

VOLUME 1 – CHAPTER 8

RISK MANAGEMENT, MONITORING AND EVALUATION (PLATEAU)

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8. RISK MANAGEMENT, MONITORING AND EVALUATION (PLATEAU)

8.1 INTRODUCTION

The overall objective of the Social Development Plan (for the plateau) is to ensure that all relocated plateau families are significantly better off after the project, rather than merely restoring their former living conditions. Within this overall goal, two specific targets have been set:

- Each relocated plateau household is elevated from their present poverty status, by raising their income to at least the national poverty line within 4 years after relocation.
- The average income of all plateau resettlement villages is raised to at least the Lao PDR national average rural income level by the end of the resettlement implementation period.

Similarly, for downstream PAPs on the Xe Bangfai, the objective is to fully compensate for any assets or livelihoods lost or impacted upon, by fair replacement either in kind or in alternative income (imputed and cash), at least equal to the value lost.

As with any complex project, a number of risks will be associated with achieving the above objectives. As far as possible, these have been identified and mitigated against in the resettlement plans. However, uncertainties and additional risks always remain and need to be dealt with as and when they occur. For this reason, a risk management strategy has been developed for the SDP to safeguard against both the risks identified and any future unforeseen occurrences.

During the implementation of the SDP, conflicts, complaints and grievances will undoubtedly arise and will need to be resolved in a fair and transparent manner. Obviously, the most important step in conflict resolution is conflict avoidance, and the consultative and participatory nature of the planning process for the SDP will go a long way to reducing the occurrence of disagreements and conflicting positions. However, in instances where grievances do occur, it is similarly important that they are resolved quickly before positions harden and disagreements escalate. Towards this end and to ensure that all PAPs are compensated for their losses in a fair and transparent manner, grievance and conflict resolution procedures have been developed for use during implementation of the SDP.

Finally, if the intended objectives and targets of the SDP are to be achieved in a demonstrable manner, some means of assessing progress towards these goals and identifying problems on a timely basis will be required. Baselines have been completed and monitoring systems developed to provide SDP managers with timely information on progress towards stated objectives. Monitoring will be of two types:

- (i) Regular, internal monitoring by RMU and the Company to track progress towards objectives.
- (ii) External monitoring at selected intervals by the POE and an independent monitoring team, to verify and evaluate internal monitoring data.

Internal monitoring for plateau resettled households will be participatory in nature and involve resettled families in data collection and analysis. By these means each affected household will have access to relevant monitoring information which will be available to them for livelihood planning and farm management purposes. It is also anticipated, that the participatory nature of monitoring will prove useful to, and lead to significant capacity development in these families. It will also improve the reliability of monitoring data by including information on all relocated households, rather than merely a sub-sample as was used in the socio-economic baseline.

The NT2 Project will have significant impacts (both positive and negative) on a large number of villages, households and individuals. A number of steps have been taken in planning the Project to limit the negative impacts by such means as limiting the size of the reservoir, constructing saddle dams, installing a regulating pond below the power house, providing aeration structures in the downstream channel, etc. These are collectively known as impact mitigation measures. Even with impact mitigation, some negative impacts will still occur and the purpose of the SDP is to ensure that affected communities, families and individuals are fairly compensated for these.

The SDP entails a number of risks, both in terms of the plans made and in their execution. Throughout the planning process careful attention has been paid to considering the uncertainties and risks involved, and every effort has been made to identify potential risks and to deal with these during planning. The purpose of this section is to describe the risks involved in providing compensation and to demonstrate how they have been dealt with so as to ensure fair recompense to all affected people. Implementation of the SDP, as with any complex project, will involve a certain amount of risk and uncertainty. As explained in the following sections, the main parties that will shoulder this risk, and ensure that such risks are not passed on the villagers, is the NTPC. However the other two project partners, the GOL and stakeholder villagers, must also play a role in limiting risk and management of risk, as appropriate.

8.2 RISK MANAGEMENT SPECIFIC TO PLATEAU RESETTLEMENT

8.2.1 Risk Minimization in the Resettlement Area

In the early years of project planning, the ethnic minority villagers on the plateau (and the few non-ethnic minority villagers) were presented with various options (sites) for relocation and resettlement. Most were in lowland areas surrounding the plateau, and one was the plateau itself (see Chapter 19). The villagers chose then plateau for various reasons, including:

- 1: They are indigenous to the Nakai Plateau, and thus it is not only familiar territory, but contains their territorial spirits etc;
- 2: There are no host communities in the plateau Resettlement Area ,
- 3: For many villagers, the plateau resettlements sites are very close to their current villages, thus not only minimizing the actual distance of relocation but, combined with points 1 and 2 above minimizing the physico-social stress involved in the relocation;
- 4: The plateau resettlement area will be close to the new reservoir for fisheries; and
- 5: The plateau resettlement area will be close to - contiguous with - the drawdown zones which may have multiple purposes

Thus, the villagers choice, and the agreement on the part of GOL and NTPC, is a major step towards the minimization of the risks which otherwise may have had an impact on resettlement.

The one and only problem with the villages choice of the southern edge of the reservoir as their resettlement sites is that the soils of the area are poor (see Chapter 21). Soil surveys in the Ban Nong Boua pilot village have confirmed the poor soils in terms of agriculture production. However, the pilot village experience has also shown that soil amelioration by the use of composted organic fertilizer can ensure high yielding, quality crops. Poor soils conditions are also being mitigated by the development of irrigation systems which allows intensification and due attention paid to soil management.

The general locations of the 12 resettlement villages have been established through consultations with the villagers (see Chapter 19). All (will be located in close proximity to the edge of the reservoir, thus enabling pumped irrigation systems using reservoir water. Following the villagers choice of the reservoirs southern edge as the resettlement area , the GoL allocated the whole area between the reservoir shoreline and the plateau escarpment to the resettlers, a total of about 20,000 ha. Up to 1,500 ha of this area will be developed as agricultural fields and urban and village areas. The land resource of the remaining 18,500 ha will, in the first instance provide for the opportunity to engage in both subsistence and commercial forestry on a community basis. Some 5,600 ha of the area has been assessed as currently suitable for commercially viable forestry, while about 7,000 ha of degraded forest can be regenerated for commercial forestry and NTFPs, or further developed for grazing and rainfed agriculture, where appropriate. The remainder is rather steep and will be reserved for sustainable NTFP and wildlife offtake, and very selective logging.

Thus, the extensive resource areas provided for resettlement - large relative to the population - is in itself a major risk minimization element of the SDP.

8.2.2 Risk Minimization Associated with Livelihood Options

Another risk reduction strategy of the SDP is the design of a range of improved livelihood systems for relocated plateau communities. The entire livelihood package for plateau resettled villagers (as described in Chapter 25) is neither prescriptive nor fixed. Resettlers are offered a diverse and flexible basket of livelihood options from which they can select, test and either develop or reject, according to their individual situation or their personal aspirations. Diversity is a common hedge against risk, and the wide range of options offered to resettled families is, in itself, an effective and prudent risk management strategy.

As noted in Section 8.2.1 above, the limitation of having to develop the agricultural component of the livelihoods on sub-optimal soils has been recognized from the outset, and for this reason, the livelihoods model is designed to be not overly dependent on crop agriculture, while at the same time being fully supported with irrigation and soil fertility management systems.

Irrigated agricultural lands will be developed and provided to all families, but it is up to each family to decide what to grow and how to manage and utilize the areas. Some families may chose intensively double season cropping, while others may crop in only the wet season. Some families may chose perennial crops such as fruit trees, tea, or any perennial or semi industrial crops that are demonstrated, over time and thru experience, to be both feasible and economic.

The drawdown zone of the southern edge of the reservoir will also be available to resettlers to utilise in the dry and early wet seasons. Families with more labour will likely seek more livelihoods from fishing activities, from animal raising and from employment in the forestry sector.

In addition, non-farm employment opportunities will be increased by dam construction, plant management and maintenance, tourism development and improved access.

Table 8-1 provides an indicative ranking of the overall level of risk associated with each of the resettlements main components. Table 8-2 present a summary of (a) the potential risks associated with each livelihood element which may constrain the targets being achieved, and (b) the measures inherent in the SDP that will minimize or reduce these risks.

Table 8-1: Indicative Ranking of Actual Risk Levels for Resettled Village Livelihood Options,

| Source of risk | Cropping | Forestry | Fisheries | Livestock | Off-farm work |
|------------------------|------------|------------|------------|-----------|---------------|
| (i) Technical risk | low-medium | low | low-medium | low | low |
| (ii) Economic risk | medium | medium | low | low | low |
| (iii) Resource risks | medium | low | low-medium | medium | n.a. |
| (iv) Tenure risks | low | low* | low* | medium | n.a |
| (v) Social Risks | low-medium | low | low | low | low-medium |
| (vi) Labour risk | low-medium | low | low | low | n.a. |
| (vii) Management risks | medium | low-medium | low-medium | low | low |

* assuming resource tenure arrangements are implemented and effective

Table 8-2: Possible Risks of Plateau Livelihood Options, and how these are minimized by Program design and implementation

| Source of risk | LIVELIHOOD OPTION | | | | |
|--------------------------------|--|---|---|---|---|
| | 1. Irrigated crop production | 2. Village commercial forestry development | 3. Reservoir fisheries | 4. Livestock production systems | 5. Off-farm employment |
| Technical | | | | | |
| <i>Possible Risk</i> | Lack of experience Lack of appropriate varieties Irrigation system difficulties Lack of extension service Lack of cultivation tools | Inadequate mgt. plans Poor quality timber Lack of mgt. Skills Problems with rehabilitation of degraded forest areas | Poor reservoir management Lack of fish mgt. agreements Water quality problems Inappropriate species stocked | Disease outbreaks Lack of breeding stock Lack of forage species | Lack of appropriate skills Traditional skills largely inappropriate Illiteracy |
| <i>Risk Reduction measures</i> | Most resettlers already experienced in crop production Agricultural extension services to be strengthened Use of local vegetable/fruit species, testing of new species | TA to assist development of inventories and Plans. Species/productivity known. Community forestry models exist in Lao PDR. Forest organization to ensure correct management. | Villagers already familiar with fishers and aquatics Reservoir fish yield potential has been assessed as good Fisheries extension services will be strengthened | Breeding stock to be supplied Forage species tested/provided Livestock raising currently practiced by most hhs. Forage potential increased by reservoir drawdown areas. Livestock extension services. | Opportunities identified and will be developed by training. Skill levels required generally low to medium. Villagers elsewhere shown themselves to be adaptable |
| Economic | | | | | |
| <i>Possible risk</i> | Low price for produce Lack of markets for crops High marketing costs | Financial mgt. of timber Payment of tax and royalties High mgt. costs | Lack of markets Fishing operational costs Mkt. price volatility | Lack of markets for small non cattle livestock Lack of capital for livestock purchase | Low wage rates Lack of work opportunities |
| <i>Risk Reduction measures</i> | Rice mostly for subsistence Small surpluses of fruit/veg. to be sold locally Mkt. access improved Camp workers potential mkt. | Operation costs are known and are being verified Tax/royalties already assessed NPVFA will focus on optimal economic activities | Much of catch for home consumption, protein source Large fish mkt. in Lao PDR and Thailand Minimal hh cash inputs | Most livestock kept as cash reserve rather than for mkt. Local markets already exist Animal health services to be provided | Prevailing wage labour rates already quantified Dam operation will provide opportunities for skilled higher paid work (if trained) |
| Natural resources | | | | | |
| <i>Possible risk</i> | Difficulties in paddy land development Infertile soils Soil erosion Small land area | Competition from private companies Illegal logging (theft) Low quality forest resource | Over-fishing Lack of breeding grounds Multiple use water resource | Loss of grazing to reservoir Overgrazing Land use conflicts Conflicts with lowland herds | Family labour resource limited |

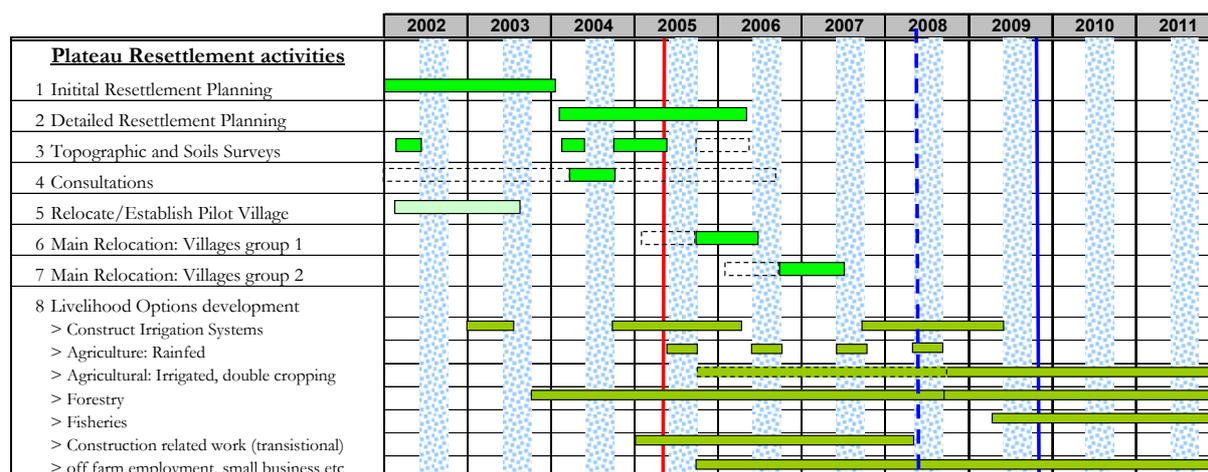
| LIVELIHOOD OPTION | | | | | |
|--------------------------------|--|--|--|--|---|
| Source of risk | 1. Irrigated crop production | 2. Village commercial forestry development | 3. Reservoir fisheries | 4. Livestock production systems | 5. Off-farm employment |
| <i>Risk Reduction measures</i> | Irrigation water provided Soil fertility mgt. systems being developed Organic re-cycling systems to be developed | Extensive forest resources already exist Plantation and enrichment planting opportunities being assessed | Reservoir Mgt. Unit to be established Fisheries monitoring data to be used to modify fisheries resource management plans | Reservoir drawdown area provides additional grazing Extensive grazing areas available for improved forage | Active (seasonal) labour force available in resettled villages NT2 construction/operation will increase opportunities Tourism related opportunities |
| Tenure | | | | | |
| <i>Possible risk</i> | Small land area allocated Variable productivity of plots | GOL policy changes Inter-village disputes Inequitable distribution of forest dividends Conflicts with other land uses | Fishing conflicts Reservoir mgt. conflicts Conflicts with other uses of the reservoir | Grazing land conflicts Livestock theft | Competition from outside labour |
| <i>Risk Reduction measures</i> | Land tenure documents to be issued Village LUP to be conducted | Community forest tenure systems exist under Lao law Forest lands legally allocated by decree | Resettlers given exclusive use of reservoir fisheries NPFA established All hhs have equal access to fisheries resource | Community grazing areas & rights to be decided by LUP Cut & carry systems on hh plots | Resettlers to be given preference for construction work |
| Social Acceptance | | | | | |
| <i>Possible risk</i> | Crop species unacceptable Use of new practices required Traditional community support systems inapplicable (exchange labour, etc.) | Difficulties with inter and intra community cooperation in forestry resource mgt. | Different fishing techniques required Unfamiliar with stocked fish species | Lack of traditional livestock raising skills Lack of marketing skills | HH head cannot leave family Unfamiliar with cash labour economy |
| <i>Risk Reduction measures</i> | Rice is main staple Use of local vegetable/fruit species proposed in SDP Domestication of NTFPs | Hhs already have exposure to forestry activities | Most resettlers already fish Strong preference for fishing during PAP consultations Multi-species fishery resource | Livestock raising currently practiced by most hhs Variety of livestock options available | A certain level of off-farm work already occurs |
| Labour | | | | | |
| <i>Possible risk</i> | High labour requirement Distance to fields Highly seasonal labour use Gender labour roles | Availability of labour for forestry in vulnerable hhs Inequitable access to forest-related wage labour | Availability of hh labour for fishing Distance to fishing sites Gender roles in fishing | Distance to grazing areas Use of child labour for herding | Conflicts with farm work Lack of family labour Off-farm workers introduced to social evils |
| <i>Risk Reduction measures</i> | Vulnerable hhs identified and given special support Farm plots close to village | Special concessions for vulnerable hhs Labour provision optional | Gender roles in fishing are catered for Non-seasonal labour rqts. compatible with other livelihood activities | Livestock provide draft power for cropping activities Community joint herding systems already exist | Off-farm labour opportunities in community forestry programme Younger population likely to be attracted by off-farm labour opportunities |

Phasing in of livelihood implementation

The livelihood options that will be developed for and offered to the resettlers will not all be available all at the same time, as shown in Figure 8-1 below, for the following reasons:

- Crop production will be an available livelihood option at relocation, but will remain at low, rainfed, production levels until irrigation water can be provided after reservoir filling, shortly prior to COD.
- Three villages will have the planned irrigation systems available at the time of relocation, and thus this provides for extensive technical and social testing of irrigation program prior to the construction of the remaining 8 village irrigation systems.
- Forestry activities can start even before financial close, and will provide employment and benefits immediately, based for the first three years of salvage logging on project :Lands.
- Fishery activities will only be initiated following reservoir filling, some years after the actual relocation.
- Livestock activities will be available immediately, and up until dam impoundment will benefit from the entire reservoir area. Thus it will be able to continue largely as before, but with additional SDP assistance for improved forage and animal health services.
- Finally, off-farm employment opportunities will only really begin to materialize at the start of the construction phase.

Figure 8-1: Schedule of Livelihood Activities, Nakai Plateau



Because these different livelihood options will come on-line in stages, any risks associated with each option will thus also manifest itself progressively over times. This phasing in of the options is, in itself, a significant risk reduction strategy, as villagers will thus only have to deal with any livelihood risk one at a time - first the forestry, then the agriculture in two stages, rainfed then irrigated, and later the livestock and fisheries.

The major risks associated with **crop production** are the small size of the plots, poor soils and the general change in farming practices that the new cropping systems will entail for the resettled population. These risks will be largely negated by the provision of irrigation water (when it comes on line) and organic fertilizer to allow for more intensive crop rotations and production systems, thereby increasing productivity per unit land area. Skills in the new practices that these improved systems entail will be supported by the provision of agricultural extension services to the resettled farmers. Initial inputs in the form of seed, planting materials, tools, etc required by the improved cropping systems will also be provided..

Risks associated with **the community forestry** are generally less critical than those for crop production, as there are existing stocks of timber of good quality. Successful models for community forestry programs exist in the Lao PDR and the lessons from these have been incorporated into the SDP. The forestry

resource in the resettlement area will be able to partially compensate for any shortfall in household income from other sources (crops, livestock, fisheries) and can thus be considered as a risk management strategy in its own right.

The major risks with *reservoir fisheries* are anticipated in the early resettlement period. The water resource itself will only materialize after completion of the dam, and some limited problems with water quality due to the decomposition of organic material can be expected in the early years following inundation. Over the longer term, potential risks associated with tenure are anticipated as, apart from fishing, the reservoir will be managed for multiple purposes including power generation, transport, wildlife conservation, irrigation and tourism. To mitigate this risk, a reservoir management authority will be established to manage the multiple use, while ensuring that the interests of resettled communities are fully represented.

Livestock raising is low risks as the plateau is already extensively and successfully used for buffalo raising. The major risk stems from the fact that a significant proportion of the area currently used for grazing will be lost to the reservoir, raising the question as to whether the current livestock population will be able to be maintained. The annual and extensive drawdown area may be able to provide good seasonal forage, while a program to under sew the degraded and more open forest with superior perennial pasture species should both mitigate this risk (see Chapter 21). Risks associated with tenure are important here as grazing land is essentially a common resource, with free access to anyone. Thus, the increased stocking rates caused by loss of land to the reservoir, resettlement and possibly community forestry will be addressed by improved grazing management measures that are fair and equitable to all resettled communities.

Although the increased opportunities for *off-farm employment* that the NT2 project and the improved access will provide over the longer term, they also bring with them additional risks. On the whole, these are social rather than economic risks and include family disintegration, introduction of HIV and other illnesses and the loss of traditional support systems, as communities become more market oriented and increasingly globalized. The younger generations will be particularly prone to these risks, and risk reduction mechanisms will include education and training general in livelihood and vocational skills.

8.2.3 Transition and Income Support

The CA obligates the project to assist the villages to achieve certain income targets. The first target is that each household is elevated from their present poverty status, by raising their income to at least the national poverty line within 4 years after relocation. Insofar as this target is not met, income support is to be provided by the Project. Over the longer-term, the second target requires that the average income of all resettlement villages is raised to at least the Lao PDR national average rural income level by the end of the resettlement implementation period.

However, achievement of such targets will take time, and will be achieved differently by families. Thus, transition support or income support will be provided as measures to reduce the risk of income targets not being achieved through the new livelihood options. Transition support is of two types:

- a. Rice. The Concession Agreement specifies that 440 kg of rice will be made available to each resettling person. This is 25 percent of the average rice consumption, per person, over an eight year period, at an estimated value of US\$ 605 per average-sized household, and at current prices. The Resettlement Committee will set the regulations to allocate and monitor this program.
- b. Rice – for – Work. The resettlers will be paid for working on the construction of their new houses, should they wish to do so. They will also be paid to develop their farm-plot, in anticipation of the irrigation system, and will receive rice in return for the labour provided. This program has already been tested at the demonstration farm and is now being implemented at the Pilot Village.

Income support by way of the forest dividend is expected to be provided at US\$ 100 per household per year. This has been included in the forest income component. The dividend is to be paid to all member households of the NPVA, in recognition of the forest resource having been exclusively assigned by GOL.

to the Plateau community, for their use and stewardship. Livelihood risks are consequently reduced by this measure.

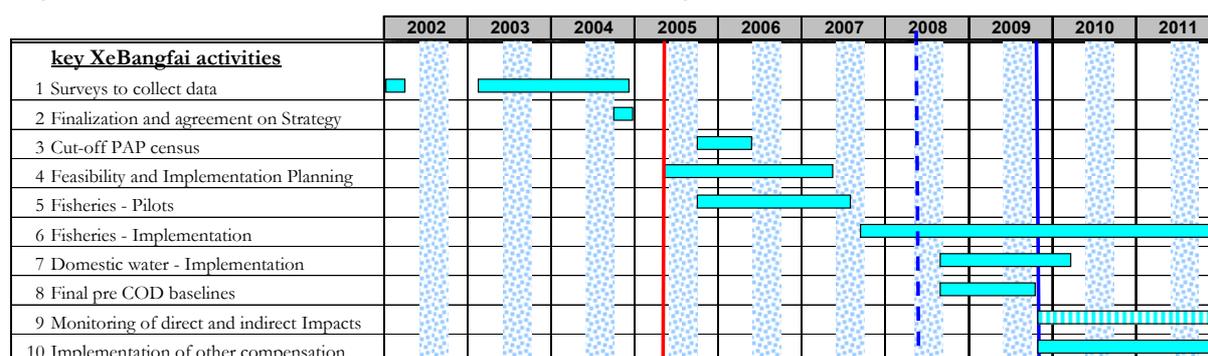
8.3 RISK MANAGEMENT IN THE XE BANGFAI DOWNSTREAM AREA

The impacts of the NT2 Project on the livelihood conditions and assets of people living along the Xe Bangfai will only appear after COD. Mitigating (engineering) measures to reduce these impacts, such as the regulating pond, aeration structures, etc. will significantly reduce impacts. However, some impacts, albeit at reduced levels, will still occur and project affected households will be compensated for these under the SDP (Volume 3). The SDP's objective is to compensate for any assets or livelihoods lost or impacted upon, by fair replacement either in kind or in alternative income (imputed and cash), at least equal to the value lost (see Figure 8-2).

Extensive studies have shown that the NT2 project will impact on people's livelihoods in the downstream Xe Bangfai region in a number of ways. The extent of these impacts has been predicted, and measures developed to fairly compensate all affected people by fair replacement either in kind or in alternative income (imputed and cash), at least equal to the value lost. The impacts and the means of compensation developed under the SDP are as follows:

1. Potential decreases in fish and aquatic product to be compensated for by the provision of aquaculture systems, improved wetland management and other livelihood activities.
2. The loss of riverbank gardens due to inundation of the lower gardens and erosion or slumping of the upper gardens to be compensated for by replacement irrigated gardens above the river level.
3. Erosion of the footings of irrigation pumping stations, and problems with supply during Sunday drawdown and Monday drawup to be compensated for modification to pump installations.
4. The loss of the use of river water for household use due to water quality considerations and flooding of riverside springs to be compensated for by the provision of wells, bores or similar.
5. The potential loss of some riverside assets due to erosion to be compensated for by either by riverbank protection or by relocation of the asset.
6. The loss of inability to cross the river due to increased depth to be compensated for by the provision of boats to villages where river crossing is currently possible in the dry season.

Figure 8-2: Schedule of Livelihood Activities, Xe Bangfai



A variety of potential risks are associated with the provision and use of these compensation measures which could result in the benefits not accruing to affected people as anticipated, are described, along with measures taken to reduce them and an indicative ranking as to their importance, in Table 8-3 and Table 8-4. The variety of aquaculture system options that can be used will reduce the technical risks which might be a serious constraint if only one system was available for all the diverse agro-ecological and socio-economic situations found along the Xe Bangfai. In addition the technical support that will be provided will help villagers make the transition from wild fish capture to aquaculture. Although the riverbank gardens are essentially only being relocated, the different soil types and micro-climate above the river bank could pose some technical risks, but these will be mitigated against by the provision of agricultural

extension services. Although they are now further away from river water, the provision of irrigation will reduce the risk of drought and reduce the amount of labour required.

Table 8-3: Indicative Ranking of Risk Levels Xe Bangfai Livelihood Compensation

| Mitigation of risk | Fisheries | Riverbank gardens | Irrigation systems | Domestic water | Riverside assets | Access |
|----------------------|-----------|-------------------|--------------------|----------------|------------------|------------|
| (i) Technical risk | medium | low | medium | low | low | low |
| (ii) Economic risk | medium | low | negligible | low | medium | negligible |
| (iii) Resource risks | low | medium | negligible | low | medium | negligible |
| (iv) Tenure risks | low | medium | low | medium | low | medium |
| (v) Social Risks | low | low | negligible | medium | high | medium |
| (vi) Labour risk | medium | low | negligible | low | negligible | negligible |

Table 8-4: Possible Risks of the XBF Livelihood Compensation program, and how these are minimized by Program design and implementation

| Main Components of impact related compensation and development | | | | | | |
|--|---|--|--|---|---|--|
| Source of Risk | 1. Aquaculture program | 2. Riverbank garden relocation | 3. Irrigation pumping systems | 4. Alternative domestic water | 5. Relocate or protect riverside assets | 6. Alternative dry season access |
| Technical risk | | | | | | |
| <i>Possible risk</i> | Poor aquaculture skills Inappropriate species Fish disease Flooding | Changed soil conditions Microclimate changes Pests and disease | Problems during drawdown Engineering feasibility | Water quality Water depth Contamination of supply | Technical relocation difficulties Conditions at new site Bank protection not feasible | Bank access to boat docks Strong currents |
| <i>Risk Reduction measures</i> | Provision of technical advice Appropriate choice of fish species Well-proven aquaculture models are available | Provision of technical advice Careful selection of garden sites | Thorough survey and design Use of flexible hoses Modified footings | Alternatives systems available to suit local conditions | Land purchase is an option | Careful selection of boat type and size |
| Economic risk | | | | | | |
| <i>Possible risk</i> | Low market prices for stocked species High cost of inputs Mkt. preference for wild fish | Additional input costs | Additional repair costs Additional running costs | Additional time taken to draw water Cost of repairs | Lack of economic opportunities at new site | Boat repair and maintenance costs |
| <i>Risk Reduction measures</i> | Use of marketable fish species Low input aquaculture systems | Use of marketable varieties Low input systems | Pumping costs lower due to higher water levels | Low maintenance systems used Alternatives available | Economic opportunities will be maintained as far as possible | NA |
| Resource- associated risks | | | | | | |
| <i>Possible risk</i> | Insufficient land for aquaculture Water supply problems Poor water quality | Lack of suitable land Distance to new garden | | Inadequate water tables Siltation of bores | No appropriate site for relocation | Boat ownership issues |
| <i>Risk Reduction measures</i> | Careful selection of sites (non flood-prone) Alternative systems on offer | Appropriate selection of garden sites | NA | Bore wells available for deeper water tables | Owner will have to agree to new proposed site | NA |

| Main Components of impact related compensation and development | | | | | | |
|--|---|---|---|---|---|---|
| Source of Risk | 1. Aquaculture program | 2. Riverbank garden relocation | 3. Irrigation pumping systems | 4. Alternative domestic water | 5. Relocate or protect riverside assets | 6. Alternative dry season access |
| Tenure-associated risks | | | | | | |
| <i>Possible risk</i> | Problems of fish theft No land for ponds | Security of land tenure Theft of produce Water supply conflicts | Care and maintenance of common property resource Theft or vandalism | Water disputes Peak demand period | Lack of land for relocation Land tenure for new site | Responsibility for repair and maintenance Boat security Conflicts with other uses |
| <i>Risk Reduction measures</i> | Ponds close to dwelling | Gardens close to houses | NA | 1 well for approximately 5 families | Land purchase if necessary | Boat to be community asset |
| Risks re. social acceptance | | | | | | |
| <i>Possible risk</i> | Species unacceptable Additional work in aquaculture | Varieties unacceptable Additional pesticides required | | Water taste acceptability Bathing at communal well | Loss of riverside access Quality of life/visual changes in new location Loss of neighbors | Danger for young children Fear of deep water |
| <i>Risk Reduction measures</i> | Appropriate choice of fish species Alternative aquaculture systems available | Appropriate selection of crops grown | NA | Alternative domestic water systems on offer Rainwater storage as an option | Additional asset improvement at new location | River navigation improved by higher water levels |
| Risks associated with labour | | | | | | |
| <i>Possible risk</i> | Timeliness of labour reqts. Gender labour roles Cultural preference for wild fish capture | Additional labour reqts. Changes in gender roles Distance to garden | Additional labour required at drawdown/up | Additional labour to draw and transport water | Increased distance to workplace | Access for young children Additional time to cross |
| <i>Risk Reduction measures</i> | Low maintenance aquaculture systems Ponds close to house | Gardens close to houses | Dry season irrigation potential will be increased by larger water volumes | Rainwater collection an option for wet season | NA | NA |

8.4 INSTITUTIONAL AND SOCIAL CAPACITY RISK MANAGEMENT

The task of organizing for and managing the implementation of the SDP has been the subject of considerable study and discussion during the long and extended planning period. As early as 1997 the RMU was established. It has operated ever since, responding to the needs of project planning. Especially in the areas of carrying out various types of planning and technical surveys, and in holding consultations with all PAPs, the RMU maintains a close working relationships established between the Provincial, District and Village Units, as well as supporting organizations such as the Women's Union. This has resulted in a basic level of readiness, thus reducing the risks inherent in the operation of any new institution. In addition, the GOL has established the Resettlement Committee with broad powers to direct the multitude of activities and to take corrective decision when needed.

The responsibilities of the two parties involved in the resettlement, the Company (RMU) and the GOL (RO) are clearly delineated in the CA, and this is being revised to reflect equal responsibility for implementation and outcomes. Coordination between the parties will be an ongoing feature throughout the implementation period thus further reducing potential risks.

The issue of the capacity of the RMU to carry out their obligations under the SDP has received considerable attention and specific actions have been taken, or planned to enhance it (see Chapters 6 and 7). While implementation risks will always be present, the commitments of GOL and the Company, and the actions they have taken to back up these commitments, speak to the fact that it is now believed that the management risks are understood by both parties, and have been addressed adequately in the CA.

In a major undertaking, such as the relocation and social and economic modification of the livelihoods of many thousands of households both on the plateau and downstream on the Xe Bangfai, a variety of social risks will always be encountered. While the population has been adequately prepared and consulted, there may nonetheless be some individuals or groups not fully ready to embrace the changes involved in resettlement and compensation.

Social risks may ensue from the resettlement of the plateau villages to a new location, with new livelihoods and, in some cases into a new community. However, the risks of social upheaval and the breakdown of traditional community support structures is minimized by the fact that communities are kept intact and the high level of local participation in siting, planning and layout of the new villages, even down to house design and location. Thus, it is expected that social trauma will be a minor problem, if at all.

Nonetheless, the ability of households and villages to respond to these changes will be carefully monitored. The adaptation to new village sites and to new and changed livelihood systems requires time and support which is already in place under the SDP. Monitoring data will be used to allow timely responses to unanticipated risks by the resettlement managers. In addition, the health of plateau people, especially active members of the labour force and vulnerable non-active persons, will be assessed prior to the physical relocation, and regularly during the transition period.

8.5 BUDGETARY MECHANISMS FOR RISK MANAGEMENT

The CA sets out general obligations and targets of NTPC and the GOL for the resettlement process. All of the resettlement, compensation and livelihood programs have been planned and costed, including the provision of funds to GOL staff and to TA (see Chapter 28). CA Schedule 4, Part 1, clauses 7-12 provide a detailed list of obligations and activities which NTPC and/or the GOL are nominated to perform all funded by NTPC.

Notwithstanding the careful planning and budgeting, it is recognised that the complex plans required under the CA and further defined in the SDP, covering a wide geographical area, various populations and a range of activities, mean that a fixed budget might unduly restrict the resettlement process. Whilst NTPC must limit its funding requirements in certain manners, the CA ensures flexibility and contingencies to meet the resettlement objectives. This flexibility and contingency is provided in the following 6 instruments, described in detail in sections 8.5.1 to 8.5.6:

- "Fixed Scope" budget items dependant on scope ;
- Overrun Allowance for "limited by cost" items;
- Social and Environment Remediation Fund;
- Unanticipated Project Impacts contingency;
- Environmental Insurance Proceeds; and
- Review by Panel of Experts.

8.5.1 "Fixed Scope" budget items

Some of the resettlement budget items, such as the resettler housing and infrastructure that will be provided by the Company, have been budgeted on the basis of a "Fixed Scope". That is, these items will be of an agreed design and construction standard, and multiplied by the actual numbers of people (families) requiring the resettlement entitlements (as defined in Schedule 4, Part 1, clause 1.2). In these cases, the risk of any increases in costs to satisfy the agreed scope will be borne by the Company. The cost estimates in the resettlement budget are indicative only. This feature represents a contingency risk which is borne by the Company.

8.5.2 "Limited by Cost" budget items and Overrun Allowance

Other defined items are described as "Limited by Cost". That is to say, for each such item, NTPC and GOL agree that no more than a capped amount shall be spent which for that item Limited by Cost is known as its Schedule 4 Budgeted Limit. NTPC assures the GOL these limits are sufficient (CA Clause 30.7(b) and (c)).

However, if the Company determines that any of these budgets are insufficient to implement the Limited by Cost Social and Environmental Objective, then the Company must agree with the GOL the likely cost and course of action of implementing this measure. Should the Company and the GOL be unable to reach an agreement on the cost or course of action to implement this measure, the GOL may request the Panel of Experts to make a recommendation which the Company will be obliged to implement. The obligation of the Company to fund this additional expense is subject to an overall limit as defined in Clause 30.7(e) to (h) of the CA as the Overrun Allowance which is capped at US\$ 2.5 million (as escalated). This covers all overrun costs in respect of the Limited by Cost Environmental and Social Objectives

On the other hand, where a Limited by Cost activity is completed under budget then the Company is required to use the underrun amount to pay for cost overruns on other Limited by Cost items (CA Clause 30.7(j)).

8.5.3 Social and Environmental Remediation Fund

The SERF fund (see Schedule 4, Part 1, Clause 15.4) will be established just prior to COD, whereby NTPC will make available funding of up to US\$ 300,000 per year (during the Operating Phase of 25 years, totalling US\$ 7.5 million, and subject to price escalation on an agreed formula basis) for activities which the GOL consider are required to ensure effective sustainability of the social and resettlement program. The purpose of the SERF fund is to support the GOL in activities such as

- (a) the operation and maintenance of the community water and irrigation systems;
- (b) the maintenance of other resettlement assets; and
- (c) to deal with any remaining problems which have arisen during the resettlement process.

The fund will be managed and operated by the RMU under the direction of the RC. The SERF fund is regarded as a Limited by Cost item and is subject to the Overrun Allowance mechanism (see Schedule 4, Part 1, Clause 15.4).

8.5.4 Unanticipated Project Impacts

While every effort has been made to identify all possible impacts and to provide corresponding responses in terms of costed measures, it is acknowledged that unanticipated social impacts may occur. The CA contains a provision to respond to such eventuality, through the “Unanticipated Project Impacts” (UPI) provision. Clauses 30.9, 30.10 and 30.11 and Schedule 4 of the CA outline the potential requirements arising from unanticipated social and environmental matters (i.e. environmental and social impacts which were not anticipated at the time of signing the CA and which, if they occur, would have been included in addition to the agreed Environmental and Social Objectives required under the CA). When either the GOL or NTPC becomes aware of such UPI it must notify the other party of such details. The GOL may then request NTPC to provide and implement recommendations to ameliorate these impacts. If NTPC and the GOL are unable to agree, the GOL may request the Panel of Experts to advise the parties and NTPC shall be bound to implement such recommendation within the cap described below. This provision therefore provides reasonable assurance that significant means will be available to deal with such unexpected eventualities comprehensively.

As specified in Clauses 30.11 of the CA, NTPC is responsible for the alleviation and remedy of these Unanticipated Project Impacts up to a maximum of US\$ 10 million subject to CPI indexation from a date six months prior to the date of the CA’s signing.

8.5.5 Environmental Insurance Proceeds

Whilst the Cost Overrun Allowance of USD 2.5 million and the USD 10 million budget for Unanticipated Project Impacts provide considerable contingency, CA provides a further contingency funding for the accidental or unexpected through NTPC’s insurance in respect of resettlement activities. Where NTPC successfully claims under its insurance policies for losses relating to resettlement activities, the Cost Overrun Allowance and the UPI allowance remain untouched (CA Clause 30.1 (d) (ii)).

8.5.6 Review by the Panel of Experts

The Panel of Experts is described in more detail below (Section 8.7.3), however, it is worth noting here their effect on budget restrictions. The Panel is not permitted to propose increases in the Schedule 4 Budgeted Limit or the cost of individual limited-by-cost items (CA, Clause 30.17 (e)). However, it is the Panel of Experts that advises whether NTPC has achieved its general Resettlement Obligations and Provisions (including a best efforts obligation to reach Household Income Targets and Village Income Targets), and if not, may recommend further activities and further time to implement the resettlement measures (CA, Clause 30.17 (a)-(f)). The result of the mechanism means that if the Schedule 4, Budgeted Limit and the overrun of USD 2.5 million has been spent but the Resettlement Objectives or the Resettlement Provisions are not achieved, then NTPC is required to comply with the Panel’s recommendations to provide the funding to achieve those objectives. Therefore, NTPC’s funding obligations for resettlement are not limited until the guiding objectives are satisfied in the view of the Panel of Experts until the end of the Concession Period. NTPC’s obligations on termination of the CA are outlined in Section 8.6 below.

8.5.7 Security

The budget provides flexibility and significant built-in contingencies as described above. In order to put pressure upon NTPC to satisfy those budget requirements, NTPC must put in place two letters of credit at the beginning of the Construction Phase.

1: The Environmental and Social Objectives Letter of Credit provides up to US\$ 7.5 million of on demand security for the GOL. This LoC is triggered, and funds can be drawn by GOL, where GOL has undertaken resettlement obligations (implemented activities) either;

- (i) at NTPC’s request; or
 - (ii) through failure of NTPC to perform its obligation,
- ... but then NTPC has failed to reimburse GOL its costs (CA, Clause 30.8).

2: The Unexpected Project Impact Letter of Credit provides up to US\$ 5 million of on demand security for the GOL. This is triggered where GOL has worked to address the UPI either

- (i) at NTPC's request; or
 - (ii) through failure of NTPC to remedy the UPI,
- ... but then NTPC has field to reimburse GOL its costs (CA, Clause 30.12).

8.6 TERMINATION OBLIGATIONS

If the CA is terminated prior to the GOL Project Completion Date (the date around the completion of construction when most resettlement activities are to have been completed) the GOL must undertake what are known as the Resettlement Termination Obligations up to a value of US\$ 1 million (CA, Clause 30.14 and Schedule 7). Schedule 7 of the CA sets out those obligations divided into categories dependent upon the time of termination and therefore the stage reached within the resettlement process (CA, Schedule 7, Part A). This may involve the villagers (as a village) having the opportunity to move to a new village, or be allowed to return to their previous village. The details of these arrangements are described in Schedule 7 of the CA which is provided in the SDP as Annex A2. In summary, it provides for the affected people not being disadvantaged as a result of the risk of premature termination. NTPC has an obligation to fund these Resettlement Termination Obligations to a maximum of US\$ 1 million, which is also secured by a letter of credit (CA, Clause 30.14).

8.7 CONFLICT RESOLUTION AND GRIEVANCE PROCEDURES

Because of different perceptions, values, objectives and responsibilities among different stakeholders, a range of conflicts may occur among and between affected people, resettled villages, district authorities, the RMU, central government and others. Obviously, the most important step in conflict resolution is conflict avoidance, and the consultative and participatory nature of decision making under the SDP is aimed at reducing the occurrence of disagreements and conflicting positions. In instances where disagreements do occur, it is similarly important that they are resolved quickly before positions harden and the conflict escalates. Different approaches may be required according to the level that any conflict has reached, while at the same time, recognizing that the earlier a potential conflict is recognized and dealt with, the higher the chance of a successful outcome. These phases of conflict development and appropriate interventions can be summarized as follows:

- ❖ Conflict avoidance: > Consultation & participation in planning, decision making
- ❖ Simple disagreements > Informal negotiation, discussion and mediation
- ❖ Early conflict development > Reference to Village Resettlement Committee
- ❖ Conflicting positions taken > Reference to Grievance Committee as District level.
- ❖ Intractable conflict > Refer conflict to Provincial Court.

To ensure that the basic rights and interests of resettlers are protected, that concerns are adequately addressed and that entitlements are delivered, a grievance procedure has been designed for the NT2 Project. An independent Grievance Committee will be established. It will be chaired by a senior provincial official, probably from the Justice Department, with other members the Lao Women's Union, the Ethnic Council, civil society, a resettled villager representative and a member of the Resettlement Committee. Justice departments at district and provincial levels are already responsible for resolving village conflicts and property disputes, while the LWU and Ethnic Council are active in solving problems faced by village women and the elderly.

If an affected person or group of persons is not satisfied with the compensation package or if, for any reason, the compensation does not materialize according to the CA, he or she has the right to make a claim. There are three basic steps to resolve grievances, as depicted in Figure 8-3.

The first step is for a householder or a group of householders to approach the Village Resettlement Committee (VRC) to present their grievance and allow its consideration at the lowest level of the resettlement hierarchy, where frequently issues can be resolved through discussions and adjustments. If the VRC cannot resolve the complaint or if the claimant is not satisfied with their decision, the next step can be taken, either by the claimant or the VRC on his/her behalf.

The second step is to present the grievance or complaint to a Grievance committee to be formed at the District level. This committee will be based in the District court, but will also have representatives from all relevant departments, as they will be in a good position to resolve issues brought to their attention by affected individuals. This Committee must respond to any claim within 15 days.

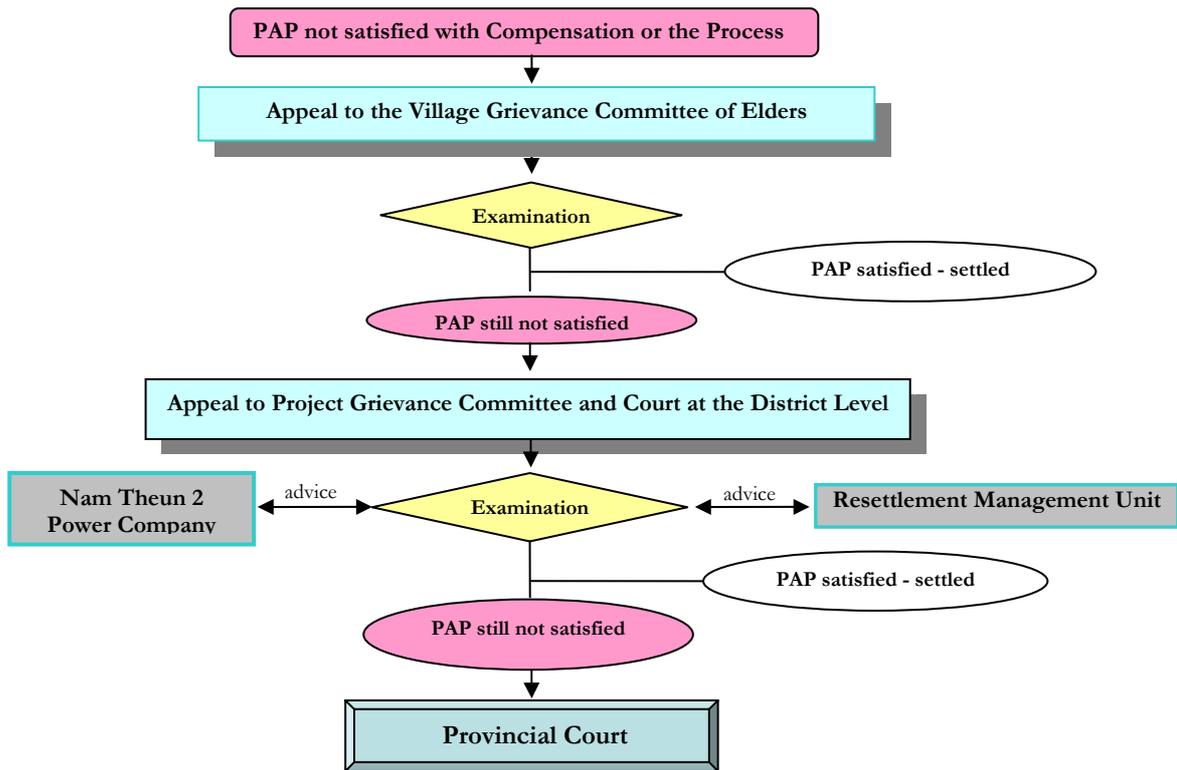
At this district level the NTPC's RO and the GOLs RMU would be primary witnesses in order to both;

- (a) respond to the claimants grievance in terms of prior activities undertaken etc; and
- (b) to ensure that the claim is reviewed within the context of the existing policy, regulations, procedures and entitlement limits, and that the compensation awarded does not go beyond established matter of practice or outside the limits of the budgets.

The findings of the Grievance Committee are binding on the RMU and RO. The Committee must maintain a public book showing all claims received and the decisions made, which must be made within 30 days. The Grievance Committee cannot award compensation that goes beyond what is established as a matter of practice or what would be outside the limits of the budgets within which they are operating. If the above action does not yield any results, then the claimant has the right to present their case to Provincial Court. Access to the Court is obviously a last resort. It will be in the interest of the RO and the RMU to resolve issues before they are brought to the Committee.

A conflict between RO and RMU would in the first instance be resolved at the RC level. If this is not acceptable to either party, then the matter will be reviewed by the Vice Prime Minister responsible for NT2. If still no agreement is reached, the matter shall be handled according to the Consultation and Dispute Procedures set forth in the CA.

Figure 8-3: Steps in the Grievance Process Regarding Issues of Compensation and Resettlement



While every effort will be made to resolve conflicts by mutual agreement of the parties involved, in some cases, arbitration and adjudication on disagreements and conflicts by an external mediator will be required. Responsibility for arbitration and the means of adjudication will vary according to the parties involved, but will need to be referred to a higher level of authority than the parties concerned. The strategy for this is outlined as follows:

| Parties to the conflict | Final decision/adjudication | Key mediator/arbitrer |
|---------------------------------|--|--|
| Within village disputes | Majority decision of village meeting | Village Chief. |
| Disputes between Village | Joint agreement of appointed village representatives | Relevant district authority. |
| Village - RMU/district disputes | Joint agreement of both parties endorsed by province | Grievance Committee |
| RMU-district disputes | Joint agreement of both parties endorsed by province | Grievance Committee and Provincial authorities |

8.8 MONITORING AND EVALUATION FRAMEWORK

The objective of monitoring and evaluation is (i) firstly monitor the progress of program implementation and funds disbursement, (ii) to monitor and measure progress towards stated targets for income and compensation levels, and (iii) to identify problems and constraints so as to be able to make timely readjustments to plans. Different monitoring systems will be required for plateau Resettlement, Project Lands program, and the Downstream resettlement and livelihood rehabilitation program, due to the unique needs of each program.

Monitoring will be of two broad types - internal and external. Internal monitoring will be conducted by the GOL/RMU and the NTPC/RO as a tool to assist in tracking progress and identifying problems during implementation and making necessary adjustments. External monitoring will be conducted by teams of independent monitors, who will use the internal monitoring data and data which they gather themselves to assess whether resettlement objectives have been met, assess resettlement efficiency, effectiveness, impact and sustainability, and whether resettlement entitlements and procedures were appropriate for meeting the objectives, and provide recommendations on necessary changes to the plans.

This chapter will focus on monitoring of the plateau resettlement program. Monitoring of the project lands resettlement program is presented in Volume 4, Chapter 10, while monitoring of resettlement and livelihood rehabilitation for downstream areas is presented in Volume 3, Chapter 9.

8.8.1 Internal Monitoring of the Plateau Resettlement Program

To help ensure that the SDP is being implemented successfully and that the villagers materially improve their livelihood after resettlement, a monitoring program undertaken by the RMU and the RO will be implemented consisting of three, plus and optional fourth, components;

- (i) Day-to day activity-level monitoring: This will focus on the physical progress of resettlement implementation against the schedule in the approved Plan, such as the progress of house construction, irrigation development, farm land preparation, water-supplies, etc. It will also monitor funds disbursement against planned disbursement and adequacy of funds;
- (ii) Livelihood productivity monitoring, on a seasonal basis, whereby crop yields, fish yields timber and NTFP harvest etc and monitored and reported;
- (iii) Process monitoring will be conducted to;
 - (a) ensure that the baseline information of all affected persons has been carried out during detailed village planning, all losses inventoried, and the provision of compensation, resettlement and rehabilitation entitlements has been carried out in accordance with the Resettlement Policy and approved Resettlement Plan;
 - (b) ensure that consultation activities are being implemented, with due regard to gender and ethnic differences;
 - (c) ensure and record the implementation of the grievance mechanism;

In addition, while the IMA is responsible for PAP income and general outcomes monitoring, the Internal Monitoring may, if requested by the IMA and the POE, assist in the socio-economic monitoring, to measure the progress being made towards achieving the income targets prescribed under the SDP. The focus here will be on changes in livelihoods and the standard of living among the relocated people.

Health Monitoring

The health of resettled villagers will also be monitored on a regular basis, commencing with a baseline of all resettling households prior to relocation. Relevant provincial and district authorities will be engaged as partners in these monitoring activities, providing person power and technical assistance to the program. Health monitoring will include environmental health aspects as well as mental health status (see Chapter 5). A summary list of recommended indicators is provided in Annex 8-4. This list will form the basis of all internal and external health monitoring.

Ethnic Group and Gender Specific Monitoring

Monitoring will include the collection of data based on ethnic group and gender-specific indicators. This involves disaggregating information based on the different ethnic groups on the Plateau (Brou, Bo, Sek, Vietic and others) to ensure that smaller and more vulnerable minorities, especially in villages of mixed ethnic identity, are monitored separately in order to assess progress and to identify problems in adjustment and adaptation. All data collection will be gender disaggregated. Gender specific monitoring will involve an ongoing evaluation of gender roles and the division of labour at the level of the household in order to ensure that either men or women are not overburdened by new tasks in relation to previous labour practices, and to monitor the gender-disaggregated impact and appropriateness of the various livelihood activities and approach used and to inform if adjustment is needed.

Summary terms of reference (TOR) or internal monitoring are provided in Annex 8-2. Detailed TOR will be prepared as part of the Project Implementation Plan (PIP) for the Project.

8.8.2 Independent External Monitoring

The Concession Agreement requires an independent assessment of whether the SDP's objective of ensuring that its specific targets for Project Affected Persons has or will be reached and whether actions taken adequately address the mitigation and compensation requirements. These assessments will be made by two independent monitoring and evaluation bodies;

- ❖ An organization or team (IMA) of individuals with extensive experience in socio-economic survey and analysis, rural development and environmental impact assessment, composed of both Lao national and international experts.
- ❖ The Panel of Social and Environmental Experts (POE) who will act independently of both GOL and NTPC and in accordance with relevant World Bank guidelines, assess whether mitigation measures and resettlement procedures adequately protect both the environment and the interests of those affected by the Project.

The Independent Monitoring Agency

The independent external monitoring team (IMA team) will be engaged through a competitive bidding process, which will be open to institutions, NGOs and individuals. Final selection will be made by the RC with recommendations from the RO and the RMU. The IMA will be engaged within one week Financial Close. Once engaged the IMA will report directly to the RC.

This IMA will provide full time Lao staff to be on site, to assist and ensure that the data collected by NTPC and GOL are accurate and balanced. They will be supported by recurrent inputs from regional and international experts.

The main objective of the external monitoring is to provide an independent periodic review and assessment of achievement of resettlement objectives, changes in living standards and livelihoods, restoration or improvement of the economic and social base of the affected people and achievement of SDP targets, the effectiveness, impact and sustainability of entitlements, and the need for further mitigation measures if any.

Summary TOR for the IMA for the plateau resettlement is provided in Annex 8-3. Detailed TOR will be prepared as part of the PIP. The terms of reference specify that the IMA will be responsible for assessing, verifying and reporting on:

- the implementation of the resettlement obligations under the Concession Agreement, and the achievement of SDP objectives, of each party under the Concession Agreement;
- the changes in social and economic conditions of resettled households based on acceptable indicators developed for resettlers for income level, sources of income, food sufficiency, nutrition, basic health and education conditions, and the status of women and other vulnerable groups; and
- the progress of resettlers in reaching household and village income targets, with special attention paid to the poorest of the poor, female-headed households and all other particularly vulnerable groups.

In undertaking these tasks, the IMA will have to both (a) verify monitoring data gathered by the RMU and ROs monitoring teams and (b) collect monitoring data directly. Thus, its activities will include:

- Verify the day-to-day activity-level monitoring data, which focuses on the physical progress of resettlement implementation against the schedule in the approved Plan, such as the progress of house construction, irrigation development, farm land preparation, water-supplies, etc.
- Verify that funds for implementation are provided by the project management in a timely manner and its amounts sufficient for their purposes, and that such funds are used in accordance with the Resettlement Plan;
 - Verify the Livelihood productivity monitoring data if crop yields, fish yields timber and NTFP harvest etc and monitored and reported;
 - Verify, and as required actually undertake data collection, wrt process monitoring, to ensure
 - (a) that the baseline information of all affected persons has been carried out during detailed village planning, and all losses inventoried,
 - (b) the provision of compensation, resettlement and rehabilitation entitlements has been carried out in accordance with the Resettlement Policy and approved Resettlement Plan;
 - (c) that the consultation activities are being implemented;
 - (d) implementation of the grievance mechanism;

In addition, the IMA will be responsible for PAP income and general outcomes monitoring, to measure the progress being made towards achieving the income targets prescribed under the SDP. The focus here will be on changes in livelihoods and the standard of living among the relocated people.

Household Livelihood Monitoring

Socio economic monitoring is intended to monitor project outcomes in all resettled households to ensure that any particularly disadvantaged families are quickly identified and provided with assistance. A participatory monitoring approach has been adopted for at least three reasons:

- Firstly, to make the task of monitoring over 1,000 families a practical option;
- Secondly, to involve all affected households in measuring and analyzing their own progress towards their desired life styles, thereby developing their capacity to make management decisions about their own livelihood activities, farm enterprise-mix, income generation and household expenditure
- Thirdly (but closely related to point 2 above) to provide a vehicle for adult literacy and numeracy.

Household Livelihood Monitoring books are being tested in the Pilot Village, to pilot the process of recording information on a regular basis, with monthly summaries and an annual analysis of the outcomes. Due to the sensitive nature of this monitoring, the program will be implemented by the external monitors, although with possible assistance from District level GOL staff. Training will be given to all households in numeracy and literacy, and monitoring staff will make regular visits to check the entries, assist with problems and ensure the reliability of the information recorded. The type of information to be recorded by the resettlers themselves is summarized in Table 8-5 and detailed in Annex 8-1.

The information collected will be used for the ongoing identification of vulnerable households, and for assessing the level and nature of support measures required. The information will also assist in identifying those activities that have higher than expected potential and those which are failing to meet expectations. These can be compared with the socio-economic situation of each household and thus provide an analysis of the suitability of different enterprises for different types of households.

This participatory monitoring system is already in use and being tested in the Pilot Village and will generate a considerable amount of valuable information, which, if necessary, can be used to modify the livelihood systems of other villages prior to their relocation. Adjustments and modification are being made on an ongoing basis and the participatory monitoring system will be well proven well before the relocation of the majority of plateau villagers.

Table 8-5: Household Livelihood Monitoring Data Books

| Record | Type of information | Frequency |
|-------------------|--|-------------------|
| Demographic | Household numbers, age, sex, occupation and labour status | Annual |
| Asset inventory | House type and condition, household assets, tools and equipment | Annual |
| Subsistence needs | Family rice requirements per day, month and year based on family size | Annual |
| Consumption | Actual | Weekly |
| Livelihood | components | |
| Land use | Land parcels, land area, land type, tenure status, and cropping patterns | Annual |
| Labour use | Labour allocation among livelihood options should be included in order to analyze returns to labour from different enterprises | quarterly |
| Livestock | Numbers, deaths, births, disposal and purchase of cattle, pigs, poultry and fish | Monthly |
| Production | Produce amount, price (received or imputed) and returns from each livelihood component and how the produce is used | as produced |
| Income | Source and amount of all household income | Monthly |
| Expenditure | Expenditure on all household needs including agriculture | Monthly |
| Other | Any other information the household wishes or is asked to record. N.B. for potentially vulnerable households (PVH) | |
| Income | Source and amount of all income from sale or barter | monthly/quarterly |
| Expenses | Category and amount of all household expenditure | monthly/quarterly |
| Savings | Amount and method of household savings | monthly/quarterly |
| Consumption | Type and value of all household consumption | monthly/quarterly |
| Rice supply | Rice supply balance sheet showing production, consumption, sales, purchase, borrowed and amount remaining | monthly/quarterly |

Panel of Social and Environmental Experts

A three member Panel of Social and Environmental Experts (POE) has been appointed by the GOL (CA Schedule 39) with the approval and guidance of the World Bank. The Panel of Experts comprises 3 members, each of international standing in their respective fields of: (i) environmental science, (ii) tropical forest and biodiversity conservation, and (iii) the social sciences. It is mandated to provide GOL an independent assessment and review of the environmental and social issues associated with the NT2 Project, as provided for in the Concession Agreement, Clauses 30.15 to 30.27

Any vacancy in the membership of the Panel of Experts may be filled by the GOL provided that the criteria above are satisfied and subject to NTPC having the right of veto to one out of any three qualified candidates put forward by GOL. The GOL may terminate the appointment of any member at any time.

The independence of the Panel of Experts is ensured by a number of guarantees:

- the explicit requirement in the Concession Agreement that the Panel of Experts must act independently of the GOL and NTPC and in a manner which, in the Panel's own opinion, in accordance with the World Bank Guidelines, best protects both the environment and the interests of those affected by the NT2 Project;
- NTPC's guaranteed funding commitment for the Panel of Experts up to an annual ceiling while the Panel of Experts is kept as a standing body;
- the requirement that the Panel of Experts be a standing body until the third anniversary of the Commercial Operations Date and thereafter, at the discretion of the GOL, be a standing body until the sixth anniversary of the Commercial Operations Date and, in any event, for the remainder of the Concession Period, be an ad hoc body which may be reconstituted from time to time at the direction of the GOL;
- the provisions that the qualifications, experience and independence of the individual members of the Panel of Experts cannot be challenged by NTPC;

- the provisions that the individual members of the Panel of Experts cannot be sued by NTPC in respect of any comment or recommendation made by them, whether made in accordance with the provisions of the Concession Agreement or not, even if made negligently and even if NTPC or another person suffers loss as a result of NTPC complying with that comment or recommendation;
- limiting the rights of NTPC to appeal a comment or recommendation of the Panel of Experts, requiring that there be three experts to hear the appeal and providing that all three experts may only find against a comment or recommendation of the Panel of Experts if they find a breach by the Panel of Experts of the requirements
- subject to compliance with requirements outlined in the CA, an ability to amend or overturn its previous comments or recommendations except in respect of matters referred to them.

The costs of the Panel of Experts, which the GOL is required to maintain as a standing body until the 3rd anniversary of the Commercial Operations Date and which it may, at its election, maintain thereafter as a standing body until the 6th anniversary of COD, are to be met by NTPC up to certain specified amounts until that date.

The Panel of Experts has a broader, more general remit than the IMA, and are required to provide an independent review of, and guidance on, the treatment of environmental and social issues associated with the NT2 Project as a whole. In fulfilling this duty the POE will make regular missions to the Project and report on:

- whether, in their opinion the parties have complied with their respective environmental and social objectives; and the World Bank Guidelines have been complied with in the amelioration or remediation of Unanticipated Project Impacts
- recommendations for remedial action in the case of considered non-compliance; and
- other comments or recommendations as they may deem appropriate.

Comments and recommendations of the POE as outlined in the Concession Agreement shall be binding on the NTPC. NTPC shall promptly implement or otherwise give effect to those comments and recommendations if the GOL has given notice to NTPC requiring that it implement recommendations made by the POE, as long as those comments and recommendations have been made:

- in respect of matters which are subject to the POE comments and recommendations
- in respect of a matter for which NTPC is responsible under the CA
- in accordance with the standards outlined in the CA to which the POE must follow
- in the form of a written report issued in accordance with the procedures for reporting outlined in the CA

The NTPC may dispute the recommendations made by the POE only in the specific circumstances, as outlined in Concession Agreement.

***** * * * *****

Annex 8-1: Socio-Economic Monitoring Family Book - Being Tested in Pilot Village.

1 Introduction:

1. This Book is to be used by plateau resettlement families
2. Every thing that written or entered into this book should must true.
3. Do not use this book in another way, or tear or damage it.

2 Calculation of rice requirement:

1. Rice requirement calculation for a family must be referenced to income and expenses, compared to annual requirement
2. Income and expense must be write down in income and expense table, every month.
3. Rates for rice requirement calculation are based on World Food Program's standard; 500 g/person/day -uncooked sticky rice
Thus is an average of requirement for > 15 years old: 600 g per day , and for < 15 years old: 400 g per day

2.1 Standard for Rice requirement calculation is follow to people in families

Example:

- > No. people in family

| |
|---|
| 5 |
|---|
- > No. 1-14 years

| |
|---|
| 2 |
|---|
- > No. greater than 15 years

| |
|---|
| 3 |
|---|

| age | no | Rate | Rice requirement calculation | | |
|-------------|----|--------|------------------------------|-----------|------------|
| | | kg/day | kg/day | kg/month | kg/year |
| 2 -14 years | 2 | 0.4 | 0.8 | 24 | 288 |
| > 15 years | 3 | 0.6 | 1.8 | 54 | 648 |
| Total | 5 | | 2.6 | 78 | 936 |

Your family :

- > No. people in family

| |
|--|
| |
|--|
- > No. 1-14 years

| |
|--|
| |
|--|
- > No. greater than 15 years

| |
|--|
| |
|--|

| age | no | Rate | Rice requirement calculation | | |
|-------------|----|--------|------------------------------|----------|---------|
| | | kg/day | kg/day | kg/month | kg/year |
| 2 -14 years | | | | | |
| > 15 years | | | | | |
| Total | | | | | |

3 Information on family members

- 1: Name of head of family Mr / Mrs. _____,

| |
|--|
| |
|--|

 Age/years, Occupation

| |
|--|
| |
|--|
- 2: Name of wife / husband _____ (_____),

| |
|--|
| |
|--|

 Age/years, Occupation

| |
|--|
| |
|--|

3: Sum of people in family _____ people, Death _____ people, Leaved from family _____ people(last year)

Sum of people in family currently present in family: _____ people - listed below

1. Mr/Ms _____,

| |
|--|
| |
|--|

 Age/years, Occupation

| |
|--|
| |
|--|
2. Mr/Ms _____,

| |
|--|
| |
|--|

 Age/years, Occupation

| |
|--|
| |
|--|
3. Mr/Ms _____,

| |
|--|
| |
|--|

 Age/years, Occupation

| |
|--|
| |
|--|

Etc...

* Main labour _____ people, female _____ people; second labour _____ people, female _____ people

4 Inventories of the family

4.1 Houses: total no.

| | | | | | | |
|----------------|----------------------|------------|----------------------|------------|----------------------|----|
| roof type | <input type="text"/> | floor type | <input type="text"/> | floor area | <input type="text"/> | m2 |
| house supports | <input type="text"/> | wall type | <input type="text"/> | age | <input type="text"/> | |

4.2 Equipment for use in house

| | | | | | | | | |
|-------------|----------------------|-------|-------------|----------------------|-------|------------|----------------------|-------|
| Televisions | <input type="text"/> | units | Radio | <input type="text"/> | units | tape decks | <input type="text"/> | units |
| Rice mill | <input type="text"/> | units | Bicycles | <input type="text"/> | units | Motorbike | <input type="text"/> | units |
| Car | <input type="text"/> | units | Engine Boat | <input type="text"/> | units | Boat | <input type="text"/> | units |

4.3 Equipment for Production

| | | | | | | | | |
|------------------|----------------------|-------|------------------|----------------------|------|----------------------|-----------------------|------|
| Tractor | <input type="text"/> | units | Own buffalo | <input type="text"/> | head | <input type="text"/> | (if borrow, from who) | |
| Cart | <input type="text"/> | units | Borrowed buffalo | <input type="text"/> | head | | | |
| Total of buffalo | <input type="text"/> | head | Buffalo can plow | <input type="text"/> | head | Total of cows | <input type="text"/> | head |

4.4 Paddy field area

| | | | | | | | | | |
|----------------|----------------------|-----|----------------------|----------------------|----|------|----------------------|--------|----------------------|
| Paddy field | <input type="text"/> | ha | Location | <input type="text"/> | | | | | |
| Existing Paddy | | | wet season | dry season | | | | | |
| Area 1 | <input type="text"/> | ha, | <input type="text"/> | <input type="text"/> | ha | rent | <input type="text"/> | borrow | <input type="text"/> |
| Area 2 | <input type="text"/> | ha, | <input type="text"/> | <input type="text"/> | ha | rent | <input type="text"/> | borrow | <input type="text"/> |
| New Paddy | | | wet season | dry season | | | | | |
| Area 1 | <input type="text"/> | ha, | <input type="text"/> | <input type="text"/> | ha | | | | |
| Area 2 | <input type="text"/> | ha, | <input type="text"/> | <input type="text"/> | ha | | | | |

4.5 Field area (crops and vegetables)

| | | | | | |
|------------|----------------------|-----|----------------------|----------------------|----|
| total area | <input type="text"/> | ha | Location | <input type="text"/> | |
| Area 1 | <input type="text"/> | ha, | wet season | dry season | |
| Area 2 | <input type="text"/> | ha, | <input type="text"/> | <input type="text"/> | ha |

4.6 garden area(Perrenial Crop)

| | | | | | |
|------------|----------------------|-----|----------------------|----------------------|----|
| total area | <input type="text"/> | ha | Location | <input type="text"/> | |
| Area 1 | <input type="text"/> | ha, | wet season | dry season | |
| Area 2 | <input type="text"/> | ha, | <input type="text"/> | <input type="text"/> | ha |

4.7 Fish pond: number Area ha Location

5 Summary of each months Crop production and sales

| No | Kind of Crop/Vegetable | Area Planted | Production | | kept for seed | Use in family | Sell Kg | Value Kip |
|----------------|------------------------|--------------|------------|-------|---------------|---------------|------------|--------------|
| | | ha | Kg | other | Kg | Kg | | |
| Month 1 | | | | | | | | |
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| etc | | | | | | | | |
| Total | | | | | | | | |
| Month 2 | | | | | | | | |
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| etc | | | | | | | | |
| Total | | | | | | | | |
| Month 3 | | | | | | | | |
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| etc | | | | | | | | |
| Total | | | | | | | | |
| Month 4 | | | | | | | | |
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| etc | | | | | | | | |
| Total | | | | | | | | |
| Month 5 | | | | | | | | |
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| Total | | | | | | | | |
| Month 6 | | | | | | | | |
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| etc | | | | | | | | |
| Total | | | | | | | | |

To month 12

| 7 Income from Sales or Barter | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|----------------------------|---------|-------|----------------------------|---------|-------|----------------------------|---------|-------|----------------------------|---------|-------|----------------------------|---------|-------|----------------------------|---------|-------|--|
| Type | Month 1/200_ | | | Month 2/200_ | | | Month 3/200_ | | | Month 4/200_ | | | Month 5/200_ | | | To month 12/200_ | | | |
| | Sold | cost | total | |
| | Kg | Kg/ kip | Kip | |
| 1. Vegetable Produce | | | | | | | | | | | | | | | | | | | |
| > | | | | | | | | | | | | | | | | | | | |
| > | | | | | | | | | | | | | | | | | | | |
| | Total | | | Total | | | Total | | | Total | | | Total | | | Total | | | |
| 2. Animal Raising | | | | | | | | | | | | | | | | | | | |
| > | | | | | | | | | | | | | | | | | | | |
| > | | | | | | | | | | | | | | | | | | | |
| | Total | | | Total | | | Total | | | Total | | | Total | | | Total | | | |
| 3. NTFP | | | | | | | | | | | | | | | | | | | |
| > | | | | | | | | | | | | | | | | | | | |
| > | | | | | | | | | | | | | | | | | | | |
| | Total | | | Total | | | Total | | | Total | | | Total | | | Total | | | |
| 4. Fisheries | | | | | | | | | | | | | | | | | | | |
| > | | | | | | | | | | | | | | | | | | | |
| > | | | | | | | | | | | | | | | | | | | |
| | Total | | | Total | | | Total | | | Total | | | Total | | | Total | | | |
| 5. Trade | | | | | | | | | | | | | | | | | | | |
| > | | | | | | | | | | | | | | | | | | | |
| > | | | | | | | | | | | | | | | | | | | |
| | Total | | | Total | | | Total | | | Total | | | Total | | | Total | | | |
| 6. Work undertaken | | | | | | | | | | | | | | | | | | | |
| > | | | | | | | | | | | | | | | | | | | |
| > | | | | | | | | | | | | | | | | | | | |
| | Total | | | Total | | | Total | | | Total | | | Total | | | Total | | | |
| 7. Other | | | | | | | | | | | | | | | | | | | |
| > | | | | | | | | | | | | | | | | | | | |
| > | | | | | | | | | | | | | | | | | | | |
| | Total | | | Total | | | Total | | | Total | | | Total | | | Total | | | |
| | Total <input type="text"/> | | | Total <input type="text"/> | | | Total <input type="text"/> | | | Total <input type="text"/> | | | Total <input type="text"/> | | | Total <input type="text"/> | | | |

| 8 Expense's (Out going) _ | | | | | | | | | | | | | | | | | | |
|-----------------------------|--------------|---------|-------|--------------|--------|-------|--------------|--------|-------|--------------|--------|-------|--------------|--------|-------|------------------|--------|-------|
| Type | Month 1/200_ | | | Month 2/200_ | | | Month 3/200_ | | | Month 4/200_ | | | Month 5/200_ | | | To month 12/200_ | | |
| | sum | cost | total | sum | cost | total | sum | cost | total | sum | cost | total | sum | cost | total | sum | cost | total |
| | Kg | Kg/ kip | Kip | Kg | Kg/kip | Kip | Kg | Kg/kip | Kip |
| 1. Day to day use | | | | | | | | | | | | | | | | | | |
| >> Utensil | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| >> Food | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| Total | | | | | | | | | | | | | | | | | | |
| 2. Agriculture | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| Total | | | | | | | | | | | | | | | | | | |
| 3. Education | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| Total | | | | | | | | | | | | | | | | | | |
| 4. Health | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| Total | | | | | | | | | | | | | | | | | | |
| 5. Donation | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| Total | | | | | | | | | | | | | | | | | | |
| 6. Other | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| Total | | | | | | | | | | | | | | | | | | |
| Total | | | | | | | | | | | | | | | | | | |

9 Summary of Income form Sales and Barter

| Type | Month 1-3/200_ | Month 4-6/200_ | Month 7-9/200_ | Month 10-12/200_ | Total |
|--------------------|----------------|----------------|----------------|------------------|-------|
| 1. Agriculture | | | | | |
| 2. Animal raising | | | | | |
| 3. NTFP | | | | | |
| 4. Fisheries | | | | | |
| 5. Trade | | | | | |
| 6. Work undertaken | | | | | |
| 7. Other | | | | | |
| Total | | | | | |

10 Summary of Expense's (Out going)

| Type | Month 1-3/200_ | Month 4-6/200_ | Month 7-9/200_ | Month -10-12/200_ | Total |
|-------------------|----------------|----------------|----------------|-------------------|-------|
| 1. Day to day use | | | | | |
| 2. Agriculture | | | | | |
| 3. Education | | | | | |
| 4. Health | | | | | |
| 5. Donation | | | | | |
| 6. Other | | | | | |
| Total | | | | | |

11 Money Remaining

| Month 1-3/200_ | Month 4-6/200_ | Month 7-9/200_ | Month 10-12/200_ | Total | |
|----------------|----------------|----------------|------------------|-------|--|
| | | | | | |

12 Money Saving

| | Month -1-3/200_ | Month 4-6/200_ | Month 7-9/200_ | Month 10-12/200_ | Total |
|----------------|-----------------|----------------|----------------|------------------|-------|
| 1. Home Saving | | | | | |
| 2. Bank | | | | | |
| 3. Debit | | | | | |

13 Summary of Rice Stock (Kg)

| Type | Month 1-3/200_ | Month 4-6/200_ | Month 7-9/200_ | Month 10-12/200_ | Total |
|------------|----------------|----------------|----------------|------------------|-------|
| 1. Produce | | | | | |
| 2. Eat | | | | | |
| 3. sell | | | | | |
| 4. Buy | | | | | |
| 5. Borrow | | | | | |
| 6. Remain | | | | | |

14 Summary of Consumed Produce

| Type | Month 1-3/200_ | Month 4-6/200_ | Month 7-9/200_ | Month 10-12/200_ | Total |
|-----------------|----------------|----------------|----------------|------------------|-------|
| 1. Vegetable | | | | | |
| 2. Rice | | | | | |
| 3. Fruit | | | | | |
| 4. Wild animal | | | | | |
| 5. Water animal | | | | | |
| 6. Other | | | | | |

Annex 8-2: Terms of Reference: Internal Monitoring of Resettlement Implementation on the Nakai Plateau)

1. MONITORING OBJECTIVE

The objectives of internal monitoring are to:

- confirm that the baseline information of all affected persons has been carried out after detailed design, all losses inventoried, and that valuation of assets lost or damaged,
- follow the progress of the provision of compensation, resettlement and other rehabilitation entitlements, and that these are in accordance with the provisions of the Resettlement Policy and the approved Resettlement Plan;
- ensure that resettlement sites and houses are ready for occupancy before relocation; and
- identify any problems with implementation and report these back to management for timely action;
- monitor the provision of staff resources, including the appropriateness of the skills, skills levels and the scheduling of the same;
- monitor funds disbursement, and assess if they are sufficient for their purposes, and that such funds are used in accordance with the provisions of the Resettlement Plans; and
- ensure that resettlement has been completed and livelihood activities in place before commencement of inundation of the reservoir.

2. MONITORING BASIS

Internal monitoring will be carried out on the basis of

- The agreed Social Development Plan – The Resettlement Plan and Ethnic Minority Development Plan (EMDP) for the Nakai Plateau
- Detailed village implementation plans for Plateau villages
- The Concession Agreement Schedule 4, Part 1 and 4
- The IFIs' policies on involuntary resettlement and indigenous peoples
- The Monitoring Indicators (see Annex 8-4)
- Environmental Plans and Monitoring Indicators to be developed for resettlement villages

3. MONITORING SCOPE

To achieve the objective as stated in Para 1, the RMU and RO will monitor and assess three key aspects of the SDP implementation, plus assist in a forth aspects which is the primary responsibility of the IMA.

3.1 The detailed planning and design of the implementation program. The RAP will be further elaborated into detailed plans and designs for implementation, and these will be monitored to assess whether (i) necessary baseline data is being collected on inventory of losses, valuation of losses, household preferences, (ii) design work is completed in a timely manner following agreed participatory planning procedures, (iii) they are consistent with the principles and strategies outlined in the SDP, and (iv) their quality and adequacy with respect to the SDP targets. These programs will include but not be limited to the following;

- Village Resettlement Plans;
- Village Livelihood Development Plans;
- Nam Pan Resettlement Program
- Oudomsouk Village/Town Resettlement Program
- Resettlement Public Health Plans

3.2 The physical progress of implementation of plateau resettlement.

The internal monitoring will cover all measures and actions to be designed in the detailed implementation programs and those already detailed in the SDP. They include, but are not limited to the following;

- Resettlement site development
- Resettlement house construction
- Resettlement community infrastructure
- Relocation
- Entitlement delivery
- Livelihood development activities (both community and household)
- Transitional measures
- Environmental measures
- Public health measures
- All of the above also relevant to host community

3.3 Social issues. These include issues related to participation, consultation, grievance mechanisms, disclosure, gender, ethnic minority, transparency and vulnerability which require particular attention in the detailed planning and implementation process. The monitoring of these issues will often be undertaken in conjunction with the IMA. The RMU/RO will monitor:

- **Consultation, participation.** As the SDP program follows a participatory planning and implementation process, the RMU/RO will monitor this process and various mechanisms as well as measures taken. It will assess the quality and meaningfulness of consultations in terms of allowing the primary stakeholders to participate actively in the process.
- **Disclosure.** The RMU/RO will monitor disclosure of the updated and detailed plans to affected people for the cultural and language appropriateness of the disclosure methods, and whether affected people know their entitlements and know whether they have received all of their entitlements.
- **Gender:** The gender strategy mainstreamed in the SDP will be further incorporated in the detailed planning and followed through implementation. The RMU/RO - together with the IMA - will assess (i) whether there has been adequate gender analysis during the detailed planning, design and implementation, (ii) the designed institutional and staffing mechanisms as well as its capacity to address gender issues, (iii) women's representation and participation in the detailed planning and implementation process, (iv) identification of gender concerns and adequacy of measures taken to address them, (v) women's overall perception of the detailed planning and implementation process, (vi) gender inclusiveness such as health programs for men and women and technical training to both men and women, rather than segregating health awareness for women and technical training for men, although the programs might be in women only or men only groups; (vii) delivery of land titles in the names of both husbands and wives; and (viii) the effectiveness of resettlement and livelihood programs for restoring women's income and living standards.
- **Ethnic minority concerns:** The RMU/RO - together with the IMA - will monitor and assess the adequacy of the measures taken to address ethnic minority concerns. The RMU/RO will assess whether the principles and strategy outlined in the SDP have been followed and adequate ethnic sensitivity has been accorded.
- **Vulnerable groups:** The RMU/RO - together with the IMA - will monitor the appropriateness of various entitlements, programs and activities and methods of delivery for various vulnerable households and groups, and the need for adjustment or additional measures.
- **Grievance mechanism:** The RMU/RO will monitor number, type of cases going to the grievance process, and outcomes, and - together with the IMA - the effectiveness of the grievance mechanism.

3.4 Outcome assessment. While primarily the responsibility of the IMA, the RMU/RO may, if requested by the IMA and agreed to by the POE, assist in the monitoring and assessment of the

attainment and sustainability of the target of the plateau resettlement program. Monitoring indicators would include.

- Household income.
- Housing conditions, including size, area and quality.
- Infrastructure provision, including road, water supply and drainage systems, power supply, irrigation systems.
- Public services. Access to schools, medical services, information, market, employment etc.
- Public health, including physical and mental status, whether any peculiar public health problems were experienced during transition
- Social and psychological adjustment, whether resettlers experienced any social and psychological difficulties in adjusting to the new resettlement sites and new livelihood models. If yes, whether and how they have overcome them
- Restoration of or strengthening of community organizations; success of village consolidation including consolidation with host village.

4. MONITORING APPROACH AND METHODOLOGY

The general approach for internal monitoring will consist of the following activities by the RMU/ RO Monitoring Team:

- maintain and regularly update a data base for each affected household with baseline socio-economic data, health and nutrition data, inventory of loss data, values of losses, entitlements due, compensation paid, resettlement entitlements delivered, rehabilitation measures delivered;
- maintain and regularly update a data base of all consultations with affected people, documenting locations, dates, participants, issues discussed, concerns of affected people, actions taken to address concerns, and feedback to affected people on how their concerns are being addressed;
- maintain and regularly update a data base of all grievances made by affected people, including date of grievance, name of aggrieved, nature of the grievance, how and when addressed at each level of the grievance mechanism;
- for each project area and component, maintain and regularly update a schedule of resettlement planning and implementation activities and commencement of construction activities, prior to which all compensation and resettlement must be completed for a particular component;
- monitor the use of entitlements by affected people; assess the impact and appropriateness of entitlements and the method of their delivery on affected people, in terms of meeting the resettlement objectives;
- recommend to management appropriate adjustments to make the resettlement program more effective.

All data will be disaggregated by gender and ethnicity. The internal monitoring database shall be made available to the Independent Monitoring Agency.

The RMU/RO Monitoring Team will develop a monitoring plan responding to the scope of work and general framework outlined here.

5. REPORTING

The RMU/RO Monitoring team will produce a monthly progress report summarizing the resettlement implementation for that period. The reports will contain a description of monitoring activities, findings in relation to whether the project activities have been implemented and completed as planned and budgeted, findings in relation to achievement of objectives, and recommendations, timetable and budget for addressing outstanding problems. . The monitoring reports will be shared with RMU and RO for their comments before they are finalized and provided to RC, World Bank, ADB, AFD and other lenders, the POE, and the Independent Monitoring Agency.

The monthly progress reports will include but not be limited to the following information:

- The number of PAPs by category of impact per component and project area, the status of compensation payment and relocation and income restoration for each category;
- The number of vulnerable households, women-headed households;
- The status of various baseline data collection activities, detailed village design and planning activities, detailed implementation activities;
- The amount of funds allocated for operations or for compensation, resettlement, rehabilitation, and the amount of funds disbursed for each;
- The number of complaints and grievances and eventual outcome and any outstanding issues requiring management or IFIs' assistance;
- The number of consultation meetings, significant issues requiring action, action taken and any outstanding issues requiring management assistance;
- Implementation problems;
- Revised actual resettlement implementation schedule.

6. TEAM COMPOSITION

The RMU/RO Monitoring team will be made up of:

- One scheduling/monitoring/database officer in each field office being fed data from the teams in the field
- Program officers responsible for each program (i.e., agriculture, livelihood, fishery, forestry programs, infrastructure, community development, resettler health),
- The ethnic minority, gender, and consultation specialists
- Village infrastructure, agriculture, and community development officers

The terms of reference of the above staff would include gathering, recurrent analysis and reporting on quantitative and qualitative data and recurrent analysis. The number and scheduling of these staff is provided in Chapter 6.

7. BUDGET AND RESOURCE REQUIREMENTS

The Project has budgeted for the operational costs for the field offices where the RMU and RO staff will work side by side. There is a staffing schedule for all project staff. All key staff, including those needed for resettlement planning, implementation, and monitoring will be recruited and in place within one month of Financial Close.

Annex 8-3: Terms of Reference: Independent Monitoring of Resettlement Implementation (Social and Environmental)

1: MONITORING OBJECTIVE

The purpose of the independent monitoring of the resettlement program is two-fold.

- (a) To strengthen the management capacity of the resettlement implementing agencies through provision of objective analysis of the resettlement implementation progress and recommendations to resolve any outstanding issues.
- (b) To provide an objective assessment of the materialization of the SDP target through verification of internal monitoring data and actual monitoring, on a tracked basis, of various aspects of the implementation program, especially incomes of PAPs and outcomes of the programs.

2: MONITORING BASIS

The independent monitoring will be carried out on the basis of

- The agreed Social Development Plan – The Resettlement Plan and Ethnic Minority Development Plan (EMDP) for the Nakai Plateau
- The approved updated resettlement plans for the project lands after detailed design, detailed village implementation plans for Plateau villages, and detailed resettlement plans and livelihood restoration plans for downstream areas
- The Concession Agreement Schedule 4, Part 1 and 4
- The IFIs' policies on involuntary resettlement and indigenous peoples
- The Monitoring Indicators (see Annex 8-4)
- Environmental Plans and Monitoring Indicators to be developed for resettlement villages

3. IMPLEMENTATION COVERAGE:

To achieve the objective as stated in Para 1, the independent monitor will monitor and assess four key aspects of the SDP implementation.

3.1: The detailed planning and design of the implementation program;

The IMA will need to verify that the detailed plans and designs developed, based on the SDP, for implementation are (i) completed in a timely manner, (ii) are consistent with the principles and strategies outlined in the SDP, and (iii) their quality and adequacy with respect to the SDP targets. These programs will include but not be limited to the following.

- Village Resettlement Programs
- Village Livelihood Development Programs
- Village Environmental Assessment and Mitigation Measures
- Nam Pan Resettlement Program
- Oudomsouk Village/Town Resettlement Program
- Resettlement Village Public Health Plans

3.2 The physical progress of implementation.

The IMA will need to monitor and verify the data produced by the internal monitors, with regard to the progress of all measures and actions designed in the detailed implementation programs and those already detailed in the SDP. They include, but are not limited to the following;

- Resettlement site development
- Resettlement house construction
- Resettlement community infrastructure
- Relocation
- Entitlement delivery
- Livelihood development activities (both community and household)
- Transitional measures
- Environmental measures
- Public health measures
- All of the above also relevant to host community

3.3 Social issues.

The IMA will adequacy of addressing issues related to participation, consultation, grievance mechanisms, disclosure, gender, ethnic minority, transparency and vulnerability, which require particular attention in the detailed planning and implementation process. The IMA would need to monitor:

- **Consultation, participation.** The IMA will monitor participatory process and various mechanisms as well as measures taken, both in terms of the quality and meaningfulness of this process, and the extent that primary stakeholders actively participate in the process.
- **Disclosure.** The IMA will monitor disclosure of the updated and detailed plans to affected people for the cultural and language appropriateness of the disclosure methods, and whether affected people know their entitlements and know whether they have received all of their entitlements.
- **Gender:** The IMA will monitor and assess (i) whether there has been adequate gender analysis during the detailed planning, design and implementation, (ii) the designed institutional and staffing mechanisms as well as its capacity to address gender issues, (iii) women's representation and participation in the detailed planning and implementation process, (iv) identification of gender concerns and adequacy of measures taken to address them, (v) women's overall perception of the detailed planning and implementation process, (vi) gender inclusiveness such as health programs for men and women and technical training to both men and women, rather than segregating health awareness for women and technical training for men, although the programs might be in women only or men only groups; (vii) delivery of land titles in the names of both husbands and wives; and (viii) the effectiveness of resettlement and livelihood programs for restoring women's income and living standards.
- **Ethnic minority concerns:** The IMA will monitor and assess the adequacy of the measures taken to address ethnic minority concerns. The IMA will assess whether the principles and strategy outlined in the SDP have been followed and adequate ethnic sensitivity has been accorded.
- **Vulnerable groups:** a number of potential vulnerable groups have been identified, including vulnerable households, communities and small ethnic minority groups. Particular attention will be paid to these groups and additional resources will be needed to monitor performance and involvement. The IMA will monitor the appropriateness of various entitlements, programs and activities and methods of delivery for various vulnerable households and groups, and the need for adjustment or additional measures.
- **Transparency:** It is necessary to monitor how information is distributed and to whom, in order to make sure that all PAPs have the proper information and access to knowledge. Related to this is the functioning of decision-making bodies and how this information is properly recorded and made available to the population as a whole.
- **Grievance mechanism:** The IMA will monitor the effectiveness of the grievance mechanism, types of grievances, if and how resolved.

3.4 Outcome assessment. The most important aspect of independent monitoring is to monitor and assess the attainment and sustainability of the target of the various programs of the Plateau Resettlement Program.

The IMA will assess whether the living standards of the resettlers have been improved (i) from the baseline, (ii) from the previous monitoring period, and (iii) to the designed level through assessment of the following aspects. In cases where either there have not been improvements since the previous monitoring period, or the target has not been met, the IMA will analyze the reasons for the failure and recommend necessary measures to improve and reach the target. Monitoring indicators would include.

- Household income. Whether household income for all resettler families have reached \$820 or the national poverty line in year 4 after physical relocation, and whether average household income in a village has reached \$ 1200 or national average rural household income in year 8 after physical relocation. Most importantly, the IMA will assess the potential and sustainability of the various household livelihood activities and the entire household livelihood package.
- Housing conditions, including size, area and quality.
- Infrastructure provision, including road, water supply and drainage systems, power supply, irrigation systems.
- Public services. Access to schools, medical services, information, market, employment etc.
- Public health, including physical and mental status, whether any peculiar public health problems were experienced during transition
- Social and psychological adjustment, whether resettlers experienced any social and psychological difficulties in adjusting to the new resettlement sites and new livelihood models. If yes, whether and how they have overcome them
- Restoration of or strengthening of community organizations; success of village consolidation including consolidation with host village.

4. MONITORING APPROACH AND METHODOLOGY

The IMA will carry out its work under the following activities:

- data collection, either by using and validating data collected by the RMU/RO, by collecting data together with the RMU/RO, or collecting their own data;
- data analysis; and
- reporting.

4.1.1 Baseline survey. A baseline socio-economic survey will be conducted (Nakai Plateau) before relocation. This survey will update the socio-economic profile of each village, establishing the village baseline for future monitoring and outcome assessment. As part of the baseline survey, the IMA will establish a household livelihood baseline for every relocating household. This will be the basis for assessing the materialization of the project income target. These should be able to allow a before-after-project analysis of the project outcome at the end of implementation completion. Selected households in up to four non-project village will also be included in the monitoring database to enable a with-without-project scenario analysis of the project outcome.

4.1.2 Periodic monitoring and data collection. Different approaches will be adopted for monitoring of different project activities.

- Livelihood and income monitoring will be conducted on a household basis, following a continuous and tracking mode (on the plateau). The IMA will create a monitoring database for every relocating family and monitor their income generation on a monthly basis for the resettlement implementation period. The IMA team will collect the relevant data from the households every month and input them into the database.
- The non-income aspects of the SDP will be monitored through desk review of internal monitoring data to be provided by the RMU and RO as well validation of these data through site visits, interviews and meetings with the resettling communities. These should include the resettlement design activities, resettlement physical progress and socio-economic issues through the SDP implementation. This part will be done semi-annually.
- All data will be disaggregated by gender and ethnicity.

The IMA will develop a monitoring plan responding to the scope of work and general framework outlined in the detailed terms of reference (to be prepared as part of the Project Implementation Plan – PIP – preparation). This work plan should describe in detail its conceptual design of the monitoring database, monitoring methodology and tools to be used in monitoring and a list of indicators of output as well as outcomes of the SDP. This work plan will be forwarded to IFIs for review and concurrence.

5. TIME FRAME FOR MONITORING

The IMA will conduct a baseline survey of all households during the detailed village-level resettlement planning. The IMA will thereafter conduct two monitoring activities per year for non-income aspects of the SDP, continuing until 8 years after relocation of the last village. Livelihood and income monitoring will be conducted monthly from all households.

6. REPORTING

The IMA will produce a report following each bi-annual monitoring activity. The reports will contain a description of monitoring activities, findings in relation to whether the project activities have been implemented and completed as planned and budgeted, findings in relation to achievement of objectives, and recommendations, timetable and budget for addressing outstanding problems. The IMA will produce one summary report at the end of Year 4 of relocation and Year 8 of relocation of each Plateau resettlement village. The draft monitoring reports will be shared with RMU and RO for their comments before they are finalized and submitted to RC, World Bank, ADB, AFD and other lenders.

The IMA will maintain a database of resettlement monitoring information that will be updated following each bi-annual monitoring activity. It will contain files on each affected household and will be updated based on information collected in successive rounds of data collection. All databases compiled will be fully accessible by the RMU and RO.

7. PROPOSED TEAM COMPOSITION

The IMA team will mainly consist of Lao national staff, advised by one or two international resettlement specialists with experience in implementation and/or monitoring of resettlement plans for large hydropower projects. They should have sufficient in-house experience and capacity in place before contracting. The IMA team should include the following specialists:

- A Senior Resettlement Specialist with a strong background in relevant social sciences and extensive experience in planning, implementing, monitoring and evaluating resettlement plans to international standards on large hydropower projects, and preferably with relevant experience in Lao PDR or elsewhere in the region.
- An Ethnic Minority Specialist with experience in working with the ethnic minorities in the Project Area.
- Lao national Resettlement Specialists or Social Development Specialists with strong background in relevant social sciences and demonstrated experience in organizing and managing socio-economic data collection and analysis, PRA, group facilitation, and with relevant experience in the Project area.
- A Lao national Gender Specialist with practical experience in gender impact assessment and analysis, preferably with experience in the Project Area.
- Surveyors with demonstrated experience in household surveys, data input and analysis and participatory rapid appraisal techniques, and group facilitation.
- Surveyors and monitoring team leaders should have an equal gender mix and local language skills.

Annex 8-4: Indicative Schedule on Monitoring Indicators, Frequency, and Division of Responsibility.

PROGRAM IMPLEMENTATION

| Record | Type of information | Frequency | Int | Ext |
|--|---|-----------|----------------|-----|
| Housing (compare to plan) | No. of houses plans finalised | monthly | a ¹ | a |
| | No. of houses under construction | monthly | a | a |
| | No. of houses finished construction | monthly | a | a |
| | No. of houses with land titles | | | |
| Roads (compare to plan) | No. of access roads under detailed planning | monthly | a | a |
| | No. of access roads under construction | monthly | a | a |
| | No. of access roads finished construction | monthly | a | a |
| Water supply (compare to plan) | No. of water supply systems under detailed planning | monthly | a | a |
| | No. of water supply systems under construction | monthly | a | a |
| | No. of water supply systems finished construction | monthly | a | a |
| | No houses with access to water supply | monthly | a | a |
| Farm plots (compare to plan) | No. farm plot designs finished | monthly | a | a |
| | No. farm plots measured and marked | monthly | a | a |
| | No. farm plots started to develop | monthly | a | a |
| | No. farm plots started finished development | monthly | a | a |
| | No. farm plots with irrigation | monthly | a | a |
| | No. farm plots with land titles | | | |

HOUSEHOLD LEVEL MONITORING

Demography and Household status:

| Record | Type of information | Frequency | Int | Ext |
|--------------------------|--|-------------|------------------|-----|
| Demographic | No. of household members, male and female | annual | a | |
| | Births and deaths, male and female | annual | a | |
| Occupations | Occupations, of working HH members | monthly/Ann | a | |
| | Labour/Time profiles according to gender/age (see Appendix G) | monthly | a | |
| | Wealth ranking of households (see Appendix H) | bi-annual | a | a |
| Literacy/Numeracy | Ability to read Lao - all HH members over 15 (scored) | annual | (a) ² | a |
| | Ability to read Lao - all HH members over 15 (scored) | annual | (a) | a |
| | Numeracy - all HH members > 15 | annual | (a) | a |
| | School attendance – all HH members < 15 | monthly | a | |
| Asset inventory | Household assets - standard list | bi-annual | a | |
| | Household tools - standard list | bi-annual | a | |
| | Agricultural tools - standard list | bi-annual | a | |
| Rice supply | Rice supply balance showing production, consumption, sales, purchase, borrowed and amount remaining | monthly | (a) | a |
| Protein supply | Protein supply balance showing production, consumption, sales, purchase, borrowed and amount remaining | monthly | (a) | a |

Incomes:

| Record | Type of information | Frequency | Int | Ext |
|--------------------|--|-----------|-----|-----|
| Cash income | Sources and amount of all household income | monthly | | a |
| Expenditure | Sources and amount of all household cash outgoings | monthly | | a |
| Savings | Amount and method of household savings | monthly | | a |

¹ Indicates responsibility for data collection: for example either one or both of internal and IMA will collect; only the external monitors will collect sensitive income data

² Indicates assistance in data collection: IMA will collect with assistance from internal monitors

| Record | Type of information | Frequency | Int | Ext |
|-------------|---|-----------|-----|-----|
| Consumption | Type and value of all household consumption | monthly | | a |
| Production | Records of all items produced or gathered | | a | a |

Agricultural productivity:

| Record | Type of information | Frequency | Int | Ext |
|-------------|---|-------------|-----|-----|
| Agriculture | Area planted to crops, each season | seasonal | a | |
| | Yield of crops, each season | seasonal | a | |
| | Net production of crops, each season | seasonal | a | |
| | Cash income from sales. Qty of consumption of crops | seasonal | | a |
| | Cash inputs to crops, each season | seasonal | | a |
| | labour inputs into cropping crops each season | monthly | a | |
| Livestock | Numbers, deaths, births, disposal and purchase of cattle, pigs, poultry and fish | monthly | a | |
| | labour inputs into animal raising, | monthly | a | |
| | feed and medical inputs for livestock | monthly | a | |
| Forestry | no. plots and area of forest surveyed for logging | bi-annually | a | a |
| | no. plots and area of forests logged | bi-annually | a | a |
| | total volume of logs (broken down into species etc) | bi-annually | a | a |
| | total volume and value of logs sold as logs | monthly | a | a |
| | total volume of logs passed to sawmill | monthly | a | a |
| | inputs and cost of logging | monthly | a | a |
| | Output of sawmill - Volume/types, then amount sold and amount passed to furniture factory | monthly | a | a |
| | Value of sales from sawmill. inputs and costs of sawmill | monthly | a | a |
| | Output of sawmill - Volume and types, and cash sales | monthly | a | a |
| | Inputs into the sawmills | monthly | a | a |
| | All other costs and inputs, outgoings, and incomes, including schedule of staff and labour salaries | monthly | a | a |

VILLAGE LEVEL MONITORING

| Record | Type of information | Frequency | Int | Ext |
|--------------------|--|-------------|-----|-----|
| Village Demography | Village population | bi-annually | a | a |
| | No. of males and females | bi-annually | a | a |
| | No. of HHs with handicapped or invalid members | bi-annually | a | a |
| | No. of female-headed HHs | bi-annually | a | a |
| | Households by ethnic groups | bi-annually | a | a |
| | No. of births | annual | a | a |
| | No. of deaths | annual | a | a |
| | No. of households departing village | annual | a | a |
| | Location for departing HHs | annual | a | a |
| | Reasons for migration | annual | a | a |
| | No. of households entered the village | annual | a | a |
| | Previous location of arriving HHs | annual | a | a |
| | Reasons for relocation | annual | a | a |
| | No. of new households due to splitting | annual | a | |
| | No. of new households due to post-marital relocation | annual | a | |
| | No. of marriages | annual | a | |
| | Ethnic identity of marrying couples | annual | a | |
| Schools | Condition of school buildings | annual | a | a |
| | Water supply to schools | annual | a | a |
| | Condition of toilets at schools | annual | a | a |
| | No. of students per teacher | bi-annually | a | a |
| | Male and Female school attendance by class | monthly | a | a |
| | School attendance by ethnic group | monthly | a | a |

| Record | Type of information | Frequency | Int | Ext |
|---|---|-------------|-----|-----|
| | Drop out rates and reasons for drop out | monthly | a | a |
| | Teacher presence | monthly | a | a |
| | Teacher qualifications | annual | a | a |
| | Teacher ethnicity | annual | a | a |
| | Teacher performance | monthly | a | a |
| Representation and Institutional Development | Village authorities (positions) by gender | bi-annually | a | a |
| | Village authorities by ethnicity | bi-annually | a | a |
| | Village authorities by experience and education | bi-annually | a | a |
| | Routines for conducting meetings (agendas, records and accounts, etc.) | bi-annually | a | a |
| | Assessment of performance and decision-making ability for village leadership roles | bi-annually | a | a |
| | Assessment of performance and decision-making ability for Lao Women's Union | bi-annually | a | a |
| | Assessment of performance and decision-making ability for Lao National Front for Construction | bi-annually | a | a |
| | No. of public meetings | monthly | a | |
| | No. of project consultations | monthly | a | a |
| | Condition and materials at the Village Information Centre | bi-annually | a | a |
| | No. of committees for specific roles and their function | bi-annually | a | a |
| | Female representation in committees and in leadership roles | bi-annually | a | a |
| | No. of people attending meetings | monthly | a | |
| | Incident of conflicts or disputes | monthly | a | a |
| | Conflict resolution steps being followed | monthly | a | a |
| Satisfaction of involved parties | monthly | a | a | |
| Religious and Cultural Practices | Religious affiliation/belief of population | annual | a | a |
| | Condition of temple and temple buildings | bi-annually | a | |
| | Condition of village or territorial spirit structures | bi-annually | a | |
| | Other village religious structures | bi-annually | a | |
| | No. of monks and novices | bi-annually | a | |
| | No. of spirit priests | bi-annually | a | |
| | No. of shamans/mediums | bi-annually | a | |
| | No. and types of ritual events | monthly | a | |
| Participation in ritual events (male and female) | monthly | a | | |

MAIN HEALTH RECOMMENDED DISEASE INDICATORS

| Health Area | Disease Indicators | Covered | Status (Oct'04) | Planned |
|--------------|---|------------|-----------------|---------|
| respiratory | Number of new LRTI cases | HMIS | surveyed | VSSS |
| respiratory | Number of measles cases | HMIS, WESR | surveyed | VSSS |
| vector | Number of malaria cases | HMIS | surveyed | VSSS |
| vector | Number of BS or dipstick done | HMIS | surveyed | VSSS |
| vector | Number of malaria negative fever cases | HMIS | surveyed | VSSS |
| STI | Number of various STI syndromes diagnosed | HMIS | surveyed | VSSS |
| water | Number of cases of acute diarrhoea | HMIS, WESR | surveyed | VSSS |
| water | Number of cases of dysentery | HMIS, WESR | surveyed | VSSS |
| water | Number of intestinal worm diseases | HMIS | surveyed | VSSS |
| nutrients | Number of anaemia cases | HMIS, WESR | surveyed | VSSS |
| accidents | Number of traumas | HMIS | surveyed | VSSS |
| psychosocial | Number of cases of mental health problems | HMIS | surveyed | VSSS |
| | | | | |
| respiratory | Number of diphtheria cases | WESR | surveyed | VSSS |
| respiratory | Number of whooping cough cases | WESR | surveyed | VSSS |
| vector | Number of pregnant women with malaria | no | surveyed | VSSS |
| vector | Number of cases of schistosomiasis | no | surveyed | VSSS |
| vector | Coverage of LLIBN | no | surveyed | VSSS |

| Health Area | Disease Indicators | Covered | Status (Oct'04) | Planned |
|--------------|---|------------|-----------------|----------------|
| vector | Number of malaria cases correctly treated | no | surveyed | VSSS |
| water | Number of cases of opistorchiasis | no | surveyed | VSSS |
| water | Number of hepatitis (A) cases | WESR | surveyed | VSSS |
| nutrients | Number of malnutrition cases by type | WESR | surveyed | VSSS |
| nutrients | Number of beriberi cases | no | surveyed | VSSS |
| | | | | |
| respiratory | Number of deaths due to ARI | HMIS | n.a. | to be surveyed |
| vector | Number of deaths due to malaria | HMIS | n.a. | t.b.s. |
| vector | Number of deaths due to dengue | HMIS | n.a. | t.b.s. |
| water | Number of deaths due to acute diarrhoea | HMIS | n.a. | t.b.s. |
| water | Nr of cases of diarrhoea with severe dehydration | HMIS | n.a. | t.b.s. |
| vector | Number of suspected dengue cases | HMIS, WESR | n.a. | t.b.s. |
| STI | STI treatment in public facilities | HMIS | n.a. | t.b.s. |
| accidents | Number of RTA cases | HMIS | n.a. | t.b.s. |
| | | | | |
| vector | Nr of dengue hemorrhagic fever (DHF) cases | WESR | n.a. | t.b.s. |
| vector | Number of typhus cases | no | n.a. | t.b.s. |
| vector | Number of meningitis cases | WESR | n.a. | t.b.s. |
| nutrients | Number of night blindness cases | no | n.a. | t.b.s. |
| vector | Number of leptospirosis cases | no | n.a. | t.b.s. |
| accidents | Number of poisoning cases | no | n.a. | t.b.s. |
| | | | | |
| vector | Number of malaria outbreaks | no | WESR | WESR |
| vector | Number of dengue outbreaks | no | WESR | WESR |
| water | Number of outbreaks of food/waterborne diseases | no | WESR | WESR |
| | | | | |
| respiratory | Number of deaths due to TBC | no | n.a. | t.b.s. |
| nutrients | Nr of deaths presumed related to malnutrition | no | n.a. | t.b.s. |
| STI | Number of deaths presumed related to AIDS | no | n.a. | t.b.s. |
| accidents | Number of deaths due to RTA | no | n.a. | t.b.s. |
| accidents | Number of deaths due to other injuries | no | n.a. | t.b.s. |
| accidents | Number of deaths due to poisoning | no | n.a. | t.b.s. |
| accidents | Number of deaths due to drowning | no | n.a. | t.b.s. |
| | | | | |
| STI | STI treatments in private pharmacies | no | n.a. | t.b.s. |
| STI | Condom use by target group (SW, drivers, workers, schoolchildren) | no | NCCA | VSSS |
| STI | STI prevalence amongst target groups | no | NCCA | VSSS |
| STI | Nr of new HIV infections amongst target group | no | NCCA | VSSS |
| psychosocial | Number of mental health cases in the villages | no | n.a. | t.b.s. |
| psychosocial | Number of substance abuse cases | no | n.a. | t.b.s. |
| psychosocial | Number of injuries due to violence | no | n.a. | t.b.s. |
| culture | Utilization of Traditional Medicine in villages | no | n.a. | t.b.s. |
| | | | | |
| nutrients | Number of persons taken vit. A pills (by age/sex) | yes | n.a. | act. rep. |
| STI | Nr of professional blood-borne infection exposures | no | n.a. | lab report |
| STI | Number of Hepatitis B, Syphilis, HIV positives amongst the blood donors | no | n.a. | lab report |