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## MINUTES OF MEETING

*"Reducing Climate Change-induced Risks and Vulnerabilities from  
Glacial Lake Outburst Floods in the Punakha-Wangdi and Chamkhar Valleys"*

### DGM-UNDP/GEF 7<sup>th</sup> Project Board Meeting

**Date:** March 16, 2010

**Location:** Conference Hall, DGM, Ministry of Economic Affairs, Thimphu

In line with 6<sup>th</sup> Project Board meeting held on January 18, 2010, the 7<sup>th</sup> Project Board meeting for the GLOF project was held on January 18, 2010, at the DGM Conference, Thimphu. The meeting was chaired by Dasho Sonam Tshering, Secretary, Ministry of Economic Affairs. Prior to the meeting the DGM project management circulated to the project board members a detailed document entitled: "Issues, Proposals, Recommendations and Budget Requirements: Artificial Lowering of Thorthomi Lake: 2010" attached as annexure 1 with this minutes.

DGM GLOF Project Manager made presentations on various issues, proposals, recommendations and budget requirement for implementation of GLOF risk mitigation work at Thorthomi Lake.

#### Discussions and decisions:

##### i. Issues related to firewood collection:

The proposal is to give the firewood collection to a local supplier based on the budget provision for 50 workers. The proposal is based on the justification that contracting out the firewood supply will benefit the project in terms of time saved in monitoring work for the project staff; as the project site falls under protected area it was found to be extremely difficult to monitor firewood collection from the area designated by the Jigme Dorji National Park representative. Moreover there will be substantial savings in terms of ration and field implements which is estimated to be around Nu.762,000/-. After long deliberation on this issue, the Board based on the justification submitted by the project management approved the proposal. However, the board instructed the management to follow the procedures for contracting out the work in close coordination with Gasa Dzongkhag. The board also decided that firewood supply for the project should be given to locals of Laya and Lunana. In the event if no interested parties come forth for tender bidding process, the project is advised to continue with the same process like in 2009.

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**ii. Issues related to ration**

Based on the experience in 2009, the proposal to increase the amount of salt and sugar by 0.5kg each was submitted for the Board's endorsement as the provision of 0.5kg/person/per month of salt and 1kg/person/month of sugar in 2009 was not sufficient. The board after thorough discussion approved the increase in quantity of the above two items as per submission made by the project management. Further, considering the shortage of vegetable and requirement of high calorie to enhance work productivity for the workers involved in the excavation work, the proposal to provide additional food items of 0.5kg/person/month of dry fish and 1kg/month/person of milk was endorsed and approved by the project. However, the project board instructed the project management to keep in mind the availability of funds. The total budget requirement for the above quantity increase and procurement of additional ration items is estimated to be around Nu.467,000/- inclusive of transportation charges from Damji to Lunana.

Further the proposal to provide ration to workers from the project and issue the items at specific locations in Damji and Laya while travelling to the site has been approved by the Board based on lessons learnt and difficulties faced by the workers during 2009 field season.

**iii. Handling and transportation loss:**

In line with directives by the Board during the 3<sup>rd</sup> Board meeting, the project management presented the proposal for ration handling and transportation loss. The proposal was to consider an average loss of 2% based on records of ration dispatched and received at Damji and Lunana stores. However, members expressed that average percent loss estimation in 2009 may not be applicable for the remaining period of the project. Therefore, the board after granting the in principle approval for average loss of 2% in 2009 decided to continue with the same process of reporting the handling and transportation loss annually to the project board based on actual loss incurred. The project management was asked to include the loss of potatoes in the total % loss calculated for 2009. The project management was also instructed to seek the opinion of the Royal Audit Authority on loss of ration during handling and transportation to avoid audit observations in the future. The board instructed the project to take every measure to minimize loss through proper packing, handling and storage mechanism.

**iv. Issues related to communication system:**

The proposal was to procure one additional satellite phone and a new HF set as there was inadequate communication setup in 2009—especially during emergency medical evacuation through road and also the requirement to update the Head Quarter on project progress on daily basis. The board in principle approved the proposal but instructed the project to look into possibility of making arrangement with Bhutan Telecom to use their old HF set (if any).

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**v. Store keeper at Damji and Thanza, Lunana:**

The project management submitted the issues related to renting of store houses and care taker at Thanza and retaining one among the 6 helpers as store care taker at Damji store during suspension of project activity in Lunana. Based on the submission made by the project management, the board approved the requirement to hire store house and one store caretaker at Thanza at the rate of Nu.3600/- per month inclusive of Nu.600/- per month as store rental charge and Nu.3000/- per month for the care taker till the completion of the project in 2012; the board also approved the requirement of one store caretaker at the rate of Nu.5000/- per month to look after the project transit store at Damji during suspension of project activity in Lunana.

**vi. TA/DA for Store incharge at Damji and wages for store helpers at Laya**


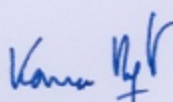
On the issue of TA/DA entitlement for the Store Incharge at Damji at par with the project rate, the board instructed the project management not to bring such issues in board meeting as the issue requires government approval and therefore is not in line with existing rules and regulation. On the proposal to increase wages for Laya store helpers as locals in Laya were not forthcoming to work as store helpers @ Nu.5000/- per month approved by the Ministry of Finance, the board directed the project management to prepare a notesheet and submit it to the Ministry of Finance for necessary approval; in 2009 store helpers for Laya transit stores were recruited from low altitude area. The board approved the proposal for payment of Nu.300/day for store helpers at Laya during journey if recruited from places other than Laya.

**vii. Field gear life fixation**

The proposal submitted by the project to issue jackets, sleeping bags, trekking boots and trekking mattress every alternative year was endorsed and approved by the board. Likewise the proposal to issue items such as gumboots, rucksack, hand gloves, socks, snow goggles, umbrella, long johns, water bottle, torch, etc. every year has been approved by the board. However, the board instructed that short term visitors to the project site may be issued field gears (especially sleeping bags) on returnable basis. For workers, approved field gear items such as gumboot, blanket, working hand gloves, & rain coat should be given every year. In addition approval for inclusion of wet suit and additional 1 pair of gumboot and working hand gloves was approved by the Project Board. The Board instructed the project team to issue the same quality of gears to both the workers and the officials.

**viii. HRD and training**

The proposal on HRD and training through the project fund has been distributed prior to the 6<sup>th</sup> Project Board meeting and also incorporated as annexure in the detailed documents on issues and proposal prepared by DGM and distributed to the board members prior to the meeting. Given the importance of HRD and training for long term sustenance even after completion the project, the board approved the proposal. However, the board advised the project to look into the possibility of enhancing the program through cross-sectoral approach in consultation with other implementing agencies of this project.



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**ix. Workforce recruitment**

Based on the proposal from the project, the board endorsed the idea of giving preference to the villagers, ex-serviceman and those with good track record in 2009 field season.

**x. Religious ceremony at the site**

The proposal is to perform Jhena Chendue at the project site as per recommendation from Zhung Tsepi Lopen who visited the site in 2009. The board endorsed the proposal of utilizing Nu.50,000/- for performing the religious rites and TA/DA to the monk representatives as per approved project rate in 2009.

**xi. Police escort for cash disbursement**

The board based on proposal from the project endorsed the involvement of police escort for payment if it is a requirement in the financial rules.

**xii. Store write-off & Technical committee meeting at Project site**

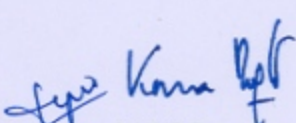
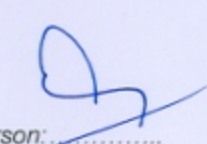
The board instructed the project to follow the already established norms of Ministry of Finance regarding write-off of unserviceable materials.

On the technical committee meeting, the board instructed the project to look into the need to have such meeting at site.

**xiii. Budget re-appropriation**

The following budget re-appropriation has been endorsed and approved by the Project Board.

From		To	
Activity	Budget	Activity	Budget
Contractual Services-Individual (71400)	2,121,000	Materials & goods (72300) Equipment & Furniture (72200)	1,402,500.00
			197,500
	00	Communication & Audio Visual equipment (72400)	368,000
		Supplies (72500)	153,000
Contingency (74700)	520,000	Contractual Services-Companies (71230)	234,500
		Equipment & Furniture (72200)	285,500
<b>Total Nu.</b>	<b>2,641,000</b>		<b>2,641,000</b>

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**xiv. Medical items and insurance**

The board endorsed the submission of the project management to make insurance and medical arrangements similar to arrangements made and approved by the Project Board in 2009 fiscal year.

**xv. Other issues**

- In case of tendering out the firewood supply, if no interested parties come forth, the project is advised to adopt the same system like in 2009.
- The UNDP representative informed the Board that the Mid-Term Review for project, which will be done by UNDP through a consultant, is due in 2010. The Chairperson informed UNDP to arrange an appropriate time when all relevant project officials are available.

In conclusion the Chairperson thanked all the board members for the support and input to the project. The chairperson in particular thanked Gasa Dzongdag for the Dzongkhag's unfailing support in 2009 and requested to continue the same for the remaining period of the project.

**Installation of GLOE Early Warning Component**

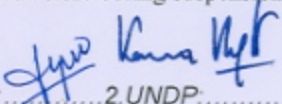
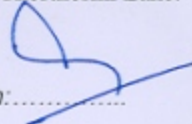
The Project Manager, Department of Energy made a brief presentation on tendering process and outcome for the GLOE Early Warning Component.

- DoE apprised the board that the tendering process was completed and work will be awarded to M/s USD Enterprise (Joint Venture with M/s Sutron Company, USA) for the Contract Price of Nu.48,058,368.00 based on the highest total weighted score (Technical + Financial) as approved by the Ministry of Finance vide letter (MoF/PPPD-10/2009/0465 dated 2<sup>nd</sup> March 2010. Based on the decision of the 5<sup>th</sup> Project Board meeting (16 September 2009), DOE put up matter to the PB for the endorsement to award the work to M/s USD Enterprise (Joint Venture with M/s Sutron Company, USA).
- The meeting discussed and PB endorsed to award the work M/s USD Enterprise (Joint Venture with M/s Sutron Company, USA) for the Contract Price of Nu.48,058,368.00

**Summary of key decisions:**

Following are the key decisions and approval related to GLOE risk mitigation work in Lunana:

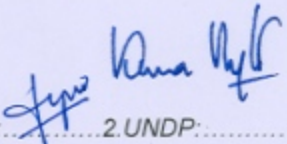

- Fire wood supply for the project to be contracted out as per existing tender process. In the event there is no takers, the same process as in 2009 will be followed for fire wood supply.
- Increase salt and sugar provision by 0.5kg/person/month; increase of dry fish supply by 0.5 kg/person/month and milk powder by 1 kg/person/month from 2010
- 2% handling and transportation loss in 2009 acknowledged by the Board. For the period, the project team to report % loss to the board on annual basis for necessary endorsement. Additionally, the project team should discuss this issue with the Royal Audit Authority.
- Procurement of 1 HF set and one additional Thuraya Satellite Phone. Project team to explore with Bhutan Telecom whether their HF sets could be used.
- Thanza store rental charges and care taker salary of Nu.3600/- per month and Nu.5000/- per month for Damji project transit store during suspension of project activity at Thorthormi Lake.

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- For RGoB representatives: sleeping bag, trekking boot, trekking mattress and jacket to be issued every alternative year; other miscellaneous items to be issued every year. Field gears for workers to be issued every year
- Budget of ~US\$58,000/- for HRD and training related activities approved by the board
- Approved a budget of Nu.50,000/- for purchase of items related to performing religious ceremony at the project site

#### Attachments

1. Issues, Proposals, Recommendations and Budget requirement for Requirements: *Artificial Lowering of Thorthomi Lake: 2010*
2. List of participants
3. Meeting Agenda

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## Issues, Proposals, Recommendations and Budget Requirements

### *Artificial Lowering of Thorthomi Lake: 2010*

## Background

In line with the resolution of 6<sup>th</sup> Project Board Meeting held on January 18, 2010, the project management (DGM) is submitting the following detailed proposals and recommendations with regard with various issues related to implementation of GLOF risk mitigation work at the Thorthormi Lake in 2010.

### 1. Issues related to firewood supply for the project

**Issues:** In line with Environment clearance accorded by the National Environment Commission, firewood for use by the project team (including workers) has to be collected from about ½ day walking distance below the project camp site. In 2009 field season, one worker from each group (group comprising of 8-11 people) was designated to collect firewood. This has posed tremendous challenge in terms of monitoring of firewood collection monitored by the Park representative and moreover there are pertinent cost implications to the project.

**Proposal:** To solve the above issue, the project management is proposing to contract out the firewood collection to a local supplier. Budget allocation for firewood supply is worked out as the daily wages for involving 50 workers every day during the course of excavation work at the lake. Assuming that the working duration at the site in 2010 is 120 days (4 months), the proposed total budget for supply of firewood is worked out as:

$$50 \text{ workers} \times \text{Nu.500/day} \times 120 \text{ days} = \text{Nu.3,000,000/-}$$

By giving the firewood collection to a local supplier, the project can save on the following:

- Less food for 50 workers
  - The project saves approximately Nu.180,000/- (or Nu.3600 per person) based on 2009's expenditure
  - Transportation:

Sl. No.	Items	Ration entitlements	Total ration for 50 workers for 120 days(kgs)
1	Rice	900gm/person/day	5400
2	Sugar	1kg/person/month	200
3	Dal	3kg/person/month	600
4	Salt	0.5kg/person/month	100
5	Dry chilly	0.5kg/person/month	100
6	Dalda	1.2kg/person/month	240
7	Tea leaves	0.25kg/person	50
<b>Total ration in kg</b>			<b>6690</b>

Therefore, total horse/yak load comes to 268 loads (1 load=25 kgs). The cost for transportation of 268 loads from Damji to Lunana comes to Nu. 268 loads x Nu.200 per horse per day \* 9 days= **Nu.482,400/-**

- Less field gear provision for 50 workers
  - The project saves approximately Nu.100,000/- (or Nu.2000 per person) based on 2009's expenditure

Total saving for the project in case of contracting out firewood supply comes to (Nu. 180,000 + Nu.482,400 + Nu.100,000) **Nu. 762,400/-**.

To receive and keep proper record of supply of firewood by the local supplier, a committee shall be formed to work out the details and come out with a Terms of Reference (ToR). The committee shall also appoint an appropriate person who will be responsible for receiving firewood at the camp site and also maintain proper record. The final payment for the supply of firewood may be done by the committee which should include among others: the Project Manager, Project Accountant, Team Leader and Gasa Dzongkhag representative.

## 2. Issues related to ration provision

**Issues:** The following is ration provision for the 2009 GLOF risk mitigation work at Thorthormi Lake which was endorsed by the Project Board during the 3<sup>rd</sup> Board meeting and subsequently approved by the Cabinet during presentation made by DGM on March 25, 2009.

Sl. No.	Items	Ration entitlements
1	Rice	900gm/person/day for 385 people for 110 days
2	Sugar	1kg/person/month
3	Dal	3kg/person/month
4	Salt	0.5kg/person/month
5	Dry chilly	0.5kg/person/month
6	Dalda	1.2kg/person/month
7	Tea leaves	0.25kg/person

However, the project management has been apprised by the site management that provision of 1kg/person/month sugar and 0.5kg/person/month of salt was not sufficient. Therefore, the management is proposing to increase sugar provision to 1.5kg/person/month and salt to 1kg/person/month. This increase in salt and sugar provision will impact the project approximately Nu. 150,000/- inclusive of transportation charges. Also, based on request from the project site, the management is also proposing to include the following additional ration provisions from 2010 field season onwards:

- 0.5kg/person/month of dry fish
- 1kg/person/month of milk powder

The budget requirement for providing the above additional food provision (dry fish and milk powder) will be approximately **Nu.467,000/-** inclusive of transportation charges.

Further, during the 2009 field season workers and RGoB staff were not provided ration from the project during journey to the site. Due to the remoteness of the working site requiring at least 9 days walk from the motor road head at Damji, the workers faced tremendous difficulty having to carry ration for the 9 days journey along with camping gears, utensils and personal belongings.



Therefore, in order to solve this problem, the management is proposing to provide ration during journey to the site at specific locations. Based on the entitlement, rations may be issued Damji and Laya. The ration issued from Damji road head should last till Laya and one issued from Laya should last till the project site at Thanza, Lunana.

The balance ration from 2009 field season stored at rented store in Thanza, Lunana is listed below for the Board members kind information:

Sl.No	Items	Quantity (Kgs)
1	Rice	12275
2	Sugar	385
3	Dal	1312.5
4	Dalda	566
5	Salt	218
6	Tea Leaves	115
7	Dry Chillies	225
8	Potatoes	Nil

The balance ration will be used in the 2010 field work and availability of stock ration at Thanza store will enable the project to start the work on schedule without having to worry about shortage of ration stock at the store in Thanza, Lunana. However, transportation of rations from Damji will be done on time to ensure that ration supply arrives at the site before balance stock at the store is depleted.

### 3. Ration handling and transportation loss

**Issues:** During the 3<sup>rd</sup> Project Board meeting held on June 1, 2009, the project management submitted 2.5% loss for handling and transportation based on RBA's 1.5% transportation and handling loss while transporting in motor vehicle. However, the Board has directed the management to study the actual loss incurred in the first year and resubmit it to the board for further deliberation and necessary approval.

**Proposal:** Based on the record submitted by the store incharge at Thanza, Takshimakang and Damji, the following losses have been recorded and reported to the project management.

Items	Dispatched from Damji Store (kgs)	Received at Thanza Store (kgs)	Shortages (kgs)	Loss (%)
Rice	35200	35002.7	197.3	0.56
Dalda	1950	1869.02	80.98	4.15
Salt	650	639.58	10.42	1.60
Chillies	650	640	10	1.54

Tea Leaves	325	323	2	0.62
Potatoes	4025	3516.2	508.8	12.64
Sugar	1275	1229.3	45.7	3.58
Dal	3875	3864.32	10.68	0.28

Excluding potato from the above list (since it is highly perishable with 12.6% loss), the average handling and transportation come to approximately 2%. The management therefore is proposal to consider an average of about 2% handling and transportation loss (in times of normal conditions) while transporting rations from Damji to Lunana for the entire project life.

#### 4. Issues related to communication system

**Issue:** The project management has been apprised by the site management regarding inadequate communication system between the Head Quarter and the project site. This has hampered flow of communication especially during medical emergency. In 2009 the project shared Department of Energy's HF set and had to communicate in their frequency which made relay of message difficult as the channel is engaged most of the time. Moreover, the project has only one satellite phone and during emergency medical evacuation it was not possible to communicate and inquire about the status of the patient being evacuated on the way. Last year while evacuating a diabetic patient from the site it was not possible to contact the evacuation team both from the project site as well as from the Head Quarter about the status of the patient.

**Proposal:** In view of the above, the project management is proposing to procure the following communication system to address the issue:

- Procure and install 1 HF system with free channel system
  - This will enable contact with the Head Quarter
  - Workers can relay their message through the HF system
- Procure 1 additional satellite phone
  - One sat phone as mobile during medial emergency evacuation
  - The existing phone to be used as back up at the project site

#### Budget requirement

1 HF system: ~Nu. 110,000/-

1 Additional Thuraya Satellite Phone: ~Nu.60,000/-

#### 5. Issues: Store keeper at Damji and Thanza

**Issue:** The project has already constructed a transit store at the motor road head in Damji in 2009. During suspension of field activity in Lunana by end of October 2009, one person from among the 6 store helpers for the Damji store has been retained to look after the transit store. The store keeper is being paid Nu.5000/- per month in line with the approved rate by the Ministry of Finance for store helpers.

Regarding the store rental and store keeper at Thanza, Lunana, it may be noted that the issue of store rental at Thanza has been discussed during the 3<sup>rd</sup> Project Board meeting. During the meeting it the Board has endorsed and approved an amount of Nu.1000/- per month inclusive of rental and care taker charge. The project management made the submission to the Board based on verbal agreement with a local person in Thanza during the engineering and safety plan field work

in 2008. However, in 2009 field season, the project management has been informed from the project site that the concerned person whom we had made verbal agreement in 2008 was not willing to rent and also look after the project goods at Nu.1000/- per month. Immediately after that the project management prepared a note sheet (DGM/15/2009/701, dated October 2, 1009) and submitted to the Ministry of Economic Affairs for necessary approval. The hon'ble Chairperson has instructed DGM to put up the issue in the project board meeting.

**Proposal:** The project management would like to seek Board's approval to retain one store helper as store keeper at Damji upon suspension of project activity and monthly payment of Nu.5000/- per month till the beginning of 2010 field season. The project may also endorse the same requirement for remaining period of the project. As such duration active project implementation, the store keeper will also be the part of 6 store helpers for the Damji project transit store as there will a representative from DGM as store incharge for the Damji transit store.

With regard to store rental and caretaker at Thanza, Lunana, the project management strongly proposes to consider payment of **Nu.3600/-** per month inclusive of Nu.600/- as store rental charge and Nu.3000/- as payment for the store keeper based on the national workforce wage of Nu.100/- per day. Since the project has substantial quantity of project goods including left over ration, working tools, camping gears, equipments, etc., at Thanza, the project had to occupy two rooms at a farm house in Thanza. The owner of the rented house is not only responsible for keeping the project items at his house but responsible for looking after the goods stored at his house. The store keeper at the rented house will return the goods based on a copy of inventory of goods already provided to him. The owner is also responsible for looking after the camping poles and other camping items lying at the project camp site which is located about 10 minutes walking distance from Thanza village. In order to avoid dispute and misunderstanding between the project and care taker/house owner, the site project management has already signed a lease agreement with concerned person which is attached as **Annexure 1**.

## **6. TA/DA for Damji store incharge and wages for Damji and Laya store helpers**

**Issue:** This issue is being submitted by Damji and Laya store incharges. Firstly, the project management has been apprised by the Damji store incharge that the daily allowances (DA) for Damji store incharge is not in line with approved rate for project. Therefore, the store incharge has requested the project management to consider payment of TA/DA for Damji store keeper at the project rate. Secondly, the Laya store incharge has raised the concern that in 2009 it was very difficult to find store helpers from Laya as the local people from Laya were not willing to work at the project approved rate of Nu.5000/- per month for store helpers. As a consequence the store incharge informed the management that workers for the store had to be recruited from Thimphu and other areas. Moreover, in 2009, assuming that locals could be recruited as store helpers for the Laya store, no provision of payment during journey were kept for the store helpers recruited from Thimphu.

**Proposal:** The project management is proposing the following for necessary directives/approval of the project board:

- To raise the TA/DA entitlement for Damji store incharge as per project rate approved by the Ministry of Finance attached as **Annexure 2**

- To raise wage for Damji and Laya store helpers from Nu.5000/- to Nu.7000/- per month per person
- Payment of Nu.300 per day per person during journey for the store helpers similar to the workers for the Thorthormi Lake excavation during journey period

## 7. Field gear life fixation

**Issue:** During the 3<sup>rd</sup> Project Board meeting, the project management submitted to the Board with regard to life fixation for field gears provision provided to the government staff and workers involved in the project. To this the project has instructed the management to come up with a detailed list of items along with life for each and resubmit it to the next Board meeting.

**Proposal:** Based on Board's instruction, the project management has prepared the following lists of field implements provided to the government representatives and mitigation workers along with the proposed life for the items:

### Government Representative Field Gears

- Jacket, sleeping bag and trekking boot/mattress: alternative year (for RGoB representatives)
  - Since the quality of above items issued in 2008 were of inferior quality, the project based on special approval granted by the Ministry of Finance brought branded items through direct purchase. Therefore, it may not be necessary to issue the item every year and moreover, to provide the above items on annual basis will have budgetary implication to the project. In view of this, we are proposing to issue these items every alternative year.
- Gumboot, rucksack, water bottle, snow goggle, umbrella, rain gear, long Johns, socks, hand gloves, etc: Every year (for RGoB representatives)
  - The above items were purchased through open tender and as such those items are of sub-standard quality and normally last for one field season. In this view, the above listed items may be issued every year.

However, full set of field gears besides other project entitlements may to provided the following new members that may join the team in 2010.

1. Assistant engineer
2. Project accountant
3. Monk representatives & police personnel
4. Technical Committee members

### Workers Field Gears

- Gumboot, blanket, working hand gloves, & rain coat: Every year (for workers)
  - Besides issuance of the above items every year to the workers, the project is also proposing to issue wet suit for use by the workers while working in the water
  - Helmet to be issued based on the condition of the existing helmets and required number available at the store in Thanza

Based on project engineer's recommendation to improve productivity of the workers, proposal to issue

- Two pairs of gumboot (L&T contributed Nu.200,000)
- Two pairs of gloves
- Required number of wet suit

**Budget requirement: ~Nu.629,500/-**

Additional pair of gumboot: Nu. 93,000/-

Additional pair of gloves: Nu. 37,000/-

Wet Suit (200 Nos.): Nu. 500,000/-

## **8. HRD and training**

A detailed proposal on the HRD and training of the project staff has already been distributed to the Board members and is again attached as **Annexure 3**.

## **9. Work force recruitment**

**Issue:** Based on the lessons learned from 2009 field season, the project site has informed the management not to recruit school dropouts in 2010 field work as most of the dropouts have been creating lot of problem. Furthermore in order to minimize health related problem to the workers while working at high altitude environment in Lunana, there is need to carry out thorough and comprehensive medical examination including filling up of medical history sheet as discussed during the 6<sup>th</sup> Project Board Meeting.

**Proposal:** The project management is proposing the following for Board's endorsement and approval:

- School dropouts to be avoided
- Preference to be given to people from villages & retired servicemen
- Medical doctor of the team to be included in the selection committee

Recommendation from Project Medical Doctor for 2010 recruitment

- Chest x-ray to rule out lung diseases
- Blood sugar levels (fasting and random) for diabetes
- ECG to rule out heart diseases
- Blood pressure for hypertension
- Kidney function tests and liver function tests to rule out any kidney and liver disorders
- The mental status of the person.

## **10. Religious ceremony at project site**

**Issue:** During 2009 working season, 4 representatives from Monk body (Dratsang Lhentshog) were involved in performing religious rites at the project site and construction and consecration of Rig-sum-Gyempe Chorten (Stupa) in Lunana. Out of 4 representatives from the monk body, 3 monks spent about 20 days at the site and the lama from Laya Monastery stayed for the whole

field work period performing daily religious rites at the project site. The management is pleased to inform the board that in 2009, perhaps due to construction of the stupa and performing of appropriate religious rites, no major accidents happened—especially death cases—which happened during Raptstreng Tso Mitigation in late 1990s.

**Proposal:** The project management based on the above issue is proposing the continuation of performing religious ceremony at the site in 2010 field season. As already discussed with monk representative from central monastic body, we are proposing to perform *Jana Chendue* for the well being of project workers and successful completion of phase III work for the artificial lowering of Thorthormi lake in 2010. Based on the expenditure from last year, the project management is proposing the following budget requirement for the above proposed activities.

- Nu.50,000 for purchase of items for performing Jana Chendue
- TA/DA for monk representatives: This may be paid based on last year's payment of
  - Nu.1250 per day per person during halt
  - Nu.1250 per day per person and porter/pony entitlement as per existing rate

#### **Budget Requirements:**

Purchase of items for performing Jana Chendue: **Nu.50,000/-**

TA/DA for 1 Sr. monk: **Nu. 67,000/-**

(Journey: Nu. 42,000/ + 20 days halt at site Nu.25,000)

TA/DA for 2 Jr. monk: **Nu. 111,000/-**

(Journey: Nu.66,000/-; Halt (25 days): Nu.25,000/-)

One full times Sr. Monk representative: **Nu. 192,000/-**

(Journey: Nu.42,000/-; Halt (120 days): Nu.150,000)

Total estimated cost for performing rites and TA/DA for monk representatives comes to **Nu. 420,000/-** besides providing ration and field gears provisions for the monk body representatives from the project.

## **11. Police escort for taking cash to the site and while labour payment**

**Issue:** Since a huge amount of cash will be required to take to the site for payment to the local workers and also for payment to the firewood supplier (if the present proposal of contracting out the fire wood supply is approved), police escort (requirement in the financial rules and regulation) will be required. Last year in 2009, the project requested Gasa Dzongkhag and deployed 2 police personnel during workers' payment at Damji.

**Proposal:** To involve police escort while taking cash to the project site and during final labour payment at Damji transit store. TA/DA and other entitlements to the police personnel will have to be met from the project as per existing approved rate/entitlement of the project.

## 12. Store write off and visit of technical committee to project site

**Issue:** Upon completion of the Thorthormi Lake GLOF risk mitigation work in 2012, there will be a large quantity of both serviceable and unserviceable project goods lying at the store in Thanza. Since it will be expensive to bring those goods Lunana to Thimphu, the project management is proposing the following to sort out the issue. Further, during the Technical Support and Advisory Team (TSAT) meeting held on January 13, 2010, members expressed the need for the TSAT members to visit the project site once in 2010. For this there will be additional cost on the project in form of trekking and camping gears, per diem and other entitlements in line with approved project rates for the members.

**Proposal:** Identification of serviceable and unserviceable items and write off of those unserviceable goods in consultation with Royal Audit Authority (RAA). The proposed activity may be done in 2011 field season coinciding with the completion of lake lowering work and winding of the project in 2011. The project management is also proposing to have the TSAT members visit the project site in 2010 field season and conduct a TSAT meeting at the site. During the visit TSAT members would have to be provided with TA/DA and other entitlements from the project.

### Budget Requirement:

TSAT (7-8 members) visit to the project site:  
 TA/DA for 7 days halt at the project site: Nu. 70,000/-  
 TA/DA during journey: Nu.336,000/-

## 13. Budget re-appropriation

**Issue:** Due to delay in implementation of 2009 field activity because of heavy rainfall on May 25<sup>th</sup> and 26<sup>th</sup> May 2009, the project a substantial unspent amount of Nu. 2.12 million allocated under contractual services-Individual 71400 (worker payment). Therefore, the project management is proposing re-appropriation of the budgets to the following head.

From		To	
Activity	Budget	Activity	Budget
Contractual Services-Individual (71400)	2,121,000	Materials & goods (72300) Equipment & Furniture (72200)	1,402,500.00
	00	Communication & Audio Visual equipment (72400)	197,500
	00	Supplies (72500)	368,000
Contingency (74700)	520,000	Contractual Services-Companies (71230)	153,000
	00	Equipment & Furniture (72200)	234,500
<b>Total Nu.</b>	<b>2,641,000</b>		<b>2,641,000</b>

## 14. Annual Work Plan for 2010

The following is detailed annual work plan for the artificial lowering of Thorthormi Lake in 2010.

<b>Planned Activities</b>	<b>Amount (US\$)</b>
1. Procurement of field equipments and rations	71,500.00
2. Construction & maintainence of transit stores along the route (Rental charges)	2,000.00
3. Transportation of materials to the site (hiring charges)	120,000.00
4. Hiring of workers (wages, insurance, travel, etc.)	470,000.00
5. Involvement of RGoB multi-disciplinary staff (DSA, Insurance. Etc) & participants in Int/Regional workshop/conference to present mitigation results	95,000.00
6. PB/SAT meetings (\$3000) & Contingency(\$20,000)	23,000.00
7. Training of DGM staff related to GLOF database and project webpage mgt	7,000.00
8. Project Webpage updating and redesign	3,000.00
<b>Total Budget for 2010 (US\$)</b>	<b>791,500.00</b>

The tentative work plan for 2010 artificial lowering of Thorthormi Lake is shown in **Annexure 4**.



## AGREEMENT

This agreement is being signed between the two parties Mr. Pem Gyem of Thanza (herein refer as lessor) and the project management of DGM-UNDPGEF Project (herein referred as lessee) regarding a rental of lessor's place as winter store for the project. Both the parties has agreed to the following terms and conditions and signed the agreement on 14<sup>th</sup> October 2009.

1. The project will pay a lump sum of Nu.3600 per month for the duration of months hired as rental charge to the lessor.
2. The goods stored in the store will be under the responsibility of lessor during the entire duration of storage till the project takes over from the lessor each year.
3. This agreement is valid for the entire period of the project ( 3 years from the date of signing this agreement).

In case of any dispute arising from the above mentioned terms and conditions the following signatures withstands.



Pem Gyem  
Lessor



For DGM-UNDPGEF Project  
Lessee

Witness

KH KH

Witness

Pras San



དངུལ་རྩིས་ལྷན་ཁག་

རྒྱལ་ཡོངས་འཚམ་དངུལ་ལས་ཁུངས་

DEPARTMENT OF NATIONAL BUDGET  
MINISTRY OF FINANCE



DNB/G-II/Gen-Corres/2007-2008/ 033  
July 23 2008

✓ The Director General  
Department of Geology & Mines  
Ministry of Economic Affairs  
Thimphu.

Subject: Revision of Daily Wages/DSA for Lunana

Sir,

Kind reference is hereby invited to your notsheet no. DGM/15/2008/12580 dated May 12<sup>th</sup> 2008 regarding the above cited subject.

In this connection, we are pleased to convey the Ministry of Finance's approval on the revised rates as reflected under column IV.

Sl.#	Type of workers (I)	Existing rate in Nu. (II)	Proposed rate per day in Nu. (III)	Approved rate by Ministry of Finance. (IV)
1	Casual Workers	200.00	500.00	500.00 per day
2	Grade 14 and below	450.00	1,125.00 (increased by 2.5%)	Nu.150 DSA + (300 x 2.5)= Nu.900 per day
3	Grade 9 to 13	600.00	1,500.00 (increased by 2.5%)	Nu.300 DSA +( 300 x 2.5)= Nu.1,050 per day
4	Grade 8 to 4	800.00	2,000.00 (increased by 2.5%)	Nu. 500.00 DSA + (Nu.300 x 2.5)= Nu.1,250 per day
5	Grade 3 and above	1,100.00	2,750.00 (increased by 2.5%)	Nu.800 DSA+ (Nu.300x2.5)=Nu.1,550 per day

Further, we would like to inform that the revised rate is applicable for this project only.

Yours sincerely,

*(Signature)*  
(Lekzang Dorji)  
Offtg. Director

DEPARTMENT OF GEOLOGY & MINES

Dak Received No. 140

Date : 21/7/08

- CC: 1. The Head, Rule Section, the Ministry of Finance, Tashichho Dzong, Thimphu for information.  
2. The Chief Administrative Officer, AFD, MoEA, Thimphu for information

# **Detailed Proposal for HRD and training under the DGM-UNDP/GEF GLOF Project**

## **1. Background**

Under the DGM-UNDP/GEF GLOF Project, the following are three main components:

- Artificial lowering of Thorthormi Lake in Lunana
- Installation of GLOF early warning system along Pho Chhu valley
- Strengthening of disaster management institution and community awareness

As per the Full Size Project (FSP) document on GLOF project, two of the above three components were to be implemented by the Department of Geology and Mines. However, during the GLOF Project Inception Workshop held on June 18-20, 2008, project board members expressed that the early warning system installation to be implemented by the Department of Energy since DOE is the relevant organization to carry out the EWS installation. As such the present manual EWS is also being operated and maintained by DoE. Accordingly, as per the minutes of project inception workshop, the EWS installation component was transferred to DoE.

Earlier when the project was formulated, the FSP consultant somehow overlooked and did not incorporate HRD component in project document even though the GLOF PDF-B project management submitted the following list of HRD components (email correspondence attached) and others to be incorporated in the FSP under the artificial lowering of Thorthormi Lake. This includes:

- Training on spill way/channelizing construction on glacial lakes
- Result dissemination through international seminars/workshop/conference
- Institutional strengthening of DGM
- Procurement of project vehicle

Since HRD component is not reflected in the Project document, the board members during the 3<sup>rd</sup> board meeting held on June 1, 2009 directed the project management to prepare a detailed HRD proposal and distribute to the project members for necessary endorsement and approval.

## **2. Training proposal**

Based on the minutes of the 3<sup>rd</sup> Project Board meeting, the GLOF project management of DGM is proposing the following detailed HRD components under the artificial lowering of Thorthormi Lake.

**a. Group Study Tour on Climate Change Impacts and Adaptation in 2010**

The main goal of the GLOF risk mitigation and climate change adaptation project at the Thorthormi Lake in Lunana is to bring down the Thorthormi Lake level by 5m at the completion of the project in 2012. The artificial lowering of the lake is being carried out by multi-disciplinary team with representatives from RGoB organizations such as the Department of Roads, Jigmi Dorji National Park, Gasa Dzongkhag, Ministry of Health, Royal Bhutan Army, DGM and involving over 300 workers at the site. Most of the representatives from other organizations including the Project engineer have limited exposure in terms of climate change adaptation concept. In fact the current project is first project under the UNFCCC initiative for climate change adaptation programs and also was initiated with the objective to set as an exemplary to other GLOF prone areas like Nepal, Pakistan, India, etc. Therefore, we strongly feel that those personnel's actively involved in the project should have adequate awareness on the impact of climate change and adaptation programs taking place in other parts of the world. In view of this, the project management would like to propose a group study tour to enhance on climate change related programs and technical know-how relevant to the adaptation program. It is envisaged here that such programs would be extremely helpful to contribute to effort of GLOF risk mitigation work at the Thorthormi lake and also to execute similar projects in the future. We propose project representatives undertake a group study tour on climate change adaptation which is can be implemented sometime in February-March 2010.

**b. Conference/Workshop to present results of the project**

The basis for this is to present results and lessons learnt from excavation work at Thorthormi Lake at international/regional conferences/workshops. Through such participation, we strongly feel that technical personnel involved in the work will be greatly benefited through exchange of ideas and various methods of adaptation to the impacts of climate change. The COP16 scheduled to be held in Mexico City by end of November 2010 will be an excellent platform for the project personnel to present ongoing efforts of climate change adaptation work at the Thorthormi Lake in Lunana.

**c. Training of DGM Support Staff**

The Full Size Project on GLOF risk mitigation in Lunana is mainly being implemented by DGM. As such all assistants related to the project is being provided by DGM support staff without having to hire any personnel from outside. Therefore, to enhance their skills we would like to propose in country training for DGM support staff and programme is tentatively scheduled to be implemented in the first or second quarter of 2010.

### 3.0 Proposed Budget

To implement the above three activities, the following estimated budget provision is proposed.

Sl. No.	Details	Proposed Number of people	Estimated Budget (US\$)
1	COP 15 at Mexico City in Nov-Dec 2010 or Group study tour on climate change impact adaptation	5-6	27,000
2	Conference/Workshops	3-4	24,000
3	Training of DGM support staff	2-3	7000
<b>Total estimated Amount (US\$)</b>			<b>58,000</b>

### 4.0 Budget availability

The following shows the budget status and fund availability under artificial lowering of Thorthormi lake under the GLOF full size project.

<b>Total Budget for Thorthormi Lake GLOF Risk Mitigation (in USD)</b>			
GEF Trustee	Austrian Development Cooperation (ADC)	WWF Bhutan	Total Budget (US\$)
2,305,240.00	500,000.00	30,000.00	2,835,240.00

<b>Expenditures (in US\$)</b>				
2008-2009	2009-2010	2010-2011 (estimated)	2011-2012 (Projected)	Total (US\$)
27,383.26	564,477.82	800,000.00	800,000.00	2,191,861.08

**Projected Fund Balance at the completion of project: US\$ 643,378.00**

Based on the above estimate, the project will have adequate budget to implement the proposed HRD component under this proposal amounting to approximately **US\$58,000** as calculated and proposed above.

### 5.0 Conclusion

The HRD component under the GLOF Risk mitigation and climate change adaptation project is proposed in light of the importance of developing HRD capacity development within the Royal Government pertaining to climate change adaptation. This is especially relevant since Bhutan is one of the most vulnerable countries to the impacts of climate change and therefore would require implementation of many such adaptation projects in the foreseeable future.

## WORK PLAN: THORTHORMI LAKE MITIGATION WORK (2010)

Sl. No.	Activities	Mar 2010				Apr 2010				May 2010				Jun 2010				Jul 2010				Aug 2010				Sept 2010				Oct 2010			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	Procurement of project goods & field implements	■	■	■	■	■	■	■	■																								
2	Workforce recruitment announcement						■	■	■																								
3	Medical screening and recruitment of workers									■	■	■	■																				
4	Depute store personnel in Damji and Laya									■																							
5	Trans-shifting of goods to Damji and Laya									■	■	■	■	■	■	■	■																
6	Transport goods from Laya-Lunana													■	■	■	■	■	■	■	■												
7	Mitigation team coordination meeting										■																						
8	Mitigation team and workers proceeds to Lunana											■	■																				
9	Excavation work at the lake commences for 2010 and continues <sup>1</sup>													■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■				
10	Work concludes & mitigation team members & workers return																													■	■	■	■

Note: <sup>1</sup>Daily reporting of work progress and issues to the Head Quarter, Thimphu

## List of Participants

### 7<sup>th</sup> Project Board Meeting

Sl. No.	Name	Designation/Agency	Email
1	Dasho Sonam Tshering (Chairperson)	Secretary, Ministry of Economic Affairs	<a href="mailto:sting@druknet.bt">sting@druknet.bt</a>
2	Bakhodir Burkhanov	Deputy RR, UNDP	<a href="mailto:bakhodir.burkhanov@undp.org">bakhodir.burkhanov@undp.org</a>
3	Yeshi Dorji	Offtg. Director General & Project Director, DGM	<a href="mailto:ydorjidgeo@yahoo.com">ydorjidgeo@yahoo.com</a>
4	Sangey Tenzing	Director General, DoR, MoWHS	<a href="mailto:sangeyt@druknet.bt">sangeyt@druknet.bt</a>
5	Dasho Kinzang N. Tshering	Dzongdag, Punakha Dzongkhag	<a href="mailto:knt@druknet.bt">knt@druknet.bt</a>
6	Dasho Sonam Jigme	Dzongdag, Gasa Dzongkhag	<a href="mailto:sjigme@gmail.com">sjigme@gmail.com</a>
7	Dasho Lhendup Wangda	Dzongdag, Wangdue Dzongkhag	<a href="mailto:lhundupw@hotmail.com">lhundupw@hotmail.com</a>
8	Karma Rapten	Head, Env. Unit, UNDP	<a href="mailto:Karma.rapten@undp.org">Karma.rapten@undp.org</a>
9	Ramesh Chhetri	Austrian Coordination Office	<a href="mailto:thimphu@ada.gov.at">thimphu@ada.gov.at</a>
10	Chencho Tshering	DDM, MoHCA	<a href="mailto:chencho@mohca.gov.bt">chencho@mohca.gov.bt</a>
11	Dowchu Dukpa	Exe Geophysicist & Project Manager, DGM	<a href="mailto:dawchu@gmail.com">dawchu@gmail.com</a>
12	Chado Rinchen	Dy. Chief Survey Engineer, DGM	<a href="mailto:rinch@yahoo.com">rinch@yahoo.com</a>
13	Karma Toeb	Exe Geologist, DGM	<a href="mailto:karmatoeb@gmail.com">karmatoeb@gmail.com</a>
14	Karma Dupchu	Project Manager, DoE	<a href="mailto:kdupchu@druknet.bt">kdupchu@druknet.bt</a>
15	Jambay Zangmo	GNH Commission	<a href="mailto:jzamgmo@gnhc.gov.bt">jzamgmo@gnhc.gov.bt</a>
16	Tshering Penjor	GNH Commission	<a href="mailto:tsheringp@gnhc.gov.bt">tsheringp@gnhc.gov.bt</a>
17	Karma Tenzin	DoR, MoWHS	<a href="mailto:Karma10zin@druknet.bt">Karma10zin@druknet.bt</a>



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Development Cooperation



## AGENDA FOR THE 6<sup>TH</sup> PROJECT BOARD MEETING

*"Reducing Climate Change-Induced Risks and Vulnerabilities from Glacial Lake Outburst Floods in the Punakha-Wangdue and Chamkhar Valleys"*

Venue : Department of Geology and Mines, Conference Hall

Date : March 16, 2010 (Tuesday)

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- |   |             |                                                                                                                                                                          |
|---|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | 10:30-10:40 | Welcome address by Mr Yeshi Dorji, Offtg. Director General, DGM                                                                                                          |
| 2 | 10:40-10:50 | Address by Dasho Sonam Tshering, Secretary, MoEA (Chairperson)                                                                                                           |
| 3 | 10:50-11:20 | Presentation by Dowchu Dukpa, Project Manager, GLOF Project on issues, proposals, recommendations and budget requirement for 2010 artificial lowering of Thorthormi Lake |
| 4 | 11:20-11:30 | GLOF documentary film: Global Environment Facility/Arrowhead films                                                                                                       |
| 5 | 11:30-12:30 | Tea/snacks-Discussions                                                                                                                                                   |
| 6 | 12:30-13:00 | GLOF Project updates (if any) by DoE and DDM                                                                                                                             |
| 7 | 13:00       | Lunch                                                                                                                                                                    |

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