Strip.

Activity 3.5 Design exit strategies to ensure MOA financial and managerial capacities to fully assume the programme.

#### **Output 4: Public Awareness on Brucellosis enhanced**

The awareness will target farmers and general public, to enable them to prevent the disease by providing information about transmission, detection, prevention etc., and to improve hygienic practices of the farmers and strengthen their reporting capabilities to the veterinary services. The target population of the awareness will include schools, rural population, Bedouin communities, business involved with processing and distributing products from animal origin, farmers and butchers, NGOs...

Activity 4.1 Review and develop awareness and prevention tools on Brucellosis and other zoonotic diseases for general public.

Activity 4.2 Conduct a KAP study to identify knowledge, attitude and practice of the farmers and consumers.

Activity 4.3 Implement the information campaign and develop indicators to assess the results of the campaign.

### C.3 Project Results and Resources Framework

<p><b>Intended Outcome as stated in the Country Results Framework:</b> Reduce the prevalence of brucellosis in the PTs by at least 20%</p> <p><b>Outcome indicator as stated in the Country Programme Results and Resources Framework:</b> Rate of prevalence of animal and human brucellosis in the West Bank and Gaza Strip</p> <p><b>Strategic Area of Support (from SRF):</b> Improvement of health status in the PT</p> <p><b>Partnership Strategy:</b> Coordination with MoA, MoH, and the international donor community</p> <p><b>Project Title and number:</b> Brucellosis Control Programme II</p>		
	<b>Indicative Activities</b>	<b>Inputs</b>
<p><b>Output 1:</b> Yearly Vaccination campaigns conducted</p>	<p>Activity 1.1 Purchasing and testing of the Vaccines through WHO.</p> <p>Activity 1.2 Conducting Mass vaccination campaign.</p> <p>Activity 1.3 Collection of data.</p> <p>Activity 1.4: Sero monitoring.</p>	<p>Project Manager Administrative Assistant</p> <p>District veterinary staff (80) during 5 months per year</p> <p>Laboratory technicians</p> <p>Cost of transportation during 5 months per year.</p> <p>Communication-mobiles x 30</p> <p>REV1 vaccines, disposable material (including gloves, and other clothes), chemicals and diagnostic lab kits.</p>
<p><b>Output 2:</b> Harmonization and coordination of monitoring system is strengthened</p>	<p>Activity 2.1 Conduct a comprehensive assessment of the present surveillance systems and available human resources and logistics.</p> <p>Activity 2.2 Review existing laws and regulations and assess the barriers preventing the effective adoption of enforcement measures and regulations.</p>	<p>Project Manager Administrative Assistant MIS &amp; Veterinary staff</p> <p>Legal expert</p>

	<p>Activity 2.3 Promote the institutionalization of coordinating structures among relevant institutions.</p> <p>Activity 2.4 Support the computerized data base and Management Information System.</p> <p>Activity 2.5 Develop a specific alert system and action programme within the monitoring system in case of emergency/ outbreak.</p> <p>Activity 2.6 Initiate the discussion at a national level to evaluate/ review the PBCP.</p>	<p>Organization of workshops and meetings.</p> <p>Software and small IT equipment</p> <p>Purchase of referral material and guidelines published by international organizations such as FAO, WHO and OIE, lab manuals (international animal health code, OIE international standards...</p>
<p><b>Output 3: Veterinarian human and management capacities are improved</b></p>	<p>Activity 3.1 Identify education and training gaps among trainers and educators working with the MoA, MoH, NGOs and private veterinarians in all districts in the West Bank, and develop education and training guidelines with appropriate indicators to assess the skills-upgrade.</p> <p>Activity 3.2 Develop capabilities to improve the skills of intervention of veterinary district officers in dealing with outbreaks and hot spots.</p> <p>Activity 3.3 Conduct training courses on data management, health education, epidemiological surveillance and good veterinary practices. The target groups will be veterinarians (MoA and private), livestock inspectors, and relevant personnel from MoH.</p> <p>Activity 3.4 Identify specific training needs and update the human capabilities of the laboratory technicians of MoA both in WB and Gaza Strip.</p> <p>Activity 3.5 Design exit strategies to ensure MOA financial and managerial capacities to fully assume the programme.</p>	<p>NPC and Project team</p> <p>Short term technical assistance:</p> <ul style="list-style-type: none"> <li>▪ External Consultant</li> <li>▪ External Trainer on good practices</li> <li>▪ Local trainer</li> </ul> <p>Travel x trainings</p> <p>Printed materials</p> <p>Organization of workshops and training sessions.</p>



<p><b>Output 4: Public Awareness on Brucellosis enhanced</b></p>	<p>Activity 4.1 Review and develop awareness and prevention tools on Brucellosis and other zoonotic diseases for general public.</p> <p>Activity 4.2 Conduct a KAP study to identify knowledge, attitude and practice of the farmers and consumers.</p> <p>Activity 4.3 Implement the information campaign and develop indicators to assess the results of the campaign.</p>	<p>Short term consultancy: Local communication expert Booklets, brochures, etc. workshops</p>
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## **C.4 Inputs**

Consultancies, training tools, small laboratory equipment and materials are required in this project. A National Project Coordinator and an administrative assistant will be hired for a period of 4 years. Their general duties will include the supervision and coordination of activities.

### **C.4.1 Ministry of Agriculture/Government Inputs**

The MoA, including its district offices and the local authorities, will support the implementation of the project activities, through facilitating contacts and providing substantive feedback on project plans and activities, and through the designation of a focal point/representative, to be the principal counterpart to the Project Manager.

The MoA will make available all needed veterinary staff for animal vaccination, field investigations and data collection. All vehicles needed to conduct the vaccination campaign will be provided by the MoA.

When needed, MoA will release MoA officials as trainees for training activities.

Two laboratory technicians will be full time appointees, one in GS and one in WB.

The MoA will provide adequate office and laboratory accommodation for all project staff in the Department of Veterinary Services, or another adequate location of the MoA, as well as training and meeting rooms.

### **C.4.2 UNDP inputs**

The UNDP/PAPP will supervise the implementation of the activities aiming towards the achievement of the project's objectives. UNDP/PAPP will continue to work with governmental institutions such as the Palestinian Ministry of Agriculture (MoA) and the Ministry of Health (MoH), and along with specialized non-governmental organizations. UNDP/PAPP will play a major role in coordination with WHO and FAO as required by the project. In addition, UNDP/PAPP will facilitate strategic planning sessions with these organizations to ensure the participation and ownership of relevant project activities.

Specifically, through its Programme and Administration Section UNDP/PAPP will perform the following:

1. Management, supervision and monitoring of all project activities undertaken by a large team of professionals within the Programme Section
2. Consultations with relevant national institutions and beneficiary representatives and coordination with all parties including donor countries;
3. Preparation of Terms of Reference, recruitment and hiring of project personnel including professionals and consultants, both national and international as needed.
4. Facilitate the implementation of the project activities through its Administration and Operations Sections, which include Finance, Personnel, Procurement, Information Systems, Registry and Transport Units.
5. Locally initiate, monitor and control project expenditures, through an in-house Finance Unit and a fully computerized system linked to UNDP HQ;
6. Preparation of specifications concerning goods procurement, including tax exemptions and release from customs. This part is undertaken by an in-house Procurement Unit;
7. Financial and substantive reporting to the donor country and to UNDP HQ in accordance with the signed agreements and the Donor's requirements.

### ***C.4.3 Project Inputs***

The project will provide funds for:

1. Staffing, to include a project manager, various experts and consultants and an administrative assistant.
2. Purchasing of requisite equipment and software.
3. Implementation of all project related activities.

## **D. MANAGEMENT ARRANGEMENTS**

### ***D.1. Execution Modality & Management Structure***

Under this Palestinian Brucellosis Control Programme, the UNDP/PAPP will deliver the assistance necessary for the successful implementation of the project. UNDP/PAPP may request the cooperation of the WHO and FAO in specific fields.

The PA Implementing Institutions for the Programme will be the Ministry of Agriculture (MoA), through its Directorate of Veterinary Services and Animal Health.

The MoA will assign a project focal point who will work in tandem with the National Project Coordinator. The focal point will facilitate the cooperation with other entities of the PA, the NGO community, and regional/international agencies working in related fields in the WBGs.

The project coordination will take place at two levels:

Direct day-to-day project management will be the responsibility of a full-time National Project Coordinator (NPC), who will coordinate closely with MOA and receive periodic support and cooperation from international and local part-time consultants, as needed and pertinent. Sub-contracts with external consultants shall be established directly by MOA, under the respective MOU with UNDP/PAPP, and under the supervision of the NPC.

A project implementation team will be established under the MOU between MOA-Veterinary Services Department and UNDP/PAPP, consisting of PA (mainly MOA-Veterinary Services Department) contracted administrative and technical staff assigned full and part-time to respective tasks of the project. The team members will directly report to the NPC. The NPC, PIT, and the consultants will further work closely with relevant additional professional of MOA- Veterinary Services Department and the Ministry of Health, and other institutions, as needed and pertinent.

### ***D.2 Reporting***

As the Executing Agency, UNDP/PAPP will:

1. Submit a final report on the findings of the diagnostic study and action plan to the Donor.
2. Prepare financial and operational progress reports to be submitted to the Donor.
3. Prepare additional reports, as requested by the Donor.
4. Prepare a comprehensive terminal report not later than two months after project completion.

### ***D.3 Review, monitoring and Evaluation***

1. The project will be subject to joint review by representatives of the MOA, the UNDP/PAPP and the Donor at least twice during its life span. The first such meeting to be held within 6 months from the start of full implementation. A project terminal report will be prepared for consideration at the terminal joint review meeting.
2. The project will be monitored and evaluated at several levels including:
  - ***Input monitoring***, which is part of the routine project reporting that generally involves financial and/or descriptive documentation related to disbursement of funds, delivery of materials, goods, and personnel, needed to achieve outputs.
  - ***Output monitoring***, which is also part of the routine reporting that tracks outputs produced by the project (e.g. activities completed, services delivered). Both input and output monitoring will be carried out on a monthly basis.
  - ***Performance monitoring***, which involves evaluating the implementation progress of the project against the work plan and the achievement of the outputs against the objectives.
  - ***Final evaluation*** will be conducted at the end of the project implementation by the Government of Spain, if it deems it necessary. This evaluation will focus on the success, efficiency and timeliness of the implementation, as well as highlight issues requiring further actions. It will also look at early signs of potential impact resulting from the project and issues of sustainability and soundness and provide recommendations for follow-up activities.

### ***E. VISIBILITY***

Throughout the project duration, UNDP/PAPP will endeavor to build on its activities to ensure maximum visibility, publicizing both the Spanish Government's generosity and the project's output results. Visibility activities will include the following:

- Contacting local newspapers and radio stations to ensure maximum coverage and public awareness of all project activities and expected outputs.
- Placing regular advertisements in local dailies on project activities.
- Producing brochures on the Brucellosis Control Programme and other relevant components.

**F. Project Budget**

**BRUCELLOSIS PROGRAMME COST ESTIMATES**

Heading	Qty	Unit	total period	unit price	Total US Dollars
<b>PROJECT MANAGEMENT COSTS</b>					
<b>Personnel</b>					
Project Manager	1	nth	48	3,000	144,000
Administration and running costs (transportation, communication, stationary, etc..)				20,000	20,000
<b>Sub-total Project Management</b>					<b>164,000</b>
<b>Output 1: Yearly Vaccination campaigns conducted</b>					
Vaccines				240,000	240,000
chemicals & lab kits, disposable materials				105,000	105,000
Transportation cost (fuel x 20 cars x 5 months per year)		nth	20	75,000	75,000
Communication equipment-mobiles	30			60	1,800
Allowances for Veterinary Services during vaccination campaign (5 months x year) (80 staff)	80	nth	20	3000	240,000
Stationary x field offices				7,790	7,790
<b>Sub-total Vaccinations campaigns</b>					<b>669,590</b>
<b>Output 2: Harmonization and coordination of monitoring system is strengthened</b>					
IT expert-UNV	1	nth	26	1,200	57,600
Technical Assitance-short term		nth	12	4,000	48,000
Workshops-lump sum				40,000	40,000
Software & IT equipment				50,000	50,000
Procurement of referral material				5,000	5,000
<b>Sub-total Monitoring system</b>					<b>200,600</b>
<b>Output 3: Veterinarian human and management capacities are improved</b>					
Technical Assitance-short term		nth	12	4,000	48,000
Workshops and training sessions				100,000	100,000
laboratory technicians capacity building					20,000
Travel				40,000	40,000
Training manuals and guidelines				20,000	20,000
<b>Sub-total Capacity Building</b>					<b>228,000</b>
<b>Output 4: Public awareness on Brucellosis enhanced</b>					
local communication expert	1	nth	6	1,500	9,000
KAP study	2			12,000	12,000
Printed materials				30,000	30,000
meetings, workshops...				32,000	32,000
<b>Sub-total Public Awareness</b>					<b>83,000</b>
<b>EVALUATION/AUDITS</b>					
Evaluation/Audits				50,000	50,000
<b>Sub-total Evaluation</b>					<b>50,000</b>
<b>TOTAL DIRECT COST</b>					<b>1,395,190</b>
<b>UNDP AOS (8%)</b>					<b>111,615</b>
<b>TOTAL</b>					<b>1,283,575</b>