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REPORT:

Hands-on training workshop on weed risk assessment and post border weed risk management.

Accra-Ghana, December 9-13, 2013

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1. Introduction

Globalization of trade has favored invasion of several regions in Africa by invasive alien plants such as Eichhornia crassipes (water hyacinth), Salvinia molesta, *Pistia stratiotes* on water bodies and *Parthenium hysterophorus, Prosopis juliflora* and *Solanum elaeagnifolium* (silverleaf nightshade) in terrestrial habitats. They reduce biodiversity by displacing native species, transforming ecosystems and are difficult to control and toxic to livestock. Invasive alien plants are major biotic constraints to agricultural production and food security in Africa and have imposed huge losses on economies of African countries. The issue is of great concern and a Continent-Wide strategic framework for management of invasive alien plants in Africa is being developed. There was an urgent need to schedule a training workshop on weed risk assessment and weed risk management to reinforce the capacity of technical officers to detect and manage invasive alien plants. The focus is not only on weeds affecting agriculture, horticulture, irrigated crops and pastures, and forestry but on environmental weed risk.

2. Objective and outputs of the workshop

The objective of the workshop is to train 12 weed scientists from different African regions on weed risk assessment and post border weed risk management.

At the end of the Hands-on training on weed risk assessment and post border weed risk management trainees are able to assess and prioritize invasive alien plants infesting their countries. In addition, they are able to develop control programs and mechanisms for implementation of management actions.

3. Opening remarks

In her opening remarks, Dr.Joyce Mulila-Mitti, Crop production and protection officer-RAF; highlighted the importance of the workshop and congratulated participants for their turn out. She encouraged them to use the opportunity to become trainers of others after returning in their respective countries and organizations.

4. Presentations

4.1.Invasive Alien Plants: opportunity costs

Dr. Gualbert Gbèhounou, Weed Officer – FAO HQs, Rome, illustrated his presentation by *Eichhornia crassipes* in Uganda and *Parthenium hysterophorus* in Tanzania. He defined opportunity cost as the loss of potential resource or revenue caused by Invasion of an Alien Plant. He affirmed that it is important to act early against IAPs because opportunity costs increase along the invasion curve; and the benefit/cost ratio is more rewarding when action is taken early as compared late actions taken when potential range has been filled.

4.2. Procedures for weed risk assessment (WRA)

In his presentation Dr. Ricardo Labrada provided examples of major weeds introduced in different regions (Rottboellia cochinchinensis and Sorghum halepense in the Americas , Mimosa pigra and Chromolaena odorata in Africa, Asia and Australia , Parthenium hysterophorus in Eastern & Southern Africa, India and Australia, Lantana camara in Africa, Asia & Oceania, Prosopis spp. in the Near East, Africa & South Asia, Water hyacinth (Eichhornia crassipes) in North-Central America, Caribbean, Africa, Asia and Australia, Striga asiatica (L.) Kuntze, in North America). He also described the magnitude of the problem, the Process of plant invasion with three phases (lag phase, expansion phase and covered potential rank and highlighted on how to approach the control of invasive plants. The basic tools in these cases were:

- Legislative framework: plant protection law, covering all aspects on matters related to plant quarantine;
- Studies of species with potential for entry in a new territory in order to develop risk analysis;
- Regular monitoring of natural areas, farmland and others to detect posible presence of exotic plants and
- Protocols for post-entry risk management of an introduced plant, which should define the control activities feasible to be implemented to avoid further spread and damage of the plant.

Emphasis was also given on Characteristics and elements of risk assessment, factors intervening in weed risk assessment (persons, plants, pathways and habitats) and the process of weed-risk assessment.

4.3.Pest Risk Analysis (PRA) ISPM No. 2

Dr. Ricardo in his second presentation defined PRA as a technical tool used for identifying appropriate phytosanitary measures. Its framework consists of three stages:

- Initiation (the identification of an organism or pathway that may be considered for PRA)
- Pest risk assessment and
- Pest risk management.

Needless to say that PRA evaluates scientific evidence to determine whether an organism is a pest. His advice, in conducting a PRA is that, the obligations established in the IPPC should be taken into account. Those of particular relevance to the PRA process should include:

- cooperation in the provision of information
- minimal impact
- non-discrimination
- harmonization
- transparency
- Avoidance of undue delay.

4.4.Monitoring Surveillance and weed

Weed monitoring aims to watch and check weed population for a period of time in order to discover its build up, reduction or new prevailing biotypes. Dr. Ricardo agreed that managing weeds is costly and, in some cases, almost impossible if the weed has become widespread and the development of tools that can provide early warning of invasion are thus effective if they can mobilize resources against weeds before they become too widespread and expensive to control. He described weed surveillance as a systematic ongoing collection, collation and analysis of data and the timely dissemination of information to those who need to know so that action can be taken and focused on weed monitoring activities which is allows for:

- the identification of performance indicators that determine how well control measures are working;
- the rate of spread or contraction of weed infestations;
- the rate of successful establishment of desirable vegetation and ecological restoration and
- the identification of new weed threats or other factors that may affect site restoration.

4.5.Post-entry risk management

Dr. Ricardo Labrada recommended that, weed species should be either assessed at:

- Pre-entry
  1. When it is out of the area of interest area.
  2. When it is arriving or entering the new territory.
- Post-entry
  3. When it is established.
  4. When it is spreading.

He gave the basic elements of post-border weed risk management and criteria for weed risks invasiveness, the impact, potential distribution and feasibility of coordinated control. He illustrated the course by Problems posed by the introduction of *Prosopis* plants in Africa.

5. Weed risk assessment practicals

Participants were grouped in three and worked to assess the risk of Parthenium hysterophorus, Solanum elaeagnifolium and *Prosopis juliflora* using the theoretical knowledge learnt on weed description, distribution and ecology, economic importance, scoring criteria for weed risk factors and decision process. The three groups concluded that:

1. Both critical score scales indicate that *S. elaeagnifolium* is a highly noxious weed,
2. *Prosopis juliflora* should be rejected
3. if *Parthenium* weed is not found in the country :it should be rejected

Participants also carried out practicals on:

- Post entry risk management of *parthenium hysterophorus*
- post entry management of *prosopis juliflora*

- post entry management of *Solanum elaeagnifolium* and
- Impact Assessment - Mesquite (Prosopis spp.) in Victoria.

6. Field trips

A field excursion to the NPPO of Accra was effective. This exercise enabled participants of the three groups to learn how to detect and map the field. Weed data collected include availability, frequency and density. Three lists of weed species were established in the locality visited with their frequency and density calculated.

7. **Closing ceremony**

This session was mark by the course evaluation by Participants and the distribution of certificates of attendance. It was also a solemn moment to call for African countries to join effort to create an enabling environment for weed identification management. Delayed management highly increases the cost of the infestation and the cost to affected communities and nations. While thanking the FAO authorities for the initiative they recommended that the same training-course should be extended to all the regional economic communities of the continent.

Annex.

Annex1: Workshop Agenda

Program hands-on training workshop for weed risk assessment and weed risk management Accra – Ghana, December 9-13, 2013.

Time	Activity	Lead by
Day 1: Monday 9, December, 2013		
08:30 - 09:00	Registration of participants	Workshop Secretariat - RAF
09:00 - 09:30	Opening remarks	ADG - RAF
09:30 - 10:00	Presentation of the objectives of the training	Gualbert Gbèhounou
10.00-10.30	Coffee break and group photograph	Workshop secretariat-RAF
10:30 - 12:30	Weed risk assessment (WRA)	Ricardo Labrada
12.30-14.00	Lunch break	Workshop secretariat-RAF
14:00 - 16:00	Post border weed management	Ricardo Labrada
10.00-16.30	Coffee break	Workshop secretariat-RAF
16:15 - 17:30	Post border weed management Con'd	Ricardo Labrada
Day 2: Tuesday 10, December ,2013		
09:00 - 10:00	WRA practicals	Ricardo Labrada
10.00-10.14	Coffee break	Workshop secretariat-RAF
10:15 - 12:15	WRA practicals	Ricardo Labrada
12.15-14.00	Lunch break	Workshop secretariat-RAF
14:00 - 16:00	Presentation of Ghanaian Crop Protection legislation with regard to weeds and invasive alien plants	Participant from Crop Protection and Regulatory Services - Ghana and participant from CSIR-Ghana
16.00-16.15	Coffee break	Workshop secretariat-RAF
16:15 - 17:00	Practicals on post entry management	Ricardo Labrada
Day3: Wednesday 11, December ,2013		
09:00 - 10:00	Practicals on post entry management	Ricardo Labrada
10.00-10.15	Coffee break	Workshop secretariat-RAF
10:15 - 12:15	Surveillance and monitoring of invasive alien plants	Ricardo Labrada
12.15-14.00	Lunch break	Workshop secretariat-RAF
14:00 - 16:00	Practicals on post entry management (continued)	Ricardo Labrada
16.00-16.15	Coffee break	Workshop secretariat-RAF
16:15 - 17:30	Practicals on post entry management (continued)	Ricardo Labrada
Day 4 :Thursday 12, December ,2013		
09:00 - 14:00	Field excursion to a site infested with and invasive alien plant	Workshop Secretariat - RAF and participant from the Crop Protection and Regulatory

		Services of Ghana
Day 5: Friday 13, December ,2013		
09:00 - 10:00	Presentation on some troublesome invasive weeds of Africa: *Parthenium hysterophorus*, *Prosopis* spp., *Solanum elaeagnifolium* and water weeds	Ricardo Labrada
10:00-10:15	Coffee break	Workshop Secretariat - RAF
10:15 - 12:15	Practicals con'd	Ricardo Labrada
12.15-14.00	Lunch break	Workshop secretariat-RAF
14:00 - 16:00	Evaluation of the workshop	Ricardo Labrada and Gualbert Gbèhounou
16:00-16:30	Forward of certificates to trainees	RAF
16:30-17:00	Closing ceremony	ADG - RAF

NB: orkshop secretariat: Joyce Mulila-Mitti (RAF); Gualbert Gbèhounou (FAO-HQ) and GS staff-RAF.

Annex2: List of participants

1. Dr.Joyce Mulila-Mitti, Regional Crop Protection Officer (RAF);
2. Mr.AGBAYAHOUN Ludovic, weed scientist from Rep. Benin;
3. Dr.Oumar Ouedraogo weed scientist from Burkina;
4. Mr.COPPERFIELD BANINI-Ghana Crop Protection and Regulatory Services;
5. Dr. Rezene Fissehaie weed scientist from Ethiopia;
6. Mr. Flaubert Nana Sani- Weed Scientist ,Agronomist-Plant pathologist -AU-IAPSC
7. Dr. SOUNGALO SARRA weed scientist from Mali;
8. One (1) weed scientist from Madagascar;
9. Mr. Moctar Wade weed scientist from Senegal;
10. One (1) weed scientist from Tanzania;
11. Ms. EMMA M. SIKAZWE- ZAMBIA
12. Dr. Gualbert Gbèhounou, *Weed Officer – FAO HQs, Rome*
13. Trainer (Dr. Ricardo Labrada); Ex.FAO Weed Officer.

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