Food and Agriculture Organization
of the United Nations

TECHNICAL SUPPORT FOR SURVEILLANCE AND MANAGEMENT OF RED PALM WEEVIL *RHYNCOPHORUS FERRUGINEUS*

April 2020

SDGs:	1 NO POVERTY; 2 ZERO HUNGER; 8 DECENT WORK AND ECONOMIC GROWTH; 12 RESPONSIBLE CONSUMPTION AND PRODUCTION; 15 LIFE ON LAND
Countries:	Iraq
Project Codes:	TCP/IRQ/3602
FAO Contribution:	USD 400 000
Duration:	1 January 2017 – 31 December 2019
Contact Info:	FAO Office in Iraq FAO-IQ@fao.org

Implementing Partners

Ministry of Agriculture (MoA), Plant Protection Directorate (PPD), Baghdad and Directorate of Agriculture, Basra; Directorate of Extension Service and Training, Baghdad.

Beneficiaries

Date palm producers (farmers and plant growers/ breeders).

Country Programming Framework

Linked to CPF Outcome 2: Agricultural value chains developed involving small-scale farmers and the private and public sectors, using innovative approaches and best practices with technical and planning assistance from FAO; and CPF Output 2.2: National capacities in sanitary and phytosanitary related area developed.

Background

Date palm plantations in Iraq face many obstacles, such as pests, drought, high production costs, low market prices and urban expansion. Most of these obstacles are rather difficult to solve in the short term, yet others, such as pests need to be managed immediately. Among these pests, Red Palm Weevil (RPW), which has recently invaded the country, is a real threat to Iraq's date palm wealth. RPW has significant socio-economic impact and consequences on the date palm production sector, and on the livelihoods of farmers who depend mainly on date palm production in affected areas. Failure in the control of the pest would not only increase production costs of date palm in Iraq, it would also discourage farmers and date palm growers, eventually forcing them to neglect date palm orchards.

The main challenges of RPW management include difficulties in the early detection of infestation, lack of experience and limited extension capabilities, inadequate enforcement of plant quarantine regulations, and awareness among farmers on risk and preventive/management measures.

Based on actual field monitoring data conducted by the Ministry of Agriculture (MoA), for over 20 years Iraq was free of RPW, but in October 2015, two spots of infestation were detected by the Directorate of Agriculture team in Safwan Province, Basra, approximately three kilometres from Iraq-Kuwait borders. Against this background, the MoA, in coordination with the Basra Directorate of Agriculture, immediately took a number of legislative and management measures to curtail the problem, which was considered as phase one. This project aimed to support the Government's efforts, particularly in the execution of the second phase of its action plan, to eliminate the risk of spread of RPW to other pest-free governorates and combat the infestation in Basra Governorate. The project focused on strengthening national institutional capacities and technical capabilities of all stakeholders, particularly government staff and farmers, to enforce the appropriate phytosanitary measures and pest management practices, in order to combat the infestation and eliminate further spread of the pest.

Impact

National institutional capacities and technical capabilities of all stakeholders, particularly government staff's and farmers' were strengthened to enforce appropriate phytosanitary measures and pest management practices to combat infestation and eliminate further spread of RPW. It is expected that these results will contribute to conserving date palm cultivation in the target area, enhancing and sustaining farmers' incomes and rural communities' livelihoods, and increasing food security.

Achievement of results

All project activities were implemented successfully in the target governorate subdistrict Safwan, Basra Province, through the active involvement of different stakeholders, particularly farmers' communities. The project was started with a high-level scientific meeting, demonstrating the participation of Iraq in eradicating RPW. The major hurdles of the national programmes were identified, a global strategic work plan to manage RPW was developed, and a trust fund was established. In addition, active regional coordination was established between Iraq, the Islamic Republic of Iran and Kuwait on RPW management; and sustainable national containment and possible eradication programmes of RPW were developed.

The risk of RPW infestation was mitigated through the introduction of different means of prevention, such as pheromone traps, drills, chainsaws and sprayers; as well as through the activation of rules, instructions and procedures that would help prevent the import or export of offshoots internally and externally. In addition, national quarantine laws and by-laws were updated.

Numerous workshops and training activities were organized, to improve the qualifications and technical skills of plant protection and extension centre specialists, quarantine staff and extension services in managing invasive species through adequate monitoring and the use of diagnostic tools, dissemination of the technical issues, and the application of the best agricultural practices in the field. These included training in, among others, the following: i) advanced injection techniques, insecticide residues monitoring, early infestation detection and smart extension, leading to the introduction and implementation of advanced injection techniques; ii) using Global Positioning Systems (GPS) techniques to determine RPW-infested areas and develop a contingency plan for possible RPW introduction; and iii) diagnosis of the disease, the application of control measures, and the eradication and management of infested palms. Training workshops were also organized in three governorates, Basra, Thi Qar and Maysan, to build capacities and raise awareness of 150 farmers in the early detection of infestation and preventive measures.

In addition, an RPW International and Regional Workshop was held in the Islamic Republic of Iran, where experiences were exchanged on the Iranian approach on controlling the pest, and training courses were held to build the capacities of official staff from the southern governorates in the field of early warning detection, containment action and advanced detection procedures.

The project raised the awareness of the public and decision-makers on the serious threat of RPW at national and economic levels, by encouraging stakeholders' support/involvement in the enforcement of phytosanitary measures to eliminate the spread of RPW.

Finally, the national strategy to control RPW was updated by developing six protocols - comprising palm inspection, the use of chemical pesticides and pheromone traps, the removal of infested traps, programme evaluation/validation protocols and quarantine protocols - and ten recommendations.

Implementation of work plan

Project activities were implemented successfully, and within the planned budget, in coordination with the MoA and local authorities. Two additional activities were implemented (under Output 5), in response to an official request by the MoA, and owing to budget availability after all the planned activities had been completed. These included a workshop and training programme, and the procurement of 400 electronic pheromone traps. Two no-cost extensions were requested and approved, in order to complete specific project activities.

Follow-up for government attention

Given that capacity building is an incremental process, it is highly recommended that donor funding be actively sought to continue strengthening beneficiaries' capacities through workshops and training processes prioritized by FAO in the respective Country Programming Frameworks (CPFs).

SUSTAINABILITY

1. Capacity development

The capacity building of selected farmers in the field on the risks of RPW, and awareness-raising activities, enhanced the knowledge of MoA staff and beneficiaries, by improving their technical skills in pest management practices and raising awareness in detecting the disease, controlling the pest, and containing its spread.

2. Gender equality

The project ensured that gender balance was addressed through the organization of workshops and training in the target area. The equal participation of women and men was ensured in all project activities.

3. Environmental sustainability

The proper use of pheromone traps was introduced, to avoid any chemical risks occuring during the treatment process in the targeted areas, especially in Safwan subdistrict in Basra Governorate.

4. Human Rights-based Approach (HRBA) – in particular Right to Food and Decent Work

The project contributed to the economic and environmental benefits of local communities by protecting their main date palm cultivations and safeguarding livelihood opportunities.

5. Technological sustainability

The project activities enhanced the knowledge of local authorities and farmers on the management of the new pest, and on methods to control RPW and eliminate the potential of spread to other pest-free areas.

6. Economic sustainability

The project assisted the MoA in combating epidemic pests, thereby maintaining the economic feasibility of the date palm farming system. The project also enhanced vulnerable beneficiaries' capacities to generate income, consume the quantitities of produce they need, and sell the surplus amount, which is used in many food processing activities.

DOCUMENTS AND OUTREACH PRODUCTS

- Proceedings of the Scientific Consultation and High-Level meeting on Red Palm Weevil management. S. Al-Dobai, M. Elkahky and R. Faleiro (Eds). 29-31 March 2017, Rome, Italy. 204 pp.
- Recommendations of the Workshop on Red Palm Weevil, Baghdad, Iraq, 30 June to 3 July 2019.
- Red Palm Weevil Management Protocol. July 2019.

ACHIEVEMENT OF RESULTS - LOGICAL FRAMEWORK

Expected Impact	**Date palm production of Iraq conserved, and farmers' incomes and rural communities' livelihoods and food security enhanced and sustained**	
Outcome	National institutional capacities and technical capabilities of all stakeholders, particularly government staff's and farmers' are strengthened to enforce the appropriate phytosanitary measures and pest management practices to combat the infestation and eliminate further spread of the pest	
	Indicators	1. Number of effective measures put in place to prevent the spread of RPW in the country. 2. Number of plant protection and extension specialists, professionals trained on diagnosis, surveillance, phytosanitary measures and management of RPW. 3. Number of palms/area covered by surveillance programme, and confirmed that they are free of pest. 4. Number of farmers' local leaders, Farmers Associations Union (FAU) and farmers trained on the risk of RPW, and preventive and management measures are in place.
	Baseline	1. Implementation of the first phase of the national work plan for control on RPW, adapted by the Government before the project. 2. Limited training has been done, but a large number of plant protection and extension staff need to be trained. 3. RPW has only been recorded on two border locations of Basra Governorate. 4. Few field days were conducted for the farmers on infested sites to raise their awareness on the pest damage.
	End Targets	1. Phytosanitary measures reviewed and updated, and contingency plans for surveillance and management of RPW developed within first three months of the project. Updated and endorsed phytosanitary measures are enforced by the MoA and other partners at major ports of entry, as well as intergovernorate security points. 2. More than 250 plant protection and extension staff members are trained by end of the project. 3. 17 Governorates of Iraq are surveyed and maintained free of pest by end of the project. 4. At least 1 500 farmers and farmers' leaders are trained and become knowledgeable on the risk of RPW and its management.
	Comments and follow-up action to be taken	All project activities were successfully completed.
Output 1	Coordination with national stakeholders and national and regional partners is established for developing a cooperation mechanism, and effective enforcement of appropriate phytosanitary measures to prevent further risk of introduction and spread of RPW nationwide	

Indicators	Target	Achieved
Number of effective measures put in place to prevent the spread of RPW in the country.	- Phytosanitary measures reviewed and updated, and contingency plans for surveillance and management of RPW developed within first three months of the project. - Updated and endorsed phytosanitary measures are enforced by the MoA and other partners at major ports of entry, as well as at intergovernorates security points.	Yes

Baseline	Implementation of the first phase of the national work plan for control on RPW, adapted by the Government before the project.
Comments	A regional workshop was conducted in Erbil, which was attended by experts from the Islamic Republic of Iran, Kuwait and Iraq. The main objective was to update the information on RPW in the three countries and the joint coordination agreement, to exchange information in the future. The MoA participated in a meeting on RPW on 30 April 2017, which was organized by Parliament and supervised by the Parliamentary Committee of Agriculture, Water and Marshlands/Parliament Council. As a result of this meeting, Parliament Council was informed about the economic and social risk involved with the spread of the pest, their financial support was requested, and relevant instruction was embarked on.

Activity 1.1	Identify the project national authorities, partners and stakeholders and the role of each partner in the participating governorates	
	Achieved	Yes
	Comments	The FAO TCP project national expert attended a high-level scientific meeting, held in Rome from 29 to 31 March 2017, to show the active participation of Iraq in eradicating RPW. The meeting was attended by 27 countries, eight international organizations, 25 international experts and 10 global companies producing eradication technologies, date producers, Non-governmental Organizations (NGOs), and representatives of farmers associations. During the meeting, the major hurdles of the national programmes were identified; a global strategic work plan to manage RPW was developed; and a trust fund was established.
Activity 1.2	Conduct an inception workshop to discuss the scope and objectives of the project, present the proposed work plan, and develop detailed work plan for each participating authorities, partners and stakeholders	
	Achieved	Yes
	Comments	
Activity 1.3	Conduct a ToT for core group of a total of 20-30 "project team" composed of professionals from plant protection authorities and other relevant national authorities on surveillance, detection, integrated RPW management (preventive measures, mass-trapping techniques, chemical treatment, .etc.) and best practices applied world-wide	
	Achieved	Yes
	Comments	
Activity 1.4	Hold a "Regional Work Shop "between Iraq, Islamic Republic of Iran and Kuwait to coordinate the management programme of RPW on the international border line between Iraq- Kuwait	
	Achieved	Yes
	Comments	The project started with the Programme of the Regional Coordination Meeting on RPW, the Training of Trainers (ToT) workshop, and project work plan on technical support for the surveillance and management of RPW in Iraq, involving Iraq, Kuwait and the Islamic Republic of Iran. Active regional coordination was established between the three countries on RPW management; and sustainable national containment and possible eradication programmes of RPW were developed.
Activity 1.5	Strict enforcement of the phytosanitary regulations and measures of the Agricultural Quarantine Law No. 76/2012, particularly external and internal, considering Basra Gov. as a " Quarantined Zone", and prohibition of any transfer of palm trees, offshoots, dry leaves or leaves' base from Basra to other governorates	
	Achieved	Yes
	Comments	
Activity 1.6	Strengthening the national phytosanitary system for effective control plants and plant products, and movement of palm trees at the entry points and within the country	
	Achieved	Yes
	Comments	A phytosanitary workshop to train MoA staff on international phytosanitary standards was conducted by international experts, in Erbil, 24 to 26 April 2017. This led to updating the national quarantine laws and by-laws.
Activity 1.7	Conduct an urgent meeting with Basra local authorities including governorate's council, governor's office, custom authorities, farmer's union, Basra agriculture directorate, mayors, directors of municipalities, private agriculture companies and local media to explain the enforcement of agriculture quarantine law regulations and the role of each partner	
	Achieved	Yes
	Comments	
Activity 1.8	Develop a protocol for certification of the palm tree nurseries	
	Achieved	Yes
	Comments	This activity was implemented and discussed during meetings with government officials, and, owing to Agricultural Quarantine Law No.76/2012 and relevant legislation, stating that "exportation and importation of date palm nurseries (offshoots) is prohibited", the actions were reactivated and reinforced through instructions from the Ministry of Interior and the Ministry of Defence, which were distributed at check points to prevent the movement of offshoots internally and externally.
Activity 1.9	National workshop to review and update the phytosanitary measures and effective preventive measures of spread of RPW and other invasive and quarantine pests, in compliance with international guidance	
	Achieved	Yes
	Comments	The workshop was conducted by international experts for 29 staff members from the MoA.

Output 2	Technical skills of MoA staff and other law enforcement agencies are improved in the surveillance and diagnosis and management practices of RPW		
	Indicators	Target	Achieved
	Number of plant protection and extension specialists, professionals trained on diagnosis, surveillance, phytosanitary measures and management of RPW.	More than 250 plant protection and extension staff members are trained by end of the project	Yes
Baseline	Limited training had been done, but a large number of plant protection and extension staff needed to be trained.		
Comments			
Activity 2.1	Assess the available national institutional infrastructure, equipment required for surveillance, diagnostic analysis and management of RPW, and determine the quantity and types of procurement needed during the course of project		
	Achieved	Yes	
	Comments		
Activity 2.2	Training courses for Plant Protection and Extension Staff in Basra and other governorates on RPW, detection, surveillance and management		
	Achieved	Yes	
	Comments	Two training workshops were conducted on advanced injection techniques, insecticide residues monitoring, early infestation detection and smart extension for RPW for staff of PPD/MoA, in Baghdad and Basra from 17 to 21 December 2017. Advanced early detection techniques were conducted over all the targeted governorate; and advanced injection techniques were introduced and implemented.	
Activity 2.3	Training workshops for phytosanitary inspectors and custom officers involved in inspection and control of plant consignments at ports of entry, and plant protection officers on date palm offshoots nurseries		
	Achieved	Yes	
	Comments		
Activity 2.4	Training course on the use of GIS/GPS system for mapping of palm trees, data collection and analysis of the surveillance and management programme		
	Achieved	Yes	
	Comments	A training workshop was conducted on the application of GPS techniques to draw an RPW infestation map and develop a national contingency plan containing RPW, which was attended by 25 trainees representing all Agriculture Directorates of governorates and National Plant Protection Directorate (NPPD) staff at Abu Ghraib. All affiliated governorates staff were trained on using GPS to determine RPW-infested areas and develop a contingency plan for possible RPW introduction.	
Activity 2.5	Abroad training/study tour (seven days) for three national researchers and plant protection officers to a country with effective and advanced RPW IPM programme within the NENA region.		
	Achieved	Yes	
	Comments	The RPW International and Regional Workshop was held in the Islamic Republic of Iran. During the workshop, experiences were exchanged on the Iranian approach on controlling the pest, and training courses were held to build the capacities of official staff from the southern governorates in the field of early warning detection, containment action and advanced detection procedures.	

Output 3	Effective action plans for surveillance and management of RPW are developed and implemented		
	Indicators	Target	Achieved
	Number of palms/area covered by surveillance programme, and confirmed that they are free of pest.	17 governorates of Iraq are surveyed and maintained free of pest by end of the project.	Yes
Baseline	RPW has only been recorded on two border locations of Basra governorate.		
Comments			
Activity 3.1	Development and implement an effective action plan for delimiting the boundaries of the infested area and establishing a buffer zone		
	Achieved	Yes	
	Comments		
Activity 3.2	Develop and implement an action plan for the surveillance of RPW to be implemented at palm plantations and nurseries in other governorates with the support and contribution of MoA and all relevant stakeholders in the sector		
	Achieved	Yes	
	Comments	An RPW meeting was held on 9 and 10 March 2019 in Abu Dhabi, which was attended by two experts from the MoA. As a result of this meeting, Iraq joined the global strategic plan to manage RPW.	
Activity 3.3	Provide technical assistance to the RPW management and eradication programme of infested palms implemented by the Government		
	Achieved	Yes	
	Comments	A practical training course was conducted on the eradication and management of infested palms for MoA/PPD staff in Abu Ghraib. Participants were trained on diagnosis of the disease, the application of control measures, and how to eradicate the infested palms to be burned and buried.	
Activity 3.4	Procurement of basic equipment and supplies for field survey, monitoring and detection		
	Achieved	Yes	
	Comments	Four chainsaws, 10 drills, 5 000 pheromones and 10 sprayers were purchased, imported and delivered to the MoA/PPD in Abu Ghraib.	
Activity 3.5	Develop a GIS/GPS based software/programme and mobile application for mapping of palm trees, data collection and analysis of the surveillance and management programme		
	Achieved	Yes	
	Comments		

Output 4	Knowledge of farmers and public awareness on the risk related to RPW and preventive measures are raised		
	Indicators	Target	Achieved
	Number of farmers' local leaders, FAU and farmers trained on the risk of RPW, and preventive and management measures are in place.	At least 1 500 farmers and farmers' leaders are trained and become knowledgeable on the risk of RPW and its management.	Yes
Baseline	Few field days had been conducted for farmers on infested sites to raise their awareness on the pest damage.		
Comments			
Activity 4.1	One-day training workshops/field days for date palm farmers and growers on the risk of RPW and preventive measures against it (20-25 events/country)		
	Achieved	Yes	
	Comments	Two-day training workshops were organized in three governorates, Basra, Thi Qar and Maysan from 9 to 15 December 2018, building the capacities and raising the awareness of of 150 farmers in early detection of infestation and preventive measures.	
Activity 4.2	One-day awareness-raising seminars/workshops for stakeholders (university professionals, private companies, governorates council, municipal directors, dates processing industry, farmers' associations, relevant NGOs, etc.) on the risk of RPW and preventive measures against it (5-10 seminars nationwide)		
	Achieved	Yes	
	Comments		
Activity 4.3	Pamphlets, posters, videos training/extension materials on RPW monitoring and management in Arabic		
	Achieved	Yes	
	Comments		
Activity 4.4	Project documentation and awareness-raising campaign through different media, television stations and newspapers		
	Achieved	Yes	
	Comments		
Activity 4.5	Press conferences, involvement of local media, FAO, FAU, AD, MHESR and MoA representatives, field trips and other events		
	Achieved	Yes	
	Comments		

Output 5	The project outcomes are evaluated, and recommendations for national follow-up actions developed		
	Indicators	Target	Achieved
	- Number of effective measures put in place to prevent the spread of RPW in the country. - Number of plant protection and extension specialists, professionals trained on diagnosis, surveillance, phytosanitary measures and management of RPW. - Number of palms/area covered by surveillance programme, and confirmed that they are free of pest.	- Phytosanitary measures reviewed and updated, and contingency plans for surveillance and management of RPW developed within first three months of the project. Updated and endorsed phytosanitary measures are enforced by the MoA and other partners at major ports of entry, as well as intergovernorate security points. - More than 250 plant protection and extension staff members are trained by end of the project. - 17 governorates of Iraq are surveyed and maintained free of pest by end of the project.	Yes
Baseline	RPW has only been recorded on two border locations of Basra Governorate.		
Comments	Two additional activities were implemented under this output, in response to an official request by the MoA, and owing to budget availability after all the planned activities had been completed. These included a workshop and training programme, and the procurement of electronic pheromone traps.		
Activity 5.1	Hold the final wrap up workshop of the project and evaluate the project outcomes and achievements, and prepare the follow-up action plan to be adopted by the Government and other partners and stakeholders		
	Achieved	Yes	
	Comments	The national strategy to control RPW was updated by developing six protocols and ten recommendations for controlling RPW. The six protocols comprised palm inspection, the use of chemical pesticides, the use of pheromone traps, the removal of infested traps, programme evaluation/validation protocols, and quarantine protocols.	
Activity 5.2	Prepare the final Terminal Report of the project with the outcomes and the achievements of the project; and necessary recommendations/follow-up actions for addressing any remaining constraints		
	Achieved	Yes	
	Comments		
Activity 5.3	Workshop and training programme for TCP/IRQ/3602 (FAO Programme for the eradication of RPW)		
	Achieved	Yes	
	Comments	These two activities included a workshop and training programme (FAO Programme for the eradication of RPW), which were held by two international experts in Baghdad, from 30 June to 3 July 2019.	
Activity 5.4	Procurement 400 electronic pheromone traps		
	Achieved	Yes	
	Comments	400 electronic pheromone traps were procured and delivered to MoA/PPD/Basra.	

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