

(4) Proceedings**Inception****1. Welcome speech of H.E. Thongvan Seng-Ampon by Governor of Bolikhamxai Province**

On my own and on behalf of the people of Bolikhamxai Province, I wish to welcome all delegates and participants to this very important workshop.

Actually, Bolikhamxai province is using electricity generated by Nam Leuk and Theun Hinboun Power Plants. Since the availability of electricity power made to Bolikhamxai province, social and economic development in the province has been considerably improved, among them the implementation of poverty reduction program has received considerable support. Therefore, the province is very happy to welcome Nam Ngiep Hydropower Project and all external supports, and is willing to contribute with all possible efforts for the realization of the project. I also encourage all participants to actively share their views and comments and to make this workshop productive.

I wish H.E Vice-Minister Somboun Lasasombath, JICA Study Team and all the participants good health and a fruitful workshop. May I invite H.E Vice-Minister Somboun Lasasombath to deliver opening remarks.

2. Opening Remarks delivered by H.E Somboun Lasasombath, Vice Minister, MIH

On behalf of MIH, I would like to express my sincere thanks to H.E Governor and all the participants for giving part of their valuable time to join this workshop, and also to congratulate the organizers for implementing it.

Laos PDR is a country endowed with abundant natural water resources, so suitable for the development of hydropower projects, however despite such gift bestowed by nature, Laos remain poor and least developed. Rural areas are covering a considerable portion of the country and the people are living in a low standard. It is one of the government policies to build more hydropower facilities to contribute in the development of the country. Starting from small to medium scale depending on the particularity of each individual site in order to supply electricity for domestic use to rural areas and to encourage foreign currencies flow into the country.

Since Laos has adopted recently a Market Oriented Economy Policy, a considerable number of investors and business men have expressed their interest in developing hydropower projects in Laos PDR. The government of Laos (GOL) has recognized the importance of involving the private sector in the realization of hydropower projects. GOL also admits that Environment Impact Assessment is also an important part and has the same weight of significance as the technical part.

Vis-à-vis the impacts identified through the EIA study, GOL supports all effective mitigation measures to minimize the adverse consequences, thus to render the development sustainable and

viable.

Nam Ngiep 1 HPP is a project financially supported by the Government of Japan. The first phase has been dedicated to Environmental Impact Assessment, and was completed in year 2000. Today the second phase of the Project is under implementation and is focusing on technical and commercial matters.

This workshop is aiming at reporting on the achievement reached in this second phase of Nam Ngiep HPP studies, then to collect views and comments from the participants. Work plan for the next steps will also be reviewed here. Finally, some issues like power market, geophysical survey, geological and hydrological investigation and so forth need to be discussed also today.

I encourage all participants to actively contribute with ideas and comments in order to make the Feasibility Study comprehensive. I would like to thank the Embassy of Japan and all participants for joining today's workshop. I would like to thank JICA study Team and the local authority for jointly organizing this workshop. I am herein pleased to declare the opening of the workshop.

3. Opening remarks by Mr. Miyata JICA Representative

On behalf of JICA, I would like to congratulate H.E. Somboun Lasasombath, Vice Minister of the Ministry of Industry and Handicraft, for the realization of this workshop.

This is the second phase of the Nam Ngiep HPP, it is necessary to check the viability of the project and to make sure that once implemented it can contribute to the poverty alleviation in Laos PDR. Today, if we can see more Lao people happy that is because they can enjoy food every day, however many Lao still suffering and struggling for food.

To help the Government of Laos PDR to overcome social problems, the Japanese Government has offered financial assistance to carry out the Feasibility Study of Nam Ngiep 1 HPP. Phase I was completed and today, phase II is on going.

I highly appreciate the results achieved so far by the project, the efforts and collaborations provided by everybody for the realization of today's workshop. I wish the project to continue with fruitful achievements.

Questions and Answers on Day 1-afternoon

4. Mr. Bounphan Phommachan, Chief of Thathom District

Our people support the project. There are not very much differences in population number since last record. We are implementing the development program of our District.

5. Mr. Phone, Chief of Hat kham village

People are waiting for the implementation of the project. Some of them do not have the courage

to build something because they are afraid that they cannot use it for long once the project starts and must leave their lands. Others are looking for new settlements, and thus are having their productivity interrupted.

6. Mr. Kongkham Southammavong, Dept of Industry MuongHom District

Many people in my district are waiting for the project to happen. However, they are working and living as usual. There is no resettlement yet.

Questions and Answers on Day 2 – Morning

7. Mr. Araki, JICA Study Team

Mr. Araki explained the content of task 0,1,2,3,4,5,6 and encouraged everybody to join a free discussion.

8. Question by Mr. Adachi, Project Advisor

How JICA Study Team came up with the figure of 30% from the total equity to form GOL equity? What are the Laws or Regulations, which imply the use of such number? Is that a result from a discussion with GOL?

Answer by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : I think that the figure adopted by JICA Study Team was drawn from previous experience, where IPP projects in Laos PDR has commonly favored the ratio Equity/Debt of 30% to 70%. For instance, in the case of Theun-Hinboun Project, in the equity portion, the GOL retains equity of 60%. Financing was provided through a soft loan source from ADB. However, those figures altered from project to project and is depending on the financial source entrusted to GOL. For instance, in the case of Houay Ho IPP, Laos equity is between 20 and 30%. Likewise, the GOL equity in Nam Theun2 IPP is 25%.

9. Question by Mr. Adachi, Project Advisor

Would you please confirm whether numbers are expressed or not in the Electricity Laws, because if they are of fixed numbers, it cannot be changed.

Answer by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : We will check later and confirm the forum afterward.

Comment by Mr. Araki, JICA Study Team : The construction cost was estimated to be about 380 millions US\$. If a round this number can be assumed, then the construction cost would be around 400 millions US\$. If the total equity portion forms 30% of the total construction cost it will be then equal to 120 millions US\$. 30% of 120 millions US\$ will make 36 millions US\$ which is an amount that JBIC and ADB can both share equally of 18 millions US \$ each.

Therefore, an increase of the ratio would be not wise, since JBIC would likely not agree to contribute more than the above-mentioned amount because it is also the ceiling set by JBIC. The 30 millions US\$ provided to Nam Leuk HPP can be an example of the JBIC support.

10. Question by Mr. Houmphone, Buliyaphon, Director General DOE/MIH

Can Mr. Araki confirm whether the loan by JBIC will be under concessionaire Loan and, not commercial?

Answer by Mr. Araki, JICA Study Team : At this stage, it is too early to give any confirmation. However, it is assumed that OECF would be the provider. That also means that the Loan will not be of commercial nature. The construction of a third international bridge project will use a loan of a same amount as Nam Leuk. As far as I know there is no plan to use JBIC loan elsewhere in Laos PDR other than that bridge project.

Comment by Mr. Adachi, Project Advisor : Usually, concessionaire loan is borrowed to construct bridges. The use of loan of that nature to build dams is almost very difficult. China constructs dams with commercial loans only. Therefore, it will be wise to think about the future financial structure using commercial loan. That is also, why I questioned Mr. Houmphone about the GOL equity. The reason behind that is if the equity of GOL were nil, GOL would not receive very much benefit from the project. GOL earning can be then obtained from royalty and resource levy, as it can be seen in Theun-Hinboun and the same is intended to be applied with Nam Theun 2.

I know that, Nippon Koei has made some financial analysis, but they should also study the size of the benefit gain by GOL in the case where only royalty and resource levy will be applied. If the result reveals unsatisfactory, the GOL equity should be amplified. On the other hand, this project is likely to be of BOOT nature, which means that the power plant will be transferred to GOL after 25 years. Therefore, the above matter should be considered carefully.

Comment by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : In Laos PDR, under normal practice, in every IPP project GOL holds equity. However, it is possible that the case of "No GOL equity" can happen. If so, we must re-assess what can be the impacts on the GOL benefit. According to the present IPP project in our country, the GOL can draw benefit from Royalty and Resource Levy, while EDL as a state power utility and at the same time, a shareholder can get profit from the dividend. Profit tax varies from project to project and since there is no format yet, it will be applied according to the context contained in each individual Project Agreement. In the case of THPC, the royalty is set at 5% of the gross revenue from electricity sale for export. GOL has granted THPC a holiday tax of 5 years. The Profit tax was set initially at 5 % and will increase during a certain period to a maximum of 15 %. In principle, GOL receives revenue from Royalty. The dividend goes to the EDL, which in return will pay or reimburse the government through the form of tax. Royalty and Profit tax are variable from

project to project. I think it would be better if the government can have some equity, on the other hand, if GOL can work closer with the project, the chance to promote the project is higher. In the early stage of the project, it is always unsure on what kind of loan GOL can obtain. However, it is certain that concessionaire loan is difficult to obtain for dam construction.

Houay Ho gets commercial loan from Daewoo. EDL is one of the shareholders. Today the interest is too high and makes the EDL's share in Houay Ho Project not profitable. After, the Project has restructured its financial status; we hope that in the forthcoming years EDL to get some profit from the project.

That was a short briefing on the loan status of some projects in the sector of electricity in Laos PDR.

Comment by Mr. Mori, JICA Study Team : GOL policy must be respected. The amount of 40 to 50 million in the loan portion to be paid back should not be considered by GOL as a big money. The most important thing to think about today is the credit line or the answer to the question "from where to get project financing?"

One of the possibilities can be from JBIC or, some other arrangement made by the Government of Japan (GOJ) for GOL. The repayment capability of your government comes from firstly: the amount of available government budget and, secondly: the revenue from government tax. Statistics show that with just revenue from tax alone GOL can payback the loan. I also believe that the good and close relationship between GOL and GOJ can make investment comfortable.

11. Mr. Houmphone, Buliyaphon, Director General DOE/MIH

I feel very pleased with the project because it is very promising. We have demonstrated a good strategy in our planning by starting with the study of an EIA and also conducted a lot of public hearing. To get support from donors and international communities the feasibility study of the project must be well prepared.

In this aspect, comparing with many other projects, Nam Ngiep 1 has been well prepared. And as just mentioned by you, good relationship between our governments will give a lot of hope for finding loan, soft loan or grant. Definitely, I feel very confident.

12. Discussion by Mr. Araki, JICA Study Team

I would like to discuss on the possibility to use JICA fund for the Detail Design (DD). If we can obtain a strong commitment from JBIC stating that they will provide a financial support to the project, that may help JICA to decide to finance the DD. And the possibility to obtain bilateral financing support for the project will become more obvious.

Reply by Mr. Adachi, Project Advisor : First of all, the project must prove itself viable through the present study, then only JBIC may accept to discuss about financing. At this stage JICA is in

position to support the actual study only, and is not accepted to speak about the DD yet.

Answer by Mr. Araki, JICA Study Team : We have almost completed the feasibility study of the project, including the financial model, which is clear now and we need to start to work with JBIC before completing the feasibility study, not after.

Comment by Mr. Adachi, Project Advisor : It is true that we have had an internal discussion with you about the result of the project. However, we need to see your Final Report, of which the content will be disclosed to the public in order to seek their opinion again.

Answer by Mr. Araki, JICA Study Team : If JICA and JBIC can start soon with the DD, the establishment of the SPC can wait until the DD is completed. Otherwise, we have to get the SPC first and then to carry out the DD afterwards.

Today we have to contemplate which way is most efficient to the sake of the project.

Comment by Mr. Adachi, Project Advisor : My worry concerns the negotiation with TH. Without any commitment in that aspect we cannot go ahead. Therefore, it would be better if now we can discuss on the financial viability of the project.

13. Question by Mr. Araki, JICA Study Team

Does JBIC or JICA have any criteria about viability or, how to judge whether the project is viable or not? Those criteria can be for example: "A project is to be accepted as viable if the FIRR is more than 10% and the EIRR higher than 15%"... etc. It is better to spell out such criteria. Otherwise, GOL too will have difficulty to decide whether to request GOJ to promote the project or not.

Answer by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : Apparently in the financial analysis section of the report, only the benefit cost ratio was shown. Almost, there was no indication about the EIRR of the project. Would you disclose it later in the Final Report? It would be very helpful if the return of the project could be known today. Mr. Araki said that there is commitment from the TH to buy power from Laos, where names of power projects with their respective installed capacity were tabled. However, today this information is out of date. Many of those projects remain idle for long time while some are in advance stage with promising result. For instance, NT2 just have had their PPA initialized and hopefully in June 2002, they will have their PPA signed. Nam Ngum 3 HPP has submitted their EIA to DOE recently, they also modified the project configuration by reallocating the powerhouse according to the Power Sector Strategy Study recommendation and has also proceeded with optimization of the project. What concerns Nam Ngum 2; we did not receive any information.

Finally, it is quite difficult to say which project has the priority, because in the past they used to tell us that "Every thing is going well, financing is on the way and construction may start

soon..." But, just little things has happened. GOL will review all Power Projects again.

Comment by Mr. Araki, JICA Study Team : Would that be possible for the GOL to concentrate more on Nam Ngiep 1 project and to consider the nomination of Nam Ngiep 1 as a HPP of first priority. Such status will create confidence to JBIC, ADB, and Japanese investors and create confidence to the investment on in this project.

Ideally, such GOL statement should be pronounced before the end of our Feasibility Project.

14. Question by Mr. Houmphone, Buliyaphon, Director General DOE/MIH

Should I understand that the reason to export power to TH instead of VN is attributed mainly to the fact that TH is located nearer the Project than VN?

Could you brief us about the study on power market? And explain why you choose to direct the power line to TH rather than to VN?

Answer by Mr. Araki, JICA Study Team : If Nam Mo is implemented before our project, only 82 km of Transmission line will be built to connect Nam Ngiep 1 to Nam Mo and then to a sub-station at Ban Na in VN. By such means we can have 2 generators installed in the powerhouse where one of them will be connected to TH and the other one to VN. However, it is undeniable that the big consumer still be again TH. We keep following up the progress of Nam Mo and Ban Na Projects. Recently we got some information on the pre-feasibility study of Ban Na Project prepared by PC1 of VN. Perhaps this year or next year, EVN will request the GOJ to support the implementation of F/S of that project.

The Government of VN (GOV) has also a master plan for hydropower projects among which pump storage plants are also included. Beside the above some 17 F/S projects for rural electrification are under implementation in the northern part of VN. Can Mr. Tatemasu give some details on them?

Reply by Mr. Tatemasu JICA : I do not have enough information on that matter. What is related to Detail Design, I agree with Mr. Adachi that it should be discussed in September of this year, after the final report has been issued. At that time, we will know clearly about the viability of the project.

15. Mr. Araki, JICA Study Team

Next topic we should discuss is about our target with TH. I suppose everybody wants to know why this Nam Ngiep 1 project has adopted the 16 hrs production instead of 8 hrs or 4 hrs. The reason comes from the fact that Egat do not interested to buy peak generations.

16. Question and Discussion by Mr. Houmphone, Buliyaphon, Director General DOE/MIH

I suggest Mr. Mori to explain about your study on the power market in TH, your discussion with EGAT and NEPO, what is the power demand curve now, and what is the forecast for the next 10 years? I think mostly in your report you just take the same experience from other projects. I suspect whether everything remains the same in their forecast, as it was few years ago. I mean the reserve margin of Thai system, which is quoted as much as 15 to 20%. We should check again whether that is correct before we can adopt these numbers in our assumption. Is that defined in Thai Policy? In Thai schedule the power will not be provided from Laos only. TH has also agreement with Myanmar and Yunnan Province. On the other hand, today we are talking a lot about regional cooperation. Recently, in TH, JBIC and OECF organized a workshop on possible power interconnection between Laos-Thai-Vietnam. This concept receives a lot of support from all concerned parties because now the trend of cooperation is becoming more regional.

Egat think about implementing Power Pool in TH. Power Pool is not favorable to Nam Ngiep1 HPP. We should think about having a special clause for Nam Ngiep 1 HPP, something similar to the PPA between Egat and NT2.

In spite of the above, Egat seems not to be ready for Power Pool yet, but at the same time the TH policy wants to maintain their reserve margin above 20%.

Answer by Mr. Mori, JICA Study Team : There are many uncertainties with Power Pool and as a result three main parties will emerge: the power producer, the distribution company and the consumer. You see that will involve a lot of people. There will be price fluctuation, a lot of strict competition, a lot of rules to settle. But all of that will not desist the tariff to increase. Despite the above complexity, TH seems to be very much committed to implement the Power Pool.

Reply by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : Last time, in a workshop in Bangkok, the participants had requested JBIC to support a more detailed study on the possibility for power connection between Laos, VN and TH. The seasonal weather is not the same in these countries. For example: while the dry season is covering Laos, VN is dominated by rain; and vice versa. VN strongly suggested Laos to supply power to them. That is also part of the GOL policy to maximize the trade with VN. Therefore, we should look at the possibility to send power to VN.

TH has also complicated administrative procedure: Nam Theun2 HPP has their PPA renegotiated for the 2nd time. It is true that finally both sides agreed to put initial on the PPA but the project has to wait a few more months before signing the PPA for real. Many other difficulties have been faced in Nam Ngum3, Nam Ngum 2 and other Lao power projects as well. Definitely, we must explore the VN market and try to avoid to simply seeing TH as the only solution for power export.

17. Discussion by Mr. Adachi, Project Advisor

According to my knowledge, the average electricity tariff in TH is 5.2 US¢/kWh. That is very low! The average in Philippines and Indonesia is 7 US¢/kWh. The real price there is well reflected. TH must raise it up until 2003; the year set for privatization. At least TH electricity tariff must reach 7 US¢/kWh, and that will not be easy because a lot of opposition will come from Thai people. When the electricity price in TH will reach 7 US ¢/kWh the negotiation attitude of TH toward Laos may change.

Reply by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : TH needs power from Laos PDR. However, TH does not want PPA anymore. The last PPA to be signed will be for Nam Theun2. They are converting to Power Pool and that attitude does not win sympathy among investors since investors always want to minimize risks and need to have certainty about the electricity tariff and be sure that it will last for at least 10 to 12 years.

If our IPP tariff differs significantly from the Power Pool one, we should have some clauses allowing tariff adjustment. Without such measures, our IPP cannot survive.

NEPO has approved the implementation of a Power Pool in TH, and it should start by 2003, but there are a lot of issues to be resolved. California case gives very valuable lessons. So TH is very cautious. I think that it will be pretty hard to implement it.

Today there are many Laos IPP requesting TH to negotiate their PPA. However, TH asked to wait until Nam Theun 2 PPA signed first. On the other hand the reserve margin in TH is still as high as some 30%. Indeed, in their PDP I noticed that it will decrease to 15.3% in 2006 and will remain between 15 to 16% until year 2012.

Many projects in TH are in advance phase of development, except some like HInkud and Bo Nnokthermal power plants projects.

Comment by Mr. Mori, JICA Study Team : Despite the GOT approval to TH projects, the government is always facing strong opposition from their own people. As Mr. Adachi said in order to encourage investors to join the Power Pool the electricity tariff must be reasonable and should be at least between 6 US¢/kWh and 7 US¢/kWh. It means that sooner or later the situation might become critical for TH. That will happen soon before long, and I feel very optimistic about this project because Laos maintain very competitive power projects.

18. Mr. H.E. Somboun Lasasombath, Vice Minister, MIH

Some VN companies have expressed their interest in developing hydropower in Laos PDR and export the power to VN. They are also trying to find and encourage potential investors to join that deal. The reason why VN is interested can be attributed to the difference in seasons between Laos and VN. If it is dry season in Laos PDR, the weather in VN is humid. GOL has signed

MoU with a VN company; namely Sanco, with the objective to study the possibility to develop Xekaman 3. GOV said that they support the idea to purchase power from Laos. To realize that, they intend to form a group of Vietnamese companies to work on how better to plan and develop that project. This is just a preliminary information for you to understand the VN commitment in buying power from Lao PDR.

Comment by Mr. Adachi, Project Advisor : VN has a large power Plan in the North named Hoa Binh with a huge capacity of 2,000 MW. But wet season in VN is comparatively short, it makes them difficult to rely on just only one power station.

Comment by Mr. Araki, JICA Study Team : Last July, we had visited EVN in Hanoi and discussed about that matter. They were interested in importing electricity from Laos during their dry season.

Comment by H.E. Somboun Lasasombath, Vice Minister, MIH : VN has the 2,000 MW Hoa Binh which supplies power from the north to the south, and that is a very long way. System stability is difficult to maintain. They need more and more power in the central and southern part of VN. Since Nam Ngiep HPP 1 is located at the middle of Laos PDR, which is also the center part of VN, it is consequently very convenient for Nam Ngiep 1 HPP to send power to VN. This is an information for you for further study in that aspect.

Comment by Mr. Akhom, National Assembly : Last November; a VN delegation from the Science, Technology and Environment Organization visited us in the National Assembly, with a purpose to look at our dam facilities and to share experiences on hydropower projects because many hydropower projects in the northern part of VN are under consideration by the VN National Assembly. The related issues were regarding environmental aspects such as high sedimentation.

They have visited Nam Ngum Dam and were very impressed by the good condition of the power plant despite its 30 years of service. Other areas of their interest were related to safety and risks during the construction. They have asked who were the constructors; and also about the conservation and the protection of nature, where we told them that with JICA assistance we have replanted trees in the upper part of the catchment area. This is an information to you about VN activities related to the power development at the National Assembly level.

19. Question by Mr. Araki, JICA Study Team

From now may I suggest to concentrate on VN? The construction of Transmission Line in the Nam Mo area is difficult due to high mountains. The construction of 500 kV national grid of VN has already started. Is it true that the NT2 Transmission Line will be connected to VN 500 kV? In Laos PDR, central part will be connected to southern part by Transmission Line which will pass through Paksane. If so, we can connect directly our project to that Transmission Line, too. EDL and JICA are studying a Master Plan for the Transmission Line. Our Study Team needs to

match up their findings with our report.

Answer and Comment by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : The JICA Master Plan for Transmission Line recommended the portion "Paksan-Pakbo-Savannakhet" to be implemented as soon as possible. Distribution network will dispatch power to consumers located in the southern province of Laos. By that means, it will act as a transmission line back-bone capable of supplying power to the southern region. Like NT2, Nam Ngiep will be able to provide power to the system, too. With a separate hydropower plant power, it will generate electricity through a separate 75 MW unit and provide power to Thakhek without any disturbance to the power generation for export. This feature is to work under a different agreement arranged between NT2 Power Company and the local power utility. Please note that it will be connected to Thakhek not to Savannakhet, because the distance from the project to Thakhek is shorter.

Comment by H.E. Somboun Lasasombath, Vice Minister, MIH : There were a lot of questions raised by the VN on Nam Theun 2. VN wanted to buy power from NT2, but now it is too late because we committed power to TH through the PPA with TH. However, there is still a good opportunity for Nam Ngiep 1 HPP to sell power to VN.

20. Question by Mr. Araki, JICA Study Team

Would you please give some informations about Nam Mo project?

Answer by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : Nam Mo will have an installed capacity of 105 MW. The F/S is carried out by Harza. In the past, they have had some negotiations with VN. But at that time they were not interested in the project because of the low demand in that area. However, with the construction of a new transmission line, VN will revise Ban Mai project and may be they can see some possibility to develop that project. VN said that after the study is completed, they can take the power by the year 2006 from Nam Mo project, but negotiations of the tariff still need to be carried out. Developers have started to visit VN some years ago.

Comment by H.E. Somboun Lasasombath, Vice Minister, MIH : Two months ago, there were senior officials from VN led by Deputy Prime Minister and Minister of Industry to visit Laos PDR and signed MOU between Laos-VN. VN will establish a committee to consult on all aspects regarding the Nam Mo HPP Project. This attitude is very much different from the past where the Nam Mo negotiation team has asked several questions to VN but never obtained any reply from them.

This is a new information and I hope it can be useful for you.

Comment and Question by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : A delegation will be dispatched to VN. After their return, we will inform you about the outcomes

of the negotiation.

Now, we would like to clarify certain points concerning the domestic power supply, particularly the 5% mentioned by you as part of Laos's policy. It is not exactly a recommendation from Laos side. This 5% is applied with THB, but the power derived is too little because it includes station use, TL losses, local supply (about only 4 to 5 MW). Local people complain why they cannot use more power while the power station is located in their area?

However, if we want to keep good reputation with foreign investors we cannot infringe the PPA. Therefore, Nam Ngiep should learn from this experience to define reasonably how much power is needed locally. I think that 5% is too low, and it becomes worse when it includes station use and all losses. After a project is implemented, we shall be able to satisfy the local demand and avoid reproach from local people. Because before the implementation we also promise to develop the surrounding communities, consequently we have to fulfill our promises. Of course, power demand of the area must be carefully studied. Did you say that a unit of 16 MW would be provided separately?

Answer by Mr. Araki, JICA Study Team : 16 MW is about 6 % of 252 MW and will be produced by one generator set at the regulation weir. It will generate for local use only, and will be completely and intentionally separated from the IPP project. It might be built with a Japanese grant.

21. Question by Mr. Adachi, Project Advisor

How much is the electricity tariff from THB for domestic use?

Answer by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : The tariff is the same as paid by TH but deducted from TL loss, that is about 90% of the export tariff. The power is sent to EDL first. EDL subsidizes part of the tariff and pays in US Dollars. EDL is the main interlocutor with Theun Hinboun Power Company (THPC) when discussion concerns local power supply.

Comment by H.E. Somboun Lasasombath, Vice Minister, MIH : The 5% or 10% cannot reflect the GOL policy towards power supply for domestic use. They are the result of negotiations between the developers and GOL. Developers always want to sell more power abroad while GOL wants to use more power to develop the country. So, please never take these numbers as part of our GOL policy.

Comment by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : Electricity tariff dispatched to domestic use does not differ very much from the electricity tariff for export. Therefore, you should explore the possibility to supply the electricity to the local area, rather than simply to set aside 5% for local use. Another valuable lesson from Houay Ho is that after the completion of this project, local authority wanted some power for local irrigation pump.

Unfortunately, it was impossible because the installed generator for local use was too small in terms of capacity. Consequently, people complained about the irrationality between the power station built within their province and the very limited possibility of use.

Comment by H.E. Somboun Lasasombath, Vice Minister, MIH : Another example is the NT2 case where GOL wanted 170 MW for local use from the power plant but EGAT said if it was not entitled in the whole 981 MW they would not accept to pay certain level of electricity tariff. Consequently we agreed on just 70 to 80 MW. Again you can see that the amount of power obtained arose from several rounds of negotiations and not a product from the application of a 5 to 10% off-take rule.

It is very important to look at the development potentiality thus the power market inside Laos then to combine it with the interest of the buyer in TH.

Follow up by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : We should remember that the initial objective of this project was to provide electricity to local demand aiming at eliminating the forthcoming possible power shortage within the country, because very soon the Nam Ngum 1 dam would not be able to cover all the domestic need. In line with the above target, the new selected hydropower project shall be located nearby the existing transmission line.

The above requirements form a part of our initial TOR given to you with the request to conduct a study appropriately and then to report your findings to the GOL. I hope that now you understand what really we need. Nevertheless, on the other hand we admit also that it will be hard to convince developers to invest on such dam. The other source of funding can be bilateral through loan or soft loan like Nam Leuk HPP Project. However, it might be difficult to borrow such big amount under grant from a bilateral cooperation. Consequently, we should somehow involve the private sector to join the development of hydropower project.

Comment by Mr. Adachi, Project Advisor : We cannot deny this idea and must keep it in mind as an option. We should also find a way to obtain concessionaire loan or soft loan.

Comment by Mr. Araki, JICA Study Team : Nam Ngiep1 Project cost is too high to apply for a concessionaire loan or soft loan, even if we downsize the dam height or lower the full supply level (FSL) of the reservoir. 400 million US Dollars is a big money!

22. Questions by Mr. Thongphet, EdL (Facilitator)

Mr. Araki, you mentioned earlier that you might request the Government of Japan (GOJ) to financially support the study and design of the independent generator for domestic use at the regulating weir; who will study and design it and will you include these tasks in your TOR?

Answer by Mr. Araki, JICA Study Team : After all data are obtained from our geological field

investigation, we will proceed with the Design. We foresee the use of tubular type of turbine for the power station. We have so many experiences from our past works in Korea. Indeed, in Korea their high peak is covered by the main generation from the powerhouse while smaller units from ancillary powerhouse provides electricity during off-peak. The above is just our preliminary thought, and we need to check it again. In our Final Report we will recommend whether the powerhouse at the regulating weir will be constructed with Japanese Grant or under IPP contract.

Nam Ngum watershed management is carried out with ADB assistance. We would like to request JICA to support the watershed management for Nam Ngiep reservoir even after the termination of the F/S. And this study will be included in the resettlement work.

Comment by H.E. Somboun Lasasombath, Vice Minister, MIH : During the negotiation with developers, we must ensure that domestic consumption will be provided with enough electricity. The installed capacity of 16 MW is too small. It should be perhaps above 30 MW. Personally, I believe that it will be not easy to meet with our target. Precedence shows that the case of NT2 was finalized after a long negotiation.

Follow up by Mr. Wada, JICA Study Team : As a reference, we have used the draft master plan report from the system planning of EdL on the development plan for domestic use. As tabulated in the report, as for IPP project, 5% of its energy output is expected for power generation plant as I explained yesterday. In conclusion, if the off-take is from the main dam it will be a burden on the economy of the IPP. Meanwhile, if power is supplied from the regulating pond IPP will be free from burden. Maximum output of the power station at the regulating pond is 16 MW because if the FSL of the tailrace is raised up then the power output of the units in the main powerhouse will be seriously affected. Due to time limitation we cannot carry out the survey and that is also the reason why we adopt the number of 5%, which is also used in the planning system of EDL in the assumption of our calculation and design. However, if definitely it is not sufficient we will reconsider it again.

23. Question by Mr. Adachi, Project Advisor

How can that be a burden? GOL will buy at the same price as sold to EGAT. If more power is required by local area, why not to sell to them? Can you provide complementary power from the main dam at the same price?

Answer by Mr. Wada, JICA Study Team : According to our assumption, the tariff of a 24 hours of power generation is lower than the intermediate. If the ancillary power generator is located in the main dam and the water from the main reservoir will be used to produce the base load then a lower electricity tariff will be applied accordingly. Economy of the project will diminish.

24. Question by Mr. Houmphone, Buliyaphon, Director General DOE/MIH

Is 16 MW a firm capacity for 24 hrs generation for domestic use?

Answer by Mr. Wada, JICA Study Team : Yes.

Follow up by Mr. Araki, JICA Study Team : Power generators at the main dam will work independently of the one installed at the regulating weir because Thai and Laos national grid will not be interconnected for stability reason.

Comment by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : In the case of Theun Hinboun, Theun Hinboun Powerhouse provides the power for domestic use. Likewise, part of the power generated at the main dam should be conveyed to domestic use, and the amount can be increased gradually according to the local need. In other words, when the domestic consumption will exceed 16 MW, we will be able to get supplementary power from on the main power generated by the main dam.

Reply by Mr. Araki, JICA Study Team : We have had also some discussion with our electric engineers.

Comment by Mr. Wada, JICA Study Team : We have discussed with the Master Plan Team, and we were told that it is difficult for one generator to be connected and to produce electricity for both purposes – export and domestic consumption. There will be less troubles if the domestic power can be provided by a local isolated grid.

25. Mr. Adachi, Project Advisor

This issue can be resolved at the sub-station level not at the Powerhouse. A good example can be Nam Ngum 1 HPP, which year after year, has swapped at the sub-station level some large amount of power from export to domestic.

Comment by Mr. Araki, JICA Study Team : Nam Ngum has 5 generators to carry out alternately such task, while Nam Ngiep 1 will have only two to work for both purposes.

Comment by Mr. Thongphet, EDL : In that case some troubles can be foreseen in THB in the next few years after the TL Paksane –TKK is built.

Comment by Mr. Araki JICA Study, Team : THB should not dispatch to the domestic use more power than allowed.

Comment by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : Prior to send power to TH, THB and EGAT would carry out daily and weekly planning. Power will be allocated properly according to necessity to both export and local. The power generated by the unit is supplied to the domestic use via 22 kV.

26. Question by Mr. Araki JICA Study, Team

Does THB have small transformers for domestic use?

Answer by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : Yes, for the sub-station use but not for the local one. There are 3 feeders of which power is conveyed to the dam site, the powerhouse and locally as well. However, the domestic demand should not exceed the 5% allowed by the PPA, otherwise penalty according to the PPA will be applied.

Questions and Answers on Day 2 -- evening

27. Mr. Araki JICA Study Team

The project is economically viable if power supply for domestic use will not be taken from the main dam. Consequently, we recommend setting up a separate generator of 16 MW at the regulating weir, which represent approximately 7% of the total installed capacity. In our optimization, we have studied various cases of power generators at the regulating weir: 5% or 12MW, 10% or 25 MW, 15% or 37% and so on. The result showed the more we push higher the worse the viability is affected.

28. Question by Mr. Adachi, Project Advisor

What will happen when the domestic demand exceeds 16 MW? Will it be possible to draw some power from the main dam?

Answer by Mr. Araki, JICA Study Team : If the PPA covers 25 years, it will be possible to start to get some power from the main dam after the PPA expired. Otherwise, it is difficult for one unit to dispatch power at the same time to TH and Laos.

Comment by Mr. Wada, JICA Study Team : We have discussed this matter with EDL engineers. They asked the same thing. However, if want to maintain good system stability this kind of maneuver is not recommended.

Comment by Mr. Khamson, Myxayphon (EDL engineer) : I don't have a comment about this issue. I will consult with my office again.

Comment by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : Usually power for station use is available. Part of it can be transferred to local areas through feeders and 22 kV transmission lines. Such practice is adopted by Nam Ngum I, Xeset and THB. If a 16 MW unit were to be installed separately, it would require synchronization with the main dam in order to allocate together power to both export and domestic use. This idea aims also at minimizing investment cost on the regulating weir. On the TH side, I believe they would not have any objection and will allow us to use 5% at least of the power at the main dam. By doing so we will be entitled to use power dispatched by the main dam too, allowing us the chance to increase local supply instead of confining our self with only 16 MW from the regulating weir.

29. Question by Mr. Araki, JICA Study Team

We sell power through Nabong sub-station. Nam Ngum 2, Nam Ngum 3 and other power stations as well, will be connected to Nabong while exporting power to the Thai grid. Power from one generator will be sent to Nabong which in turn, will dispatch power to TH and domestic Lao. Do you agree with that?

Answer by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : No, it is not in that way. Some power generated by the main unit is reserved for station use and made available at a particular feeder. From that feeder, we can also take part of it to send to domestic areas.

Reply by Mr. Araki, JICA Study Team : In that case, there is no problem because the use of the station will not be connected to the National grid. Otherwise, if it is connected, stability troubles will happen. Likewise, the domestic use in THB case is not connected to the National grid, but in the future once it is connected, problem may arise.

Comment by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : We do not speak about connecting to the National grid of 500 kV yet, because 16 MW is too small to join a 500 kV system.

Comment by Mr. Thongphet, (EDL) Facilitator : Perhaps, we misunderstood each other, Mr. Araki is talking about connecting the Nam Ngiep 1 HPP to 115 kV EdL grid not 500 kV.

30. Question by Mr. Houmphone, Buliyaphon, Director General DOE/MIH

Even though, after the installation of the 16MW unit at the regulating weir, what will be the anticipated distribution voltage to domestic consumers, 115 kV or 22 kV?

Answer by Mr. Araki, JICA Study Team : In our report, we mentioned 22 kV double circuit.

Comment by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : In that case, it is possible to synchronize the unit at the regulating weir with the unit at the main dam, to make the power available for station use.

Comment by Mr. Araki, JICA Study Team : A transformer will be installed at the main dam for station use and off-grid use, in that case there should be no problem. However, we take your suggestion on board and will study it carefully.

Comment by H.E. Somboun Lasasombath, Vice Minister, MIH : I have seen during a Study Tour in Sweden a kind of "Transformer-Generator" made by ABB, but I am not sure if they are available in the market.

Comment by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : I am afraid that these new technologies are quite expensive.

Comment by H.E. Somboun Lasasombath, Vice Minister, MIH : Why did we insist so much on the power for domestic use? The reason is because by year 2010, we must endeavor to halt any electricity import from TH particularly in the provinces of Bolikhamxai, Khammouan and Savannakhet. The Dams to support our goals can be nothing else than Nam Theun 2 and Nam Ngiep1. If these two dams fail to help us, our determination will not be accomplished. Therefore, we apologize for insisting and debating so much on that cause.

31. Question by Mr. Thongphet, (EDL) Facilitator

Is it possible to increase the installed capacity on the regulating weir from 16 MW to 30 MW so that only during peak hours all machines will be put in service? One of the merits is that we can avoid one machine to run permanently the whole day to supply power during both peak and off-peak period

Answer by Mr. Wada, JICA Study Team : The primary function of the regulating weir is to regulate the water discharged by the main powerhouse, particularly during peak period. The discharge and the head behind the main power station cannot be increased. The FSL for the generator at the regulating dam is governed by the main dam. Actually, 16 MW is the maximum installed capacity for the regulating weir.

Comment by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : Yes, I fully agree with your explanation.

32. Question by Mr. Araki, JICA Study Team

When Nam Mang 3 Project will start and what is the installed capacity?

Answer by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : By year 2003 and the installed capacity will be 35 MW. There is no more hydropower projects for domestic consumption beside the Nam Ngiep 1 and Nam Theun 2. Nam Theun 2 will transfer part of its power through EDL.

Comment by Mr. Araki, JICA Study Team : If EDL accept part of Nam Ngiep 1 power we can sell them under specific conditions as we do with EGAT. Probably in the next 10 years power shortage in this area may occur, so today we have to plan carefully. We will check again all related technical matters. We also understand the National policy regarding the necessity to stop importing power from TH, in which unit price is more expensive than in Laos.

Comment by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : The reason does not reside just on stopping the influx of power from TH, but we must secure our system, too. For instance, if on TH side a critical failure hits their system, Paksane, Khammouan and Savannakhet would be prone to black-out. Therefore, even if the investment for a new TL interconnecting Paksane, Khammouan and Savannakhet will be costly than to import power from TH, we can

accept it.

33. H.E. Somboun Lasasombath, Vice Minister, MIH

Actually, in the central region we do not have other options of HPP beside Nam Ngiep 1 and NT2. That is the reason why we rely on drawing power from Nam Ngiep 1 but at a quantity exceeding your recommendation. If the power shortage occurs in the Southern part of Lao, there will be more option to choose, such as; Xeset 2, Houay Lamphan gnai...etc. Unfortunately, here in the central part, sites selection is extremely limited.

34. Question by: Nianjer Nojongtro, Dty Director, National Front

Is it possible to put an irrigation system and make use of the water released? I ask this question because Houay Ho does not utilize the water released from the powerhouse and they let it flow down to Sekong. That is just a lost of opportunity.

Answer by Mr.Araki, JICA Study Team : Yes, it is easy to convey water from the regulation weir to irrigate paddy rice fields. But it is not recommended to draw power from the main reservoir for any purpose other than power generation.

35. Question by Mr.Adachi, Project Advisor

Does the 16 MW estimate the use of all the water available in the regulation pond?

Answer by Mr.Araki, JICA Study Team : Yes.

Comment by Mr.Adachi, Project Advisor:The amount of water for irrigation is definitely small compare to the amount needed for power generation at the regulating dam. It should not be difficult to do so.

Comment by Mr. Wada, JICA Study Team :Actually, we know that there are potential areas for irrigation, and they are located approximately in the right abutment of the regulation pond. The water requirement for irrigation is relatively small comparing to the water needed for power generation. We can consider this issue.

Comment by H.E. Somboun Lasasombath, Vice Minister, MIH : What I understand in the aspect of irrigation is to design in a way that water can flow by gravity in its channel to the paddy fields, pumps shall not be used for that purpose.

Comment by Mr. Houmphone, Buliyaphon, Director General DOE/MIH: In any circumstance, the use of water from the main Reservoir should be avoided. Because, the design of the powerhouse and the reservoir as well has been already optimized. But any off-take of water from the regulating pond will not impair the main power generation.

Comment by Mr. Thongphet, EDL : It is understood that a channel can be built to convey water

from the regulating pond to the paddy fields without using pumps. Unfortunately, the availability of the field is apparently small, just some 150 ha.

36. Question by: H.E. Somboun Lasasombath, Vice Minister, MIH

Is there any land in the upstream around the reservoir suitable to be converted to irrigated paddy fields?

Answer by Mr. Chansaveng, DOE/MIH : The landscape around the reservoir is steep. Actually there is no agriculture activities in that area. The only potential areas are the earlier mentioned 150 ha, which were identified during the field surveys of the previous phase of the F/S.

37. Question by Mr. Khamsing , Deptm of Industry, Bolikhamxai Province

As I understand THB can make up to 5% of their installed capacity available for domestic use. However, in Laksao, a recently established new factory named "Chiengling" intends to use up to 5 MW. Would such propose use impact power supply of THB for rural area? Should JICA Study Team learn the experience of THB and particularly this case?

Answer by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : Our previous discussion reveals a lot of things having close relationship with our objectives set in the past. Because at that time, the policy was to promote foreign investment which had led us in the case of THB to an agreement on 95% for electricity export and 5% for domestic consumption. The concept was to produce electricity for both purposes from the same generators, where power for export will flow through 230 kV line to Sakon Nakorn and power for domestic use through 22 kV. All of the above decisions form now a part of the PPA signed between GOL and EGAT.

However, the installed capacity of 16 MW at Nam Ngiep regulating weir alone is too small to satisfy the future domestic demand. We should take another 5 % of the installed capacity at the main powerhouse, which is about 12 MW. The above approach will be proposed to be included in the future PPA. In principle, such practice is acceptable to TH since in the past we did the same with THB, for example. Technically, it is also feasible and our JICA Study Team will concentrate on that issue again in order to get an optimum solution.

We must follow strictly the content of the PPA. Any breach committed against the PPA by any party is subject to fine. Therefore, if we utilize more power than allowed for domestic use, we will be penalized by the PPA. Nam Ngum1 and Xeset 1 have their PPA, which is only 3 to 4 pages, founded on the sale of surplus of energy, and as a consequence the electricity tariff is relatively smaller. The PPA of IPP projects is thicker, some hundred pages, and more complex as well.

It details the various aspects of technical, legal, financial and other issues. At the same time, the content shall be consistent with the GOL policy. Therefore, we should be able to foresee the

probable amount of power needed for domestic use. To sell 100% of produced power is not rational. Also, we have to remember what had been decided during the negotiation and stated in the PPA that any breach of the rule is subject to penalty. For that reason, we should study carefully today how many percent to take out from the installed capacity and use it to develop the local area.

38. Questions by Mr. Sayabandit Insisiengmai, - MTCPC

I agree with the findings made by the JICA Study Team. I believe that the project will provide a lot of merits and few adverse impacts. I believe also once the project is implemented, our people will get benefits, poverty alleviation program can be realized and tourism will be promoted.

As it was presented yesterday, there will be an access road to the dam site, which after the completion of the construction works, will be used by the public. I would like to address 3 issues:

MTCPC has set classification for roads, which are National road, provincial road, district road, municipal road, rural road and special purpose road. I presume that the access road to the dam site falls into the "special purpose road" class, or is it possible at this F/S stage to tell the class of the access road?

Apparently there is not adequate information regarding the flooding situation on roads at FSL 320m. We knew only from Mr. Jack Prosser's presentation that road NR. 4 will to certain extent be affected by the impoundment. Would it be possible to get more information on roads flooding issues? The district road within the area of Sob Youak will be submerged too. Will the Project provide a budget to reallocate that road?

The MTCPC Development Program has been prepared for the periods 2001-05, 2005-10 and 2010-20, where a number of roads connecting the north and the south of the country is intended to be built. Will they sustain any damage caused by the Project? The implementation of Nam Ngiep 1 HPP is planned for the period 2005-10, while some of the roads will be built also in the same period. Therefore, to avoid job duplication, is it possible to know in advance the maintenance details for those roads?

On transportation issues, I would like to tell you that MTCPC has a plan to control over the load limits for transportation of goods and construction material as well. Did you have the opportunity to look that aspect? Do you foresee any advantages or difficulties?

Answers by Mr. Araki, JICA Study Team : Of course, the construction of the main dam will implicate the construction of access roads, temporary construction roads and permanent roads as well. MTCPC norms and regulations will be respected during the design and construction of roads.

Actually, we are building an access road from Ban Hatkham to the Damsite for the purpose of

moving drilling equipment to the dam site. The access road is 8 km long and 5 m wide.

We will discuss with you again in details prior to the design of the permanent roads. It is expected that they must be regularly maintained. Road NR. 4 connecting Muong Hom and Paksane will not be affected by the reservoir. Several temporary and permanent bridges are envisaged to be built along Nam San river, and in Thavieng areas.

Check points for load limit are also very important to be studied and consulted with you prior to the construction start.

39. Question by Mr. Adachi, Project Advisor

Will all cost related to temporary, permanent roads and compensation as well, be included in your Final Report?

Answer by Mr. Araki, JICA Study Team : Yes. All cost for permanent and temporary facilities including roads will be reflected. However, it is unlikely that compensation for roads will take place, since no road is affected by the project in that area. Road NR.4 will not be submerged by the project reservoir. Only, the path from Muong Hom to Ban Sopyouak will be under water. Some old bridges will be replaced. New roads leading to the new resettlement sites will be built, and their cost are included in the resettlement compensation item.

40. Question by Mr. Sayabandit Insiengmai, - MTCPC

How about the portion of the road 13B linking Muong Cha and Nahong of Thavieng District? Because according to your map, at FSL 325 m that section seems to be affected. Can you confirm how will it be at FSL 320m?

Answer by Mr. Chansaveng, DOE/MIH : The water of the reservoir will never reach that place, and the ultimate farthest point water may touch is Ban Pou. The inundation of the section asked by you, can happen only if the FSL were raised to 360.

41. Mr. Sayabandit Insiengmai, - MTCPC

I presume that even the water level within the range 320m to 325 m still cause impact to the roads and bridges located in that area. MTCPC plans to number all roads. That is why there is a need to know which roads will be flooded, so that numbering them can be avoided.

Answer by Mr. Araki, JICA Study Team : If the FSL is set at 320m, the crest of the dam will be set with a spare allowance of 5m or at elevation 325m. Floodwater elevation is estimated to be 323m. So, any infrastructure lying above 325m will be safe. Likewise, construction of roads and bridges in the areas of Muong Tha Thom and Muong Saisomboun must be done at the elevation higher than 325m.

42. Mr.Araki, JICA Study Team

Task 4 is related to CDM Kyoto protocol, which is actually part of Kyoto Mechanism. MITI has issued a guidance pamphlet, but we can get "pdf" format files from their homepage. Hydropower dams in Laos can be applied to that system. But we will confirm you again.

In Japan fiscal year starts in April. We will contact JICA in this forthcoming April and submit our proposal for further studies and among them are the additional survey works for fiscal year 2002. We plan to start the work from May only, because by that time we need to proceed with contract arrangement.

We would like to propose JICA another power sector survey to be carried out in TH and in VN. Financial matters should be also consulted with JBIC and ADB as well, where particular issues related to bilateral and concessionaire loans will be treated too. As mentioned earlier, a web site for NamNgiep1 Project is intended to be set up within the MIH. In line with that, we will set it up according to the government rules and procedures. Resettlement issues are also critical topics to be reviewed and evaluated again. For that purpose, some local offices in Muong Hom will be involved. Local NGO can be employed to carry some specific tasks similarly as it was done in NT2.

43. Mr. Chantho, Chief of Environment Department, DOE, MIH

National resettlement policy is not yet endorsed by the GOL. Only NT2 has formulated their resettlement policy. However, the ADB loan for the Environment Management in the energy and transportation sector has made available a Technical Assistance to the GOL, which will be used to formulate the National Resettlement Policy. This project will start about next month.

44. Mr.Araki, JICA Study Team

During phase I, 15 resettlement sites were identified. However, we still need to know opinions and to discuss with local officers. And that will be part of Task 5. Since today District officials from Muong Hom are on a field trip to THB, so tomorrow we will discuss again on these matters.

45. Question by Mr.Adachi,Project Advisor

You are proposing additional works. What is the intention of your survey in VN? It seems to be already completed, isn't it?

Answer by Mr. Mori, JICA Study Team : As I have explained yesterday; so far we were able to provide you just a general understanding about restructuring and liberalization program of EGAT, and also some information on the power pool structure. The next step is intended to learn more about the various aspects of the Power Pool, say for example: the details of the operation, the market rules, the regulations and conditions of the Power Pool. On the other hand, we need to study also on the bilateral contract where the main target can be the application procedures and

regulations. Then, further works is also required for the detail analysis and the marketing plan for NamNgiepI HPP project. What is concerned to the trip to VN, I am not sure whether it is necessary or not.

46. Question by Mr.Adachi,Project Advisor

Regarding resettlement issues, we already had discussion in phase I, so what is the intention of more research?

Answer by Mr.Araki, JICA Study Team : As mentioned above, we have proposed 15 resettlement sites and until now we did not receive any feed back.

Comment by Mr.Adachi, Project Advisor : I recommend you to find good explanation on your proposal to JICA. The intention of our actual F/S is to prove technical and financial viability of this project. After this phase, we may enter the Detail Design period after a firm finances support is confirmed. At that time we can clarify the resettlement issues again. Therefore, it is not necessary to try to make more detail program on resettlement.

Reply by Mr.Araki, JICA Study Team : The work done in the previous phase was satisfactory. However, some complementary works need to be carried out. But we do not expect to achieve every task during this phase II. However, clarification on some points must be ascertain such as the number of people to resettle, the sites favor, the estimate of the production area, the length of the access road to be contracted and so on. All of the above will be used and verified through approximate calculations. There is no intention to go in deep details, but to make a final check on our findings, to ensure that once the project implemented the livelihood of the resettled people will be better off and development will be sustainable. NGO express a particular interest on those aspects. Indeed, these issues are very sensitive and we need to make a last check.

Comment by Mr.Adachi, Project Advisor : You have just 3 months left before the disclosure of the Final Report, where you are required to provide a concrete conclusion of the F/S.

Reply by Mr.Araki, JICA Study Team : During the field survey the people to be resettled will visit the proposed resettlement sites and after that they must express their opinion and wishes regarding the future attribute of the new resettlement sites.

47. Question by Mr.Adachi, Project Advisor

JICA Study Team is proposing a web site for the project. What would be government regulation?

Answer by H.E. Somboun Lasasombath, Vice Minister,MIH : The set up of a web site is not a restricted act. You simply submit a formal request to the Steering Committee, which is composed of representatives from MTCPC, STEA, Ministry of Culture, Prime Minister Office, and after that to follow the regulation and procedure. MRC has a web site.

48. Comments by: Chief District, Bolikhan District

I would like to make 2 comments:

- (1) Resettlement should take in account the development plan of the local Administration Authority. The details of the implementation must be defined through a feasibility study which must be worked out in close consultation with provincial authorities and endorsed by the GOL prior to the implementation.
- (2) Resettlement can be done according to personal willingness where a family has the option to move to their relatives land or to a village nearby

Whatever is the selection, we must know exactly the details. The planning and development depends on the outcomes. For instance, if the districts of Thathom and Thavieng intend to come and to settle in Bolikhan District, we can provide some 1,000Ha as resettlement site to them. If we know for sure that they are not interested, we will develop those lands according to our plan. Consequently, we wish JICA Study Team to take into account our concern.

Commented by H.E. Somboun Lasasombath, Vice Minister, MIH : Only NT2 has a comprehensive Resettlement Action Plan (RAP). They have also a Resettlement Committee composed almost by provincial officers from Khammouan and Savannakhet provinces. The central government has delegated the administrative power to the provincial officers to ease the coordination and cooperation with the project.

Commented by Mr. Chantho, Chief of Environment Department, DOE, MIH : The F/S is just a preliminary study. If we want to use it as a reference document we should make it more detailed. Therefore, within the remaining 3 months, we cannot do it. We need to disseminate the project RAP to the local people through several sessions, because many of them cannot understand it from the first go.

Commented by H.E. Somboun Lasasombath, Vice Minister, MIH : The detailed preparation of the RAP usually is done in an advanced phase where the Project Developers have made a strong commitment with the Project and had established their office in Lao accordingly. From Laos side, the GOL setup a Resettlement Committee (RC) consisting of provincial officials and GOL Project representatives. The task of the RC is to conduct detail consultation with local people and to disseminate information related to the Project. Within 3 to 4 months it would be difficult to achieve the above tasks. However if the intention were just to make as you said a last check, it would be then possible.

Commented by Mr. Thongphet, EDL : Regardless the resettled number of families in Nam Leuk which is very small, just 16 families, I wish to share part of my experience. We started with the asset inventory, where nearly every thing of the people belongings was recorded. Each inventory was estimated along with its respective asset value and certified afterward by the owner and the

local authority. Another important thing is to learn about the family wish, because some wanted to join their relative living elsewhere. There were cases where we went to their relatives places to check whether the circumstances would allow them to move in, and at the same time we also verified to confirm whether after the move, their livelihood can be better-off or not.

Commented by H.E. Somboun Lasasombath, Vice Minister,MIH : In the context related to resettlement aspects, I suggest to study and draw lessons from NT2 Project.

Commented by Mr. Nianjer Nojojongtro, Dty Director, National Front : Nam Ngiep1 HPP project area encompass large region assembling in one destiny people from various ethnic and customs. Therefore, despite the GOL objective to raise the standard of living of everybody, one of the acute questions to treat diligently is social stability. Therefore, during the rural appraisal activities, local and provincial people should be involved as much as possible because on one side they will be the important players to provide to the local people the proper information on the project and, on the other side to convey the people's wisdom to the project developers.

Commented by Mr. Araki, JICA Study Team : Straight after this workshop, DoE Team will join a site workshop where they can meet with the villages and talk about this project and also to collect their opinion. Their report will be also included in the Final Report. What I fear is that in September during our Final Report Workshop, NGO will criticize that during these 2 years, we did not make enough research on the livelihood improvement for the villages. Once again, I believe that we should review our past findings and verify them in the villages. We have to do that even if only 3 months remain before the Final Report Workshop. Also note that we are not proposing any new surveys.

What is concerned to Nam Ngiep web site we will proceed according to government regulation and procedures. We estimate that preparation in Japan requires two weeks and another week in Vientiane. In two months time we will present you the draft and hopefully the web site will be established by the end of September 2002.

Commented by Mr.Adachi, Project Advisor : The maintenance cost will not be paid by JICA.

Commented by Mr.Araki, JICA Study Team : It is not costly, it is about 10 to 20 US Dollars per month. We will discuss the details later. In Task 6, we will invite prospective investors, NGO which were always invited, such as IRN, Mekong Watch but never joined us. They said they have some budget problem. We will send air tickets to them by using JICA budget.

49. Question by Mr. Houmphone, Buliyaphon, Director General DOE/MIH

How many NGO you intend to invite?

Answer by Mr. Araki, JICA Study Team: IRN, Mekong Watch and Friend of Earth.

Comment by Mr. Tatemasu , JICA : I can try to explain the situation to my bosses in JICA HQ

in Tokyo. But I cannot promise anything.

Closer by Mr. Araki, JICA Study Team : So, as we agreed earlier, the Final Report Workshop will be held tentatively on the 18,19 and 20 September 2002. I will prepare and submit a request to JICA and GOL.

Questions and Answers on Discussion Day 3

50. Mr. Wada, JICA Study Team

As I have explained two days ago, the total area of the inundation is around 69 km² and the figure which is shown in the reference document in page 5.9 is showing the inundation for Thavieng district only. The graph also shows for Thavieng District only and does not represent the overall inundated area.

When we setup the FSL we kept in mind how to prevent any further inundation to other villages except Ban Pou. 4m increase will affect these villages so we found out an option which is higher than 320. Meanwhile for 320m option the inundation is confined to these villages only. We have checked a 2m interval which is the highest option. That was the basis of our determination for FSL

51. Mr. Araki, JICA Study Team

I hope that Thavieng District people and particularly their 15 representatives present here today can understand that while optimizing the scheme we tried to minimize inundation of their land, too.

52. Representative of Ban Pou

I have no objection against this Project, because its implementation will bring prosperity to the Country and, I believe that the RAP will take care of the affected people. In fact, we already start to move out gradually from Ban Pou.

53. Representative of Muong Hom :

Regardless of the fact that the District of Tha Thom will be partially flooded, we support this Project, because it will improve the living standard of our people.

In the District of Muong Hom there are some 1,500 to 2,000 ha cultivable land. That is enough land to fit people from Ban Pou. An irrigation plan for 1,000 ha is under course. The possibility to receive new comers is significant. Therefore, there must be no worry.

Commented by Mr. Araki, JICA Study Team : Next week DoE staff will organize a site workshop. Please, give details as much as you can to them.

54. Mr. Akhom

While talking about development we shall keep in mind the full-integrated development, because the standard of living can be improved if only we can concentrate on all aspects. Therefore, there must be a feasibility study for each site.

Commented by Mr. Chantho, Chief of Environment Department, DOE, MIH : Nam Ngiep I HPP RAP is written in English. We hope that the summary report will be translated in Lao according to the Regulation for EIA, so that Laos people can understand it.

Commented by Mr. Chansaveng, DOE, MIH : All documents we intend to bring with us to the forthcoming site workshop are in Lao. The translation for the Summary Report will also be translated in Lao.

Commented by Mr. Araki, JICA Study Team : If Mr. Chantho is afraid that villagers cannot understand, I can reassure him that we make all site workshops in Lao. For example, in December 99, we hold a site workshop at Ban Dong, there were more than 300 villagers to join us. The presentation used panels with pictures and explanations written both in English and in Lao to explain our Project to the villages in all details. We did that way in three other places.

So in our future final workshop we intend to organize in the same manner at site. JST will also attend in Sept 2002. Please note that you are welcome to join the site workshop with Mr. Chansaveng to see how that works. Afterwards, the report shall be sent by Mr. Chansaveng through e-mail to our HQ in Tokyo.

We welcome any comment. They will be used to improve our Final Report. We hope that you will be able to attend the site workshop too.

55. Representative of the Ministry of Labors and Welfare.

I have two concerns:

(1) I agree with the project and the findings. However, I would like to support the concern raised by the previous speaker. Development should be designed in harmony with the people's level of knowledge and, the natural condition of the resettlement sites as well. For example, the selection of a new cultivation practice should be pertinent to the soil and climate condition, and as a matter of verification, the result must show abundant crops with gradual increment of the yield year after year. Only, through those facts, the living standard of the people can be count as improved.

(2) Since the Project is planning to conduct more workshops, it is so desirable that women participation should be promoted as much as possible, because most of women have low education and left behind all important events. Consequently, you should attract and encourage more women to join your workshops and, to boost up their role in the socio-

economic development.

Commented by Mr. Chansaveng, DOE, MIH : In our forthcoming workshop it is planned that some of our female engineers will join us as presenters.

56. Question by: John D. Ferchak Quakers Service in Laos

If we want to have further correspondence or writing comments, to whom would we write too?

Answer by Araki, JICA Study Team : Usually we prepare suggestion sheets and distribute to the participants for their comments. However, this time we did not proceed that way and encourage live comments during this workshop.

At any time you can address your writing concerns and comments to us through MIH, DOE, Nam Ngiep 1 HPP office. Our counter part leader Mr. Chansaveng will convey your message to our JICA Study Team. You can also find on my name card my office address in Japan and email address as well.

Comment by Mr. Jack Prosser, JICA Study Team : There will be a Lao version for the Summary Report to concur with EA regulation of DOE. RAP always tried to involve more women at the village level participation and I agree about female representatives of Ministry of Labor & Welfare said. The question about mixed integrated development that was referred to is somehow reflected in our proposed combination of agriculture extensions for the irrigated development works and fishery. We will put all on the map and verify whether in this area general consensus exist. These should be the area we must investigate in more details in the next phase.

57. Representative of Lao Women Union, Bolikhamxai Province

I have two suggestions:

- (1) Lao Women Organizations should not exist at the village level only, but they must be presented inside the construction community too. That is to protect women right and the good custom and culture of our nation, too.
- (2) Women must be involved in all fields, including consultation, data collection, planning, resolving issues and decision making.

58. Mr. Chantho, Chief of Environment Department, DOE, MIH

I would like to give some clarification related to the preparation of RAP. There will be involvement of various organizations, including Lao Women Union, Youth Union, Land Allocation organization...etc. All will work at various levels such as provincial, district, village, and perform their respective official duty.

59. Mr. Prosser, JICA Study Team

Reported on the yesterday field trip to Theun Hinboun Hydropower Plant

Reports on past discussion during the past two days:**60. Mr. Araki, JICA Study Team**

- (1) Nam Ngiep 1 HPP is scheduled to be completed in year 2011. But until now there is no commitment in Lao-Thai agreement. While, other IPP do not have any progress and the GOL is reviewing Hydropower Projects for the award of priority project title. We hope that Nam Ngiep 1 HPP can become a 'Priority Project'.
- (2) SPC (Special Purpose Company) is a power producer company. We suggest establishing SPC after the completion of the F/S. We will also confirm the portion of Laos equity which can be as much as 30%. Shareholder of the Laos equity can be EDL. The other portion of the equity can be held by foreign investors such as Japanese electric companies. We will discuss with JICA about encouraging JBIC-Tokyo and ADB-Manila to join too.
- (3) Most of discussions was concentrated on domestic power supply, and our team understand MIH requirement. The power supply for domestic use should be 24 hrs. 5% of the installed capacity to be dispatched to domestic use is not a rule. The amount can exceed 5%. If DOE-MIH and EDL strongly request our project to dispatch as much as possible power to domestic consumption. Then, we need to conduct much deeper study. However, for the time being we had to assume that the independent power generator will be installed at the regulation weir. During the first years, the independent generator will supply power to local use. When the local demand exceeds the independent generator capacity, the power from the main dam will be gradually drawn in. Our Team will study on the possibility of power sharing with the main dam.
- (4) We intend to request JICA to allow us to continue power survey in TH and VN, and also to study the financing possibility from JBIC, ADB.
- (5) *Updating Resettlement Planning:* Only three months are remaining and no new studies will be carried out. 15 sites have been already identified. The District of Hom has their own resettlement program. Bolikhamxai Province is considering the resettlement plan. We need to check and update some data and then to update our RAP.
- (6) CDM – JICA Study Team will report on their finding regarding the application of Nam Ngiep 1HPP project to CDM.
- (7) To better disseminate information about our project, we will submit a request to establish home page according to regulations and procedures of the GOL. Hopefully, a draft will be submitted to MIH for review soon. JICA and Mr. Tadematsu will consider the above

requirement. Report can be distributed through the web site.

- (8) Next workshop, we will invite also prospective investors from Japan and TH, prospective lenders and Banks such as JBIC and ADB, NGO such as Mekong watch, Friends of the Earth where air tickets will be provided together with invitation letters.
- (9) We hope that Decision-Makers and Top Leaders can attend the Final Workshop too. Their presence will comfort Bankers and Investors. Television and Newspapers will be also invited.
- (10) CA, PPA will be prepared during year 2004. If they are completed according to the schedule, we can proceed with the start of construction which include temporary works access road base camp, concrete plants, aggregate plants...etc after that we start main construction works. The duration of the project construction is estimated to be 5 years. Commercial Operation Date can be set in the year 2011.
- (11) Tentative dates for Final Report workshops are September 18, 19, 20; 2002.

61. Mr. Houmphone, Buliyaphon, Director General DOE/MIH

Task 0 regarding IPP project to VN: Ban Na or Ban Mai project is VN project, not Laos project. You can also put Xekaman 3 a project supported by a MOU signed between Lao and VN. Our first IPP project with VN.

Answered by Mr. Araki, JICA Study Team : The reason why Nam Mo and Ban Na projects have been mentioned here is due to the fact that if Ban Na proceeds then Nam Mo can come up, too. For us, the chance to connect to Nam Mo becomes greater and the possibility to sell power to VN can be realistic. The distance of the Transmission Line connecting Nam Ngiep 1 and Nam Mo is 80 km.

62. Question by Mr. Mori, JICA Study Team

After finishing our F/S, who should propose MOU to GOL. I think MOU is a kind of agreement to be concluded between your government and the developers in order to start the right to develop a HPP. How do you understand the handling of an MOU in line with our proposed schedule?

Answer by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : According to the procedure for IPP Project, the developers should start with the signing of an MOU with the GOL, first, then to proceed with feasibility study, afterward. We have a procedure for the implementation of IPP projects.

63. Question by Mr. Mori

In that case should our Special Purpose Company make a MOU with GOL?

Answer by Mr. Houmphone, Buliyaphon, Director General DOE/MIH : I think it would be better for you to consult as soon as possible with the State Planning Committee for all details of the Procedures. You have mentioned in your task description the intention to invite our Top Leaders to attend the Workshop, however, we cannot guarantee you any commitment. We will consider your suggestion and try to do our best.

64. Question by: H.E. Somboun Lasasombath, Vice Minister,MIH

Nam Ngiep 1 HPP has its installed capacity larger than THB HPP. However, yearly energy production is less than THB, why?

Answer by Mr.Araki, JICA Study Team : Because THB produces on almost 24 hours basis, while Nam Ngiep 1 HPP on 16 hours basis.

65. John D. Ferchak Quakers Service in Laos

I would like to congratulate the design team for the good Study they have made. I am pleased to see that they have made a careful selection in determining the height of the dam so that the environment and socio-impact is minimize to a small extend.

The data as it is presented and I am going to ask you to refer to the first document that we received and called as "reference document" handed out yesterday. My question comes from the technical data in ref doc p5 attachment 8 where the difference between E1316 and E1320m the data has been presented on the sensitively levels of 4 meters. That is each 4m increment has been considered in the presentation of the data if we look at the investment cost for the alternatives scale 16 hrs or 12 hrs peak operation the difference between 316 and 320 members at the bottom is 396 million and 406 million US\$, respectively.

Small difference in investment cost 2.5% between two elevations. If we go to page 5.5 what we have is the annual energy production for the alternative scale of 316 and 320. If we look at the 12 hrs peak operation the total annual energy out put is 1,335 versus 1,386. So the difference is about 3.8% in output annual. The difference between 316 and 320 is about the difference in output of 3.8% annual that is comparatively small difference.

If we look at 5.9 this is the inundation area and the design team is aware that the sensitivity there is very critical. The difference is between 316 and 320 and 324 very large changes in the environment and social impact. So for example if you look at the area of elevation 316 versus 320 the increase is not in the table but in looking in this map in the room next door we have an environmental increase of maybe I will guess 400%.

Each meter of elevation is exponentially increasing the surface area of the reservoir. So as we go from 316, 317, 318, 319, 320 the inundation area go very quickly so we gain 3.8% in power but

increasing the inundation area by perhaps 400%, I am guessing. It is a significant increase in term of paddy lands, agriculture land perhaps 150 ha 200 ha but I am not sure because I do not have the numbers. Now I think perhaps in the design, the economics of the cost involved has not been included in the calculations. The cost of productivity of the land. You loose productivity of the land by shifting the height of the dam by a few meters. So this is the cost perhaps not included in the calculation.

You might put a certain cost per ha of productivity of 1000US\$/ha year for example as a cost that you loose. By having this, it is a small change in energy production. I was asking a question yesterday about if the analysis was refined from 4m increment to a smaller increment than I just noticed that the design team has considered this on page 4.5 under 5.2.3 "computation of power out put and energy" the second paragraph based on 1/10,000 scale map.

It was revealed that most of the villages and paddy fields in the Thavieng sub district will be released from inundation if FSL is set lower than 320. Accordingly, alternative was set at two meters interval between 312 and 328m. So JICA Study Team has refined the analysis to the two meters increment instead of data with four meters increment. And I would make a guess if we look at 318m not 316m 320m we might find that the amount of land inundated will be only 100% difference, not 400% because the increase is very fast and the energy difference will be only less than 2%. So I would ask the design team to go back and look at the two meters increment difference and consider a dam with 318m height instead of 320m height because that would save a lot of land and a power villagers will be affected. This is a long comment because I don't have all data in hands.

Answer by Mr. Araki, JICA Study Team : In phase I of our F/S study we have been discussing a lot on these elevations issues.

Elevation measurements have been done through geophysical survey with the use of GPS and later on a second geophysical survey has been carried out with the major activities in aerial photo survey, reservoir mapping. Accordingly, the inundated areas at each elevation have been estimated based on the result from the above technology. During scale optimization, we have studied many cases of Full Supply Level (FSL). The highest the FSL the better the economic return. At highest FSL or FSL360 all Thavieng area will be under water. According to WCD recommendation, the selection of the FSL should not be bound by the economic return only. We agree with that view and we want to save Thavieng District from complete inundation. Our optimization reveals that FSL 320 would be the best.

You are right that every two meters increment induce a larger flood. However, when we compare between the extra earning derived from electricity sale against the increment of flooded paddy land which means loss of crops and increment in compensation budget, we still found that our FSL 320 is justified.

Answer by Mr. Adachi, Project Advisor : We have had discussions on few very sensitive issues such as: inundated areas and back-water effects, and we have asked the consultant to carefully study these matters,

This estimation of inundated areas was carried out on the base of 4m interval, but some more accuracy is still needed to elucidate some concerns. Obviously, the Detail Design will do that again but with the accuracy of $\pm 2m$ interval. However, if Mr. Araki said that "320m is the best one", in my opinion I would say, "I don't think so".

Answer by Mr. Wada, JICA Study Team : The economic calculation based on phase I study with 10m interval concluded that higher dam brings better economic return. In this phase II study, with 4m interval, once again it is confirmed that higher FSL makes higher economical viability.

On the other hand we have conducted studies on land uses where 2 m interval has been applied for the study on lands locating between elevation 312m and 340m. These lands are also classified in terms of vegetation and their respective areas were also recorded. Likewise, the paddy rice field areas in each elevation does have record whereas the total area of rice paddy field at elevation 320m is 24.3 ha, at 316m is 5.5 ha and at 318m is 13.8 ha.

The distributed reference aims to provide a broad understanding and does not mention the exact figures for each elevation.

66. Question by: John D. Ferchak Quakers Service in Laos

Do you have the total of agriculture land that is broken up to 3 agricultural land uses: rice paddy, agriculture and other agricultural land?

Answer by: Jack Prosser, JICA Study Team : We have the figure at 2m interval for all land use classification for the entire reservoir and Thavieng district and what we got to remember is that the higher the elevation of the reservoir is the bigger area of water will be available. One-meter water at 320 is a lot bigger than the rice if affected in terms of the land going down. As Mr. Wada has said we have 13.8 ha at 318 and 24.3 ha at 320 you can see the difference of only 11.3 ha.

You may lose few thousand dollars for rice but, when you look at the Gigawatt-hours out put which is generated at 5¢ per kWh you can imagine the large sum that we can gain from power sale. So the question is a trade-off between land productivity and power productivity with some complication created by the backwater effects raised by Mr. Adachi. We will look on that particular issue again. However, I am pretty confident that we got the optimum solution. And in the mean time I will provide more information on land use to Mr. John and will discuss that more in details.

67. Closing speech of H.E. Somboun Lasasombath, Vice Minister, MIH

Mr. Thonglone, Vice governor of Bolikhamsai Province, Ladies and Gentlemen; today is an international women day. On the behalf of all men present here in this meeting I wish to greet all women good health and success in your work and in your private life as well.

Ladies and Gentlemen, The 2nd workshop for this interim report has been organized in Bolikhamsai province during 3 days in a lively and good atmosphere rich in content. It gives clear understanding of the real situation of the locality, the country and international arena. Since we are coming to the final stage of this workshop on the behalf of the organizer once again I would like to thank the guests and the participants for their contribution in term of time and effort. Their ideas and views will be very useful for the improvement of the Feasibility Report and for future works as well.

Ladies and Gentlemen; generally speaking, during these 3 days all the topics discussed by JICA Study Team (JST) were comprehensive. All of us have received hand out and also seen the display of the presentation on the walls. The presentations made by the JST allows us to understand the reason of the project selection.

The explanation and comments related to the supply of power to the domestic use and also the supply of power abroad were very much constructive and follow closely the policy of GOL. Both targets aim at generating foreign income to the country and improving the living standard of our people and the development of our country as well. Albeit all efforts provided by each, the adverse impacts caused by the project still raise concerns. I, therefore, would like to allocate the responsibility to JST to continue to improve and make amendment to their document, to make it more complete and to suit with the requirement of the people living in the locality but also to the international practice.

I understand that the development of large-scale dam like NNG1 requires intensive study in all aspects. That includes the assessment of the various impacts on the society, the economic, and the environment. The project has afterwards disseminated the result of their study, which includes issues related to domestic and international communities with particular attention to the local communities who are involved directly and indirectly.

I wish to confirm that this project has been proceeded according to the right procedure and it responds to the requirement of the GOL and respects the international practice. It assures the sustainability of the development of a Hydropower project, with guarantee that the people will get the maximum benefit .

Ladies & Gentlemen; finally I want to express my sincere gratitude to the representatives from JICA and the GOJ for their financial and technical support. We should also extend our thanks to the local authorities, the people representing the project area, the representatives of many Lao organizations, the representatives of international organizations and NGO who have contributed

their valuable time to attend this workshop. I would like to express my gratitude to the Bolikhamxai Administration Office for their support and facilitation and, to all organizations who has contributed to the preparation of this workshop until its successful end. Thanks to the organizers and their technical staff for their efforts. Finally, I would like to wish all good health, happiness success in your work and your private life.

On this occasion I would like to officially declare the closure of the 2nd workshop for the Interim Report of Nam Ngiep 1 HPP.

12.1.3 3RD GENERAL WORKSHOP

(1) General

The 3rd General Workshop named "Draft Final Report Workshop" was held to explain the contents of the Draft Final Report at Lao Plaza Hotel in Vientiane on September 18-20, 2002. The programs, the attendance list and discussion proceedings are shown below. The Workshop was carried out by the following manner:

No.	Item	Particular
1.	Schedule of 3 days	1st day to present the study results on resettlement, 2nd day to discuss on technical & financial issues, as well as visitation to Nam Ngum powerhouse, and 3rd day for questionnaires & answers and Bassii Ceremony
2.	Place	The conference room of Lao Plaza Hotel in Vientiane.
3.	Participants	About 130 participants including central and local government officials, local peoples, international agencies, prospective investors and others. A list of parties sent invitations is attached hereto.
4.	Facilitating	Facilitators, Interpreters, LCD-projector, Microphone, VTR, etc. were used.
5.	Discussion	To categorize theme summarizing results by representatives. Prior submission of agenda from participants for smooth facilitation of discussion.
6.	Programming	Minimizing explanation by Team, time to be spent for discussion as long as possible.
7.	Distribution papers	All explanatory papers were prepared in English and Lao, they included copies of slides of computer.
8.	Transportation	Helicopters for villagers in the reservoir area, large-bus for trip between Vientiane - Nam Ngum P/S.
9.	Participants from JICA/Tokyo	(iii) Mr. Hiroshi Kurakata (Director, JICA Tokyo) (iv) Mr. Hayao Adachi (Director, Japan Electric Power Information Center), (v) Mr. Shingo Tatematsu (Program Officer, JICA Tokyo)
10.	Participants from JICA/Laos	(iii) Mr. Hidetaka Nishiwaki (Resident Representative, JICA Laos Office) (iv) Mr. Masatoshi Kaimasu (Project Formulation Advisor, JICA Laos Office)
11.	Embassy of Japan	(i) Mr. Shusaku Hirayama
12.	Electric Power Company in Japan	(i) Tokyo E.P.C, (ii) Kansai E.P.C, (iii) Kyusyu E.P.C., (iv) J-Power (EPDC)
13.	Special Guests	(i) NEPO/Thailand, (ii) EVN/Vietnam, (iii) Then Hinboun P.C, (iv) NTEC

(2) Program

LIST OF PROGRAM

3rd General Workshop for Draft Final Report

Date	Session	No.	Time	hrs	Events	Remarks
1st Day			08:30-09:00	0:30	Reception at Lao Plaza Hotel, Vientiane	-
Sep.18 (Wed)	I Inception	1	09:00-09:10	0:10	Introduction of Chairmen & Participants	GOL/MIH
		2	09:10-09:20	0:10	Opening Address (1): Minister or Vice-minister	GOL/MIH
		3	09:20-09:30	0:10	Opening Address (2): Representative of JICA	JICA
		4	09:30-10:30	1:00	Overview of JICA F/S	Mr.Araki
			10:30-11:00	0:30	Coffee Break	-
		5	11:00-11:40	0:40	Power Policy of Lao PDR	MIH/DOE
		6	11:40-12:20	0:40	Power Policy of Thailand	GOT/NEPO
		7	13:30-14:00	0:30	Power Policy of Vietnam	GOV/EVN
			12:00-13:30	1:30	Lunch at Lao Plaza Hotel	-
Sep.18 (Wed)	II Resettlement	1	14:00-14:40	0:40	EIA & Resettlement Reporting	Mr.Prosser
		2	14:40-15:10	0:30	Detail Report on Resettlement Survey by Local Consulta	STS Consult.
			15:10-15:25	0:15	Coffee Break	-
		3	15:25-15:45	0:20	Case Study on Resettlement Issues of Nam Theun 2	NTPC
		4	15:45-16:05	0:20	Opinion from Local Government	Muan Hom
		5	16:05-16:20	0:15	Opinion from Resettlers	B.Sopyouk
		6	16:20-16:30	0:30	Discussion of Resettlement Issues	-
		7	16:30-18:00	1:30	Break Time	-
			18:00-20:30	2:30	Reception Dinner at Lao Plaza Hotel	-
2nd Day			08:30-09:00	0:30	Reception at Lao Plaza Hotel, Vientiane	-
Sep.19 (Thu)	III Technical	1	09:00-09:45	0:45	Technical Presentation (Project Optimum Design)	Mr.Wada
		2	09:45-10:30	0:45	Technical Presentation (Geology)	Mr.Yamada
			10:30-11:00	0:30	Coffee Break	-
		3	11:00-11:30	0:30	Technical Presentation (Cost Estimate & Constr. Plan)	Mr.Wada
		4	11:30-12:00	0:30	Risk Analysis on Technical Issues	Mr.Wada
			12:00-13:30	1:30	Lunch at Lao Plaza Hotel	-
Sep.19 (Thu)	IV Financing	1	13:30-14:00	0:30	Project Financing & Evaluation	Mr.Mori
		2	14:00-14:30	0:30	Case Study on Financing Issues on Theun Hinboune	THPC
			14:30-15:00	0:30	Coffee Break	-
		3	15:00-15:30	0:30	Project Formation & Risk Analysis	Mr.Mori
		4	15:30-16:15	0:45	Discussion of Financing Issues	-
3rd Day			08:30-09:00	0:30	Reception at Lao Plaza Hotel, Vientiane	-
Sep.20 (Fri)	V Discussion & Ceremony	1	09:00-09:15	0:15	Report on Nam Ngum Dam Tour	S/Team
		2	09:15-10:00	0:45	Discussion I (Resettlement Issues)	S/Team
			10:00-10:30	0:30	Coffee Break	-
		3	10:30-11:15	0:45	Discussion II (Technical Issues)	S/Team
		4	11:15-11:45	0:30	Discussion III (Financial Issues)	S/Team
		5	11:45-11:50	0:05	Closing Address	GOL/MIH
			11:50-12:00	0:10	Break Time	-
		6	12:00-12:30	0:30	Bassi Cerebration	-
			12:30-14:00	1:30	Lunch at Lao Plaza Hotel	-

LIST OF SITE TOUR PROGRAM

Date	Session	No.	Time	hrs	Events	Remarks
2nd Day			08:30-09:00	0:30	Reception at Lao Plaza Hotel, Vientiane	-
Sep.19 (Thu)	VI Tour	1	09:00-10:30	1:30	Trip to Nam Ngum Dam	Bus
		2	10:30-12:00	1:30	Inspection of Nam Ngum Dam & Powerhouse	-
			12:00-13:00	1:00	Lunch at EDL Canteen	-
		3	13:00-13:45	0:45	Inspection of Fishing Villages & Resort	-
		3	13:45-14:15	0:30	Trip to Nam Ngum Resort	Bus
		4	14:15-15:45	1:30	Inspection of Nam Ngum Resort	-
		5	15:45-17:00	1:15	Trip to Vientiane	Bus

(3) Attendance List

ATTENDANCE LIST				3rd General Workshop for Draft Final Report		
No	Name	Position	Organization	18th	19th	20th
I. Chairman						
1	Mr. Nam VIYAKET	Vice Minister	MIH	O	B	-
2	Mr. Soukata VICHIT	Director	STEA	O	B	O
3	Mr. Ly SOUKTAVILAY	Director DOI	MFA	O	-	-
4	Mr. Hiroshi KURAKATA	Director	JICA Tokyo	O	B	O
5	Mr. Hidetaka NISHIWAKI	Representative	JICA Laos Office	O	-	-
II. Central Government						
6	Mr. Sommeboun MANOLOME	Director	MIH	O	B	O
7	Mr. Houmphone BULYAPHOL	Director	DOE	O	B	O
8	Mr. Khamphone Xayasan		EDL	O	B	O
9	Mr. Davong PHONEKEO	Manager	EDL	O	B	O
10	Mr. Phonekeo TONEVICHIT		National Asembly	O	B	O
11	Mr. Sinxay		Lao Nation Front	O	B	O
12	Dr. Symone VICHIT		Department of Geo Mining	O	B	O
13	Ms. Soudsada MANKUA		Ministry of Justice	O	A	O
14	Mr. Kao BOUNPHAKOME		Department of Handicraft	O	B	O
15	Mr. Phiatphet SADAHEING		Ministry of Foreign Affaire	O	-	-
16	Mr. Phakan SISANONE		Prime Minister Office	O	B	O
17	Ms. Santisouk PHIMMACHACK		DOE	O	B	O
18	Mr. Phouvong NUANKAMKOCK		Lao Trade Union	O	B	O
19	Mr. Kamsing BOUNTANG		DOE	O	B	O
20	Mr. Kamhoo TUNALOM		Department of Industry	O	B	O
21	Mr. Vanthong		Nam Ngum Dam	O	A	O
22	Ms. Bounyoo PHOMDOUNGDI		Ministry of Information & Culture	O	B	O
23	Ms. Sengdeuane		DOE	O	B	O
24	Mr. VauhLy		Lao Women Union	O	B	O
25	Dr. Tayphachane		Ministry of Public Health	O	B	O
26	Mr. Seumkham		DOE	O	B	O
27	Mr. Sanhya		DOE	O	B	O
28	Mr. Chansaveang		DOE	O	B	O
29	Mr. Khonephet		DOE	O	A	O
30	Mr. Lithanulok		DOE	O	B	O
31	Mr. Lamphan		DOE	O	B	O
32	Ms. Veingkhram		DOE	O	B	O
33	Ms. Kankeo		DOE	O	B	O
34	Mr. Phonesavanh		DOE	O	B	O
35	Mr. Lamphone		DOE	O	A	O
36	Mr. Somneuk		Department of Irrigation	O	-	-
37	Mr. Khammone		Advisor MIH	O	B	O
38	Mr. Derek		Consultant of STEA	O	B	O
39	Mr. Onemany		STEA	O	-	-
40	Mr. Homepheng		Land Planning	O	B	O
41	Mr. Khamman		DOE	O	B	O
42	Mr. Thavone		STEA	O	B	O
43	Mr. Somneuk		MAF	O	B	O
44	Mr. SingKham		Advisor MIH	O	B	O
III. Local Government						
45	Mr. Somesanit SANGTHONG		Vientaine Province Office	O	B	O
46	Mr. Kamphay		Vientaine Province Agriculture	O	A	O
47	Ms. Saykeo		Vientaine Province Woman	O	A	O
48	Mr. Souvany		Vientaine Province Control	O	A	O
49	Mr. Khamsay		Bolikhamxay Office	O	A	O
50	Ms. Soudta		Bolikhamxay Office	O	A	O
51	Mr. Phuovieng		Bolikhamxay Office	O	A	O

ATTENDANCE LIST

3rd General Workshop for Draft Final Report

No	Name	Position	Organization	18th	19th	20th
52	Mr. Buonxu		Bolikhamxay Office	O	A	O
53	Mr. SingKham		Xaysomeboun	O	A	O
54	Mr. Outhong PHANTHAVONG		Vientaine Province Office	O	A	O
55	Mr. Thouma		Xeingkua	O	B	O
56	Mr. Vongsythong		Bolikhamxay Office	O	A	O
57	Mr. Saykham		Bolikhamxay MIH	O	A	O
58	Mr. Sonechanh		Xaysocbuone	O	A	O
59	Ms. Duongviduan		Xaysoebuone	O	A	O
60	Ms. Khamnong		Bolikhamxay Women	O	A	O
61	Ms. Lamkeo		M.Pakxan office	O	A	O
62	Mr. Son		M.Pakxan office	O	A	O
IV. Villagers						
63	Mr. Vongsamai		M.Hom	O	A	O
64	Ms. Pealoor		M.Hom	O	A	O
65	Mr. Bounma		M.Hom	O	A	O
66	Mr. Biyang		M.Hom	O	A	O
67	Mr. Chongvang		M.Hom	O	A	O
68	Mr. Bealongvang		M.Hom	O	A	O
69	Mr. Phommit		Thavieng	O	A	O
70	Ms. Somesy		Thavieng	O	A	O
71	Mr. Air		Thavieng	O	A	O
72	Mr. Pea		Thavieng	O	A	O
73	Mr. Singphone		Thavieng	O	A	O
74	Mr. Chomphet		Thavieng	O	A	O
75	Mr. Cheingloor		Thavieng	O	A	O
76	Mr. Khamphuo		Thavieng	O	A	O
77	Mr. Bounkeo		Thavieng	O	A	O
78	Mr. Khammao		Thavieng	O	A	O
79	Mr. Chengchong		B.Nazong	O	A	O
80	Mr. Nit		B.Phonsinuan	O	A	O
81	Mr. Vongkeo		B. Phonhom	O	A	O
82	Mr. Bounchoo		B.Nampa	O	A	O
83	Mr. Keoudone		B.Songkone	O	A	O
84	Mr. Phuvong		B.Saneudome	O	A	O
85	Mr. Bounheing		B.Thahau	O	A	O
86	Mr. Thongphet		M.Thatom	O	A	O
87	Ms. Thoun		M.Thatom	O	A	O
88	Mr. Khamman		Thaveing	O	A	O
89	Mr. Ketvong		Thaveing	O	A	O
V. International Organization						
90	Mr. Chavalit PICHALAI	Director	NEPO Thailand	O	-	-
91	Mr. Nguyen VANVY	Deputy Director	EVN.Vietnam	O	-	-
92	Mr. Baarajen	-	ADB	-	B	-
93	Mr. Shingo TATEMATSU	Officer	JICA	O	B	O
94	Mr. Hayao ADACHI	Advisor	JICA	O	B	O
95	Mr. Azuma TSUNODA	Specialist	JICA Expert (DOE)	O	B	O
96	Mr. Matsatoshi KAIMASU	Officer	JICA	O	-	-
97	Mr. Chisaki FUKUSHIMA	Intern	JICA	O	-	-
98	Mr. Shigenori KURODA	T/Leader	JICA Expert (STEP)	O	B	O
99	Mr. Takashi FUKUSHIMA	Director	JETRO Bangkok	O	B	O
100	Mr. Shusaku HIRAYAMA	1st Secretary	Embassy of Japan	O	-	-
VI. NGOs in Lao PDR						
101	Mr. Imran ARSHAD	-	CUSO	O	B	O
102	Mr. Singha Ounniyom	-	LNMCs	O	-	-
103	Mr. Santiphoum Poy	-	CCPO	O	B	O

ATTENDANCE LIST				3rd General Workshop for Draft Final Report			
No	Name	Position	Organization	18th	19th	20th	
104	Dr. Bountheung	Director office	LRC	O	-	-	
105	Mr. Thongthip	-	MRC	O	B	O	
VII. NGOs Overseas in Lao PDR							
	None	-	-	-	-	-	
VIII. Observer							
106	Mr. Tetsuya KAWAMURA	-	Tokyo Electric Power Co.	O	B	O	
107	Mr. Takashi TADA	-	Kansai Electric Power Co.	O	B	O	
108	Mr. Katsuhiko HONGO	-	Kyushu Electric Power Co.	O	B	O	
109	Mr. Masayuki SANO	-	EDPC (J-Power)	O	B	O	
110	Mr. Boonmee Maha.	Advisor	EGCO	O	B	O	
111	Mr. MATSUSHITA	Representative	Marubeni Co.	O	B	O	
112	Mr. TOMIOKA	-	Marubeni Co.	O	B	O	
113	Mr. Tetsu NONAKA	Director	Nippon Koei Co	O	B	O	
114	Mr. K. SHIMAZAKI	Representative	Nippon Koei Co	O	B	O	
115	Ms. Phetsila Somsanith	Secretary	Nippon Koei Co	O	A	O	
IX. Facilitator, Media, Interpreter							
116	Mr. Thongphet Douangnen	-	Facilitator	O	B	O	
117	Mr. Sorladet	-	Interpreter	O	B	O	
118	Mr. Detmahine	-	Interpreter	O	B	O	
119	Ms. Chintana	-	Facilitator	O	-	-	
120	Mr. Daovong	-	Facilitator	O	B	O	
X. Study Team							
121	Mr. Ichiro ARAKI	Team Leader	Nippon Koei Co., Ltd.	O	B	O	
122	Mr. Nobuhiro MORI	PFI Planner	Nippon Koei Co., Ltd.	O	B	O	
123	Mr. Masaki WADA	Hydro Planner	Nippon Koei Co., Ltd.	O	B	O	
124	Mr. Jack PROSSER	Envir. Expert	Nippon Koei Co., Ltd.	O	A	O	
125	Mr. Kiyoshi YAMADA	Geologist	Nippon Koei Co., Ltd.	O	B	O	
126	Mr. Satoshi OTAKI	Coordinator	Nippon Koei Co., Ltd.	O	B	O	
XI. Subcontractor for Study Team							
127	Mr. Sisavath	Specialist	STS Consultant	O	B	O	
128	Mr. Choung	President	STS Consultant	O	-	-	
				Attendant Number	126	113	111

Note: 19th day A: Visit to Nam Ngum Power Station, B: Discussion on Technical/Financial Issues

(4) Proceedings of the 3rd General Workshop

1st Day

Session I: Inception

- Opening ceremony was addressed by H.E. Nam Vignaket, Vice- Minister of Industry and Handicrafts. He firstly expressed thanks to the Government of Japan and JICA for the continuous support of the Study since 1998 starting of Phase I. He further elaborated on the abundance of hydropower potential in the country that would bring in foreign exchange revenues when developed. In order to reach the target, the GOL is promoting and supporting foreign cooperation as well as foreign direct investment in the sector.
- Following the H.E. Vice-Minister speech, Mr. Hidetaka NISHIWAKI, Resident Representative of JICA Laos Office also delivered opening speech. He expressed his appreciation to the GOL for the support of the workshop, then he recalled that the project study was conceived based on fairness, efficiency and sustainability. He also briefed the activities done since the 1st Workshop

in June 2001. He deeply hopes that further understanding of the project would be obtained during this 3rd Workshop on draft final report among the participants.

3. After the opening session, Mr. Araki presented the overview of the study starting from project history from 1960 to the expected project completion schedule by end of 2010. Project location, the way to reach the site and affected villages in project area were also briefed. He further briefed the activities and conclusions of Phase I study to the participants.

Mr. Araki gave summary of the Phase II Study beginning with introduction of team members then about the 6 workshops (3 general and 3 at project site) carried out during the study. Power market survey was made as well in Thailand and Vietnam. Further, he explained about the survey and mappings using latest technology of airborne GPS as well the completion of hydrological observation and analysis. He gave additional information about the Clean Development Mechanism (CDM) and the current circumstance of dam and hydropower such as global warming prevention, CO₂ emission and renewable energy. Competition in hydropower from China was also mentioned. Finally, future project financing scheme of the NamNgiiep-I was proposed and prospective investors in Japan were also listed.

4. Mr. Houmphone BULYAPHOL, General Director of the Department of Electricity, MIH, presented the session on power policy of Lao PDR. He gave overall outlines of the country then presented achievement of the Lao power sector unto 2001. He briefed about GOL policy on foreign investment in power sector, which is so far funded by bilateral or multilateral agencies. Investment incentives of GOL and power sector policy were comprehensively elaborated. Forecast on peak and energy demand until 2020 as well the transmission network, interconnection, rural electrification and generation planning were fully presented to the meeting.
5. Mr. Chavalit, Power Division Director, NEPO, gave presentation on Policy & Future Direction of the power sector in Thailand. He explained about the restructuring of the overall management of the energy sector and stressed that Ministry of Energy will be established soon this year. He briefed about the implementation of the ESI deregulation aims at promoting competition, reducing the national budget burden by introducing IPP and SPP.

Past and future energy demand was outlined in details. Information on reform plan for the short, medium and long term was presented where privatization of major power utilities in Thailand was scheduled before 2004. Independent regulator body will be established assuring the fairness and competitiveness among ESI players.

6. Mr. Nguyen Van Vy, deputy Director of the planning department of EVN gave presentation about the policy and program development of the power sector in Vietnam. He gave overall information on the country profile such as 331,000 km² of superficies, around 80 Million people, average GDP growth of 8% (1995-2001). Total installed capacity is 8,478 MW (in 2001) of which EVN owns 7,878MW and IPP 600MW. Further, he briefed on existing generation, transmission facilities

then explained that the energy demand has increased rapidly reaching 15% in 2001. Power interconnection plan with neighboring countries was elaborate especially with Lao PDR at Central part of Laos –Central part Vietnam as well Southern part of Laos- Central part of Vietnam aiming to import hydropower from Laos in the near future from the Nam Mo HEPP and the Sekaman 3 HEPP. The Nam Ngiep-I HEPP is located on the extension line between the Ban La HEPP in Vietnam and the Nam Mo in Laos.

Session II : Resettlement Issues

7. The session on EIA & Resettlement reporting was made by the team member Mr. Prosser, environmentalist. He mentioned that IEA and EMP were carried out in 1999-2000 and were reviewed and updated based on the new technical results such as 16-hrs operation, FSL.320m and 24-hrs regulating weir operation, access road. Survey were done based on vegetation, terrestrial ecology, wildlife, aquatic ecology and fisheries, water quality, reservoir clearing issues, floating debris management, downstream impacts like water quality, reduced flooding. Many workshops were carried out on resettlement planning together about 10 times in different places also at site. In reservoir area, public consultations were carried out at B.Dong and B.Sopyouk. Comparison about land use at FSL.340m versus FSL.320m was made. Survey on where some reservoir residents want to be resettled was carried out and mostly wanted to move to the upper reservoir area. Three resettlement sites were investigated for 270 families e.g. Thasi-Xiengxiane, Pakbuak and Hatkham with regards to available area, land use, accessibility potential, sustainability rice cultivation and electricity potential. Finally, he outlined the contents of RAP to be further developed and finalized.
8. STS consultant, Mr.Sisawat presented the session on field survey of resettlement potential areas. Survey was made based on findings of the principle of Nam Theun 2 hydropower project. Objectives of survey were to find resettlement areas suitable for the new settlers with regards to forest, soil for plantation, irrigation potential, livestock raising, electricity supply, water supply etc. Map of 1:100,000 scale and aerial photo-map were used. Comparison of survey findings among the 3-resettlement sites was explained in details with photos of each area. The results were concluded that the three areas are suitable for resettlement for the affected people in the reservoir area.
9. Mr.Chris Flint, Resettlement Officer of NTEC (Nam Theun 2 Electric Consortium) presented the session of the case study on resettlement issues of the Nam Theun 2 Project. He briefed the project location at the Nakai plateau and the D/S in Gnommalart and Xebanfai areas. Components of the resettlement issues were described with time frame such as public consultation, census registration, resettlement pilot activities, detailed planning, actual resettlement and follow-up livelihood development. NT2 resettlement policies are complied with World Bank safeguards policies including public participation. Affected people are all below poverty line about 22 villages, 1,030 families or 5,000 persons. All villages choose to move beside reservoir about 0.5-5km far from the original location. Community development is included in the resettlement plan

such as education, health, electricity, water and roads. He further elaborated about institutional arrangements, base line surveys registration, and health program as well internal & external monitoring by panel expert.

10. Opinion from the local government, Mr.Vongsamay LengSingPao, Deputy district head of Meuang Hom District took this opportunity to thank the organizing committee for giving him the chance to express his opinion. He understood well that overall the hydropower projects are needed for the development of the country also as basis for the industrial development. But, he would like to express in context of local community and affected people about the project. M.Hom District is small, remote and poor, but 4 villages will be flooded including paddy fields, which are rice planting resource areas for the district. He can not asset the extent of the impact yet and what kind of compensation the affected people would received. He can not stand against the project but would like to request to GOL or the concerned agencies for (i) fair compensation e.g. equal livelihood or better; (ii) availability of development fund for learning new job or skill in order to reduce/be away from the traditional slash and burn cultivation.

He mentioned about other possible new resettlement area in M.Hom District called Phoukatha at Nam Pong Gnai and NamTuay, which already about 60 families live there, and it not so far away and has suitable soil for crops raising although there is no road. He further mentioned about making 2-3% of the revenue available for the development of the area, since national budget is not enough and late. He recommended that the timber in reservoir area should be clean out before the water filling and should include the local participation, since they can monitor the work best. Final request is that local labor should get job priority during the construction period. He asked other participants to express their opinion too.

11. Representative from Ban NamYouk, Mr. Bi Yang thanked MIH and JICA for inviting to this workshop. He expressed concern about the affected people, which they will loose habitation, have to look for new occupation and they are not sure about the future. If the project is to go ahead, they would agree to move but would like to see the new resettlement area first so they can asset by themselves. Few also would like to stay at the rim of reservoir and become fisher. Other wants to go to Phoukatha area and Phou Sam Liem for planting rice. He requests funds for learning new job and also funds for the infrastructure development such as road, school, health post, clean water. The actual resettlement has to be arranged/organized at least 1 year before project start.
12. Team Leader of the Study Team, Mr.Ichiro Araki responded that the resettlement area should be decided by people themselves. On coming the next Monday on September 23, the Site Workshop at B.Sopyouk will be organized and 5-8 village People can come along to see the indicative resettlement areas. There is discussion of making funds available for rural development and we still have 8 years to prepare a good rural development plan. This project has got good example from NT2 project and will keep the average standard from NT2 for the NamNgiep-1 project.
13. Environmentalist of the Study Team, Mr.Jack Prosser thanked for the comments and advised that