Crystal Water 2002

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Training Group Name	Domestic/Regional Problems	Contents (Subjects) to be studied in each unit	Results of Training	Additional Information Hoped for
Execution Case of E.I.A. (Aug.5-8)	Lack of public's awareness on environment conservations.	• Controlling environment for Domestics, Municipals & Industries sustainable activity. • Evaluation of environment assessment by Japanese experiences method, friendly methods & newest.	• Polluter Pays Principle (PPP) is important for implementing the living sustainable environmental. • Since Staring on the project a long 3 years the Monitoring & Evaluation should be done and after the project completely constructed a long 3 years the Monitoring & Evaluation also should be done. • Overview according The JICA Environment Guideline: Plan – Screening - Scoping – EIA – Detail Design – Construction (Monitoring & Evaluation) for preparation the next project.	At the practical level, how to effort the society communities carry out the environment conservation for their living.
Water Storage and Supply Facilities (Aug.12-16)	The major authority for managing storage & supply facilities depend on central government in other hand we are in local autonomy era.	• The local government has to manage water storage & water supply facilities with local income. • Preservation of catchments area by local government • Operation & Maintenance activity of water storage & water supply facilities to be shared between central government & local government.	• The Local Government can be shared to manage storage & water facilities between Local community and stakeholders who get beneficiaries has to paid. • Preservations of catchments area become public's responsibilities that living surrounds it. • Operation & Maintenance annually budgeting has to allocate by local community who get beneficiaries and government is just as enabler. • Performance ISO 2394 of concrete reliability is the general principles for structures should be implemented simultaneously with the existing rule of the government. • To predict seepage flow through the fill dam (rock, earth & concrete dam) and to calculate the sliding zones of the embankment for operating & maintenance activities.	The empowerments that have been living surrounds the facilities and get beneficiaries from it for sustainability water resources.
Farm / Forest Management and Food Policy (Aug.20-24)	The food security is Indonesia policy but on the other hand decreasing of food productivity to happen and for decreasing forest area also.	• Improving farm/forest management & food policy according such condition. • Diversifying kind of food has to be done. • Mechanism & improving forest management to be revised.	• We must know what is going on the Global market (Word food conditions) according with economical aspects. • The future kind of food has to improvement to support the Indonesia food security. • To empowerment for Indonesian people for diversifying kind of the daily food. • The Mechanism & improving forest management basically for sharing management between stakeholders	• How to make satisfy the food security according with the increasing population. • I would like to know how to prevent the forest by deforested in many islands are like

			who get beneficiaries in Autonomy era. • Who gets beneficiaries of the environmental impact should be share for supporting cost to the forest owner according the government improving.	in Indonesia country caused people activities.
Ground Water (Sep.3-6)	Lack of control over exploitation of groundwater for public's activity.	• Monitoring & evaluation the groundwater exploitation by friendly & modern methods. • Ways of safeguards overexploitation of deep aquifer & shallow aquifer.	• To take measurement and to take monitoring & evaluation as regularly through in the observation well on three main types of aquifer (confined, unconfined & leaky) is the effective and efficient ways for controlling groundwater level.	• I would like to know more detail information according the Japanese guidelines/regulation or experiences how to prevent in the ideal condition of the groundwater exploitation.
Soil / Water Quality Assessment (Sep.9-12)	Progressive topsoil erosions to influence River Sediment transport and fulfill into the water storage. The bottom river degradation caused traditional mining along Bottom River. Sedimentation of canals (irrigation canals, raw water supply canals) and other hydraulic structures.	• How to appropriate measure to stage erosion. • How to make "Rating Curve" related curve between H (level) – Volume (Cubic Meter), H (level) – Water surface (Square meter) • Evaluation of river basin degradation by satellite remote sensing. • How to mitigation of land degradation in whole area.	• Enhance knowledge how to know the chemical properties soil & water to improve agriculture productivity so that to increase or to optimize yield products. • The soil salinity is a global problem and directly affects soil fertility, so a fast and a simple method of estimating the amounts of total soluble salts in soil/water sample by knowing EC (Electrical Conductivity) & pH	
Field Water and Soil Management (Sep.24-Oct.3)	The people are only custom to one commodity (paddy) according to there previous generation so the farm cultivation much water lost through the condition.	• Measurement & estimation for all water losses from water requirement for evapotranspiration & infiltration. • Controlling, Evaluating & modeling soil moistures charge in field. • Involving farmers & the government more choices on the plant high economy commodities.	• The evapotranspiration is very important factor for the irrigation scheduling, so there are methods to estimate the evapotranspiration by theoretical method and empirical method. • As practically that irrigation system divided into 3 parts i.e. Irrigation area, Reservoir and Conveyance & distribution system. • To increase the amount of crop production, we have to increase the total of agricultural land and amount of harvest per unit area.	• I would like to know how to involve the farmers in order that they are enthusiasm to plant the economy commodities with the good beneficiaries.
Design and Practice in Water Supply / Service System (Oct.8-10)	Many kind of existing water resources infrastructure to old and /or damaged by floods by disaster & caused "La Nina" phenomena.	• Designing & practice in water supply by involved people surrounding of irrigation scheme on water supply/service system. • Participatory design, Construction & Operation and	• The water cannel systems with play an important role in the agricultural irrigation & drainage system are divided into two categories: The Pipeline system with no free water surface open to atmosphere and the open channel system having free water surface. • The "Watchman" gate maintains the upstream water level in irrigation channel or the like with neither electricity	• I would like to know how to design & practice for optimizing or reducing bottom structure cost of Rubber Dam/Balloon Dam & also how to

		Maintenance for water supply/irrigation scheme to be improved. • How to establish sustainable for Operation & Maintenance water supply system according with Indonesia's condition. • Solving problems of the conflict between irrigation water supply and other water supply.	nor manpower and the tolerance of designed water level is small as ± 3 cm, also the desired water level can be easily adjusted. • The irrigation or drainage system project to improve farming (stake holders), it was a system for taming the topography, including managing the mountains, controlling the rivers, securing irrigation water and ruling society.	maintain it.
Crops Suitable for Arid Area; Plant Nutrition (Fertilization) (Oct.15-17)	Central Java province has around 4 regencies (Rembang, Blora, Jepara & Wonogiri) who have annually water shortage and around 8.000 hectares of "Sand-Dune" areas on south part of Java island but till now the both had not improved yet.	• Method, techniques & management for plant nutrition for water shortage areas. • Method or techniques for high commodity plant in "Sand-Dune" areas. • How to developing & improving plant on the "Sand-Dune" areas.	• The method how to determine the mechanism of drought and salt tolerant crops and plants are important factors to improve plants on the "sand Dune" areas. • To prevent and to reduce global warming phenomena, greening the roof of high-rise building on many larges city are necessary. Sedum spp. is suited in such cases, because less is soil needed and they tolerate harsh condition also Sedum spp. adapted to quite wide range of environments.	• By knowing the mechanism of drought and salt tolerant crops and plants, I would like to know the detail method how to improve the "sand dune" areas by planted a kind of high commodity plant.
Preservation of Greens; Assessment of Vegetation (Oct.28-Nov.1)	Decreasing green forest area or vegetation area running so fast to influence limited water resources.	• Detail method or techniques for preservation of green & assessment of vegetation. • Measurement & estimation of green & vegetation becomes environment balancing in ideal condition. • Evaluation methods for defending of green vegetations.	• Land covers reflect the impacts given by human being. By analyzing land covers, we able know the status of local nature and socioeconomic activities. By analyzing data of different years or seasons, we can know the dynamics of land cover-its temporal or seasonal change. • Tree-ring analysis tells us both global and local environmental change in the manners of quantitatively as well as qualitatively. Tree-ring recorded climate change, groundwater conditions, hydrological variations, ecological change & growth environmental change. The history of human life, weather phenomena, process of pollution in air, water and soil and their affecting period and magnitude are able to interpretative by of Tree-Ring Analysis.	• At present, Japanese has around 70% forest or preservation of green. I would like to know more detail how to manage the forest in autonomy era between National government, local government and local community or existing private company (if any) who related to the forest (timber) production.

Remark:
The ideas shown in this table and the courses listed by the training staff in Tottori University are relevant to the region I came from.
Courses on E.I.A. and Appropriate Research methods are also very instrumental in my case and the region I came from.