

Annex No.17
Minutes of Meetings

THE STUDY ON
COUNTERMEASURES FOR SEDIMENTATION
IN
THE WONOGIRI MULTIPURPOSE DAM RESERVOIR
IN
THE REPUBLIC OF INDONESIA

FINAL REPORT

SUPPORTING REPORT III

Annex No.17: Minutes of Meetings

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The First Workshop

December 28, 2004

Minutes of Workshop I
THE STUDY ON COUNTERMEASURES FOR SEDIMENTATION
in
THE WONOGIRI MULTIPURPOSE DAM RESERVOIR

Tuesday, December 28, 2004

Borobudur Conference Room, Novotel Hotel, Solo

KEYNOTE SPEECH: Dr. Ir. Basuki Yusuf Iskandar – Director of Water Resources and Irrigation, BAPPENAS

National Planning Board (BAPPENAS), Directorate General of Water Resources (Department of Public Works), and JBIC (Japan) have been in a coordination program to establish the rehabilitation of critical dams / reservoirs including the conservation of its watershed. Currently, BAPPENAS has been preparing a Middle Term Development Plan (draft) for the next 5 years focusing on the watershed conservation program and optimization of existing structures.

Watersheds in Indonesia have not only been in a poor condition but have already been in a condition of accelerated deterioration. In 1984 and 1992 there were 22 and 39 critical watersheds respectively; there have been 17 additional critical watersheds during the period. Moreover, 5 years after 1992 there have been 23 additional critical basins (from 39 to 62 basins) in Indonesia. Deficit of water in Java as reported by the Department of Public Works might be due to the damaged watersheds.

Vegetative measures are important and unchangeable in conservation efforts. However, they are not enough capable to handle the complex problem of land and water deterioration. In addition, watershed conservation will not be easy to be carried out since there are two functions, environmental preservation and an economic source, which are involved in a forest management. Watershed management and conservation are therefore necessary to be established in a coordination and partnership among all stakeholders. For that reason, it would be better to leave authority in his domain but to increase joint working among horizontal institutions. Besides, without involving its society it will lead to an unsuccessful program in view of sustainable watershed conservation.

Technical approaches should be further developed for conservation purposes. However, they may not dominate in handling any conservation programs. Therefore, social development, public communication, and equality between government and society shall be developed in the near future.

I would like to express my sincere appreciation and thanks to JICA for the assistance and supporting for us.

WELCOME ADDRESS: Mr. Minoru Ouchi – Team Leader of JICA Study Team

The Wonogiri multipurpose dam is the sole large reservoir on the Bengawan Solo mainstream. The Wonogiri dam was constructed under the technical cooperation and financial assistance of Government of Japan. Since the completion of Wonogiri, the Wonogiri multipurpose dam has much contributed to social welfare and economical development in the Bengawan Solo river basin and also has greatly benefited the people in the Bengawan Solo river basin. Currently, the proper function of the Wonogiri dam has been threatened by rapid sedimentation deposits in the reservoir. The decline of the reservoir storage capacity reduces available water for various uses, especially during the dry season. It is thus of great importance and urgency to establish fundamental countermeasures to tackle for the Wonogiri sedimentation issues.

Our JICA Study just started in August in this year. Today is our first Workshop as a technical transfer seminar, because it focuses on the technical aspects. Questions are welcomed to the clarifications and discussions to exchange opinions among all participants or stakeholders. The first field works of the Study focused on the clarification of the current Wonogiri reservoir sedimentation condition and watershed management condition in the Wonogiri reservoir catchment. We would like to present the current progress and interim results of our study based on the ongoing field surveys and investigations. We welcome Mr. Kashiwai. He introduces various countermeasures in Japan for tackling for reservoir sedimentation issues in Japan. Mr. Kashiwai is a chairman of the Advisory Committee of our JICA Study. Finally, we would like to express our appreciation to PBS for strong support and cooperation in preparing and organizing today's Workshop.

SESSION 1: (Chairman: Dr. Ir. Fatchan Nurrochmad, M.Agr., Department of Civil Engineering, Gadjah Mada University)

1. Mr. Sukresno, M.Sc. – ‘Balai Penelitian dan Pengembangan Teknologi Pengelolaan Daerah Aliran Sungai’, Surakarta
 - a. Sedimentation in Wonogiri Reservoir is still high even several countermeasures had been made in the past, e.g. 20,000 ha of reforestation and 40 civil structures, through a World Bank program in 1989-1992. Past experiences show that check dams, especially in Keduang River had been filled by sediment within only 1 or 2 years after construction.
 - b. The study had better be more careful of using data from satellite, especially the satellite image that was captured during the dry season. The interpretation results may be different from the actual field condition, e.g. areas covered by young trees (1-2 years old of teak tree) might look like an open area such as dry farm land.
 - c. A question arises: why is erosion and sedimentation in Keduang watershed lower than

- that in Tirtomoyo and Upper Solo area? In fact, Keduang watershed is composed of young volcanic soil and a high-parallel density river network with steep slope; while both Tirtomoyo and Upper Solo areas are composed of old and thin soil layers.
- d. Erosion evaluation must also examine the land coverage, not the land usage only.
 - e. It is necessary to evaluate the land capability and suitability for the preparation of watershed management.
 - f. It is necessary to examine sediment transport as an indicator in handling of the Wonogiri reservoir sedimentation issues in the future.
2. Drs. Pranoto, M.Sc. – NGO of 'Masyarakat Peduli Air' (MPA), Surakarta
 - a. Management of Wonogiri Dam should involve the society broadly, consider the land use accurately, and incorporate related aspects appropriately.
 - b. The bureaucracy (decision makers) of local government should understand more deeply about the integrated management of Wonogiri watershed that benefits extensively for the local society. Hence, it should not only be considered from the bureaucracy's point of view but also from other stakeholders' view.
 - c. There are a lot of sliding and lack of water in the Wonogiri catchment. For the reasons, conservation of watershed needs to be socialized to all stakeholders.
 - d. Solo, the largest city downstream, has no water resources to fulfill municipal water demand. Water from the Wonogiri Reservoir is therefore expected can be allocated for the domestic need of the city.
 3. Mr. Anwar Budiharjo – NGO of 'Persepsi' in Wonogiri Region
 - a. A number of sediment countermeasures have been conducted; however, sedimentation is still going on. It leads to a question: what is the main problem causing the erosion? Man-made or natural phenomena? The crucial problem would be of people poverty; therefore this study should cover either community or economic development programs.
 - b. The presentations were only focus on a physical point of view; there were no human, social, and economical aspects. Since the feeling of belonging to the society toward their environment is an important factor, this study had better cover social, economical, and cultural approaches which result in the decrease of erosion.
 - c. This study should consider law enforcement approach, e.g. Wonogiri Dam green belt area where agricultural practices are still going on.
 - d. After completing the whole study, activities required for sustainable conservation need to be set up.
 4. Ir. Surawan, M.Sc. – Department of Agriculture - Jakarta
 - a. Conservation of cultivation land can not be carried out independently. It needs some considerations such as required infrastructures, farm development, farmers' necessity

- and financial supports (prosperity approach) to figure out that the land conservation would not only belong to the government but also to be the need of the people.
- b. There will be a new organization under the department of agriculture that will handle such kinds of critical land, sleeping-land, land conversion, etc.
 - c. So far, has any direct action to the farmers been done by the Perum Jasa Tirta I Bengawan Solo?
5. Ir. Sutioso Budirahardjo – Director of Perum. Jasa Tirta I Bengawan Solo
- a. Correction: The Wonogiri Multipurpose Dam was built in 1976 - 1981 with an effective volume (for irrigation and hydro power) of 440 million m³ allocated at elevation of +127.00 m to +136.0 m.
 - b. Since social problem plays an important role, this study had better discuss widely about non-technical problems (presentation today is about 90% of technical phenomena).
 - c. It is necessary to use precise and valid data taken from its primary sources.
 - d. Alternatives of flushing sediment from the reservoir should be examined accurately. Flushing problem of sediment from upstream (reservoir) to downstream (river) must be definitely avoided. In addition, the urgent countermeasure by dredging needs re-assessed since the volume of dredging is lower than that of reservoir sedimentation.
 - e. The results of this study should be certainly based on a knowledge consideration by means of not taking such kind of political interests for considerations.
 - f. This study should present more clearly an action plan. Implementation must be followed according to the action plan.
6. Mr. Jayus – P3A Wonogiri / farmer organization in Wonogiri
- a. Farmers in upper Wonogiri area have never taken water from the Wonogiri reservoir so that they hope deeply to get the water from Krisak dam, supplying the water from the Wonogiri reservoir. In addition, they have never had water for third period of cropping.
 - b. (Mr. Tri Rohadi clarified that): a). Study on water supplying from the Krisak reservoir had been done, unfortunately, they are not feasible; b). Discussion with Directorate of Water Resources Development, Dir. General of Water Resources resulted in a proposed study of the optimization of Krisak Reservoir in 2005; c). There is a plan to build sand pockets in the east and west Colo Weir.
7. Mr. Sarjanto - P3A (farmer organization) in East Colo Weir
- a. Lack of water has occurred in the past 3 years, especially on September-October, there is completely no water supplied.
 - b. Farmers are willing to pay the water charge for irrigation as long as it can be supplied regularly.
 - c. Operation and maintenance (O&M) of irrigation infrastructures should be clearly planned

and informed in advance; hence, the farmers can adjust their cropping plan to the O&M.

8. Mr. Anwar Budiharjo – NGO of 'Persepsi' in Wonogiri Region.
 - a. A question always arises: how can people/farmers around the Wonogiri reservoir use the water? (Even the PDAM Wonogiri, drinking water company of Wonogiri government, has never used optimally the reservoir water). However, people in the upper Wonogiri dam have already got benefits from electricity and fishery.
 - b. Ironically, the people in the upper Wonogiri reservoir (south side) will take the water from 'Gunung Kidul' (Province of Yogyakarta).

SUMMARY COMMENT BY THE CHAIRMAN:

Comments from the participants will be recorded and reflected into the Study by the Study Team. The awareness of bureaucracy, which has been concerned by participants, is going to be realized hopefully. Regarding with the social empowerment, development programs will be established through two directions, that is, not only through top-down but also bottom-up direction.

SESSION 2: (Chairman: Prof. Ir. Sudjarwadi M.Eng., Ph.D, Department of Civil Engineering, Gadjah Mada University)

1. Ir. Johan Hidayat, M.Sc. – Head of 'Balai Pengelolaan Sumber Daya Air' – Bengawan Solo
 - a. All papers indicate that sedimentation is dominantly caused by human activities.
 - b. This study should propose pilot projects covering one original watershed and other watershed that human activities involved. This pilot project aims to prove whether the erosion is mainly caused by human activities or by natural condition.
2. Ir. Nidhom Azhari, Dipl.HE – Head of 'Pengelolaan Sumber Daya Air' – Central Java Prov.
 - a. Efforts of sedimentation countermeasure have been carried out since some years ago; however, it seemed to be unsuccessful. This study had better take the unsuccessful experiences (from Citanduy watershed for an example) in handling erosion problem as references to find out of what the main cause is.
 - b. Illegal logging, a severe cause of watershed deterioration, is not only executed by poor people but also by some other 'strong' rich persons. This study should look at the whole aspects, that comprehensively connect each other, such as economy, social, culture, law, and people empowerment. In this case, an awareness of bureaucracy needs to be realized.
3. Ir. Agus Hari Wahyudi, NM.Sc. – University of Sebelas Maret, Surakarta
 - a. The study should be integrated and involve many stakeholders from planning to its construction stage.

- b. It had better provide public campaign to increase the awareness of watershed conservation to common people as well as bureaucracy / decision makers.
 - c. Concerning the sediment inflow, it should be considered how to decrease the trap efficiency as presented by Mr. Josuke Kashiwai.
4. Dr. Ir. Sobriyah, MT - University of Sebelas Maret, Surakarta
- a. Regarding with the social and economic condition of people in Indonesian and Japan is comparatively different, sedimentation in Japan is also relatively small in quantity, the countermeasure of sedimentation should not be exactly the same in both countries.
 - b. Contribution from downstream to upstream area of Wonogiri Dam needs to be realized.
 - c. Relating to the three-year-study period, this study had better implement an action research.
5. Ir. Eko Budi Santosa, M.Eng., Ph.D. - University of Sebelas Maret, Surakarta
- a. Previous study pointed out that sediment material is dominated (95%) by clay and silt; hence, flushing sediment to river downstream seems to be applicable by siphoning system. However, the period of sediment flushing should be during the wet season to avoid sediment deposition and aggradation process in the river downstream.
6. Ir. Sulastoro, MT - University of Sebelas Maret
- a. This study had better consider / calculate the volume of sediment resulted from sliding since the Wonogiri watershed has lots of steep uphill land that represents a potential erosion source.
7. Dr. Ir. Basuki Yusuf Iskandar – Director of Water Resources and Irrigation, BAPPENAS
- a. The study should include institutional analysis, e.g. what kind of ideal institution required to make decisions in handling of sedimentation problem and results in a new concept of the SOP (standard operation procedure) of reservoir management. The institutional concepts shall offer alternatives, more than one scenario.
 - b. The study does not cover groundwater performance that might be related to the existing watershed damages. It may be necessary to know that the quantity / quality of groundwater at surrounding reservoir whether influenced by the watershed damages or not.
 - c. This study had better result in a GIS performance that can be easily understood for public communication, such as presenting of a relation between land coverage, flood, and erosion.
 - d. The study had better present the utilization of the dredged sediment for other economic purposes (In Japan, the dredged sediment can be utilized for cement material, how is in Wonogiri?).

8. Ir. Rohadi Masyhadi–Head of 'Proyek Pengendalian Banjir dan Pengamanan Pantai' B. Solo
 - a. The parameters used in the study should be projected to the time of its implementation
 - b. Environmental impact assessment (EIA level) should be carried out in the same time of detail design. It aims to avoid an EIA review associated with the validity period of the EIA for only 3 years.
 - c. Sediment bypassing may be suitable for a small steep reservoir only.

9. Ir. Supadi, CES – 'Dinas Pekerjaan Umum', Sragen
 - a. Currently, irrigation water for the third cropping period in Sragen is just fulfilled with about 30% of its requirement.
 - b. The study should present an accurate data of actual irrigated area, actual outflow from the reservoir, rainfall type, the influence of fish culture due to sedimentation.
 - c. The study should analyze the social economic impact associated with the changing of the people's tradition in cultivation. It would be important to give solutions if the tradition is declared as 'wrong' practices and dangerous to erosion.
 - d. Is the sedimentation countermeasure in this study going to take the water pollution into consideration related to the water law No.7/2004?

10. Ir. Sutioso Budirahardjo, Dipl. HE – Director of 'Perum Jasa Tirta I' Bengawan Solo
 - a. Basically, this study has already been on a right track. Many comments and opinions come from participants. Therefore this study had better reflect them appropriately. Result of the study should be applicable and be verified with the actual field condition.
 - b. Reliability of water should be analyzed accurately in advance associated with the plan of heightening the dam.
 - c. Alternative countermeasures proposed in this study should be indeed suitable to local condition; it had better not adopt directly from other experiences before examining it accurately.
 - d. Everyone should realize that this study is for all people benefits so that any related stakeholders should support data required.

11. Ir. Joko Prakoso – BAPPEDAL
 - a. The EIA study should be carried out just before the period of implementation.
 - b. It had better take previous studies as references such as fish culture (Sragen), Grand Design of Environment in Central Java (Bappeda), and pollution study (Bappedal).
 - c. It had better apply this study as an action research.
 - d. Interested in utilizing the dredged sediment for economic purposes.

12. Ir. Sukresno, M.Sc. – ‘Balai Penelitian dan Pengembangan Teknologi Pengelolaan Daerah Aliran Sungai’, Surakarta.
- a. Sedimentation countermeasure is much related to water balance, hence, the water balance needs to be analyzed.
 - b. The USLE method is not accurate enough to represent the actual erosion/sedimentation and is not capable to predict water availability. Other method, e.g. RUSLE or others that can predict sedimentation together with water availability should be considered in this study.
13. Ir. Sudarsono, CES – Head of ‘Proyek Pengembangan dan Pengelolaan Sumber Daya Air Bengawan Solo’.
- a. Research on USLE application has ever been done. However the result was not representative; therefore, it needs to be combined with direct investigations or with other methods.
 - b. The study should analyze the effectiveness of existing green belt around the Wonogiri reservoir.

SUMMARY COMMENT BY CHAIRMAN:

The workshop has been successfully for getting many qualified comments and opinions from the participants. Some comments or opinions have already been in the study program, the others will be reflected into the study. Thanks to the participants for sharing their opinions that will be beneficial for the implementation of the study.

Surakarta, January 4, 2005



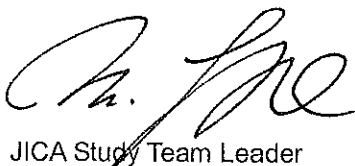
Chairman of Workshop – Session 1

Dr. Ir. Fatchan Nurrochmad, M.Agr.



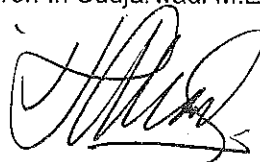
Chairman of Workshop – Session 2

Prof. Ir. Sudjarwadi M.Eng., Ph.D



JICA Study Team Leader

Mr. Minoru OUCHI



Manager for Planning–PBS /
Chief Counterpart of JICA Study

Ir. Tri Rohadi Dipl. HE

The Second Workshop

September 8, 2005

MINUTES OF WORKSHOP II
THE STUDY ON COUNTERMEASURES FOR SEDIMENTATION
in
THE WONOGIRI MULTIPURPOSE DAM RESERVOIR
September 8, 2005
Borobudur Conference Room, Novotel Hotel, Solo

WELCOME SPEECH FROM IPK PWS BENGAWAN SOLO: Mr. Ir. Tri Rohadi, Dipl. HE – Workshop Organizer/Chief of Counterpart Team/Manager for Planning on behalf of the General Manager of Main Executing Office for Bengawan Solo River Basin Development

The 2nd Workshop organizer offered a welcome and thank you to all audience of the workshop of the Study on Countermeasures for Sedimentation in the Wonogiri Multipurpose Dam Reservoir for their attendance in the Workshop.

The Workshop was implemented in cooperation between the GOI (Ministry of Public Works) and the GOJ (JICA) to handle the Comprehensive Study on Countermeasures for Sedimentation in the Wonogiri Multipurpose Dam Reservoir.

The objectives of the Study are to:

- i) Formulate a master plan for sustainable countermeasures for sedimentation problems in the Wonogiri Multipurpose Dam Reservoir,
- ii) Conduct a feasibility study of the selected priority project(s), and
- iii) Transfer technology to counterpart personnel in the course of the Study.

The goal of the Study after achievement of the above objectives is set up to:

- i) Implement the project to be proposed under the Study to secure the long-term ability of the reservoir to supply water for irrigation and hydropower generation, and
- ii) Provide solutions and technical approaches for reservoir sedimentation problems which are increasing concerns in Indonesia.

Workshops were required to accommodate all stakeholders' thinkings, ideas, opinions, comments, suggestions, etc. on: (1) the current condition of Wonogiri Dam; (2) the condition of Wonogiri Dam watershed; (3) the experience of the previous and on-going Wonogiri Dam watershed management, and (4) the countermeasures for the sedimentation in the Wonogiri Multipurpose Dam Reservoir. So the objective of the 2nd Workshop are:

- To explain the progress to date of the JICA Study during the second field works from May to August 2005
- To share the current condition and issues on the Wonogiri reservoir sedimentation and Wonogiri watershed condition
- To share the lesson learned through past experience on watershed management projects, mainly

by the World Bank in 1989-1994, and

- To exchange opinions and receive comments from stakeholders concerned to reflect master planning of integrated countermeasures for the Wonogiri reservoir sedimentation problems.

It was reported to the audience, that the 2nd Workshop was attended by more than 100 persons, consisting of: participants from (1) Ministry of Public Works, (2) Ministry of Forestry, (3) Ministry of Energy and Mining Resources, (4) Ministry of Agriculture, (5) Ministry of Home Affairs, (6) State Ministry of Environment, (7) Bappenas, (8) JICA Jakarta Office, (9) JICA Expert of Ministry of Public Works, (10) Water Resources Management Agency in Central Java Province, (11) Governments of Kabupaten/Kota Level of Wonogiri, Sukoharjo, Klaten, Karanganyar, Sragen, Surakarta City and Pacitan (East Java Province), (12) Gadjah Mada University and Sebelas Maret University, (13) P3A (Farmer Water Users' Association) of Wonogiri Irrigation Schemes, (14) NGO of Water Resources Cares and (15) Farmer Group at upland areas.

Closing his welcome speech, the Manager of Planning on behalf of the General Manager of Main Executing Office for Bengawan Solo River Basin Development requested the Director General of Water Resources to give a keynote speech for workshop direction and open the 2nd Workshop.

WELCOME ADDRESS of JICA: Mr. Minoru OUCHI – Leader of JICA Study Team

The Wonogiri multipurpose dam is the sole large reservoir on the Bengawan Solo mainstream. Since the completion in 1980, the Wonogiri dam has much contributed to social welfare and economical development in the Bengawan Solo river basin and also has greatly benefited the people in the Bengawan Solo river basin. Currently, the proper function of the Wonogiri dam has been threatened by rapid sedimentation deposits in the reservoir. The decline of the reservoir storage capacity reduces available water for various uses. It is of great importance and urgency to establish fundamental countermeasures to tackle for the Wonogiri reservoir sedimentation issues.

Our JICA Study started in August last year and will finish July 2007. The study period is around three years. From the engineering point of view, the study requires various basic data and information, as well as engineering monitoring data for reservoir sedimentation analysis and GIS soil erosion analysis.

Today is the our second Workshop. Through various field surveys and investigations, we have clarified in more engineering detail the current condition and issues on the Wonogiri reservoir sedimentation and its watershed management from the first Workshop last year. Further, we would like to invite presenters from various agencies. They will introduce various activities and information that are relating directly or indirectly with the Wonogiri reservoir sedimentation issues. Our Study is still on the way to formulation of master plan. We think not necessarily to draw conclusion fast. Through exchanging views and opinions each other, we hope all the stakeholders are on the same track and go forward in the same direction for more realistic and practical solutions for Wonogiri reservoir sedimentation issues. We look forward to the success of this Workshop.

KEYNOTE SPEECH: Ir. Siswoko Dipl. HE – Director General of Water Resources, Ministry of Public Works

Currently, our water source has been in a critical condition and has not been improved as there is too much water in the wet season, but too little water in the dry season, and too dirty containing garbages, sediments, or pollutants. Meanwhile, water for irrigation and drinking needs is still very much dependent upon the surface water sources (90 %) and only a small part of irrigation and drinking water (10 %) are supplied from technical infrastructures, like dams and weirs. Due to the above, the condition are really apprehensive. That is our future image of water condition. We hope we all realize about the above condition. In addition, the above situation has become the background motivation of the new law on water resources No. 7/2004, because the older version had emphasized on only an aspect of water usage.

The newest law on water resources, Law No. 7 / 2004, stipulates a balance among conservation, utilization, and water induced disaster management aspects. Such apprehensive situation of water resources warned some Ministers, as well as the President to launch '*Gerakan Nasional Kemitraan Penyelamatan Air*' (Partnership on National Movement for Water Preservation) on April 28, 2005, which are focusing on the aspect of conservation. However, the problem of water is not only a matter of one institution for countermeasure but also involving all of stakeholders concerned based on a partnership.

Recently, a partnership among Ministries of Public Works, Environment, and Forestry has expressed a movement plan agreement through implementation of pilot projects at four river watersheds in West Java. The movement plan was realized in different aspects for each watershed, i.e., conservation will be implemented in the Cimanuk and the Citanduy watersheds, water quality management will be implemented in the Citarum watershed, and spatial planning management as well as flood control and dryness mitigation will be implemented fo the Ciliwung watershed.

The Directorate General of Water Resources, Ministry of Public Works expected the countermeasures should follow the spirit of the above four (4) Pilot Projects in solving the problems, generating concrete sustainable measures, and involving all the stakeholders.

Closing his speech, the Director General of Water Resources advised a human attitude on water preservation through a Javanese Song. He hoped the Workshop participant would bring the spirit of the song to all communities any where, through a cultural approach, like community-familiar songs. The song was consisted in four (4) couplets: The 1st couplet warned on the importance of water for whole life, which should be managed well and be thanked as grant from the God; The 2nd told on conservation necessity; The 3rd told on the water utilization, and the 4th warned of depraving

tendency against water (flood, land slide, water quality degradation, etc.). The song is attached below:

Type of Javanese Melody: Dandang Gulo

The Name of Javanese Song: Anggulo Wentah Tirto (English: Managing water)

By : Mr. Ir. Siswoko, Dipl.HE. *)

Translation:

| | |
|---|---|
| <p>1. Be aware, that the life can not go without water The benefit of it has been existed since the life was there Given by The God – The Most Grand for all the creatures So we should manage well and preserve it as long as the life Always remember in three (3) things in managing water for our benefit</p> <p>2. The first: Always never forget to anything which means conservation To secure our generation's life will go on Human should care that plantation and vegetation could grow and bloom because of water No water is meaningless All people should do all effort for everything's life and be component for water existence.</p> | <p>3. The second, the main thing is how to get the most benefit from water the farmers get what they need then the yield will be improved it will support development and bring welfare in the villages and cities and prosperity for families men and women are happy they are working together</p> <p>4. The third, which we should care do not be careless against the coming of flood also be aware to an earth slides day and night always pray and to work for the people prosperity for the nations welfare So, every state employer Should be responsible on their task Be in togetherness in managing water.</p> |
|---|---|

*) He is the Current Director General of Water Resources, Ministry of Public Works

DISCUSSIONS:

Chairman: Prof. Ir. Sudjarwadi M.Eng. Ph.D., Senior Vice Rector of Gadjah Mada University

MORNING SESSION:

Main Points of Presentation:

1. Recent issues on the sedimentation of Wonogiri Reservoir cover at least 4 (four) aspects: (1) Technique, (2) Social, (3) Coordination among agencies, (4) Laws / Regulation.
2. Many efforts on erosion control have been so far carried out, however, massive erosion continues into the Wonogiri Reservoir.
3. The presenters have observed the real and specific problems at several locations.
4. The presentations have shown real situation of Wonogiri Reservoir and its watershed, about what have already been done, where and how been done.
5. There are several things in the presentation on which the audience concerned for clarification, discussion, and suggestion.
6. Most clarification and discussion comprises suggestions enlarging participants' view so that they could understand and approve the presentation materials.

Clarification, discussion, and suggestions are summarized in the questions and answers below.

Questions:

1. Mr. Ir. Suhartanto, MSc – Ministry of Agriculture
 - a. Farmers in the upland area should be invited in such a meeting like today.
 - b. The management of sedimentation is basically a management of human behavior, therefore its countermeasure should more emphasize to the empowerment of people at the upper basin than to physical approaches.
 - c. Equality in development in the upstream and downstream areas is still unbalance.
 - d. The source of problem is, indeed, poverty for the constraints of farmers, e.g., constraints in the access of agricultural land and of capital (farmers do not have an access to the bank) as well as an access of information (farmers do not have enough information about markets).
 - e. As young men and productive people get off-farm works, on-farm activities become marginal as a result, for only the women and old men remained.
 - f. Consolidation in business is required for various corporations, such as farm corporation (including *marketing*) to increase farmers' welfare.
 - g. Access on capital / credit pattern should be opened more broadly and easily through government policies (regarding with the complicated bank rules).
2. Mr. Ir. Mohammad Khozi, Dipl. HE – Provincial Water Resources Service of Central Java
 - a. The sediment production decreased between the period before 1993 and after that, showed successful efforts implemented by the related agency. If so, such method of soil

conservation should be applied for the next countermeasures. But if the decrease of sediment production was caused by the lack of soil covering, it will be another matter.

- b. Disconnection of soil degradation cycle is not easily carried out as it needs an integration of fund and countermeasure.
 - c. Farmers are always willing to respond as long as a thing will bring benefit to them.
 - d. River basin development in Bengawan Solo was unbalance between upstream and downstream areas (more in downstream reach, i.e. river improvement, etc., but less in upstream areas, i.e. dam construction, check dam, etc.).
 - e. Information from field staffs of State Forestry: The plants needed to be maintained but the budget comes in the period when water from rainfall (for plants maintenance) becomes smaller, and so the maintenance is not sustainable.
3. Mr. Ir. A. Kristanto, MS – Provincial Forestry Service of Central Java
- a. The outcomes of previous research in sedimentation showed that erosion sources from off-farm (river bank, road side, etc) was about 70% while from on-farm (farm lands) was 30%. Activities of conservation are currently more conducted at on-farm lands; it requires a concept of erosion countermeasure for off-farm lands. It is unclear right now who should handle the off-farm activity.
 - b. A research on how to raise community participation in greening and soil conservation activities, is required involving internal factors of farmer (characteristic and income of farmers) and external factors covering (a) source of technology and innovation (mainly from the field extension workers), and (b) type of ‘provocation’, e.g., it needs to establish cadres who are capable to encourage people in conservation of farm lands.
 - c. How much is the erosion volume in total now which extends the reservoir surface life up to 125 years (compared with estimation of 27 years in the past study/monitoring results)?

Answers:

Summary of the presenters’ answers is as follows:

- Reported by the Manager for Planning, IPK PWS Bengawan Solo, those farmers from upland area also invited and attended the 2nd Workshop.
- Erosion countermeasures by physical development have been conducted in the past, but then the development of the project followed the concept of flood control, which was started from the lower stream to upstream. Nowadays the project will focus on the conservation at the upper area, like ‘embungs’, check dams, river bank protection, etc. In accordance with sedimentation of the Wonogiri Reservoir, the predicted surface life of the reservoir of 125 years was based on the effective volume of the reservoir, while the prediction of BP2TPDAS was based on the volume of reservoir’s sediment storage. The highest flood was 2.600 m³/s in the period of 1980 – 1993. No big flood discharge has occurred since

1993.

- Access to capital and market are out of farmer capability so it needs government supporting policies.
- The outcome of study is expected to change the cycle of soil degradation process so that the farmers will become more happy.
- Transmigration and providing of new job opportunities without having land are necessary to be considered for such solutions.
- Technology and information are of great importance, extension workers are expected to be capable to make a concrete action in the field so that the decision makers can comprehend that it still necessary.
- The arrangement of budget should be based on the planning.
- Implementation of conservation measures should be efficiently done based on both budgeting and the location.
- Natural phenomena would be the results of human activities. An increase of community welfare would be the required solution.
- Dialogue is needed to synchronize farmers' aspiration and government's capability.

AFTERNOON SESSION:

Main Points of Presentation:

1. The basic concept of management master plan has been presented in line with the understanding and suggestions derived from the morning session.
2. Further elaboration is still required to achieve the objectives of the Study covering topics (discussion matters) as presented today in master plan formulation.
3. Distribution of community welfare in the Wonogiri Dam watershed is still unbalance. Various indicators show the Wonogiri area is still in the low level of welfare.
4. Such indicators, illustrating the portrait of socio-economic condition of the society, have been found. These are used to determine such policies for solution approaches of sediment problems in line with the characteristic of economy of the society.
5. It can be concluded that poverty alleviation is a part of disconnection of the cycle of causes of soil erosion problem following to the problem of sedimentation in the Wonogiri reservoir.
6. The results of project-based erosion control do not satisfy the expectation.
7. It can be identified as well that the poverty would be an important factor in the cycle of causes of erosion.
8. The conclusion of the Study has not been presented yet, it needs more fact analysis or fact findings.
9. Several information of research outcomes on reservoir sedimentation and its conceivable countermeasures were presented. There are recommendations that can be used as a comparison to develop a logical understanding toward findings, assumptions, and

calculation for sedimentation issues in the Wonogiri Multipurpose Reservoir.

10. Introduction of *GN-KPA (Gerakan Nasional Kemitraan Penyelamatan Air/Partnership on National Movement for Water Preservation)* has inspired necessity on water conservation and it is useful for a reference of sectoral elaboration on specific efforts to overcome the sedimentation problem in the Wonogiri reservoir.

Clarification, discussion, and suggestions are summarized in the questions and answers below.

Questions:

1. Mr. Ir. Suhartanto, MSc., Ministry of Agriculture
 - If off-farm income has already been involved in the socio-economic research (for example, there was a presentation that many Wonogirinese worked outside then sent their income to their family in Wonogiri), why are the people in Wonogiri still poor?
 - How to get the certification for echo-labeling? This approach might be a model to influence people to conserve their villages well.
2. Mr. Samudianto, Leader of Water Users' Association, Wonogiri Irrigation Scheme, Kabupaten Sragen
 - He mentioned thankfulness for the 2nd Workshop and the issuance of Law No. 7/2004 as well as the efforts on the countermeasures for sedimentation in the Wonogiri Reservoir. He also requested continuous effort for the countermeasures on Wonogiri Reservoir sedimentation issues by dredgers;
 - He suggested the Provincial Water Resources Service in Central Java should carry out the normalization of irrigation infrastructures.
 - He suggested a village socio-economic survey would anticipate apprehensive condition in the future, because the current trend that all young pupils and students don't want to live in villages, this means no one would undertake farming in the future. He suggested the government to apply mechanical farming (using machines) to overcome the above problem in the future. Village assessment on social economy is also needed in other villages and more areas.
3. Mr. Ir. Agus P. Saido, MSc., Department of Civil Engineering – Sebelas Maret University
 - He suggested in relation with the Partnership on National Movement for Water Preservation (Ind: Gerakan Nasional Kemitraan Penyelamatan Air- GN-KPA), especially in relation with his involvement in JICA Study, it would be better if water resources data management would be undertaken by the new organization as an independent agency, for national and regional data management. Like a spatial data management, the year 2005 program has been launched as the Year of Infrastructure for Spatial Data, covering national and regional spatial ranges.
 - He has a deep interest in participation to the new organization in the Bengawan Solo River Basin.

4. Mr. Kusno Adi Sambowo, ST, Ph.D, Department of Civil Engineering – Sebelas Maret University

- Currently, a laboratory research on the sediment materials of Wonogiri reservoir is on-going for use of building construction such as brick, tile, and artificial cement materials.

Answers:

Summary of the presenters' answers are as follows:

- Certification is awarded with fulfillment of several required conditions.
- Local Government needs to be more sensitive toward the importance of society.
- The socio-economic survey has already involved the off-farm income. The young workers prefer to off-farm jobs since there is no incentive in agricultural fields.
- Very fine sediments are usually not able to be used for construction materials.
- Survey is necessarily to be carried out in surrounding watershed to further usage.
- There is a hope for further actions as the national activity for soil and water conservation.

Additional Written Suggestions Forwarded after Workshop:

Mr. Ir. Agus Supriyadi, MT, Department of Civil Engineering – Sebelas Maret University

- Use of dredged sediment for building material having higher economic value should be tested.

Mrs. Dr. Gusti Ayu Ketut RH, Inces UREL (NGO in Environmental Care) - Surakarta:

- The main problem in Wonogiri is the poverty affecting (i) careless of the impact due to illegal logging (they use it for cooking and burning limestone), (ii) planting in the area of green belt, (iii) building structures in the area of green belt. It is therefore required socialization about conservation, urgency, impact, and required 'Perda' (local government regulation) about environment in Wonogiri.
- The environmental conservation must be associated with Regional Law Enforcement to prohibit building constructions in the green belt. Hence, participation of the local government and community is of great importance.

Mr. Ir. Rohadi Masyhadi, Dipl. HE – Temporary Task Unit for Flood Control and Coastal Protection – PBS (Ind.: Satuan Kerja Sementara Pengendalian Banjir dan Pengamanan Pantai Bengawan Solo)

- It needs a campaign of 'going down'. Settlement and land cultivation should be on a flat low land instead of steep slope land. Young generation should not live and cultivate the steep slope land.
- The steep upland should be bought by the government for reforestation.

Mr. Ir. Kusnaeni, Dipl. HE –Water Preservation Partnership Network

- Business activity on critical land should be created to enhance farmers' income without increasing erosion rate.

Mr. Ir. Sudarsono, CES – Temporary Task Unit for Development and Management of Water Resources of Bengawan Solo (Ind.: Satuan Kerja Sementara Pengembangan& Pengelolaan Sumber

Air Bengawan Solo)

- About development of green belt: In the management of green belt by empowering the community, the behavior (culture) of local community is of great importance for considerations; so it is not enough to fulfill their needs. This matter was not mentioned in the presented papers.
- The community should be involved in maintaining the plants as it needs socialization in the field.

Mr. Ir. Eko Budi Santoso, MEng.,Ph.D, – Department of Civil Engineering – Sebelas Maret University

- Terrace rehabilitation should be implemented using a *friendly eco-farming system*.
- Bank erosion countermeasure should be implemented applying eco-hydrologic engineering that is one of pleasant river eco-system protections.

Particular Notes:

- From the presentations, ideas, experiences, discussions, and suggestions; it can be concluded that the first session has opened up the portrait of real land condition and the idea of solution.
- In addition, the process of presentation, discussion, and suggestion resulted in the key word from the Director General of Water Resources, i.e., “*Guyub dan Makaryo (togetherness and action)*”, and one additional key word: “*memikirkan (to think)*”. Therefore, the key word would be *GMM (Guyub, Mikir lan Makaryo)*. In general, GMM means as to think and to act with togetherness.

Surakarta, September 9th, 2005

Chairman,



Prof. Ir. Sudjarwadi, M.Eng., Ph.D

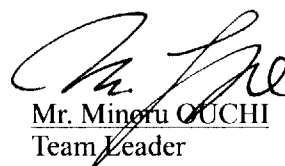
Senior Vice Rector, Gadjah Mada University

Manager for Planning, IPK PWS BS

JICA Study Team



Ir. Tri Rohadi, Dipl. HE
Chief of Counterpart Team



Mr. Mingeru OUCHI
Team Leader

Daftar Undangan :

JAKARTA

1. Dirjen Geologi dan Sumberdaya Mineral, Departemen ESDM
2. Dirjen Rehabilitasi Lahan dan Perhutanan Sosial, Dep. Kehutanan
3. Dirjen Pengelolaan Lahan dan Air, Dep. Pertanian
4. Dirjen Bina Bangda, Departemen Dalam Negeri
5. Dirjen Penataan Ruang, Departemen Pekerjaan Umum
6. Deputi III Bidang Peningkatan Konservasi Sumber Daya Alam dan Kerusakan Lingkungan, Meneg. Lingkungan Hidup
7. Asisten Deputi Pengendalian Kerusakan Sungai dan Danau, Meneg Lingkungan Hidup
8. Direktur Pengairan dan Irigasi, BAPPENAS
9. Direktur Kehutanan dan konservasi Sumber Daya Air, BAPPENAS
10. Direktur Pengelolaan DAS, Dep. Kehutanan
11. Direktur RLH, Ditjen RLPS, Dep. Kehutanan
12. Direktur Pemanfaatan Air Irigasi, Dep. Pertanian
13. Direktur Potensi Daerah, Ditjen Bangda, Depdagri
14. Direktur Sungai, Danau dan Waduk, Ditjen SDA
15. Direktur Bina PSDA, Ditjen SDA
16. Direktur Bina Program, Ditjen SDA
17. Direktur Irigasi, Ditjen SDA
18. Sekditjen, Ditjen SDA
19. Sekjen KAI (Kemitraan Air Indonesia) Indonesia
20. Kasubdit Perencanaan Wilayah Sungai, Dit. Bina Program
21. Kasubdit Konservasi, Dit. Sungai, Danau dan Waduk
22. Kasubdit Wilayah Barat, Dit. Sungai, Danau dan Waduk
23. Kepala Balai Keamanan Bendungan
24. OHARA Katsuhito, JICA Indonesia Office, Jakarta
25. Mr. Yasuyuki HIRAI, JICA Expert, Jakarta
26. Ir. Kusnaeni, Dipl.HE, JIK-PA
27. Victor Sidabutar, JIK-PA

Dari Luar JAKARTA

28. Bupati Wonogiri
29. Direktur Pengelolaan Bengawan Solo, PJT I
30. Pemimpin IPK PWS Bengawan Solo
31. Kastaf Perencanaan IPK PWS Bengawan Solo
32. Kastaf Pelaksanaan IPK PWS Bengawan Solo
33. Kepala SKS PPSA Bengawan Solo
34. Kepala SKS PBPP Bengawan Solo
35. Kepala SKS PAB Bengawan Solo
36. Kepala SKS RPP Bengawan Solo
37. Kepala Biro Teknik, PJT I Bengawan Solo
38. Kepala Bappeprop Jawa Tengah
39. Kepala Bappedalprop Jawa Tengah
40. Kepala Dinas PSDA, Propinsi Jawa Tengah
41. Kepala Diperta, Propinsi Jawa Tengah
42. Kepala Dinas Kehutanan, Propinsi Jawa Tengah
43. Kepala Balai PSDA Bengawan Solo
44. Dr. Ir. Fatkhan Nurokhmad, Jurusan Teknik Sipil, Universitas Gadjah Mada
45. Drs. Tukidal Yuniarto, MSc, Fakultas Geografi, Universitas Gadjah Mada
46. Dr. Bambang Purwono, Fakultas Pertanian, Universitas Gadjah Mada
47. Ir. Agus Supriyadi, MT, Universitas Sebelas Maret
48. Ir. Eko B. Santoso, Meng, PhD, Universitas Sebelas Maret

49. Ir. Kusno Adi S, PhD, Universitas Sebelas Maret
50. Kepala Bappeda, Kabupaten Wonogiri
51. Kepala DPU, Kabupaten Wonogiri
52. Kepala Dinas Pertanian, Kabupaten Wonogiri
53. Kepala Dinas LHKP, Kabupaten Wonogiri
54. Direktur PDAM, Kabupaten Wonogiri
55. Kepala Bappeda, Kabupaten Sukoharjo
56. Kepala Bappeda, Kabupaten Karanganyar
57. Kepala Bappeda, Kabupaten Sragen
58. Kepala Bappeda, Kabupaten Klaten
59. Kepala Bappeda, Kota Surakarta
60. Kepala Bappeda, Kabupaten Pacitan
61. Administratur Perum Perhutani Surakarta
62. Kepala BP DAS Bengawan Solo
63. Kepala BP2TP DAS IBB di Surakarta
64. Kepala BKPH Perum Perhutani Wonogiri
65. Kepala BKPH Perum Perhutani Baturetno
66. Ketua P3A Wonogiri
67. Ketua P3A Sukoharjo
68. Ketua P3A Karanganyar
69. Ketua P3A Sragen
70. Ketua P3A Klaten
71. Ketua Gabungan P3A
72. Ir. A. Christanto, MS
73. Kepala PLTA Wonogiri
74. LSM Persepsi Wonogiri
75. LSM Citra Mandiri Wonogiri
76. Masyarakat Peduli Air Surakarta
77. DR.I Gusti Ayu Ketut RH, SH,MM (INCes-UREL Indonesia Centre for Sustainable Natural Resources Policy and Environmental Law) di Surakarta.
78. Forum Peduli DAS
79. Ketua Forum Petani Sertifikasi Sumberejo, Batuwarno, Wonogiri
80. Kelompok Tani, Sembukan, Wonogiri
81. Ir. Widiharjo, Sp
82. Drs. Setyo Susilo
83. Rejodadi
84. Suparno
85. Ir. Mulyana, Sp
86. Ir. Lilik Retno Cahyadiningsih, MA
87. Ir. Raden Dody Prakoso
88. A. Supriyanto, SP
89. Sudarmadji, ST
90. Ir. Edi Djoko Dwiono
91. Ruwiyo Sudjarmiko, S Sos
92. Ir. Wuryanto A Sidik, Sp.1
93. Ir. Sri Widowati
94. Gemala Suzanti, SP MMA
95. Tri Joko Inti, ST, MT
96. Supriyanto, ST
97. Wiyanto, SH
98. Ir. Tugiyo
99. Dwi Sularjanto, BE
100. JICA Study Team

The Third Workshop

February 14, 2006

MINUTES OF WORKSHOP III
THE STUDY ON COUNTERMEASURES FOR SEDIMENTATION
in
THE WONOGIRI MULTIPURPOSE DAM RESERVOIR

February 14, 2006

Soemarjo Seminar Room, Quality Hotel, Surakarta

Opening address by Mr. Tri Rohadi, Dipl. HE, the Manager for Planning IPK PWS BENGAWAN SOLO, as the chief counterpart of JICA Study Team

After expressing a welcome and thanks to all audience, the 3rd Workshop organizer committee presented some matters in relation with the Study on Countermeasures for Sedimentation in the Wonogiri Multipurpose Dam Reservoir and the objective of the 3rd Workshop as follows:

- 1). The 3rd Workshop was implemented in cooperation between the GOI (Ministry of Public Works) and the GOJ (JICA) to handle the Comprehensive Study on Countermeasures for Sedimentation in the Wonogiri Multipurpose Dam Reservoir.

The objectives of the Study are to:

- i) Formulate a master plan for sustainable countermeasures for sedimentation problems in the Wonogiri Multipurpose Dam Reservoir,
- ii) Conduct a feasibility study of the selected priority project(s), and
- iii) Transfer technology to counterpart personnel in the course of the Study.

The goal of the Study after achievement of the above objectives is set up to:

- i) Implement the project to be proposed under the Study to secure the long-term ability of the reservoir to supply water for irrigation and hydropower generation, and
 - ii) Provide solutions and technical approaches for reservoir sedimentation problems which are increasing concerns in Indonesia.
- 2). History of workshops which had been done three times until now: the 1st workshop on December 28, 2004, the 2nd workshop on September 8, 2005, and the 3rd workshop on February 14, 2006.
 - 3). The objectives of the 3rd workshop are:
 - i). To explain the progress to date of the JICA Study during the second field works from October 2005 to January 2006
 - ii). To explain and discuss the basic strategies for master planning on Wonogiri reservoir sediment management system
 - iii). To explain and discuss the basic strategies for master planning on Wonogiri watershed conservation and management
 - iv). To exchange opinions and receive comments form stakeholders concerned to reflect master planning of integrated countermeasures for the Wonogiri reservoir sedimentation problems.
 - 4). It was reported to the audience, that the participants of the 3rd Workshop was more than 100 persons, consisting of participants from (1) Ministry of Public Works, (2) Ministry of Forestry, (3) Ministry of Energy and Mining Resources, (4) Ministry of Agriculture, (5) Ministry of Home Affair, (6) State Ministry of Environment, (7) Bappenas, (8) JICA Indonesia, (9) JICA Expert of Ministry of Public Works, (10) Water Resources Management

Agency in Central Java Province, (11) Governments of Kabupaten/ Kota Level of Wonogiri, Sukoharjo, Klaten, Karanganyar, Sragen, Surakarta City and Pacitan (East Java Province), (12) Gadjah Mada University and Sebelas Maret University, (13) P3A (Farmer Water Users' Association) of Wonogiri Irrigation Schemes, (14) NGOs.

Closing his welcome speech, the Manager of Planning on behalf of the General Manager of Main Executing Office for Bengawan Solo River Basin Development requested the Director General of Water Resources to give a keynote speech for 3rd workshop direction and open the Workshop.

Opening address by Mr. Minoru OUCHI, Team Leader of JICA Study Team

After expressing welcome and thanks to all audience, opening speech from the Team Leader was as follows:

- 1 The attendants today are more 100 persons from: the Steering Committee members from Jakarta, key staff from provincial government of Central Java, key staff from Kabupatens of Wonogiri, Sukoharjo, Karanganyar, Sragen, Boyolali, Klaten, Pacitan and Kota Surakarta, Key staff of PBS and PJT 1 Bengawan Solo, and Universities of Gadjah Mada and Sebelas Maret (these two universities are now collaborating with JICA Study Team). And key staff of P3A (water user's association) each Kabupaten, key staff of BKPH Perum Perhutani, PLTA Wonogiri, NGOs, Farmer Group and Forum, and so on.
- 2 The Wonogiri multipurpose dam is the sole large reservoir on the Bengawan Solo mainstream. The Wonogiri dam aims at flood control, irrigation water supply and hydropower generation. The Wonogiri dam was constructed in 1980. The benefit from Wonogiri dam is very big. The Wonogiri dam has much contributed to social welfare and economical development in the Bengawan Solo river basin, and also has greatly benefited the people in the Bengawan Solo river basin.
- 3 Last year, it was a "hydrological dry year". No reservoir water has been released through the spillway. However, in this year it is a "hydrological wet year". As you know, at many places in Java, flush floods and associated debris floods and landslides occurred. At the end of January the reservoir water level already exceeded the Control Water Level and water release from the reservoir has been already conducted from the dam safety viewpoint. Compared to the water level last wet season, the water level is now more than 2.5 m higher than in last year. Maybe in this year, the Wonogiri dam will receive plenty of inflows and play an important role in flood control to the downstream areas. However, on the other hand, the Wonogiri dam will receive plenty of sediment inflows from the Wonogiri watershed. As a result, more than 90% of sediment inflows will be deposited within the reservoir.
- 4 Currently, the proper function of the Wonogiri dam has been threatened by rapid sedimentation deposits in the reservoir. The decline of the reservoir storage capacity reduces available water for various uses, especially during the dry season.
- 5 In order to sustain the function of the Wonogiri dam, the Wonogiri sedimentation problems should be solved. It is of great importance and urgency to establish fundamental countermeasures to tackle for the Wonogiri reservoir sedimentation issues.
- 6 Our JICA Study on Countermeasures for Sedimentation in the Wonogiri Multipurpose Dam Reservoir started in August 2004 and will finish July 2007. The Study period is around three years. The purpose of the Study is to formulate a master plan for sustainable countermeasures for sedimentation problems in the Wonogiri dam reservoir. The goal of the Study is to secure the long-term ability of the Wonogiri reservoir to supply water for various uses, and to provide solutions and technical approaches for reservoir sedimentation issues in other reservoirs.
- 7 From the engineering point of view, the Study requires various basic data and information, as well as monitoring data for reservoir sedimentation analysis and GIS soil erosion analysis. We have already finished various field surveys and investigations such as reservoir sedimentation

survey, geological investigation in reservoir, hydrological monitoring of major tributaries, IEE, social survey, land use survey, sediment sampling, and water quality monitoring, field soil erosion tests, verification test of sediment removal method, etc. We are now entering the stage for formulation of master plan. The master plan will be formulated in coming June this year reflecting opinions and suggestions from the workshops.

- 8 We have exchanged opinions and comments from stakeholders through our two workshops. Main conclusions are;
- 1). Sedimentation issues in Wonogiri reservoir should cover 4 aspects; technical, social, institutional coordination among relating agencies and law enforcement.
 - 2). Main problem causing the soil erosion from land surface is not only from natural erosion process but also from human activities. This is coming from the fact lack of emphasis on watershed management especially in agriculture sector, and lack of law enforcement such as farmer encroachment in forest areas and illegal logging.
 - 3). Land conservation is not only the matter of government but also of local people themselves.
 - 4). It is of great importance of local peoples' involvement of watershed conservation and management.
 - 5). Poverty is an important factor in soil erosion from uplands. Soil conservation shall be linked to the economic development.
 - 6). It is necessary to establish an appropriate sharing system of benefits from the Wonogiri dam reservoir. This comes from the fact lack of funds and resources at Kabupaten and province levels.
- 9 In the Workshop today, we would like to discuss the direction and basic strategy of our master plan. Through exchanging views and opinions each other, we hope all the stakeholders are on the same track and go forward in the same direction for more realistic and practical solutions for the Wonogiri reservoir sedimentation issues.
- 10 To this end, we would like to express our sincere appreciation and thanks to PBS staff as well as our counterparts of concerned agencies from Bappeda and Dinas LHKP of Kabupaten Wonogiri, BPDAS Solo and BP2TPDAS for strong support and cooperation for our today's Workshop. We look forward to the success in this Workshop.

Keynote speech by Mr. Ir. Siswoko, Dipl. HE, the Director General of Water Resources, Department of PU

Flood and drought always happen every year and the tendencies are becoming severer which cause more serious problems. Law No.11/1974 emphasizes only on the aspect of water use but lack of conservation. Law No.7/2004, however, stipulated a balance management of water resources covering aspects of management, conservation and depraving prevention against water in an integrated river basin. In the future, more care of conservation aspect should be given to cope with floods, drought, water quality, waste water, in order to keep conserved water sources for future generation.

The Wonogiri reservoir has been threatened by sedimentation problem resulting in sediment deposit in front of intake. Sedimentation countermeasure is, therefore, very much required to sustain the function of the reservoir. JICA Study will set up the Master Plan of the countermeasure of sedimentation into Wonogiri Reservoir.

We hope that:

- 1). The solution of sedimentation problem is based on not only the physical measures but also non-physical measures since poverty is the one reason of erosion causes. Thank you for your changing orientation from physical to non-physical measures.

- 2). However, efforts on physical measures are not instantaneous and its implementation needs a long term. It is therefore short term measures are still required as well as sustainable ones, such as how to cope with the sediment deposit in front of the intake.
- 3). The Master Plan should be applicable and set up a matrix covering details; what activities will be done; who will implement it; how long it will take place; how it will be carried out. The Master Plan will be implemented by all stakeholders concerned. In addition, the Minister of Public Works expected that the proposed activities should be planned at every village.
- 4). For Department of Public Works, the result of the success of watershed conservation does not derive from greening, but from the conserved water resources, which indicate decrease in flood, decrease in sediment, increase in water discharge during dry season, and increase in water quality. Finally, the main goal of all conservation activities should be on the increase of the welfare of community/farmers.
- 5). National Movement on Partnership for Water Preservation (GNKPA) should implement this Master Plan and is supposed to start taking actions before the Master Plan is completely formulated, since the conservation is not only in charge of the Department of Public Works but also Departments of Forestry and Agriculture as well as local government and community.
- 6). The President of RI (Republic of Indonesia) wishes a superior pilot project of watershed having very detail plan, which will be managed by GNKPA. Directorate of Water Resources is therefore offering it to Cimanuk, Brantas and B.Solo river basins to prepare an excellent watershed pilot project proposal.

Finally, we really hope that the Master Plan includes non-structural measures, such as long term conservation managed by GNKPA, and short term sediment countermeasures as well.

We thank you to JICA for assistance in solving our problem of sedimentation in Wonogiri reservoir. We and all stakeholders are waiting for the completion of this study for its implementation. All attendances should kindly participate and direct this workshop to result in an applicable Master Plan.

Presentation theme

- (1) Basic Strategy for Wonogiri Reservoir Sediment Management Master Plan
(by Mr. Minoru Ouchi, Team Leader of JICA Study Team)
- (2) Erosion Sources and Sediment Yield from Wonogiri Watershed
(by Mr. Kenjiro Onaka, Co-Team Leader/Watershed Management/Soil Erosion Expert, presented by Mr. Agus Saido)
- (3) Basic Strategy for Wonogiri Watershed Conservation and Management Master Plan
(by Mr. Tadahiro Fukuda, Sediment Hydraulic Expert)
- (4) Village Assessment and Village Action Plan
(by Mr. Tetsunari Gejo, Expert of Social Investigation/Community Empowerment)
- (5) Initial Environmental Examination (IEE)
(by Mr. Eko Budi Santosa, University of Sebelas Maret Surakarta)
- (6) Organizational Setup for and Beneficiaries' Funding Assistance to Watershed Conservation
(by Mr. John Chettoe, Expert of Institution/Laws and Regulation)

Discussion moderated by Prof. Ir. Sudjarwadi, MEng, Ph.D, the Senior Vice Rector, Academic Board, UGM

Mr. Haryanto Brodjo – JIKPA/GNKPA Jakarta:

- 1). In the past, Department of Public Works had an excellent experience in construction of terraces at Panawangan and Citanduy watershed; however, there seemed to be no longer

information about such works. Wonogiri watershed conservation should finally not have the same issue as Panawangan.

- 2). Regarding the condition of society, it needs more detail quantitative data rather than qualitative / normative data. Mapping of poverty data is required as well, for a basis of planning.
- 3). People in Wonogiri do not have any interest to sedimentation in the reservoir. Their main concern is providing a better economical condition through sustainable conservation. Therefore, problem solving by conservation should be more emphasized on non-technical approaches. In addition, it should involve the people from planning to implementation stage.

Mr. Bambang Subiandono – Directorate of Program, DGWR – Jakarta

- 1). The proposed Master Plan was good enough; however, it has not presented an action plan of the MP considering the custom of the people in upstream yet. If the social cultural custom of the local people is not considered, the same result as Panawangan would possibly occur. Process of culture changing takes a long time as the process of reforestation takes 20 years.
- 2). The study area shown in the presentation material does not represent the location of soil / sediment production.
- 3). Increase of farmers' income is necessary.
- 4). Incentives for farmers needs to be considered further, but additional income for such activities seem to be better than the incentive.

Mr. Edi Sutopo – Kesbanglinmas Kabupaten Wonogiri

- 1). In Wonogiri, 48.8% of people are poor or very poor, who work in surrounding area of the reservoir and contribute to the reservoir sedimentation. They do not think reservoir sedimentation, but their land fertility.
- 2). Only a small number of people in Wonogiri get benefit from the reservoir. Most of the beneficiaries are from Sukoharjo, Karanganyar, Sragen, Klaten, and Ngawi.
- 3). The government of Wonogiri is, indeed, very much concerned to the Wonogiri reservoir; however, the problem is mainly the empowerment of community.
- 4). Agricultural sector does not seem to have an appropriate job; consequently, the program of greening becomes less interested.
- 5). Concerning the contribution of 50%, what measure is used in this statement?
- 6). Regarding the comprehensive countermeasures, Bupati Wonogiri once forbid pruning of trees at steep slope lands and at roadside
- 7). The government of Wonogiri greatly supports this study and waits for non-normative results of the Master Plan.

Mr. Suhardijono – Dept. Kehutanan, Jakarta

- 1). This question is related to the slide No. 13 of the presentation by Mr. Ouchi. The phenomenon of sediment rate decrease was a good experience in watershed management. Was there any other reference study like this which was done by the government or the community?
- 2). The second question is related to the presentation by Mr. Chettoe on his recommendation on establishment of a committee for watershed conservation. How would this organization be setup based on law and how would the responsibility be managed; it would be volunteer basis or obligation basis?

Mr. Sutioso Budiraharjo – PJT 1 Bengawan Solo

- 1). In fact, there are so many products of sediment in the field, but why did the rates of sedimentation decrease? Unfortunately, we are not so sure about the old data of erosion. Since this study is a new study, use of new data is greatly encouraged.
- 2). The problem of Wonogiri reservoir is mainly from Keduang, is it true that sediment from Keduang decreases? We should not 'look happier' to the reduction of sediment; as a matter of fact the sediment is still high enough.
- 3). Regarding with the sediment flushing to the downstream: How to operate the proposed bypass from Keduang? How many percentages is flowing into the river downstream, how much sediment are entering into the reservoir? How is the impact of flushing sediment to Colo weir downstream?
- 4). There are some proposed solutions, listing them in priority level would be advantageous.
- 5). The modification of intake would not be easy, it will take a long time and result in such disadvantages such as the Hydro power generation stop operating, water supply for irrigation and domestic needs do not work.
- 6). Concerning the garbage; So far, such developments have never been followed by operation and maintenance. How to operate and clean the trash rack?
- 7). In relation to the proposed sediment storage reservoir, where is the location? A clear figure of the proposal would be more understandable.
- 8). The utility of Wonogiri reservoir is not based on the lifetime but on the un-blockage of the intake. Even the upstream area is maintained, focus on the keep opening of the intake would be the most important one.

Mr. Sulastriharto – Directorate of PSDA, DGWR Jakarta

- 1). This comment related to the last presentation (Mr. John Chettoe's), slide No. 16: Law No.7/2004 that consists of stipulation on water utilization, conservation and preservation as well as depraving effect of water would be an entry point of watershed management. The management of Wonogiri Reservoir watershed, as a cross-province watershed, would be an authority of Central Government. In addition, a committee coordination which consists of stakeholders concerned should be proposed to National Water Council for recommendation.
- 2). The presented sharing value between upper and lower communities (slide No. 20), were only mentioned on water utilization by farmers, even there are still many benefits, like feeling safety from flood, environmental values, etc. All those factors should be evaluated and mentioned in the value of sharing program.

Written Comments / Suggestions

Mrs. Endang SR – UNS

- 1). (To Mr. Gejo): Low enforcement is required to cope with illegal logging. The government should dare to stop it by disconnecting the cycle of wood marketing. In addition, it is necessary to create such productive enterprises to increase people's income.
- 2). (To Mr. Fukuda): You have investigated the sources of erosion, the magnitude of erosion, and sub-watersheds which contribute to the large erosion. I appreciate that; it's wonderful! But, it's necessary to further investigate why it happens?, what its causes? You can investigate it from the aspects of social and economy associated with local community custom; for example: aspect of agronomy covering crop type and planting method.
- 3). (To Mr. Agus/Onaka): It was presented that the pilot project was on slope of more than 40%. In reality, people cultivated the land of 30% - 50% (?) in slope by seasonal crops. It means it needs changing of cropping pattern, is it possible?

Mr. Harso Susilo – Bappeda of Central Java Province

- 1) Efforts on non-structural measures should be in short term (1-5 years), mid-term (5-10 years), long term (20 years); and cover: (a) increase in understanding and awareness of community at surrounding forest; (b) increase in active participation of community at every stage of activity; (c) independence of the community.
- 2) (To Mr. John): Add the following law: law No.41/1999 about forestry, law No.7/2004 about water resources, and law No.24/1992 about land usage.
- 3) Cooperation between up and downstream area needs central policies.
- 4) Sustainable development needs multi sectors concerned.

Mr. Rochadi – PBPP – Bengawan Solo

Please recommend to local government to promote an investigation on establishing a manufacture of bricks / roofs/ tiles regarding with the availability of a huge of dredged sediment material.

Ir. Hayanto Brojo – JIKPA/GNKPA Jakarta

- 1). Presentation No.1 – No.4 were still about technical approaches. Concerning that 48.8% of people in Wonogiri are poor, it is necessary to apply social and economical approaches.
- 2). Activity of conservation should follow a bottom-up consideration.
- 3). This studies should get involve GNKPA in which government program has been set up.
- 4). Presentation no.6 was suggested referring to GNKPA which are, in principle, a community basis, community participation, and multi sectors.
- 5). The identification of issues and recommendation of this study are excellent, however, who will implement the recommendations? GNKPA has an authority to realize these recommendations.

Mr. Bambang Subiandono – Conservation Subdit., DGWR – Jakarta

- 1). The program of conservation of Wonogiri watershed should involve GNKPA and all stakeholders concerned to get comprehensive solutions.
- 2). New intake gates to flushing sediment are combined with “agitation dredging”.

Mr. Tri Widodo- Bappeda – Central Java Province

- 1). Add law No.24/1992 about Land Usage and Protected Environment Management (for example Law No.7/2004 about water resources).
- 2). Organizational framework of soil conservation in provincial level is necessary to get involve BKPRD (Local Land Usage Coordination Board).
- 3). Why the main issues and recommendations were focused on Forestry and Agriculture Agencies, while watershed is a complex management (like in a provincial level, the BKPRD - Coordination Body on Spatial Planning Management coordinates conservation issues).

Mrs. Susan – PBS

(Presentation no.3): In Page 8: it needs a confirmation of using the word ‘strategy’ and ‘formulation of countermeasure’. Formulation, meaning of recommendation of activity, has been mentioned. For example: 1) ‘accepted by farmers’, what would be the recommendation? 2) To decrease impact/to increase/diversification, these are not the results of formulation. Generally, those words are used for the goal of activity.

Mr. Pranoto - MPA

- 1). A concept of fair management of watershed is not based on upper and lower area (location) but on water utility provider (who provide environment conserving water, like farmers).
- 2). Mapping of institutional farmer group was not presented.

Mr. Purwanto – P3A Wonogiri

(To Mr. Gejo): People in the upstream do not get direct benefit from the reservoir. However, activities of conservation are always proposed to them. Therefore, some aids need to be provided to solve their economic problem.

Mr. Agung Suseno – Dinas PSDA Prop. Jateng

Presentation No.1:

- 1). To anticipate deficit water balance in the dry season, CWL +135.3 is possibly forwarded till the end of April. It is still safe toward PMF for existence of Emergency Spillway at right bank.
- 2). The proposed new spillway is on the right bank of Emergency Spillway location
- 3). The proposed new flushing gates are set on a elevation (existing elevation of bell mouth functions as the bottom of outlet for sediment flushing, like Bili-bili reservoir.
- 4). Alternative Buffer Dam in K.Keduang functions as a silt trap of Keduang sub-watershed
- 5). Alternative By Pass Channel of K.Keduang and sediment flushing to downstream reach are necessary to take into account the effect of sediment flushing on the sediment trap of Colo Weir and degradation of lower Solo river.

Presentation No.2:

Sources of erosion are different in location:

In stream conservation by civil works – Department of Public Works (DPU)

Off stream conservation by vegetative – Not DPU

Presentation No.3:

In stream conservation: operation and maintenance of reservoir using a suction dredger would be better for regular activity of dredging.

Off stream conservation:

Reforestation management shall apply Fast Growing Species (FGS) and Multipurpose Tree Species (MPTS) or other plants which will not be exploited.

Training in ecological friendly land management to increase people's income in an integrated cooperation activity

Presentation No.4:

- 1). Existing condition of social economy of community needs to be reviewed. Such solutions must be found to increase people's income from which people's attention to Wonogiri reservoir conservation can be obtained.
- 2). It needs a guideline on ecological friendly land management.
- 3). People empowerment supports off-stream conservation implemented by other institutions out of Dept.PU
- 4). Regarding with Law No.7/2004 about Water Resources and Law No.32/2004 about Local Government, 'One River one Plan one Management' concept needs to be modified to 'One Basin One Integrated Planning in Coordinated Management'. The new concept aims at

integrating all components as stipulated in the regulation of the Minister of PU No.377/PRT/M/2005 about National Movement on Partnership of Water Safety.

Presentation No.5:

Identification of important impact shall be in quantitatively rather than qualitatively by presenting potential losses and its benefit. It is for determining the priority of handling

Presentation No.6:

It requires a matrix consisting of what kind of activity and who will implement it for in and off stream

Mr. Moch. Dermawan – PLTA Wonogiri

- 1). The problem of garbage and sediment are increasing, it is therefore required serious action to cope with. From 1982 – 2003 (21 years), PLTA Wonogiri cleaned the garbage. From 2003 – 2006 (3 years), Perum Jasa Tirta I handled the garbage problem.
- 2). As community around reservoir really need electric supply form the PLTA Wonogiri, the modification of intake should not be recommended.

Replies on the above oral questions or comments from the Presenters:

1) From Mr. Gejo (to the questions of Mr. Haryanto Brojo, Mr. Bambang Subiandono and Mr. Edi Sutopo):

- (1) Due to the limited time, we could not show and describe all things within presentation. But the study report presents many terms, quantitative and qualitative data, including its measures, its indicators, etc.
- (2) If the report of Persepsi has been accepted by JICA Study Team, it would be distributed to many related agencies, like Bupati Wonogiri, Bappeda Kabupaten Wonogiri, BPDAS, BP2TPDAS and IPKPWS Bengawan Solo.
- (3) There was truly existing of an unbalanced situation between upper and lower condition of communities. In the afternoon, the Expert on Institution, Mr. Chettoe would present a proposal on how to solve the unbalanced condition issues.
- (4) An incentive sharing between owner and workers/farmers is a complicated calculation, because of covering complicated components. However, the proposed 50% sharing came from themselves and had been agreed during open discussion in villages' workshop.
- (5) Other comments or explanations on this matter would be given in written to give more clearly understanding.

2) From Mr. Eko (to the question of Mr. Sutioso Budiraharjo):

The drawing of detail locations of storage dam are presented in the study report. This presentation only show in sketch location.

3) From Mr. Ouchi (to the questions of Mr. Sutioso Budiraharjo):

Sediment inflow is very difficult to measure accurately. We can only monitor by measuring its concentration. Its concentrations always change form discharge to discharge.

- (1) In the early period of Wonogiri Reservoir operation, many floods were reported occurred. These floods brought a high rate of sedimentation.

In 1989 – 1994, World Bank project implemented watershed conservation, i.e., check dams and sediment control dams with total storage capacity of 800,000 m³. They also built or improved terraces of more than 20,000 ha resulted in the reduced sedimentation rate.

- (2) Such watershed deteriorations were indicated in Keduang sub watershed, because farmers did not maintain the condition of upland areas. They only maintained paddy field areas as they need it. Sustainable watershed management is therefore comparatively a complicated issue. It involves poor farmers who need an incentive from which their welfare can be sustainable. The deterioration of the upland area of Keduang resulted in a higher rate of sedimentation even after the World Bank Project completed. The most important is therefore how to design a sustainable system of the Wonogiri Reservoir and its watershed management. This Study has been working on all the above matters.
- (3) New data on erosion are still measured, including observation of field characters due to rain and variety of plantation.
- (4) The design of by pass spillway from Keduang River is still in a process.
- (5) Relating the intake issue: The main issue is fine sediments and garbage flowing firmly to the intake. The garbage and sediment always blockage the intake, consequently a hard maintenance needs to be carried out to keep the intake opening for water flow. So, good thinks on the intake function maintenance would be useful for Wonogiri Reservoir.

An additional comment from the chairman: It has been mentioned by the Director General of Water Resources that there should be an urgent countermeasure to keep intake opening and a long term countermeasure for watershed management. However, a better solution should be found to cope with the problems.

4) Mr. John Chettoe (Mr. Harso Susilo's question):

The Law No. 7/2004 and No. 41/1999 do not include coordination of watershed management, for specific watershed like Wonogiri Reservoir. In addition, this watershed conservation focus mainly on watershed conservation, not water resources management activity. The above law does not mention a proposed organization set up. Committee organization structure is good reference for many people which should be managed by good chairman and secretary.

This reply did not satisfy the questioner, therefore the chairman suggest to consider the Law No.7/2004 as an entry point of formation an organization to coordinate watershed management.

Summarization of the 3rd Workshop by Prof. Ir. Sudjarwadi, MEng, Ph.D

1. The ideas of technical countermeasures have been considered as a basis of implementation; however, its implementation needs further steps covering design drawing and its description.
2. Countermeasure for sediment yield from watershed is related to conservation; the main focus of inputs is economic, social and cultural approaches in order to implement satisfactorily the activity of conservation by stakeholders concerned.
3. The past experiences of Citanduy Project can be referred as the guide of countermeasure for construction of terraces.
4. Matrix action plan covering detail activities at the village level is required.
5. Conservation approach by increasing people's income is considered not only as a requirement but also as an obligation.
6. The government of Wonogiri pays a great attention to the function of the Wonogiri reservoir. The forestry section should be involved in its comprehensive countermeasures.
7. Historical data on the volume of sediment flowing into the Wonogiri reservoir has indicated decreasing of the sediment inflow (by the comparison between after and before the World Bank project). It is necessary to be reflected to get fixed conclusion.
8. Entry point for organizing the program of conservation requires such initiatives from stakeholders concerned to implementation of synergic coordination.

9. The role of central government needs to be explained and put in the recommendation.
10. The further study is required in order to solve problem of sediment deposit in front of intake caused by Keduang river. The intake problem should be tackled in the short term plan, and, the watershed should be conserved in the long term plan.
11. The role of communities in above-mentioned successful conservation should be clarified in the report for their appeal.
12. GNKPA (National Movement of the Partnership for Water Preservation) should be integrated explicitly in the study and its master plan. And it is preferable that the scenario of the study and its master plan preparation should be in the direction of GNKPA.
13. Highlight on the Initial Environmental Examination (IEE) should be made clearly in order to implement Environmental Impact Analysis (EIA), subsequently.
14. It is necessary to consider the change of farmers' work after implementation of watershed conservation so that they would not repeat the past activity, which destroyed the lands.
15. Regarding illegal logging issues, further observation would be conducted because it can be expected that some rich (not poor) wood collectors are making farmers do the illegal logging.
16. It is considered that erosion can be decreased by tackling the loosening of soil layers.

Surakarta, February 15, 2006

Moderator,



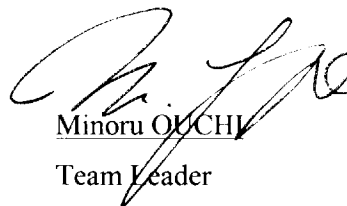
Prof. Ir. Sudjarwadi, M.Eng., Ph.D
Senior Vice Rector for Academic Affairs UGM

Manager for Planning
IPK PWS Bengawan Solo



Ir. Tri Rohadi, Dipl. HE
Chief of Counterpart Team

JICA Study Team



Minoru OUCHI
Team Leader

The Fourth Workshop

January 18, 2007

Minutes of 4th Workshop

THE STUDY ON COUNTERMEASURE FOR SEDIMENTATION IN THE WONOGIRI MULTIPURPOSE RESERVOIR

January 18th 2007 -- Novotel Hotel, Surakarta

OPENING ADDRESS: Mr. Widiharjo - Balai Besar Wilayah Sungai Bengawan Solo

Summary:

- Appreciation to all participants that involve in this 4th workshop
- Report on around 100 participants from related stakeholders invited in this workshop
- Presenting the aims of this workshop

WELCOME ADDRESS: Mr. Kenjiro ONAKA - JICA Study Team

Summary:

After expressing welcome and thanks to all audience and explaining the absence of the Team Leader, Mr. Ouchi, for the funeral of his father in Japan, the opening speech is as follows:

Participants of the 4th workshop are around 110 persons coming from: Steering Committee -Jakarta, staffs from provincial government of Central Java, 8 Kabupaten, Balai Besar Wil. S.B. Solo, PJT-1 B.Solo, UGM, UNS, UNDIP, P3A Kabupaten, Forestry agency -Surakarta, PLTA Wonogiri, Farmer Group & Forum, and Professor Takashi Hosoda from Kyoto University.

Currently, the proper function of the Wonogiri dam has been threatened by rapid sedimentation deposits in the reservoir. By this cause, the effective storage capacity has been reduced resulting in reducing available water for various uses. In order to sustain the reservoir function, it is of great importance and urgency to establish fundamental countermeasure to tackle the reservoir sedimentation issues.

JICA Study on Countermeasure for Sedimentation in the Wonogiri Multipurpose Reservoir started in August 2004 and will finish in July this year, study period is around 3 years. The purpose of the Study is to formulate a Master Plan (MP) for sustainable countermeasures for sedimentation problem in the Wonogiri reservoir. The goal of the Study is to secure the long-term ability of the reservoir to supply water for various uses, and to provide solutions and technical approaches for reservoir sedimentation issues in other reservoir in Indonesia. The draft MP for sustainable countermeasure was formulated based on studies in June last year.

In the formulation of MP, structural and non-structural measures were proposed, i.e.: (i) construction of Sediment Storage Reservoir with new gates at the lower reach of Keduang river for the purpose of sediment and garbage release from Keduang watershed; (ii) management and conservation for the whole Wonogiri catchment (through improvement of terraces, vegetative measures, socialisation, etc.)

In view of the urgency of prevention of sediment into reservoir, it was judged that reduction of sedimentation and garbage from Keduang river basin is most seriously important. Then the feasibility study of Keduang watershed was started in June last year being paid on emphasis of both the construction of small sediment reservoir and watershed management and is still under way.

The objectives of today's workshop consist of five issues:

1. To explain the MP on countermeasure for sedimentation in the Wonogiri dam reservoir
2. To deepen the understanding on the MP through discussion
3. To discuss suitable organization setup for implementation of non-structural countermeasures in the watershed
4. To exchange opinions and comments from stakeholders for realization of MP
5. To give a lecture on 'a hydrological modelling in Japan for sediment control and water resources management' by Prof. Hosada.

KEYNOTE SPEECH: Mr. Siswoko - Director General of Water Resources, Dept. of Public Works

Summary:

Owing to the specific characteristics of water resources, such as something happened at the upper reach would affect to the lower reach, water source does not identify administrative boundaries, and so on, management of water resources indeed requires participation among all stakeholders concerned.

Recently, the condition of Wonogiri reservoir is in a serious problem due to sedimentation. If no actions are taken for the sedimentation, the reservoir's life will be decreasing. The Central and local governments have performed countermeasures against the sedimentation, structurally and non-structurally, by building check dams, land conservation, vegetation, etc.

Current condition of reservoirs in Indonesia is on critical circumstances, that is, increase of sedimentation and decrease in water quality & quantity. Deficit of water in the reservoirs has resulted in no reservoirs function properly. All of reservoirs could only supply 10% of total required irrigation water. On the contrary, the government demands to increase rice production at 2 million ton in year 2007.

I would like to highlight on the aspect of the watershed conservation. It is not only on reducing of sedimentation but also on storing and conserving of water. Law no. 7 issued in year 2004 stipulated the balance between water management, water conservation, and depraving effect of water.

I appreciate JICA in helping the Directorate to overcome sedimentation problems in Wonogiri reservoir.

This Master Plan was formulated for conservation and management aims. The Master Plan is a kind of tool to reach mutual agreement of activities and its implementation. It is therefore necessary for the governments to stipulate a set of regulation to implement sedimentation countermeasures like involving all stakeholders for implementation in a consistency.

This MP consists of combined structural and non-structural measures; it is thus involving many parties to discuss in this workshop. For poor people, for an example, it needs improving in their land cultivation adopting social, cultural, and economical approaches. The results of the discussion can be hopefully implemented. Finally, GNKPA (National Movement on Partnership of Water Safety) is hopefully able to synergically overcome the problem; it would not only a slogan but it would be applicable.

PRESENTATION SUBJECT:

This 4th workshop presented 8 subjects on titles as follows:

1. Summary on the Master Plan for Countermeasure of Wonogiri reservoir sedimentation problem, presented by Mr. Singu
2. Structural countermeasures in reservoir, presented by Mr. Tri Rohadi
3. Hydrologic modeling for sediment control and water resources management in Japan, presented by Prof. Hosoda – Kyoto University, a member of advisory committee, JICA, Tokyo.
4. Introduction of noon session on watershed management, presented by Ms. Sugimoto
5. Non-structural / vegetative watershed countermeasures, presented by Mr. Saksono
6. Organizational set up in the implementation of watershed management activities, presented by Mr. Maulana
7. Research and development of social economy for Bengawan Solo watershed conservation, presented by Mr. Pardino
8. Direction and Policy in the implementation of GN-KPA, presented by Mr. Kusnaeni

DISCUSSIONS:

Chairman: Prof. Sudjarwadi – Vice Rector of the University of Gadjah Mada

Main points of discussion in the morning and noon sessions are as follows:

Morning Session:

1. Mr. Raymond Kemur – on behalf of Director General of Spatial Plan – Ministry of Public Works

Suggestions:

1. Water or anything to be secured should be regulated legally in one tight regulation of RTRW (*Rencana Tata Ruang Wilayah / Regional Spatial Plan*) of Kabupaten.
2. Conclusion of the Study is to be workable into zoning regulations

Recommendation:

1. In the near future, Directorate General of Spatial Plan may provide technical assistance in making Spatial Plan (zoning zones) for Upper Wonogiri watershed which is then able to be continued by Kabupaten.

2. Mr. Imam Anshori – Director of Water Resources Management, Directorate General of Water resources, Ministry of Public Works

Questions:

1. How is the impact of the operation system of the measures (during rainy season only) on reservoir operation rules and services in water supply?
2. How is the regulation to back up this Master Plan (MP)?
3. How is the monitoring & evaluation of Master Plan implementation? Who will implement monitoring?

Comment:

1. Bengawan Solo watershed covers 2 provinces so that its authority and responsibility are on the Minister of Public Works.
2. The document of MP should bind anyone/institution within related regions.
3. If there is no basic rule, contribution from downstream to upstream does not work. It needs further more studies as Law no 7 stipulated in term of environmental service payment.

Suggestion:

- o Legal approaches for implementation are necessary
- o It is suggested that Bupati initiates by submitting this document to the Minister for stipulation; then it may be delegated to Governor or Directorate General.

Advisability:

- o It had better not use a term of Master Plan as a Master Plan has been existing for the whole Bengawan Solo development and management system that does not cover sediment issue only.

3. Mr. Hari Santosa – Director of Watershed Management, Department of Forestry

Questions:

- o How is the management approach of the system that covers planning, implementation,, controlling, and interrelation among stakeholder activities?

Suggestions:

1. Law enforcement will be needed
2. This Master Plan should be stipulated in PERDA (*Peraturan Daerah = Local Regulation*) so that it will be legal and be a basis for setting up such programs of stakeholders.

Comment:

- o It is hopefully that this master plan, namely, Integrated Watershed Management Plan, will be successful if all related stakeholders work in a synergic program.

4. Mr. Surawan – on behalf of Director of Irrigation Water Use, Department of Agriculture

Question:

- o How to increase land production for improving farmers welfare?

Suggestion:

- o Considering the condition of farmers in the upstream (poor, unproductive land, not getting water from reservoir, no incentive from beneficiaries downstream), they should not be requested for securing the reservoir from sedimentation; but requested for securing land.

Therefore the village conservation approaches will be necessary for implementation of the project.

5. Mr. Djohan Hidayat – Head of Regional Office of B. Solo Water Resources Management

Comment:

- o Watershed management, including reservoir conservation, is indeed related to spatial plan issue so that it needs spatial documents, at provincial and kabupaten level, on which the basis of such developments based.

Suggestion:

- o If the existing spatial plan of Kabupaten Wonogiri and Karanganyar has not support conservation yet, it should be improved to support the reservoir conservation.

6. Mr. Sukrisno – Head of The Centre of Research and Developmen for Watershed Management Technology (BP2TPDAS)

Comment:

1. The present problems encountered in the Wonogiri watershed consist of the issues on not only sedimentation but also water conservation.
2. Implementation of Master Plan needs people's participation, considering local culture.

Chairman:

1. Some key words arise i.e., system and human aproaches (touching the heart and mind of people) that create *cipta, rasa, karsa, and karya* (idea, feel, spirit, and skill).
2. This Study should recommend the following points for stipulation:
 - 1) Sustainability of on-going programs at the villages
 - 2) Rekomendation on types of activity and its funding
 - 3) Some selected villages should continue by using proper resources networking.

Noon Session:

7. Mr. Kristanto – Forestry Agency, Central Java Province

Comment:

1. It is likely that cost sharing based on voluntary / willingness is not workable. It might work through PBB (*Pajak Bumi & Bangunan* / land and building taxes).
2. Sediment flushing might result in flooding at river section between Sragen and Ngawi.

8. Mr. Eddy Djoko W. – Chief of Physical anf Infrastrustures, BAPPEDA Wonogiri

Suggestion:

1. Recommendation on people empowerment is necessary
2. To increase farmers income: (i) look for off-farm alternative jobs; (ii) keep cultivating with conservation crops and get living cost from beneficieries.

9. Mr. Mino – NGO

Suggestion:

1. It should find economical solutions involving other institutions.
2. It needs legal policy / regulation at level of village, kabupaten, and province.

Questions:

- o How to support social economy, to sustain organization / cadeters, to increase skill, to monitor and evaluate activities at post study period, to transfer knowledge from government to people, to promote conservation at villages.

Chairman:

From this 4th workshop, recommendations could be concluded systematically as follows:

1. Improvement of networking system. It needs an initiator who manage the system including synergic financial resources.
2. Dissemination of success experience in controlling sediment and conservation. Reward should be given to people on the aspects of INO (Inovation), SINO (Synergy and Inovation), and BUSINO (Business, Synergy, and Inovation).
3. Special attention to the initiators. It is for sustainable model of success story.
4. Training covers idea, feel, spirit, and skill. It pays attention to *HUT – IPOLEKSOSBUD* (Ideology, Politic, Economy, Social, Culture)

CLOSING SPEECH: Ir. Imam Ansory (on behalf of Director General of Water Resources – Dept. Public Works)

Summary:

Payment of Management Services (BJP = *Biaya Jasa Pengelolaan*) needs to be realized for purposes of conservation, maintenance services, infrastructures, etc.

From this activity, a document is hopefully realized as a guidance for all stakeholders to implement activities in line with its role and functions, not only from government side but also non-government and society. Then, the document can be stipulated within local regulations (PERDA) so that it is legal and be a basis of law enforcement. The document is expected covering 5 aspects:

1. Accountability,
2. Justice,
3. Sustainability,
4. Real activity plan,
5. Need of time, training and additional programs.

The above five expectations are hopefully able to be further explained.

Related to the accountability, it needs considering who will do monitoring and evaluation toward the whole system.

Surakarta, February 15th, 2007

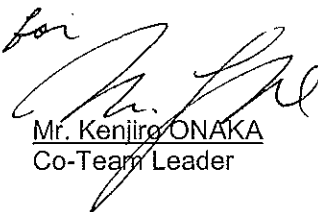
Moderator,




Prof. Ir. Sudjarwadi, M.Eng., Ph.D
Vice Rector of the Univesity of Gadjah Mada

JICA Study Team

Manager of Program and Evaluation
Balai Besar Wilayah Sungai Bengawan Solo

for

Mr. Kenjiro ONAKA
Co-Team Leader


Mr. Tri Rohadi
Chief of Counterpart Team

ATTACHMENT:

The following written questions/suggestions/comments/ from participants were collected after closing of the workshop.

1. Mr. Widagdo – Director of River, Lake and Reservoir, Directorate General of Water Resources, Ministry of Public Works

The 4th Workshop and former workshops integrated within JICA Study have 2 objectives / focus targets:

- Overcoming sedimentation problem (already deposited) in reservoir, that is, blocking issue and sustainability of reservoir function (reservoir's age).
- Countermeasures for watershed management (Keduang watershed) to support efforts on securing reservoir

Taking an analogy:

The Wonogiri reservoir, and its watershed, is analogous to a man having heart disease because of his unhealthy life style (diagnose).

- It means that required treatments must focus on 2 issues:
 1. Treatment on the heart disease (blocking coroner)
 2. Change to healthy life style
- It needs strategy, scenario, and clear action plan ("NOT what should be, BUT the truth is, what should do").

Suggestions:

1. Please re-study the compartment of reservoir; is it the only one best alternative solution? Please evaluate its proper cost as well.
2. Watershed management
 - 1) Conservation is the last target
 - 2) Ask people by applying gentle strategy. It should promote available benefit for local people (increasing welfare, accomplishment of existing problems, declining poverty). It should not ask the people for keeping environment and conservation that the beneficiaries are in downstream.
 - 3) Local pattern / style is necessary
 - 4) Targets should be in stages (related to conservation)
 - a) To reduce the rate of damages and lowering of environmental quality, then
 - b) Recovery of condition, and
 - c) Establishment and increase of watershed function
3. Flow of idea for approaches should be clear: diagnose – essential problem – strategy – alternative solutions – action.
4. Indicator of action result should be presented:
 - Benchmarking
 - Indicator of progress & change of condition
5. Reservoir does not detach from its watershed (one unity) so that it needs agreement approaches by references (for examples: spatial plan, required law as a guide of collective commitment for every approved action.

2. Mr. Andi Renald – Directorate General of Spatial Plan, Ministry of Public Works

Suggestions on Non-Structural Measures

- 1) Analysis of conservation index on the Upper Area of Wonogiri Reservoir is necessary
- 2) Regulations/manuals for land management of Wonogiri Watershed need to be prepared.
- 3) Zoning Regulation is necessarily set up in Wonogiri reservoir watershed on 1: 5000 scale map.
- 4) Society Group (POKMAS = *kelompok masyarakat*) is necessarily set up to supervise the conservation or function of the Wonogiri Reservoir.
- 5) To strengthen public campaign on Wonogiri reservoir conservation

3. **Mr. Surawan – on behalf of Director of Irrigation Water Use, Department of Agriculture**
 - 1) It seems that this Study has completed, real actions collaborating with stakeholders need to be realized.
 - 2) The countermeasure should solve the basic problem of sedimentation, that is, surface soil erosion.
 - 3) Is there any financial aid from JICA/JBIC for the structural & non-structural measures?
 - 4) Management process among stakeholders should be in charge of GNKPA covering integrated countermeasures on land and forest degradation.

4. **Mr. Kusnaeni – Head of GNKPA (National Movement for Partnership and Water Safety)**
 - 1) In Keduang, GNKPA Team has already been set up at 9 villages for pilot projects
 - 2) GNKPA Team at provincial and Kabupaten Wonogiri level have been set up, so that implementation of conservation activities can be coordinated.
 - 3) The output of Master Plan should be in a community basis.
 - 4) It is proposed that the outcome/report of this Study should cover: (i) sustainable programs at 180 villages; (ii) kind of activity and funding; (iii) the selected 9 villages should be continued by sectors / stakeholders concerned.

5. **Mr. Victor S - Secretary of GNKPA Dept-link**
 - 1) Conservation at upper reservoir for controlling sediment and increasing farmers' life has reached agreement at 9 villages.
 - 2) GNKPA Team at level of Central Province and Kabupaten Wonogiri has been set up. Work-Group of GNKPA at kecamatan level will be set up on February 2007.
 - 3) If the activities of the team run well, sediment countermeasure by increasing farmers' life will be accomplished hopefully.
 - 4) Result of this document should be implemented by GNKPA Team department-link.

6. **Anonim – Agency of Environment, Forestry, and Mining – Wonogiri**
 - 1) Cultivation on green belt / tidal low land is still going on.
 - 2) From the early stage of watershed management, it should get involve extension staffs who directly interact to farmers.
 - 3) No contribution from downstream resulted in difficulty to ask for people do conservation.

7. **Mr. Edy Djoko – Local Development Planning Agency (BAPPEDA Wonogiri)**
 - 1) High erosion at catchment area was measured by terrace improvement; however, it seems that it was not successful for the following reasons:
 - o Conservation funded by the World Bank had been conducted, however, the sediment remains high
 - o Most farmers (80%) in the watershed intensively manage their land; it tends to create high erosion
 - 2) People and local government in Wonogiri feel too hard in charge of funding, whereas beneficiaries at downstream are not responsible for catchment condition at all.

8. **Mr. Rohmadi – Solo Watershed Management Office, Dept. of Forestry**
 - 1) Conservation of Wonogiri reservoir might be successful if any attention and training, technically and financial aid, provided for poor farmers.
 - 2) Beneficiaries outside of Wonogiri should contribute to improvement and conservation of reservoir.
 - 3) People planting herbal crops at upper area need an investor for their production
 - 4) Sources of funding and well coordination are required, indeed.

9. **Mr. Agus Hari Wahyudi – Civil Engineering Department, Engineering Faculty, UNS**
Strategy for non-structural measures:
 - 1) Public campaign through newspaper, open-boards, etc.,
 - 2) Strengthening or improving of public awareness for young generation through education, elementary to high school. It needs strengthening in feeling of belonging among the people upstream of the dam.
 - 3) Apply high economical and conservation crops to help reducing poverty of the farmers.

10. **Mr. Sunarto. – on behalf of community at Sukoharjo village, Kecamatan Tirtomoyo, Kabupaten Wonogiri.**
- 1) Need an irrigation dam at Kedung Kerik, Sendangsari sub-village
 - 2) Need checkdams to measure erosion from landslides at sub-villages: Jati, Pule, Dadapan, Bonagung, and Ngandong.
 - 3) Greening program:
 - o Use of critical land by planting of perennial crops (teakwood, 'sengon laut', acacia) at proposed sub-villages: Jati, Pule, Dadapan, Sengsari, Ngroto, and Ngandong
 - o Use of dry land and home yard by fruit crops
 - o Planting of herbal crops
11. **Mr. Sudiro HW - Head of Water and Water Resources Divison, PJT I Bengawan Solo**
- o During construction, is the reservoir able to store water? Is the reservoir able to operate continuously for irrigation? How is the reservoir operation during the implementation of new structure (in order to keep filling the reservoir and its services)?
12. **Mr. Agung Suseno – Agency of Water Resources Management, Central Java Province**
- For Master Plan:*
- 1) There is a concept of role sharing for implementation of activity and funding in central, provincial, and kabupaten/city government, especially for off-stream activity.
 - 2) Budget proposal should be technically reasonable for getting legislative approval.
 - 3) Activity of operation and maintenance should be planned to achieve more than 100 year-conservation period.
- For structural measure:*
- 1) The new spillway might not effective as it only overflows suspended load. For flushing bed load, it was proposed to apply bottom outlet like in Biliz reservoir that can flush mud-row of landslides.
- For non-structural measure:*
- 1) Non-structural measures need to be described in the Ministerial Regulation of Public Works No.11A/2006 about authority in river basin management: segment 1 – 3 in charge of central government; segment 4 and so on as off-stream role sharing pattern.
 - 2) It needs a program/mechanism of terrace application on critical state land that is impossible set up by community empowerment.
13. **Mr. Dody Prakoso – Centre of Research and Developmen for Watershed Management Technology (BP2TPDAS)**
- 1) Flushing fine sediment should not give negative impact to downstream reach.
 - 2) How to guarantee that flushing is only for wash load?
 - 3) Marketing on farm production has been an obstacle, it needs managing particularly in harvesting period when its price decreases.
14. **Mr. Taryanto Wijaya – NGO Persepsi**
- 1) Getting involve PJT-1 and private sectors in payment of environmental services from beneficiaries downstream to farmers upstream needs to be realized soon.
 - 2) It is necessary to simplify organizational set up.
 - 3) An important one is to increase people's skill to create new occupation / income.

***Stakeholder Meeting on
Village Assessment and
Village Action Plan (1st)***

May 26, 2005

Minutes of Public Consultation Meeting I
THE STUDY ON COUNTERMEASURES FOR SEDIMENTATION
in
THE WONOGIRI MULTIPURPOSE DAM RESERVOIR

Thursday, May 26, 2005

Meeting Room, BAPPEDA, Wonogiri

WELCOME ADDRESS: Mr. Sutomo – Head of BAPPEDA Wonogiri

The Wonogiri multipurpose dam has been beneficial indirectly for the people in Wonogiri. Unfortunately the existing condition of the dam has been suffering from sedimentation. It would be an increasing concern for many stakeholders and requires stakeholders meetings to solve the problem as the Solo river flows through many places within two provinces. We emphasize that the authorization of reservoir needs to be well coordinated between the central and local governments as well as the related institutions/departments. The government of Kabupaten Wonogiri needs: 1. sharing of the responsibility of the maintenance of the Wonogiri reservoir and the conservation of the upper watershed for the indirect advantages of the reservoir; 2. a clear authorization for the management of the Wonogiri reservoir and its watershed since the local government knows better about the condition of the watershed such as critical green belt, illegal logging, forest crops, and the people condition in Wonogiri areas; and 3. establishing checkdams and other required infrastructures to reduce sedimentation.

Several actions for the Wonogiri watershed conservation have been undertaken so far such as land rehabilitation, technical measures, people empowerment, etc. However, peoples who live in surrounding the reservoir and are unable to look for another job instead of being a farmer, would be a particular problem resulting in high erosion rate in the watershed. In addition, the increase of poverty people in Wonogiri indicates that the people very much depend on the upper field farming for their daily foods.

Finally, the local government expects that this meeting could be beneficial to bring together some aspiration from the society and will be advantageous for its further implementation.

DISCUSSION: Fasilitator: Mr. Maulana

SESSION I

1. Mr. Bambang Wahyu Hidayat – Head of Sub-Agency of Forestry, Agency of ‘LHKP – Kabupaten Wonogiri’.

- a. The existing main problem in the Wonogiri watershed is intensive dry land cultivation, called as a critical social economic condition of the people in Wonogiri. Since the problem

of social economic condition of the people still remains unsolved, the problem of erosion and sedimentation would continue.

- b. We offer a concept of land conservation, namely people's forest development that will be managed by a special unit of forest management. Considering that there is 19.5% of insufficiency of forest area in Wonogiri, the concept would be relevant to target of an optimal forest area of 30% (existing state forest 10.5%). The concept allows people participation to plant trees by themselves. The people forest should be selected and available in each of the 6 sub watersheds. We believe that successful implementation of good vegetative conservations will significantly reduce the soil erosion, so that physical / technical measures will not much be needed.

2. Mr. Bawarto - Head of Kecamatan Girimarto

- a. There is a lack of applied coordination or management among the institutions and social communities. A good coordination needs to be realized to avoid an ego-centric power of establishing required projects of watershed management.
- b. The study had better involve the previous groups of people empowerment, such as in terrace improvement, and involve the cultural aspect of the society (paternalistic system).

3. Mr. Tabri Haryanto – Agricultural Services

- a. Field activities are much related to the groups of farmers or land owners. Farmer group empowerment should develop an understanding that land conservation is also their own need; their land must be conserved in a sustainable manner to sustain their income.
- b. A concept of 'tegal-pekarangan' (upland-homeyard) that consists of productive crops, i.e., clove / cashew nut needs to be developed to get additional income in dry season.
- c. Livestock, fisheries, and other farmers' cultivation should be developed to add farmers' income.

4. Mr. Sriyono – Head of Kecamatan Baturetno

- a. Welcome for this meeting.
- b. The Wonogiri reservoir is very much beneficial for people.
- c. This study should cover comprehensively about geographic, demographic, social, economic, and political aspects as well as involve all stakeholders.

Geography: steep-slope uplands is erosion source of the Wonogiri reservoir, so it should find the places that very much contribute to erosion and involve the people in the field activities to avoid them leaving the applied measures after construction.

Demography: an increase of population will require more lands resulting in expansion to steep-slope uplands.

Social: Need of key persons supports substantially to farmers in land conservation. It also

needs a single command (from a strong leader/institution) which authorizes several elements in the society.

Economy: To aware the people in the sense of belonging, a question still arises: how to supply the water for people upper and around the reservoir?. It would be required not only for drinking water but also irrigation water.

Politic: Bottom-up proposals are expected to be better than before.

- d. Regarding with the World Bank Project, this study should follow up the positive impacts but eliminate the negative impacts.

5. Mr. Tarmanto – Head of Kecamatan Karangtengah

- a. The activity of countermeasures for sedimentation in the Wonogiri reservoir should be conducted in two plans: short and long term plans. Short term plan covers technical measures (helping people to get jobs). Long term plan comprises vegetative measures consisting of productive crops (not wood trees).
- b. Upper areas are risky to erosion so that protection forestry zone needs to be developed.

SESSION II

6. Mr. Daryanto – Wuryantoro

- a. Technical measures have failed to overcome the erosion problem. It is therefore required cultural approaches to change the people way of thinking: how to act and how to think about land utilization, land conservation, sustainable reservoir management, etc.
- b. There will be necessary to implement 1-2 pilot projects on the conservation management.
- c. People who cultivate illegally the tidal zone of the reservoir do not manage agricultural garbage well.
- d. During the dry season, 50% of the people in Kecamatan Wuryantoro get income from fishing activities; it is therefore expected that fishing can be sustained through the reservoir conservation.

7. Mr. Bambang Wahyu Hidayat - Head of Sub-Agency of Forestry, Agency of 'LHKP – Kabupaten Wonogiri'.

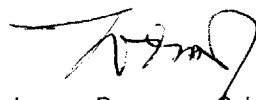
- a. Short term countermeasures by technical solutions are still required.
- b. To develop economic society, several efforts can be considered such as renting of land per year, compensation per year to society based on the land value, managing the people forest by a private investor, etc.

SESSION III

8. Mr. Puspawijoyo – NGO Persepsi

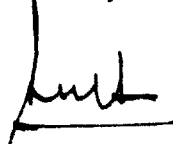
- a. No compensation has been so far paid to society in the upper watershed.

- b. There are inconsistencies in utilizing the green belt area. One side, the local government forbids farmers to cultivate the green belt; the other side, many structures are allowed to be built there for business purposes.
- c. The JICA study should be an integrated study, from upstream to downstream reach, covering the issue of compensation.



Chairman - Bengawan Solo Project

Mr. Widiharjo



Head of BAPPEDA – Kabupaten Wonogiri

Mr. Sutomo

29/8/11
JICA Study Team Leader

Mr. Minoru OHUCHI

***Stakeholder Meeting on
Village Assessment and
Village Action Plan (2nd)***

January 26, 2006

**Minute of Meeting
on the Discussion and Clarification
of the 2nd Consultation Meeting with Stakeholders
Study on Sedimentation Countermeasures for Wonogiri Multipurpose Dam Reservoir
Wonogiri, January 26th 2006**

The objectives of the 2nd Consultation Meeting are: (i) To present study results of Village Assessment and Village Action Plan (*Penilaian Desa dan Rencana Tindak Desa /PD & RTD*) carried out by NGO-Persepsi associated with the Study on Sedimentation Countermeasures for Wonogiri Multipurpose Dam Reservoir; and (ii) To get such inputs or comments / clarifications from the stakeholders for implementation of the study results.

QUESTIONS / COMMENTS:

1. Bp. Supardi (Kec. Manyaran)

- Existing sound system did not work well. The presentation was therefore unclear reaching the participants.
- Why did local legislative board not be invited in this meeting? This kind of meeting should get involve the board so that the same perception of land conservation could be achieved. Hence, such submitted proposals can be approved by the board in term of its budgeting.

2. Bp. Sunarso (Kec. Nawangan, Kab. Pacitan)

- Since this study is almost the same as the GNRHL, is there any relation between the both activities? What is the next program of this study? Can the program be synchronized with the GNRHL activities? These questions arose as its planning has already been set out in the Village Activity Plan.
- There are 2 villages in Kec. Nawangan which are closed to Wonogiri Reservoir and having steep slope (elevation of + 700m and 1150m), unfortunately, the both villages were not taken as the sample of village assessment.
- How long is this activity taking place?

3. Bp. Edy (Bappeda Kab. Wonogiri)

- The font of material print out was extremely small, so it could not be read.
- Why was the identification of erosion based on the number of erosion points, not the magnitude of erosion or the stages of critical land?

- The village priority proposal in this study was good enough; however, it would be better if the priority scale was set out for the whole study area.
- Not agreed with the study team in term of placing responsibility of reservoir management based on down and upstream area. The lack of mechanism of reservoir management should be recovered amongst the providers ('penyedia') and users ('pemanfaat'); the both sides exist in up and down stream area.
- The critical lands were due to people's activities or soil intensification (not agricultural intensification). It requires soil conservation through non-agricultural activities.
- This study did not investigate causes of erosion. JICA study should present the erosion causes for each area so that required measures for each condition / location can be specified.
- It was expected that this study results could be finalized shortly. It was therefore able to be inserted to local government development plan through 'APBD' (Local Expenses and Income Budget).
- The Local Government was not the only one institution taking responsibility in managing the reservoir watershed, but also involving the others like Perum. Jasa Tirta, PBS, Dept. of Agriculture and Forestry, as well as all institutions concerned.
- It had better not take the term of 'kurang' (less), but use the term of 'belum' (not yet) in the conclusion of this result study.

4. Bp. Mardi (Desa Sembuhan, Kec. Sidoharjo)

- Handling of soil / watershed conservation must get involve Perhutani, since there were state forests in large areas in our Kecamatan.
- Perhutani must also take a responsibility in handling of erosion problem as a result of their existing program of opening land which produces sediment material.

5. Bp. Mardjono (Desa Sukoharjo, Kec. Tirtomoyo)

- There were around 60 ha of paddy fields with un-appropriate cropping pattern or missed management that resulted in producing sediment material in a huge quantity and finally decreasing river capacity.
- 'Cemplongan' (a sediment trap well) was proposed to be constructed; the deposited sediment can therefore be removed and put back to the paddy field.

- Construction of levee was needed since the elevation of paddy field was almost the same as the river bed.
6. Bp. Kariman (Desa Gemawang, Kec. Ngadirojo)
- There was an activity of opening land (land conversion), set by Perhutani, that facilitates farmers to plant 'polowijo'. Consequently, no hard crops were allowed to grow.
 - There was illegal logging, stealing and selling of good quality of wood. Moral education was therefore very much required.
7. Bp. Rejodadi (Agency of LHKP)
- Correction on the sentence: checkdam was not functioned. It must be: The Checkdam has functioned and filled completely by sediment.
 - Farmers' contribution of 50% in soil conservation needs to be re-confirmed as the past experience showed that the bank terraces were planted and lastly broken
 - This study evaluated the soil conservation structures built by the Government only. It is necessary to evaluate structures built by community, especially for those are still in a good condition. How are the structures belong to Perhutani ?
 - Community play an important role in supervising land conservation due to existence of wood-thieves, even a good concept of soil conservation already exists.
8. Bp. Heru (BTP DAS)
- In re-greening, a compensation needs to be provided for community (like in CDM program)
 - As the people still need agricultural activity, a comprehensive land-use was very much required to be set out. Hence, any activities in land rehabilitation would not be useless.

ANSWERS / CLARIFICATIONS FROM PRESENTERS:

1. Mr. Gejo / Bp. Muksin - JICA
- JICA Study will synchronize the study results of PD&RKTD with the program of GNRHL.

- The final results of JICA's study will be presented in a workshop involving all institutions / stakeholders concerned.
- Perhutani has implemented such land conservation; however, it was expected that a communication amongst Perhutani, stakeholders, and community can be well organized to solve the existing erosion problems.

2. Bp. Tri Rohadi (PBS):

- This meeting did not invite the local legislative board but next time it would be done.
- Proposed river normalization of Kali Wiroko will be studied first concerning the changing of the river alignment; however, a critical condition on a certain location would be handled as its priority.

3. Persepsi - NGO

- The study team searched erosion problem directly on each location. GNRHL program; however, determined the locations based on an agreement between field staffs of Perhutani and the village leader.
- Attachment 13 has already presented priority scales of community activities.
- The proposed project was for 5 years starting from 2006.
- Selection of village samples was not due to the critical areas.
- This study was a village region basis so Persepsi did not arrange it for the whole study area.
- Persepsi will improve the report covering the 'penyedia' and the 'pemanfaat' as requested by Mr. Edy from the Bappeda Kab. Wonogiri.
- This study did not recommend on land intensification but on activities out side of agricultural areas.
- The participation of society in this study was broader than that of in GNRHL program. Points of GNRHL have been involved and discussed in each village meeting. Hence, this study results will be used as a guide in implementing the GNRHL at village level.
- Lack of compensation for community resulted in the poor maintenance of the existing conservation structures.
- Erosion trap well ('cemplongan') and stone dykes have been proposed.
- Self construction on land conservation measures was different at each village due to the different level of village capability.

Mrs. Susan (PBS):

- There is a difference between intensification and extensification of agricultural land. Persepsi should be aware in using the terms in the study results.

CONCLUSION:

Mr. Tri Rohadi – Chief of Planning, IPK PWS B. Solo

- The study results of PD & RTD were synchronized with points in GNRHL.
- Damages on certain river sections concerning the changing of the river alignment will be studied and handled as its priority.
- Erosion and sedimentation countermeasures need participation of both sides of ‘provider’ and ‘user’ of environmental benefit who live in the upstream or downstream of the Wongoiri reservoir.
- Implementation of law enforcement
- The need of ‘cemplongan’ in the home yard / garden, as an absorption well and an erosion measure.
- Integrated socialization covering technical, economical, moral and social matters toward society by getting involve farmer group activities.
- Integrated institution handling of the above programs can be established.

Wonogiri, Januari 26th 2006

Chief of Planning
IPK PWS Bengawan Solo



Mr. TriRohadi

JICA Expert
Community Empowerment



Mr. Tetsunari GEJO

*Stakeholder Meeting on
Institutional Framework*

September 26, 2006

Minutes of Meeting

- Date : September 26th, 2006,
Place : Secretary of Local Government Kabupaten Wonogiri Meeting Room
Participants : 17 participants (Staff of Kabupaten Wonogiri, PBS, and JICA Study Team)
Agenda : Discussion of Institutional Framework for Feasibility Study on the Study on Countermeasures for Sedimentation in the Wonogiri Multipurpose Dam Reservoir

The meeting was chaired and opened at 9:30 by Secretary of Local Government Kabupaten Wonogiri (Mr. Suprpto). After Mr. Suprpto addressed a welcome and thanks to the meeting, he informed about the subject to be discussed. He asked Mr. Tri Rohadi, Manager of Planning PBS and Mr. Chettoc, Institution Expert of the Study Team, to explain the detailed subject of the meeting, which they did.

Discussions, suggestions, responses, and comments:

| Name | Question, suggestion, response, and comment |
|---|--|
| Mr. Suprpto (Secretary of Local Government Kabupaten Wonogiri) | <ol style="list-style-type: none">1. According to the procedures of Indonesian Government system, the project about transfer money from beneficiaries' farmers downstream to the watershed farmer upstream, Governor of Central Java would have to facilitate at the time of realization/implementation. This is because the downstream area is related to several kabupaten, and even another province. The subject to be facilitated is agreement of implementation (MOU) of that project between Governor and Governor, Bupati with Bupati, and inter-communities (downstream and upstream) in project area.2. For the work group, it is necessary to involve each local government and community (beneficiary to watershed farmer) in project area3. We very much appreciate this proposal of institutional projects, especially the idea to transfer money from beneficiaries' farmer downstream to watershed farmer upstream4. For the follow up of this project to be proposed, it is necessary to submit an official letter from PBS to Kabupaten Wonogiri and Central Java Province after the final report.5. For management of transaction for collection, deposits and redistribution, a province institution or PBS would be better, but the best would be independent institution like non government organization. |

6. Establishment of Coordination Institution independently for managing money distribution.
7. Agriculture Agency is already a Dinas Pertanian. And about upgrading of Sub Dinas Kehutanan, there are 2 points to be discussed, i.e.:
 - a. No need to upgrade Sub Dinas Kehutanan to Dinas. It will overlap with Forestry Agency in Central Java Province, which manages state forest. Currently Sub Dinas Kehutanan manages of people forest.
 - b. Focus of upgrading Sub Dinas could be change to capacity building and empowerment of staff, staff training etc.

Mr. Bambang (Head of Plantation Sub Agency) Wished to clarify about function of forestry agency related with proposed upgrading of Sub Dinas Kehutanan.

1. According to Law No. 41/1999, Law No. 19/2004 and GR 34/2002, every Kabupaten is given authority to manage forest, either state or people forest. Based on those, Bupati is in charge of these issues.
2. The subject to be managed is about planning of forest, surface area of forest, production, monitoring to industry of primary forest production, and become implementer or executing agency on watershed conservation.
3. In one side capacity of function in Sub Dinas Kehutanan is too big, but on the other side, position and authority are low. So, it is good for the Sub Dinas to become Dinas. But, it must be refer to Law No. 2 Year 2002, Government Regulation No. 8 Year 2003 and Law No. 32 Year 2004.

Mr. Sarono Widodo (Head of LIHKP Agency)

1. Proposed project on money transfer is better not using fixed rate money, but using percentage of yearly harvest.
2. About who will be responsible for the transaction for collection, deposits and redistribution of money, we could consider 3 points, i.e.:
 - a. It is better that this project is not only for the Wonogiri dam, but becomes a national project,
 - b. From central government to local people, they have to participate together,
 - c. We could adopt the model that implemented on Paddy Socialization Program (BINMAS), eg.: in central government, there are Satuan Pengendali (Steering Committee Task Force) and Satuan Pembina (Adviser

Task Force) in local government, there are Task Force for Implementation in kabupaten level, kecamatan level, and village level.

Mr. Ouchi
(Team Leader JICA)

1. As a scheme originator, gave some background and explained that:
 - a. This idea is not like a taxation, but voluntary basis.
 - b. The money is not transferred directly to the farmer, but transferred to village for funding and assisting the conservation activities.

Mr. Edi Joko
(BAPPEDA)

1. What is the basic calculation, so you decided 25,000 rupiahs/Ha/Year?
2. Why only downstream farmer who become beneficiary, How about other institution who got benefit beside farmer (PLTA, PDAM, and Industry)?
3. In village there is LPMD (Lembaga Pembangunan Masyarakat Desa). Perhaps, this institution could become implementing agency in village level.
4. In Wonogiri, there is Forum Peduli DAS (Forum concerned with Watershed). This is a work group which consists of government officer, NGO, and local society).

Mr. Taufik
(Head of Forestry
Sub Agency)

1. To make fairer, it perhaps could base on paddy price conversion.
2. Farmer in downstream have to pay so many obligation/fee to P3A.
3. Procedures of money collection from downstream farmer are first deposited in kabupaten and become PAD (Local Government Income) but kabupaten could not use for other benefit, it just monitors money collection. Second, the money is transferred to village and control by steering committee in kabupaten and kecamatan.
4. Implementation is rather difficult, if directly transferred to farmer in upstream. Base on this matter, there should be a meeting between Kabupaten Wonogiri, first with kabupatens downstream and facilitated by provincial government; second with water user downstream (farmer as an irrigation water user, kabupaten as flood control beneficiary, industry as a water user from main river etc).
5. The agency who could implement is NGO, and conducted transparently and accountably.

Mr. Sarono Widodo (Head of LHKP Agency) About upgrading Sub Dinas Kehutanan, Local government is proposing to local Parliament (DPRD) to upgrade several dinas. Local Parliament will discuss and decide. According to the proposal there are several changes, i.e.:

- a. The sub dinas in LHKP will be separated to become 3 dinas, environmental agency, forestry and plantation agency, and mining agency.
- b. Pertanian/Agriculture will be a single agency.

Kapti Hastuti (Legal Section) Kabupaten Wonogiri is still using PP No 8/2003 for budgeting based on Law 22/1999. This is because revised version of Law No. 32/2004 has no regulation for implementation (GR or Ministerial Decrees, etc) until now.

The meeting was closed at 12:30.


Surakarta, September 26, 2006

JICA Study Team
Team Leader




Minoru OUCHI

Kabupaten Wonogiri
Secretary of Local
Government



Ir. Suprpto, MM

IPK-PWS Bengawan Solo
Manager of Planning



Ir Tri Rohadi, Dipl. HE

*Minutes of Public
Consultation Meeting*

March 1, 2007

Minutes of Public Consultation Meeting

ENVIRONMENTAL IMPACT ASSESSMENT

FOR

**THE STUDY ON COUNTERMEASURE FOR SEDIMENTATION
IN THE WONOGIRI MULTIPURPOSE RESERVOIR**

March 1, 2007 – Office of BAPPEDA of Kabupaten Wonogiri

Opening Address: Mr. Tri Rohadi – Manager of Evaluation and Program, Balai Besar Wilayah Sungai Bengawan Solo

Summary:

After expressing welcome and thanks to all audience the opening speech is as follows:

Study on Countermeasure for Sedimentation in the Wonogiri Multipurpose Reservoir is conducted from year 2004 up to 2007.

This PCM will present

- Data and the result of Environmental Impact Study for the Priority Project for Countermeasures for Sedimentation in the Wonogiri Multipurpose Dam Reservoir,
- To exchange opinions and receive comments form stakeholders concerned for the Priority Project and environmental and social impacts to be caused by the Project.
- To incorporate (feedback) the discussion results of PCM in the Feasibility Study of the Priority Project.

There are two countermeasures being proposed, i.e.: structural and non structural measures.

- Candidate Project Components (Alternatives) for structural measures, such as sediment storage reservoir, keep proper function of intake etc
- Candidate Project Components (Alternatives) for non-structural measures or vegetative is watershed conservation, such as land and water conservation (by terrace improvement), agro forestry etc.

Due to the structural measures, we invite Bappeda and Environmental Agency of Surakarta, Klaten, Sukoharjo and Sragen for exchange opinions; receive comments and discussion result of EIA.

Keynote Speech from Bupati: Read by Mr. Suprpto (Governmental and development /Head of Bappeda Wonogiri)

Summary:

Initially of this speech, I request to all attendant to pray together and special thanks to God, because of His gift, so that we could meet on health condition today on PCM for EIA of Study for Countermeasures Sedimentation in Wonogiri Dam Reservoir. We hope today meeting will result benefit for society.

We can say that benefit from existence of Wonogiri reservoir, is very needed by society, especially for farmer society in 6 (six) kabupaten/kota which are attended today. But our awareness to the formation of those reservoir is not balanced yet with management system of environment awareness and sustainable.

The highest of sedimentation rate which is currently faced to sustain of reservoir is become very urgent point that have to be handled together. To handle those sedimentation problem, it is necessary to be conducted EIA Study. This is conducted based on consideration that those problem related with people livelihood that living in and surrounding area of Wonogiri reservoir. EIA problem related directly to the Problem of physical, social, economy, culture, etc., so need more attention from all of us.

Our experiences on big flood in capital city last time, give lesson to all of us, that problem is such an area/location sometimes is also caused by existence of problem in other area/location. Those big flood above is beside caused by problem in Jakarta (garbage, limited of recharge area, etc) is also caused by environment damage in upstream area. If it is not handled wisely, it will be happened mindset to blame one to other between upper and down stream.

Those above discourse inspired all of us, that problem of height sedimentation in Wonogiri Dam Reservoir is not only become Wonogiri responsible that is being most of conservation area for the reservoir. Economic difficulties, limited education, etc., cause people in upstream area do not aware to the reservoir sustainable and safety. Those are caused of upstream people are not directly get benefit from existence of reservoir. However, people take for granted negative impact of their activity.

On the other side, most of downstream area that become beneficiary area, not enough concern to above condition, and only concern to the big of benefit of reservoir for their area. If there is no solution, so we afraid, flood in capitol city (Jakarta) will be happened too.

However, in this meeting, I request to all stakeholder to think and also participate on handling reservoir sedimentation problem, so that lifetime become effective and keep proper the function of reservoir, it is better if it could be longer.

PRESENTATION SUBJECT:

This PCM (Public Consultation Meeting) presented 4 subjects on titles as follows:

1. Presentation I: Outline of Priority Project, presented by Mrs. Lilik Retno C. (BBWS-Bengawan Solo)
2. Presentation II: Environmental Impacts of the Project on Physical Elements, presented by Mr. Ari Handono and Mr Mukhlisin (Jica Study Team/Sebelas Maret University).
3. Presentation III: Environmental Impacts of the Project on Biological Elements, presented by Mr. Sajidan and Mr. Murwantoko (Jica Study Team /Sebelas Maret University).
4. Presentation IV: Environmental Impacts of the Project on Socio-economic Elements, presented by Mr. Maulana (Jica Study Team)

DISCUSSIONS:

Chairman: Mr. Al. Sentot Sudarwanto, Vice Director of Post Graduate Program on Environmental Department, Sebelas Maret University

Main points of discussion First and Second sessions are as follows:

Fisrt Session

1. Mr. Indro Basuki (Head of Environmental Agency of Kabupaten Sukoharjo)

Questions:

- a. Related to the decrease of groundwater and poor community in downstream should compensate by installing drinking water supply, are they have enough money for paying water supply?
- b. Urgent countermeasures are (1) sediment storage reservoir (2) watershed management, and (3) periodic dredging. However, there is no information about evaluation and possibility of impact on watershed management?
- c. Due to sediment storage reservoir, there will be conducted periodic dredging to Bengawan Solo River, how is the impact to sedimentation in downstream?

2. Mr. Dwi Sularyanto (BBWS Bengawan Solo)

Suggestion:

- a. Concept of **project** is already changed become **activity!**

Comments:

- a. Flushing, both from existing or new spillway, do they not occur problems in downstream?
- b. On EIA study, only relation water quality with people well surrounding propose project area is to be surveyed by the team. How is another impact to the downstream, due to those conditions?
- c. Due to provision of spoil bank, is it not surveyed the impact by JICA Study Team?
- d. Construction of over flow dike and closure dike, is it already prepared acces road that not using publics road?
- e. How can sediment flushing from Wonogiri reservoir not impacted to irrigation canal in Colo weir?
- f. Data condition from survey station nos. III and IV, could they be used to predict condition of post construction?

3. Mrs. Wiwiek PE (LHKP Kabupaten Wonogiri)

Comments:

- a. Why EIA Study is not follow AMDAL procedure?
- b. Environmental Management and Mitigation Plan are not clear enough, who will responsible for being a project owner, funding, implementing agency etc?

Suggestions:

- a. Due to sedimentation countermeasures, it is necessary for BBWS Bengawan Solo coordinate with Forest State Company.
- b. Presentation of result of AMDAL study in this agency is not in accordance to the subject. There is an agency, which has responsibility about AMDAL in Wonogiri, i.e. AMDAL Commission. It is necessary this project owner to coordinate to those agency.

4. Mr. Heri Sutopo (Fishery Agency of Wonogiri)

Comments:

- a. Legal basis about watershed management is not yet covered.
- b. Parameter of water quality to be analyzed in station III and VI if only turbidity and why pH is not included.

Suggestions:

- a. Please, pay attention to the existing community group empowerment related with aquatic organism (that we conducted). In addition, elephant grass could decrease erosion.

5. Mr. Teguh (NGO "Persepsi")

Comments:

- a. Flushing, do they can countermeasures sedimentation problems in reservoir, do they not remove problem to downstream?
- b. Main problem of sedimentation in reservoir is erosion from upstream area (watershed area). Why only structural measures are proposed?
- c. What is the reason of upstream people to be invited due to the construction of new Spillway?

Questions:

- a. How to make air quality of environment is not impacted from mobilization of material from uncovered truck?

Answer of First Session:

1. Mr Maulana

- PCM is a meeting to present result of EIA Study (Environmental Impact Assesment). EIA is different with legal AMDAL. EIA utilize JICA *guide line*, but AMDAL and EIA in JICA Study is different thing. EIA in JICA Study does not follow procedures required by AMDAL. Basic Study Items and methodology are same as those in AMDAL. Legal AMDAL has to conduct utilizing beaurocratic procedures and also produce AMDAL documents. Those AMDAL will be conducted as soon as project approval from the funding agency. EIA as an initial study for legal AMDAL to reach information and become data base of environment.
- Result of grain size survey by Jica Study team, concluded that sedimentation in Colo weir was very different with sediment from Wonogiri Reservoir.
- Study for watershed conservation has similar porsion with structural measures. This meeting does not give detail information because this meeting is presented environmental issues and impact of proposed structural activity.
- Structural measures would be optimal with non-structural measures such as watershed management in upstream area.
- Institutional study give some proposed of coordination of the institution related with the study.
- Social impact survey is conducted by using simple random sampling in community surrounding reservoir.

2. Mrs. Lilik

- The proposed of structural measures have been chosen in several stages by discussion among steering committee and stakeholders. The result of the study recommended flushing from new spillway is conducted at rainy seasons with such a calculated discharge. At those discharge level, suspended load can be flowed up to the estuary of Bengawan Solo River.
- Sedimentation problem in Wonogiri Reservoir have to be done by two measures, i.e.: structural and non-structural. Urgent countermeasures such as construction of new spilway and new dike have to be implemented considering sedimentation in reservoir is currently on dangerous condition.

3. Mr. Ari Ramelan

- Compensation for inconvenient to the people who get negative impact, became one of solution for negative impact due to decrease of well water. It was suggested to install water supply from PDAM.
- New Spoil bank will be used land belongs to government (such as BBWS Bengawan Solo) and currently used to utilize for area of motor cycle cross court. Periodic dredging is planned to use this land for spoil bank of removed sediment.
- Due to Ms. Wiwik comment, Legal AMDAL at future will be conducted base on national standard, utilizing AMDAL Procedures.
- Countermeasures of sedimentation problem due to source of soil erosion are as follow:
 - Socialization to farmer group to aware concerning soil conservation
 - Due to dust from mobilization of material truck that uncovered, it is supposed to establish monitoring agency that has responsible for giving information and penalty to avoiding of rule or procedures on implementation.
- Not all water quality parameter due to aquatic biota to be surveyed is presented in this meeting. The parameter to be presented in this meeting is only show the deviation.
- Implementation of Flushing is needed to be monitored due to sand mining activity in downstream. Duration of flushing is 2 x 24 hours at rainy seasons, which are at that time so many sand mining supposed in-operated.
- Raw water of PDAM that take from Bengawan Solo River is PDAM Jurug and PDAM Wonogiri.
- Result of study proved that no fishery utilizing river water.
- Sediment from Wonogiri reservoir, during flushing on flood condition, is predicted not impacted to sedimentation in the downstream.
- It has to avoid flushing at fish spawning seasons.
- Flushing as a periodic maintenance for reservoir is calculated cheaper than traditional dredging (sediment dredging).

Second Session

1. Mr. Yatimin (Pemangku Pokohkidul)

Comments:

- a. Is impact of countermeasures of sedimentation problems in reservoir not occur new problem?

- b. Is it already calculated the risk of un-function or failed of the project?
- c. The result of survey about people perception due to construction of new spillway is relatively positive, because an education level local person is relatively low and they are not critical. However, if the survey is conducted to height-educated people, the result is not relatively positive. Average of local people education is relatively low education. Does study team consider that argument?
- d. Not only people in Sub-village of Petir but also Pengkol people feel impact too. Why are people in Pengkol never been surveyed or analyzed due to impact of sediment release to the spoil bank at their area?
- e. How is about sediment material from Keduang river made for red bricks (bata merah)?

2. Mr. Haryono (Bappeda Wonogiri)

Comments:

- a. It seems that construction of new spillway is became “grand design” from the beginning at Japan and has to be “implemented”? Example: when Wonogiri reservoir was constructed, it was designed that Selogiri area will got water irrigation for 1000 ha, but actually only 250 ha of paddy field are irrigated.
- b. People in Wonogiri are never get benefit from existing of reservoir, so that it is very difficult to conduct implementation of watershed safety movement. How to countermeasures those condition?

3. Mr. Iswanto (Kab. Sragen)

Suggestions:

- a. On invitation letter, subject to be discussed is about AMDAL. But, on presentation, it is about EIA not Legal AMDAL? Please give clear information!
- b. It seems watershed conservation is placed in different study from structural measures. Watershed management should be added comprehensively in the proposed project.

Question

- c. Are related community in downstream also invited in this PCM?

Answer of Second Session:

1. Mr. Ari Ramelan

- Sediment material to be flushed is very fine sediment. The type of suspended sediment is wash and very fine, so that it could flow up to estuary, according to study result of JICA Study Team.
- Closure Dike could protect intake from sedimentation which is currently on critical condition, but, non-structural activity also have to be considered. Similar cases are happened in other reservoir in Indonesia, which are upstream people become the victim. In addition to, downstream people could give compensation to upstream people, e.g. construct one check dam at upstream.
- EIA almost similar with Legal AMDAL. The methodology of EIA and AMDAL is purely similar. EIA is only the initial of environmental analysis. It will be conducted Legal AMDAL before implementation of proposed project.

2. Mr. Maulana

- It is ever been studied, to make bricks from sediment, but according to the result, cost is more expensive. So that, it is not efficient.

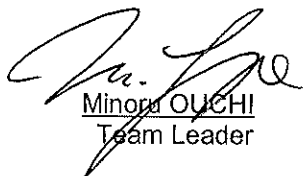
3. Mrs. Lilik

- It is necessary cooperation among stakeholders in order to improve the plan to be conducted, not only agreement.
- From the beginning of the study, every related agency is represented and became counterpart and steering committee.

The meeting was closed at 13:30.


Wonogiri, March 1, 2007

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