Food and Agriculture Organization of the United Nations

Red Palm Weevil Eradication Project

Survey Instrument Tool
Socioeconomic Impact Assessment of the Red Palm Weevil in NENA Countries
(The Case of Egypt and Saudi Arabia)

Ex-post impact assessment (impact evaluation of the proposed interventions)

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Farm Household Survey Questionnaire (2021/2022 Cropping Year)

Section A: General information

Questionnaire number……..

Interview background

		Code
A11	Name of country	
A12	Name of governorate	
A13	Name of administrative unit	
A14	Name of village	
A15	Date of interview (DD/MM/YY)	

A21	Questionnaire ID	

Name of:	Code	Date	Signature
Interviewer(s)			
Field supervisor(s)			
Data entry clerk(s)			
Data entry supervisor(s)			

- **Type of Respondent** ……

1= Producer Traditional, 2= Producer Modernized, 3=Producer Cooperative, 4=Producer Other (Specify)

- **Information to be collected at the end of the interview**

A22	Name of Respondent	
A23	Number of years the respondent has been living in this village	
A24	The Respondent is the Head of Household (1=Yes, 0=No)	

Section B: Socio-demographic characteristics

1.1 Household composition

a) Total number of people living in your house (at least for the last 6 months) _____
   - Number of male household members _____
   - Number of female household members _____

- Number of children _____

b) Sex of household head (1=Male, 0= Female) _____

c) Age of household head _____

1.2 Highest education level household head attained (0 = illiterate, 1= read only, 2= read and write, 3= primary, 4= intermediate, 5= secondary, 6= university or above) _____

1.3 Major occupation of the household head (0= None, 1=crop farming, 2= animal husbandry, 3= trade, 4= student, 5 = housekeeping, 6= off farm employment, 7 = other(specify))_____

1.4 Farm activities for which the family faces shortage of manpower: Code (0= none 1= land preparation, 2= production, 3= harvesting 4= irrigating, 5= All, 6=other (specify) ____

1.5 Who manages your farm (0=myself, 1=another family member, 2=relative(s), 3= other (specify)? _____

1.6 Main Source of Income: 1=Dates Farming, 2= Other farming activities, 3= Off-farm sources

1.7 Farming experience of HH head _____ years

1.8 Did the hh head ever participate in on-farm date palm managements? .....(1=Yes, 0=No)

1.9 Did the hh head participate in on-farm salinity related trial? .....(1=Yes, 0=No)

1.10 Did the hh head ever get training on early detection of RPW? .....(1=Yes, 0=No)
If the answer is yes, how satisfied are you? 1=Very satisfied, 2=satisfied to some extend, 3=not satisfied.

1.11 Did the hh head ever get any training on RPW control methods? .....(1=Yes, 0=No)

1.12 If the answer is yes, how satisfied are you? 1=Very satisfied, 2=satisfied to some extend, 3=not satisfied.

1.13 How many times did extension agents visit you (on your farm) in 2021? _____

1.14 In 2021, how many times did you visit the extension agent? _____

1.15 Do you follow extension platform fromyoumobilephone?1 = Yes regularly, 2=yes sometimes, 3=Idon't follow

1.16 Do you think you can rely on government support (subsidies, food aid etc.) if your date production fails? .....(1=Yes, 0=No)

1.17 Did you receive government support to combat RPW? 1=Yes, 2=No.

1.18 Nature of the government support you have received: 1=provision of inputs freely or at subsidized price, 2=technical support.

1.19 Do you have a regularly hired seasonal labor? Yes _____, No _____, If yes, how much do you pay him? _____Livre-Riyal/month

1.20 Do you have a permanently hired annual labor? Yes _____, No _____, If yes, how much do you pay him? _____Livre-Riyal/year

1.21 What activities is the hired labor responsible for? (1= land preparation, 2= date production management (fertilization, pollination, fruit thinning, pruning), 3= harvesting 4= marketing, 5=irrigating, 6= All, 7=other (specify) _____

1.22 Did the hh participated in government programs on control methods of RPW.....(1=Yes, 0=No)

1.23 Did you know of existing legislation related to protection of date palm from RPW? Yes _____, No _____,

Section C: Awareness of RPW problems

2.1 Do you think RPW is a serious problem in your area? 1=Yes, 0= No_____

2.2 What do you think are the major causes of RPW infestation and propagation?

_____

_____

2.3 Do you think damages from RPW can be reduced? Yes/No_____
2.4 If yes, how? _____
2.5 Is RPW a major problem for you? Yes/No _____
2.6 If no, why not?_____
2.7 If yes, how are you trying to control it or minimize its effect?_____
2.8 What do you do if you discovered RPW infestation on your farm? Take measures to control it (), inform the agricultural authority (), I don't do anything ().
2.9 If you report a suspected injury by RPW, will you receive help in time? Yes (), no ().
2.10Type of infestation in your farm: 1=on off-shoot, 2=on the trunk, 3=on the head.
2.11Which is more dangerous: 1=infestation of the off-shoot, 2=on the trunk, 3=on the head.
2.12 The favourite date palm tree by RPW? 1=Soft dates, 2=semi-soft dates, 3=dry dates, 4=No,5=difference.
2.13 Date palm trees preferred by RPW? 1=Young trees, 2=old trees, 3=no difference.
2.14How does infestation happen? 1=Planting infested off-shoots, 2=from a nearby farm, 3=I don't know.
2.15Times when infestation is severe?:1=summer months , 2=winter months , 3=in both summer and winter.
2.16When you discovered infestation for the first time?.....
_____
2.17 Records of date palm infestation in your farm

Period	Number of infested trees	Number of treated trees	Number of felled down trees
Last year			
Last five years			
Last ten years			

2.18 How do you know if your date palm trees are infested by RPW? 1=Visible symptoms, 2=detection by dogs, 3=pheromone traps,4=Dead trees.
2.19 Do you think that early inspection and examination of RPW is important to combat it? 1=Yes, 2=No, 3=I don't know.
2.20 If yes, please report the period of inspection of RPW in your farm? 1=Don't inspect, 2=once every month, 3=once every 45 days, 4=once every two months, 5=once every 3 to 6 months, 6=once every more than 6-month period.
2.21 Have you been informed before of the importance of inspection and early detection of RPW to combat it? 1=Yes, 2=No, 3=I don't remember.
2.22 Is the inspection team committed to the comprehensive periodic inspection of your farm? Yes (), No ().
2.23 If the answer is yes, please report the periods of visits: 1=In less than one month period, 2=During 45 days, 3=During 2 to three months, 4=During three to six months, 5=in more than six to 12 months ().
2.24 Farmers' perceptions on Performance of Inspection and Control Team (insert ✓for the right answer)

Item	Excellent	Good	Moderate	weak	Very weak

Team Efficiency of detection of infested trees					
The team's treatment of date palms infected with RPW					
Remove infected palms on time and in the right way without leaving residues					
Evaluation of the performance of the red palm weevil control team					
Cleaning and maintenance of the work are inside the farm					
The overall quality of the work done by the Red Palm Weevil Control program					

2.25How much (in %) have date palm yield/productivity reduced due to RPW over the last?
Or/1=Significant increase, 2= Little increase, 3=No change, 4=Little decrease, 5=Significant decrease

	30 years	20 years	10 years	5 years	year (2021)
Date palm					

2.26What control methods do you think are most effective in controlling RPW?

A) From among those which you practice: _____

B) Others which you don't practice: _____

C) For those which you don't practice, why can't you practice them? _____

_____

2.27What date palm varieties do you think are better in tolerating RPW? _____

_____

_____

2.28 What do you think are the major constraints in controlling RPW damages?

_____

_____

2.29What other thing(s) do you practice on your farms differently than everybody else and please state on which of your fields(plots) you practice it(them)?_____

_____

2.30. Source of off-shoots for your farm: 1=from your private farm. 2=Certified nurseries, 3=neighboring farm, 4=local traders, 5=other.

Section D: Knowledge and qualitative assessment of RPW control methods

RPW Control Methods	**Knowledge (Code A)**	**Use (Code B)**	**Assessment (Code C)**			**Having skills to apply the method (Code D)**
			Efficiency	**Easy to use**	**Cost-effective**	
Pheromone traps						
Trunk injection						
Drenching with pesticides						

Chemical fumigation						
Manual scraping and cleaning						
Motorized spraying						
Aluminum oxide fumigation						
Other (1)						
Other (2)						
Other (3)						
Other (4)						

- Code A: 1=Yes, 0=No
- Code B: 1=Yes, 0=No
- Code C: 1=Strongly agree, 2=Agree, 3=Neutral, 4=Disagree, 5=Strongly agree
- Code D: 1=Yes, 0=No

Section E: Quantitative assessment of RPW control methods

Magnitude of the effectiveness of a curative treatment: ability of the method to destroy a population of RPW when applied to an infested palm.

Magnitude of effectiveness of a preventive treatment: ability of the method to prevent a healthy palm tree from being infested by RPW.

Persistence of the effect of a curative treatment: duration during which the one-off application of the method (= 1 treatment operation) retains its curative effectiveness. Quantitative rating estimated in number of days.

Persistence of the effect of a preventive treatment: duration during which the one-off application of the method (= 1 treatment operation) retains its preventive effectiveness. Quantitative rating estimated in number of days.

Sustainability of the effectiveness of the method: Risk that the intrinsic effectiveness of the method significantly over time.

Operationality of a treatment: the degree of applicability of the method given its stage of development.

Practicality of implementing a treatment: Level of technical and logistical difficulty associated with carrying out the treatment.

Annual cost of a treatment: cost of implementing the treatment of a single palm tree. To take account of the nature and methods of implementation of the method, this cost is estimated for a single treatment ("individual" rate) or for grouped treatments ("average" rate, with economies of scale).

Safety of a treatment for the environment: potential impact of a treatment on the environment (biodiversity, water quality, etc.) when carried out in accordance with regulations and good practice.

Safety of a treatment for the operator: potential impact of a treatment on the health of an applicator - professional or private - when it is carried out in compliance with the regulations and good practices, taking into account, however, the fact that its repetitive nature may lead to an increase in risk linked in particular to a reduction in vigilance.

Safety of a treatment for the palm tree: Potential impact of a treatment on the physiological condition of a palm tree and its life expectancy compared to a palm tree not infested or not threatened by RPW and which would not have been treated.

Criteria	Pheromone traps	Trunk injection	Drenching with pesticides	Chemical fumigation	Manual scraping and cleaning	Motorized spraying	Aluminum oxide fumigation	Other
1. Magnitude of the effectiveness of a curative treatment. Codes (A)								
2. Magnitude of effectiveness of								

a preventive treatment. Code (A)								
3.Persistence of the effect of a curative treatment (number of days)								
4.Persistence of the effect of a curative treatment (number of days)								
5.Sustainability of the effectiveness of the method Code (B)								
6. Operationality of a treatment Code (C)								
7.Practicality of implementing a treatment Code (D)								
8.Annual cost of a treatment USD								
9.Safety of a treatment for the environment Code (E)								
10.Safety of a treatment for the operator (Code F)								
11. Safety of a treatment for the palm tree (Code F)								

(A) Qualitative scale from 0 to 4 (nr = not relevant or not quantifiable; 0 = no information; 1 = potentially effective but weak and requires further action; 2 = proven but insufficient effectiveness; 3 = proven but dependent on associated criteria 4 = effectiveness not requiring further action).

(B) Qualitative scale from 1 to 4 (nr = not relevant or not quantifiable; 1 = high risk; 2 = moderate risk; 3 = low risk). 4 = no or almost no risk). No quantitative scoring possible.

(C) Qualitative scale from 1 to 4 (nr = not relevant or not quantifiable; 1 = basic research stage; 2 = stage of development; 3 = in application somewhere in the world; 4 = already in application in this country). No quantitative scoring possible.

(D) Qualitative scale from 1 to 4 (nr = not relevant or quantifiable; 1 = difficult; 2 = fairly difficult; 3 = fairly easy; 4 = easy). No quantitative scoring possible.

(E) Qualitative scale from 1 to 4 (nr = not relevant or not quantifiable; 1 = high impact; 2 = moderate impact; 3 = low impact; 4 = no impact). No quantitative rating possible.

(F) Qualitative scale from 1 to 4 (nr = not relevant or not quantifiable; 1 = high incidence; 2 = moderate incidence; 3 = low incidence; 4 = no incidence). No quantitative rating possible.

(G) Qualitative scale from 1 to 4 (nr = not relevant or not quantifiable; 1 = fatal; 2 = high incidence; 3 = moderate incidence; 4 = low incidence). No quantitative scoring possible.

Section F : Consciousness of RPW control methods and its assimilation (acceptance and adoption)

RPW Control Methods						
	1	2	3	4	5	6
	Have you heard of this method? (Code E)	Have you ever used this method? (Code F)	If not to (2) what was the main reason? (Code G)	Main source of information on the method (Code H)	Number of years for the use of this method	Do you plan to use this method in the future? (Code I)
Prevention methods						
Checking trees regularly to detect early infestation						
Removing offshoots as a protective measure						
Pruning and removing fonds in the winter						
Using pheromone traps to detect early infestation						
Treating lesions resulted from pruning and offshoot detachment by using contact pesticides						
Legislative Methods						
Not transferring infested trees or offshoots to non-infested areas						
Burning and burying infested palm far away after cutting it into small portions						
Not transferring infested palm waste to other areas						
Surveying RPW-infested palms and inform authorities when necessary						
Not allowing anyone to transfer infested offshoots from an infested farm						
Cultural Methods						
Adhering to the time and depth specified for planting offshoots						
Applying moderate irrigation to reduce humidity on farms						
Adhering to good plowing before planting						
Maintaining the recommended distance between trees						
Mechanical Methods						
Covering roots of small trees with soil to a height of 20 cm to prevent insect attacks						
Removing weeds and dry trunks and disposing of them in the recommended way						
Eradicating infested palms						
Removing infested or dead trees and the pruning products on neglected farms						
Closing all openings on the trunks of palms						
Scraping infested areas until healthy tissue is exposed						
Chemical Methods						

Spraying according to extension recommendations						
Spraying pesticides of proper quantity and quality and within the specified time frame						
Dusting farms						

- Code E: 1=Yes, 0=No
- Code F: 1=Yes, 0=No
- Code G: 1=Not available, 2=Costly, 3=Not efficient, 4=Labor-intensive, 5=Lack of information, 6=Lack of skills, 7=Difficult to apply, 8=Other (specify)
- Code H: 1= Extension service, 2=Other farmers, 3=Service provider, 4=Radio, 5=Research center, 6=Cooperative, 7=NGO, Government, Development assistance
- Code I: 1=Yes, 0=No

Section G: Land ownership and use

4.1 Size of own land holding _____Donum
4.2 Size of land imported (rented or leased or sharecropped in) _____Donum
4.3 Size of land exported (rented or leased or sharecropped out) _____Donum
4.4 In what year did you first have/start using this land?_____
4.5 How did you acquire it? (1 = Given by the state or local authority, 2 = Bought it, 3 = Donated by friend, 4 = By inheritance or gift from relatives, 5 = Cleared land/occupied for free, 6 = Rented in 7 = Others (specify……))
4.6) Do you have a paper to certify your ownership or rental agreement? (1 = Yes, 2 = Never had, 3 = Lost it, 4 = Don't know)
4.7 Total size of land operated (cultivated in date palm) _____Donum
4.8 Is the palm on a separate farm or is there mixing with other crops? : 1=separate , 2= Mixed.
4.9 The nature of palm cultivation on the farm: 1=scuttered with flood irrigation, 2=organized with flood irrigation, 3= organized with drip irrigation
4.10 Number of date palm trees: Fruitful _____, Unfruitful _____Donum
4.11 Varieties of dates on the farm: number of soft dates… , number of semi-softdates……..and number of dry dates……
4.12 Number/share of infected date palm trees _____

Section H: Productions, inputs, and treatments

Date of first infestation by RPW : ……
N°
Infestation rate % Nof Trees planted ……..N of trees infested……N of trees deaths

	Plots without infestation (last year)			**Infested plots (last year)**		
	Date fruits	Offshoots	Byproducts	Date fruits	Offshoots	Byproducts
Land preparation						
Time						
Traditional equipment used (i.e. sape)						
Traditional equipment cost						
Modern equipment used (i.e. Tractor)						
Modern equipment cost						
Labor cost						
Family labor (%)						

Planting offshoots						
Time						
Number of offshoots						
Value of offshoots (per unit)						
Equipment cost						
Labor cost						
Replacement costs						
Land/pit preparation						
Value of off shoot						
Offshoot planting operation						
Root Growth Promotion						
Protective chemical treatment						
Chemical Fertilizer						
Organic fertilizer						
Punning and spraying						
All Husbandry practices						
Spraying with offshoot detachment						
Permanent Labour						
Pollens and pollination						
Harvesting operation						
Dates pest control in store						
Fertilizer application						
Time						
Amount of fertilizer (kg/ha)						
Type of fertilizer						
Application Method						
Application costs (ha)						
Fertilizer source						
NPK fertilizer price (ton)						
Super phosphate price						
Urea price (ton)						
N fertilizer price (ton)						
Labor cost						
Family labor (%)						
Weed control						
Date of application						
Number of times						
Unit of used chemical						
Quantity used per time						
Price per unit						
Labour cost						
Chemical control(except Red Palm Weevil)						
Date of application						
Number of times						
Unit of used chemical						
Quantity used per time						
Price per unit						
Labour cost						
Irrigation						
No of irrigation						
Date of irrigation						
Cost of irrigation (per ha/irr)						
Irrigation technology-1Flow						

2-Sprinklere 3-Drip						
Labor costs (per ha/irr)						
Protection harvesting						
Plastic film cost						
Labor cost						
Harvesting						
Time						
Method						
Machinery cost (ha)						
Labor cost of harvesting (ha)						
Pruning tree						
Cost of pruning per ha						
Labor cost						
Family cost (%)						
Transport cost						
Preventive method (Red Palm Weevil)						
Inspection activity cost						
Mechanical control						
Pulling out cost						
Crushing cost						
Removal and burial Cost						
Others						
Chemical control Injection method						
Date of application						
Number of times						
Unit of used chemical						
Quantity used per time						
Price per unit						
Labour cost						
Others						
Chemical control Spray method						
Date of application						
Number of times						
Unit of used chemical						
Quantity used per time						
Price per unit						
Labour cost						
Others						
Biotechnical control						
Date of application						
Number of pheromone trap						
Unit of pheromone trap						
Labour cost						
Others						
Biological control						
Date of application						
Number of times						
Nematodes application cost						
Labour cost						
Others						
Production						
Production quantity (main crop) Q/ha						
Price received for the main crop						

Packaging cost (main crop)						
Marketing cost (main crop)						
Transport						
Others						
By-product (designation)						
Production quantity (by-product)						
Selling price of by-product						
Packaging cost (by-product)						
Marketing cost (by-product)						
Dates pest control in store						
Others						
Revenue foregone Removed(felling down)trees: Current production						
Quantity						
Price						
Additional Revenue Generated (new investment-offshoots) after RPW control methods)						
Quantity						
Price						