

Final– Course Training Report

Risk Assessment and Monitoring for Environmental Chemicals

(Feb. 14 - Aug . 21 / 2005)



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Introduction

At the end of the training course I would like first to say my impression toured the country , people and the course .

The country

- Japan really is very beautiful and clean country and Kobe is one of the most beautiful , interesting place in Japan . It is interesting not only on the tourist views such as wonderful beach, cherry blossom and beautiful forests , cute , nice and friendly people and shopping centers , but also the extremely high economic growth and advance technology .



The people

- for me this is the first time to be away from home for along time and personally 6 month is not an easily period , but it was really very helpful that people are very gregarines , accomodating , friendly kindly confiding ,helpful people and they always great every body with a smile and they are in my heart , because their behaviors with me was like my family .Those people here in HIC building starting from JICA and JICE staff , front desk and people in the restaurant really makes HIC building like our home in Japan.



Training course

- from my simple point of view the training course organized by JICA under the technical cooperation program of the Government of Japan is an important humanity projects that helps the countries to use and gain the knowledge that Japan have in different fields of live . This course composed of three prates , lectures , practices and observation tours . Here I am not going to list what I have learned but I would like to say that the organization of this course was very good and this can be seen through the logical sequences of introducing the subjects (lecture , observation and practices), starting with familiarization stage then practical stage and observation tours to clarify and supported them . Actually the practice and observation tours were always my favorite because they are good way to learn and see through the country .
- This course did not focus only on training but also it extended to be a good opportunities for cultural meeting and exchange information between different countries .Therefore before leaving Japan my impression on this training course was very good at all .



The aim of attending the training course

- As you know this course is one of the group – type course program, and in such kind of training course a lot of information are giving in order to achieve the needs of the participants for monitoring the environmental chemicals in different fields of live . Therefore the areas of interesting may differ between participants in this course and that is related to the nature of different works they belong too , but still the main objective is protection of the environment and the effect of that on human health .
- Because I am a plant protection engineer, so my field of work is keeping me focusing more in the agricultural area. Pesticides as you know is considered to be one of the most environmental problem and pesticides is required in modern agricultural to control pests and there is increasing in the used of pesticides in agricultural due to the increasing in agricultural area.
- So I am here to learn and gain about risk assessment technology for environmental contaminate which agricultural is one of these sources and the impact on human health and ecosystem.



What I have learned during this training course

- First : in general
 - I have learned about environmental contaminates problems in general and environmental chemicals in special such as (dioxin , endocrines disruptor , POPs , BCP ... etc) and their impacts on human health and ecosystems which leads to increase my knowledge and understanding to the environmental problems .
 - I have learned about the principals , techniques and methods used to deal and get rid of these contaminants such as (land fields and the classification of waste , sewage water treatment ...etc)
 - I have learned about the principles , techniques and methods used for monitoring and analyzing environmental chemicals .
 - I have gained analytical techniques and skills in instrumental such as (HPLC , GC , GCMS , Atomic Absorption Spectrophotometer ... etc) and methods of analyzing such as (sampling , analyzing , getting result) .The improvement of the skills can be seen clearly in the progress of following practices which became faster and Easley and more accuracy because of this skills that we gained through the following practices .
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What I have learned during this training course

- Second : according to the institutions :
- **The companies Horiba, Hitachi and Shimadzu.**
- In these companies I have learned about instruments used for monitoring , analyzing and measuring environmental chemicals and their principals and functions
- This practice will help us to make the right decision for selecting the right monitoring or measuring instrument for cretin monitoring or analyzing purposes and it will be very helpful because we are going to prepare and equipped our new pesticide laboratory with the right equipment and measuring instrument which will applied our needs .



What I have learned during this training course

- **Hyogo Prefecture Technology Center for Agriculture, Forestry and Fisheries (HPTCAFF)**
- In this institute most of my requirement in field of agriculture analysis is applied .These analytical practices will going to help us in my country to improve our method and technique of analyzing especially the practices which is related to the analysis the residue of pesticides in soil and plants .
- Raped analysis test for measuring nitrates and other plant nutrients is one of the new techniques which I have learned in this institute .This kind of test will going to be very useful for us , consumers and farmers are going to be interested to know the level of nitrate in the vegetables plant especially when they know the effect of nitrate for their health . So I think it will be very good to demonstrate and distributed this technique to the agriculture extension centers .



What I have learned during this training course

- **Kobe Quarantine Station**
- According to the plant quarantine law which established this year it said that all the agriculture products should be under the agriculture quarantine sections , because in the past the agriculture products in the market were under Ministry of Commerce and Industry , now it becomes under Ministry of Agriculture , this mean more laboratories were going to established .The practice of summations analysis of pesticides in cereals , fruits and vegetables which have been done in this quarantine will going to be very helpful .
- I have learned from the GLP system which is applied in the laboratories of this quarantine station , that there should be a cretin system to follow in the laboratory works in order to improve and achieved good results with high accuracy and precision what ever it call GLP or ISO system.



What I have learned during this training course

- **Hyogo Prefecture institute of Public Health and Environmental Sciences (HIPHES)**
- The practice of analyzing of pesticides residue in water is very important for us , because the area where we sprayed the pesticides during the aerial spray have so many open water streams which is subjected to pesticides contamination .
- PCB and dioxin are really new knowledge that first time I hared here in Japan , and when I contact the website of Ministry of Regional Municipality and Environment I found this contaminants are under the responsibly of this ministry .This information's actually increased me knowledge to the environmental chemicals , but in other hands makes me thinking and warred about the amount of plants residue which is burning dally in the farms creating smokes and spreading dioxin in the air
- Also other new knowledge which I have learned in this institute is the computer library software connected with measuring instrument such as GC, which is used for automatically shaking the type of chemical compounds including pesticides according to the rotation time .This will going to be a good point if we added to our laboratories in order to save time and work.
- The individual study practice which I have made in this institute for sampling and analyzing pesticides in air is also very important for us because it going to help us in monitoring the pesticides levels especially in the pesticides stores and agriculture arias which are expected to aerial spray for long time . This kind of analyzing helps us to reduce the effect of pesticides on human health through breathing .

What I have learned during this training course

- **Kobe University**
- First time I heard about ELISA or EIA was one year before I came here in Japan from some one who was studying plant pathogens and using ELISA techniques in UK , but it was not clear for me that time
- Now I know exactly what is ELISA , and it is really very interesting knowledge . Compare to the other measuring instrument (HPLC , GCMS...etc) ELISA is simple , easy , fast , cheaper and you can analyze many samples in one time , but the only disadvantage is that it is less accurate .
- Actually I don't know exactly do we need to apply ELISA to our laboratories in this stage or maybe in the future when we have a lot of things to be analyzed . But because this is a fast scanning technique I am thinking to suggest a study project to measure the level of pesticides in the urine for those who work in the field of plant protection especially those who have direct contact with the pesticides .



How to apply what I have learned to my country in general and my work specifically (activation)

Action plan

- **First :** The regulation and monitoring activity on the environmental chemicals in my country is a sharing process between many concerned department in the government in which there is a cooperation between them in order to maintain complete monitoring activities . Those department's are :
 - Ministry of Agricultural and Fishers
 - Ministry of Regional Municipalities , Water Resources and Environment
 - Ministry of Health
 - Ministry of Commerce and Industry
 - Royal Oman Police

This cooperation activated through the sharing communities, and because I am a member in the community of Ministry of agricultural and Fisheries and Ministry of Regional Municipality and Environment. I am going to forward and decrease the information that I have gained and learned from this course.
- **Second :** When I am going back home I am requested to submit:
 - Training Report
 - Training Presentation



(A) Training Report

- I am going to prepare a complete, detailed training report attached with all the document of the training course which I have already scanned them and saved in to a CD . In this training report I am going to focus on the important of monitoring the environmental chemicals and explaining the experiments of Japan in this field .Department of training within the Ministry of Agricultural and Fisheries are going to send copies from this report to the other training departments within the concerned Ministries which I have mentioned them .Of course these ministries are going to benefit from the information related to them , and I think this is a good way to exchange the information between different departments within the government .



(B) Training Presentation

- Also I am requested like all the trainees according to the rule of the Ministry of Agriculture to present a training presentation .This presentation are going to be under the under secretary of Ministry of Agriculture and Fisheries . General directors and agricultural engineers and technician are going to attend this presentation too . This will going to be good opportunity to explain what I have learned from this training course especially what is related to the field of agriculture and rise the suggestion .Also I think this going to be good opportunity to open an open desiccation about the training course subject especially what is related to the field of agricultural between the responsible people (administration)and technical people (engineers and technician) within the ministry in order to activate or easily applied what are we going to agree about .This is the list of most important subject which I will going to focus on :

- **Important** of monitoring of agriculture chemicals .
- **Increasing** the understanding to the environmental pollution in general and pesticides pollution specially .These including :
 - a) Increase the understanding of the farmers about dangerous of pesticides to the environment and the human health .
 - b) Reduce the use of pesticides .
 - c) Reduce the burning of plant residue because of dioxin
 - d) Encourage the use of plant residue as an organic fertilizer
- **Reducing** the use of pesticides in the national controlling programs especially the aerial spray against the dobas bug in date palm trees through the reducing the controlled area .
- **Encouraging** the acceleration of improving and preparing the currant pesticides laboratory which is currently used only for measuring the concentration and active ingredient of the pesticides ,and equipped the laboratory with the necessary equipment , measuring instrument and man power to be able to start the agriculture analyzing such as :



- a) analysis of pesticides residue in soil , water and plant
- b) analysis of heavy metal in soil , water and plant
- c) analysis of nitrate in plants / rapid analysis of nitrate and plant nutrients
- d) analysis of Biomass in Soil Treated with Agricultural Chemicals
- e) water quality measurement
- f) analysis of pesticides in air
- **Using** of ELISA technique especially in the analyzing of pesticides residue
- **Introducing** GLP system
- **Listing** and introducing the function of the most important instrument which can used in the analysis such as :
 - a) Gas Chromatography (GC)
 - b) Gas Chromatography Mass Spectrophotometer (GCMS)
 - c) High Performance Liquid Chromatography (HPLC)
 - d) Atomic Absorption Spectrophotometer
- **Suggestion** studies projects , such as :
 - a) Re-used of treated sewage water treatment in agriculture irrigation
 - b) Agriculture pesticides survey
 - c) Measure the level of pesticides in the urine for plant protection agents



Course Suggestion

- As I have said before the course in general was very good at all , but I have some suggestion according to my opinion those suggestion are :
- There should be some subjects about safety precaution for the people who works in the monitoring or dealers with chemicals for example how to measure or monitor the level of chemical in the human body (research people in the laboratories , farmers how applied the pesticides ...etc)
- The high level of information and duration of this training course are appropriate to grade this course as diploma .



Thanks

- One behalf of my country I would like to express my thanks to the Government and people of Japan through JICA , JICS and Hyogo Prefecture. The lecturers for their efforts and all the institutes such as Hyogo Prefecture Technology Center for Agriculture , Forestry and Fisheries (HPTCAFF) , Hyogo Prefecture institute of Public Health and Environmental Sciences (HIPHES) especially Dr Nakano Sansei for his effort and nice pictures , Kobe Quarantine Station and Kobe University and all the companies such as (Horiba, Hitachi , Shimaduz , Sumitomo and Japan Envirochemical) and off course grate thanks to our course leader , course programmer and course coordinator Kojima san for her effort guiding and helping us during the training course . Also I would like to thank Ms Yokotan san for helping me related to the IPM course and finally grate thanks to the front desk , restaurant people and all those how maybe I forgot to thanked them.

