

SCOPE OF WORK

Consultant Name:	TBD					
Project/Activity Name:	USAID/Sweden FARMA II Project {Bosnia}				Activity #	4729
Assignment Title:	Consultants for technical support to address harmful organism threats to BiH					
Position Type:	Full Time		Part Time		STTA	X
Consultant Nationality:			TCN		CCN	X
Engaged By:	Cardno Emerging Markets USA, Ltd.					
Position Reports to:	COP/Policy and Regulation Component Lead					
Assignment Period:	Start Date: July			End Date: October		
Total LOE for Position:	Total LOE: 24 (4 consultants x 6 days)		Onsite:	Offsite: 24		
			Travel: 0			

USAID/Sweden FARMA II - Description of Project

USAID and the Government of Sweden have awarded Cardno Emerging Markets USA a five-year contract for implementation of the Fostering Agricultural Markets Activity II (FARMA II) project in Bosnia & Herzegovina (BiH). The purpose of the FARMA II Project is to create agricultural and agribusiness economic opportunities for BiH farmers and entrepreneurs. FARMA II will achieve this by assisting agricultural producer organizations to adopt European Union (EU) and international agricultural and food standards and new production techniques, produce new high value products and expand their access to foreign and domestic markets. The objective of FARMA II's Component 2 is to strengthen the BiH public sector such that it fully implements regulations, norms, practices, and rules in the areas of agriculture & food, veterinary & plant health and safety, accreditation, standardization and quality certifications related to food and agricultural products which meet EU and international best practice requirements.

Background

The introduction and spread of harmful organisms (plant pests) and diseases among food crops and other plant species can have significant consequences for the agri-food sector of BiH. Agricultural and food crops are vulnerable to attack by a wide spectrum of insects and plant pathogens (viruses, bacteria, etc). Occurrence of a new plant pest or pathogen into an agricultural area can have a serious impact on crop yields and on the costs of management of these threats over the short and long-term. It can also disrupt the trade relations between BiH and its trading partners, resulting in loss of markets. Moreover, it distorts competitiveness as it may negatively effect on the quality of food and feed, impacting human health. In extreme circumstances, it may also negatively affect availability of certain foods. By preventing their occurrence using adequate preventive phytosanitary measures, the use of pesticides is reduced¹ and pesticide residues in food as well, thus protecting the consumers, and reducing soil and water pollution. The BiH Plant Health Protection Administration (PHPA) developed a Manual for Phytosanitary Inspectors of quarantine harmful organisms in 2012, which describes over 300 harmful

¹ In the practice and in the science, the use of pesticides must be the last measure applied.

organisms. This manual is incomplete and out of date. Moreover, the manual only provides basic information on pests such as the type, name and distribution. A more comprehensive and practical manual is urgently needed to guide inspectors and other practitioners in the field. The manual should also be based upon an updated BiH Rulebook on Lists on Harmful Organisms which needs to be approximated to the EU Lists. The last update of this rulebook was completed in 2014.

Harmful organisms are classified according to the risk they pose to the health of individual plant species and risk of causing significant economic damage². Criteria for prioritization is also linked to economic importance of the crops (i.e. the size of the cultivated area, value of production, volume and value of trade exports and imports, number of farms concerned by the crop and the territorial density), potential consumption impact (importance in domestic human and/or animal feed consumption) and environmental impact (i.e. presence of such risks in threatened and protected ecological areas).

As an example of the threats that such organisms can pose, particularly dangerous for BiH is *Monilinia fructicola* (Winter) Honey in the fruit and vegetable sub-sectors. This is one of the most important phytopathogenic fungi in the production of stone fruit and apple fruit which can cause significant losses during vegetation, and later in the conditions of storage of fruits. It represents an exceptional phytosanitary risk, taking into account that this species is highly virulent and can easily create resistant strains of fungicides.³

In response to such threats and regulatory needs, the relevant institutions in this field at state and entity level, namely the PHPA, the Federal Administration for Inspection Affairs, the Ministry of Agriculture, Water Management and Forestry of the Federation of BiH, the Ministry of Agriculture, Forestry and Water Management of the Republic of Srpska, the Republic Administration for Inspection Affairs, the department of for Agriculture, Forestry and Water Management of Brcko District, have requested urgent action to help mitigate against these risks to the sector. This request has been coordinated by the PHPA, which has subsequently prepared and submitted a proposal to initiate the necessary legal procedures to amend the *BiH Rulebook on Lists of Harmful Organisms* and ensure that the list of organisms included is harmonized with the requirements of relevant EU regulations⁴, where appropriate for BiH. The PHPA has requested technical support from FARMA II to assist all relevant institutions in the implementation of follow up actions.

² See Article 7 of the BiH Plant Health Protection Law (BiH OG, No. 23/03).

³ Detailed research based on the official scientific opinion and risk analysis for *Monillinium fructicola* has been developed by the European Food Safety Authority (EFSA), in 2011. The arguments presented indicate that *Monillinia fructicola* (Winter) Honey represents an exceptional phytosanitary risk, taking into account that this species is virulent and easily creates resistant strains of fungicides. This is significant for BiH as numbers of apples are cultivated in significant production areas of stone fruit species from the genera *Malus*, *Pyrus*, *Cidonia* and *Prunus*, which are the hosts of this phytopathogenic fungus. The species is widespread in Europe, as well as in neighboring countries of BiH, and its introduction and expansion into BiH can be expected.

⁴ Directive 2014/78/EU and 2014/83/EU on protective measures against the introduction of organisms harmful to plants or plant products & against their spread within the Community. EPPO Pest Lists with pest-specific information

Public sector services (which includes MoAs, plant disease diagnosis and prognosis services (izveštajno prognozne službe) as well as advisory services, agriculture institutes and phytosanitary inspectors, are responsible for control, surveillance and monitoring of plant health and participation in its monitoring. These services are also responsible for the identification and reporting on the occurrence or spread of harmful organisms and their suppression. Diagnosis and prognosis services are responsible to perform a general control by placing insects' traps and lures and other monitoring tools, through which they monitor the occurrence of harmful organisms and perform a visual control to identify harmful organisms and their quantity, to provide recommendations on any actions to mitigate risks and their publication/dissemination. Phytosanitary inspectors are responsible for plant health supervision. In case of occurrence of harmful organisms, phytosanitary inspectors are responsible for authorizing the appropriate measures to be undertaken.

Private sector producer organizations (POs) are obliged to detect the occurrence or spreading of harmful organisms, and to perform monitoring of their plants.

Purpose of Assignment

The purpose of this assignment is to support the PHPA to prevent the occurrence and spread of harmful organisms through strengthening monitoring, surveillance, control and prevention systems in both the public and private sectors.

Support will take place in three phases, namely:

- *Phase one:* Assessment of harmful organisms for which there is a threat of their introduction and spread within BiH; support for preparation of harmonized BiH Lists of Harmful Organisms with EU relevant lists; preparation of training materials; and delivery of training and practical guidance materials to relevant public institutions at state and lower levels of governments PHPA staff, MoAs, plant disease diagnosis and prognosis services, advisory services, agriculture institutes and phytosanitary inspectors. The assessment and training material preparation will take place during July and August, but delivery of training and dissemination of training materials/guidance will take place during September.⁵
- *Phases two and three (not be part of this SoW, separate request will be developed)* will focus on the training of trainers and training of POs in the early detection and suppression of the 20 most harmful organisms (10 harmful organisms with the most significant economic impact for POs will be subject of each phase) and delivery practical guidance materials for early detection harmful organisms and organism with the most economic impact. Based on the BH Plant Health Protection Law (Official Gazette 75/03), the POs who are *running plantations, nurseries, cooling storage, greenhouses, transport of plants*, are also obliged to immediately inform phytosanitary inspectors when they discover or suspect the presence of harmful organisms from the BiH Lists I.A and II. A (i.e. the most harmful). For this reason phases two and three will be primarily oriented to POs and advisory services. Performing of phases two and three (preparation of training and training materials) will take place during October and November.⁶

⁵ Indicatively planned for the suggested timeframe, subject to final agreement with the relevant authorities and availability of target training beneficiaries.

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This SoW focuses on the first phase of support which will consider the significant risks to certain BiH fruit and vegetable crops from the introduction and spread of certain harmful organisms. FARMA II has agreed to support the BiH PHPA in the development of an updated *pests risk assessment* through the use of scientific expert assessment and opinions. The risk assessment (expert opinion) on introducing of harmful organisms for BiH will be done in accordance with the relevant EU regulations on harmful organism, as not all harmful organisms from the EU Lists on harmful organisms are a threat for BiH, taking into consideration the climate, geographic area and other factors. The results from the risk assessments will be used to justify amendments to the BiH Rulebook on the list of harmful organisms (and where appropriate suggest the removal of certain existing pests) to be subject to mandatory phytosanitary inspection. The risk assessment will be followed by trainings for PHPA staff, MoAs, disease diagnosis and prognosis services, advisory services, agriculture institutes and phytosanitary inspectors.

Relevant *guidance and training materials* suitable for use by disease diagnosis and prognosis services, advisory services, agriculture institutes and phytosanitary inspectors on how to recognize the symptoms of the most harmful organisms in the field and the actions to be taken if these are identified, will be developed. The training materials will consist of detailed descriptions of harmful organisms (morphology, biology, the way of transmission, symptoms they cause etc.), host species, distribution and habitats, photos of harmful organisms, photos of symptoms, control procedures for identification of harmful organisms and the necessary phytosanitary control measures and instructions/procedures for sampling for phytosanitary control. The training will be provided for at least 30 phytosanitary inspectors and 40 public and private advisors. Agriculture institutes will also participate, potentially providing the basis for future training-of-trainer programs in both entities.

Given the wide range of specialist plant health threats which exists and which should be covered by such a risk assessment and training material preparation and delivery, expert inputs are required in the following areas:

- **Entomology**

For this assignment it is needed to hire two entomologists (6 days each) who will do assessment of pests from the list (Annex 1) in order to do Initiation, Pest risk assessment and Pest risk management which will be based on most dangerous organisms regarding economic and health aspects. Since there are on the list polyphagous *pests* (the host plant are fruits and vegetables) there is a need for:

- 1 expert specialized to agriculture harmful organisms;
- 1 expert specialized to fruit and nut crops and/or tree crops' (more focused on Melliferous plants such as chestnut woods).

- **Phytopathology**

For this assignment it is needed to hire two phytopathologists (6 days each) who will do assessment of plant diseases from the list (Annex 1) in order to do Initiation, Disease risk assessment and Disease risk management which will be based on most dangerous organisms regarding economic and health aspects. Since there are on

the list polyphagous organisms/*viruses, fungi, bacteria, phytoplasma* (the host plant are fruits and vegetables) there is a need for:

- 1 expert *specialized to agriculture harmful organisms*;
- 1 expert *specialized to fruit and nut crops and/or tree crops*' (more focused on Melliferous plants such as chestnut woods).

For the above mentioned experts, the list of the most potentially harmful organisms that will be assessed for B&H (Annex 1), are the subject of this SoW using their expertise and practice approach to do scientific valid document to justify amendments to the B&H Rulebook, and to prepare practical guidance and training materials for potential beneficiaries.

Activities/Deliverables required by experts:

- Risk assessment (expert opinion) on harmful organisms which are considered particularly dangerous, and to be included in the BiH Lists (using form of *EPPO Decision-Support Scheme for an Express Pest Risk Analysis; Form PM 5/5(1)*);
- Guidance and training materials for these harmful organisms (*with detailed description as it stated in purpose of assignment*) to be delivered in practical and easy to use formats suitable for wider dissemination through electronic and print media;
- Perform two one day trainings for PHPA staff, MoAs, disease diagnosis and prognosis services, advisory services, phytosanitary inspectors, agriculture institutes;
- Prepare guidelines for sampling and control plant materials and F&V potentially infected with harmful organisms for phytosanitary inspectors (*measures and instructions/procedures for sampling of phytosanitary control*);
- Final report where monitoring recommendations of harmful organism must be included.

Timing and Level of Effort

Total LOE is estimated at up to 6 days for each of 4 experts (up to 24 days in total). This includes individual expert allocations of 2 days for completion of the risk assessments and proposed regulatory amendments and a further 4 days for preparation of relevant guidelines, training materials and delivery of training sessions for phytosanitary inspectors, advisory services and POs for the relevant harmful organisms and final report. The experts are expected to cooperate and work as a team in preparing and delivering outputs in all activities to ensure consistency in the structure of the risk assessment expert opinions and the preparation of relevant guidance and training materials. For the purpose of comprehensive and quality work experts will use Annex 1 as a starting point and need to follow up given instructions in order to reach asked deliverables.

Qualifications and skills

General qualifications and experience for all experts:

- Doctoral studies in agronomy and/or forestry, or other relevant discipline;
- Experience in at least one of the following areas: entomology in agriculture or fruit and nut crops and/or tree crops', phytopathology in agriculture or fruit and nut crops and/or tree crops';
- Must be familiar with required expert areas;

- Excellent analytical, communication, presentation and facilitation skills in BiH;
- Excellent written and oral in English language;
- Ability to work as a part of a team;
- Extensive computer skills including excel, word and power point.

Specific professional experience for all experts:

- At least 2 papers on harmful organisms produced and published in reputable journals or equivalent scientific publications which relate to the subject of the required expertise;
- Demonstrable experience in developing and delivering training materials suitable for farmers, agri-businesses and advisers in relevant specialist area;
- At least 10 years professional experience (following the award of the doctorate), of which at least 5 years' experience acquired in positions relevant to the scope of work (proven expertise and experience in working with harmful pests and economically important pests in fruit and nut crops and/or tree crops').