

September 8, 2009

Patchamuthu Illangovan  
Country Manager  
Lao PDR Country Office  
World Bank

Anthony J. Jude  
Director  
Energy and Water Division  
Southeast Asia Department  
Asian Development Bank

**Re: International Rivers Nam Theun 2 project (NT2) site visit in May 2009**

Dear Mr. Illangovan and Mr. Jude,

As you may know, in May International Rivers visited the Nam Theun 2 project (NT2) site. We visited six villages on the Nakai Plateau, three villages in Project Lands in Gnommalat and Mahaxai, and eleven villages in the Xe Bang Fai and hinterland areas. We are writing to highlight our main concerns and recommendations based on our visit, and to ask several questions related to our concerns. **We believe that if NTPC is to comply with the Concession Agreement, many of the issues raised below must be addressed before Commercial Operation Date (COD) later this year. We hope that the World Bank and the Asian Development Bank take responsibility for ensuring these issues are addressed before COD.** We would appreciate your response to these recommendations and questions by the end of September 2009.

**I. MAIN CONCERNS**

**1. Resettlement Villages on the Nakai Plateau**

After three years of resettlement, the resettled families on the Nakai Plateau have not established sustainable sources of livelihood, although many villagers are happy with their new houses, roads, electricity, health centers, and schools.

*Rice Fields*

Almost all the villagers we interviewed reported that they cannot grow enough rice to feed their families in the small plots of poor quality land. The latest World Bank/ADB Update to the Board states that “many resettlers have been fairly successful in their first full rice growing season [...] on their 0.66ha plots” (World Bank & ADB 2009: 7 para 19). However, villagers we interviewed reported that their rice harvests have been declining and that they are concerned about the sustainability of growing rice in the 0.66 ha plots of land. According to our interviews with the resettlers, rice harvests have been declining every year. As the quality of the land is so poor, the villagers know from experience that they need to rotate fields every 1-2 years. However, they have no land to rotate in the resettlement villages. In addition, in violation of the Concession Agreement, irrigation systems have not been installed in most of the 0.66ha plots. **It is critically important that all families have either irrigated land or land allocations for the drawdown**

**zone before COD so that all families have sufficient land to guarantee their food security.**  
(See villagers' stories in Annex I: 8)

#### *Livelihood programs*

As the Panel of Experts' Report 15 states "implementation progress [on livelihood programs] to date has been unsatisfactory." **We found that most of the resettlers hadn't started new livelihood programs, with the exception of fishing and farming their plots.** New livelihood programs such as vegetable gardens and pig breeding are still in the pilot stage and only one or two villagers in a village have tried them out. This delay in implementation of livelihood programs may cause serious food security issues for resettlers since they cannot grow enough rice, have limited access to the forest, cannot catch big fish anymore, and do not have food supports. (See villagers' stories in Annex I: 8)

#### *Buffalo deaths*

Due to the lack of grazing land, many villagers' buffalos and cows, which are an important social safety-net for the villagers, have died. **However, no compensation has been paid to the villagers yet.** NTPC has encouraged the villagers to sell their buffalos and cows, but most of them are very thin because of the lack of grazing land, and the villagers are having trouble selling them for a good price. Some villagers have had to sell their buffalos to buy rice because of the decline in rice harvests. (See villagers' stories in Annex I: 8)

#### *Reservoir fishing*

Reservoir fishing is only the hope for the villagers right now. Some villagers have been able to catch enough fish to buy rice. However, according to our interviews, there are less and less big fish in the reservoir and the villagers are having a harder time catching big fish. This is typical for tropical reservoirs where there is an initial surge in fisheries which then rapidly declines. Some villagers cannot afford to buy engines for their boats, which cost 2 million kip. (See villagers' stories in Annex I: 8-9)

#### ***Recommendations:***

- 1) In order to accelerate livelihood restoration and ensure the resettlers can buy enough rice, additional action plans with a timeline and budget should be developed and disclosed by COD. The plans should include increasing the budget and staff to support livelihood development, allocation of additional lands, and the development of irrigation systems for each household.
- 2) Allocation of the drawdown zone and agro-forestry zoned areas in the community forest area should be clearly mapped and land certificates for these areas should be provided to each resettler family and village by COD.
- 3) All resettlers should have irrigated land either on their 0.66ha plots or newly allocated drawdown zone area by COD to guarantee their food security. Training for the resettlers to manage irrigation systems should be provided.
- 4) For those resettlers who are not able to earn enough money to buy rice and to produce forage for their cows and buffalo in next couple of years, interim supports should be provided to them until they are able to establish sustainable livelihoods.
- 5) Fair compensation for buffalo and cattle deaths should be paid immediately to all affected households.

## **2. Project Lands near the downstream channel and transmission line**

The latest Update to the Board states that “[p]roject lands issues are gradually being wrapped-up (World Bank & ADB 2009: 6, para 16).” However, we found several major outstanding issues that should be addressed.

### *Transmission Line Corridor*

Some villagers in Ban Phon Kham village who were resettled and lost their land to the transmission line corridor in 2008 have not been appropriately compensated. Although they lost access to their rice fields, they haven’t received any compensation. One family in Ban Phon Kham village had to move their house and find new land themselves. This constitutes a violation of the Concession Agreement. (See villagers’ stories in Annex I: 9-10)

### *Downstream Channel*

There have been ongoing problems finding replacement land for villagers who lost land to the downstream channel, in violation of the Concession Agreement. It has been hard for villagers to find good replacement land with equal productivity, which is close enough to their villages and affordable for them. Only one family out of four families we interviewed found replacement land. The vice village headman in Ban Sankeo in Gnomalath District told us that “it is difficult to find new land within 1km from the village. If the field is 1-2 km away from the village, villagers have to commute by a motorcycle or a tractor.” Due to lack of replacement rice fields, some villagers have to buy rice to feed their family. In order to buy rice, many villagers in Ban Sankeo and Ban Tham Phuang villages have used up their compensation and even sold buffalos. (See villagers’ stories in Annex I: 10)

### *Livelihood programs*

There is no sustainable livelihood program in project lands villages according to our interviews in Ban Sankeo and Ban Tham Phuang villages, Gnomalath District, although the villagers have lost fish, frogs, snails and other living aquatic resources, as well as access to NTFPs, as a result of the project. While some villagers have tried to grow mushrooms and raise cows, pigs, fish and frogs, only a few villagers in Ban Sankeo and Ban Tham Phuang villages are involved in the programs. Many of the programs have failed in these villages. For example, the pigs died before they were ready to sell, and fish ponds dried up during the dry season.

### ***Recommendations:***

- 1) All families who lost more than 20% of their land and seek replacement land should get new replacement land with equal productivities as their former land by COD. If land close enough to the villages is not affordable for the affected households, additional subsidies should be provided to them, and they should get continuous support until they are able to find replacement land.
- 2) In order to accelerate livelihood restoration, additional action plans with a timeline and budget should be developed and disclosed. The plans should include an increase in budget and staff for livelihood programs and oftakes from the downstream channel to allow for irrigation should be completed by COD.
- 3) Interim rice support should be provided to project affected households until they are able to establish sustainable livelihoods or find appropriate replacement land.

- 4) Resettlement and land acquisition around the transmission line and other recent construction activities should be reviewed in order to ensure the appropriate compensation in compliance with the Concession Agreement.

### **3. Downstream Xe Bang Fai Area**

Xe Bang Fai villagers have not had any significant impact from NT2 yet. However, the villagers are concerned about impacts on their riverbank gardens and other property because they still don't know what the impacts of the project will be and how much compensation they are entitled to. In addition, only a limited number of villagers have succeeded in developing new livelihood sources so far. We found significant problems with the savings and credit scheme: some people have ended up indebted after livelihood programs failed, and poorer households are not participating due to fear of being left indebted. **The savings and credit program should form only a small part of the overall livelihood program for the Xe Bang Fai.**

Most importantly, as recognized by the Panel of Experts, funding remains totally inadequate to deal with the extent of impacts from the project. This is a major issue that the World Bank and Asian Development Bank should address. The Panel of Experts (POE) recommends in their latest report that “GOL, NTPC and the IFIs reconsider the volume of funds required to meet in full CA livelihood restoration obligations, allocate funds accordingly [...]” (POE 2009: 2 & 17). We support this recommendation.

#### *Livelihood programs*

The livelihood development activities are funded by a micro-finance component called the Village Income Restoration Fund. However, only a limited number of villagers have tried new livelihood programs introduced by NTPC, such as fish ponds, pig farming, vegetable gardens, textile production, and mushroom production. Some of them have dropped out of the programs because of their failure. While the latest World Bank/ADB Update states that “repayment levels are around 90 percent (World Bank & ADB 2009: 11, para 31)”, according to our interviews, many villagers have had to sell their cows, buffalos, and rice to repay the loan due to project failures (see fish pond section below).

Also, our interviews in eleven villages reveal that many of the poorest families are participating in the Fund not for starting new livelihood programs, but to borrow money for emergency issues such as illnesses, accidents, and funerals. The latest World Bank/ADB Update states that “more than 40 percent of the poorest villagers are participating in the program (World Bank & ADB 2009: 11, para 31).” However, we found that due to the risk of indebtedness and the complicated process to write and appraise a proposal, most of the poorest villagers are hesitant to borrow money to invest in new livelihood programs. For poor and vulnerable families, borrowing money from the savings and credit scheme and investing in new livelihood programs are too risky and too complicated.

#### *Fish ponds*

One of the main livelihood programs for the Xe Bang Fai is aquaculture to replace wild capture fisheries. Several villagers in Ban Veunsanah, Ban Mahaxai Tai, Ban Khamfeuag Noi and Nyai, Ban Boeung Xe, Beungboaton Namphu, and Mahaxai reported that the fish ponds have

been drying up in the dry season and flooding in the rainy season, leading to fish escapes. Many villagers who have tried aquaculture have become indebted and have had to sell their cows, buffalos, and rice to pay the money back. Some of them have dropped out of the program, and others have continued, hoping to get some income next year.

For example, in Ban Khamfeuag Noi and Nyai, thirty-three villagers were involved in the fish ponds program in the beginning. However, according to our interviews, about 50% of the people who were involved in the project have had to sell cows and water buffalos to pay the money back, and only thirteen families have opted to continue in the program, with the hope of earning enough money to repay their loans. In Ban Boeung Xe, only two or three families out of more than ten have been able to repay the loan so far, and only two families remain active in the fish pond program for now. In Beungboaton Namphu Village, only one family out of 26 families involved in the fish pond program could sell fish because the rest lost almost all their fish to flooding. In Ban Mahaxai, about 12 out of 20 ponds dried up in April 2009 and the villagers are indebted. (See villagers' stories in Annex I: 11)

### ***Recommendations:***

- 1) International Rivers, the Panel of Experts and other observers have consistently stated that funding is inadequate to restore livelihoods in the downstream area, and have recommended additional funding from NTPC and IFIs. **The World Bank and Asian Development Bank should secure additional funding for the downstream program by COD.**
- 2) In order to prevent flooding in the downstream area, an action plan with a clear schedule and budget to rehabilitate all fifteen water gates including training and funds to villagers for the operation and maintenance of the gates should be developed by COD. The budget for the action plan should be secured by COD.
- 3) As mentioned in previous International Rivers trip reports, the savings and credit scheme should be revised to ensure that villagers are not bearing the risks of livelihood restoration pilot projects. If villagers follow NTPC's advice and the project fails, NTPC should repay the loan to the village savings fund. If villagers do not have the time or resources to effectively manage the project, then its design is flawed and NTPC should repay the loan.
- 4) As also recommended in the past, because NTPC's livelihood programs are not likely to be successful for at least several years, NTPC should commit to developing and implementing an interim compensation scheme to address the impacts of NT2 operations on downstream villagers until livelihood restoration programs yield sustainable results.
- 5) Many villagers in the downstream area would like irrigation to compensate for project impacts. The World Bank and ADB should develop a more comprehensive irrigation plan and secure the budget for that plan in the Xe Bang Fai area.
- 6) Evaluation methods to compensate for riverbank gardens should be explained clearly to the affected communities.

### **4. Benefit-sharing arrangements**

As documented by many observers, the budget to compensate for project-induced damages, implement appropriate mitigation measures, and restore and develop livelihood programs for

project-affected households in the Xe Bang Fai area still needs to be secured or increased. The government of Lao PDR should allocate a significant portion of revenue from Nam Theun 2 to pay for livelihood restoration measures for project-affected communities.

***Recommendations:***

- 1) The World Bank and Asian Development Bank should ensure that the government of Lao PDR directs a significant portion of Nam Theun 2 revenues to government programs for project-affected communities such as: i) flood protection and irrigation development in the Gnommalat plain and Xe Bang Fai, and ii) an interim compensation scheme and further investment in livelihood restoration programs for all affected communities.

**5. Disclosure of information**

To ensure the implementation of mitigation measures and livelihood programs for the affected communities, many aspects of monitoring and assessment are taking place. For example, monitoring on the household level of socio-economic changes, nutritional status, fish catch, water quality, and erosion, and an assessment of the downstream savings and credit scheme are very important indicators to evaluate the appropriateness of mitigation measures and livelihood programs. While it is commendable that significant monitoring and assessment are taking place on project impacts and implementation of livelihood programs, this information is not being made public. We believe that it is vital to make this information publicly available in order to ensure that all project observers have access to critical monitoring data.

***Recommendations***

- 1) Monitoring data on water quality, fish catch, erosion, nutritional status, socio-economic changes, and others including the Living Standard Management Survey (LSMS), the evaluation of the savings and credit scheme in the downstream area, and the Food Consumption Monitoring Program should be publicly available to allow for outside parties to monitor progress.
- 2) The World Bank/ADB Update from July 2008 says “*The IMAs’ [...] inception and mission reports updating on all areas of the project have been made publicly available.*” (World Bank & ADB 2008: page 19, para 60) However, the reports are not available on the website of the World Bank. These reports should be publicly available.

**II. Questions**

**1. Resettlement Villages in Nakai Plateau**

- 1) What steps are being taken to accelerate livelihood development? Will the budget and staff be increased to accelerate livelihood development for the resettlers?
- 2) When will the drawdown area and agro-forestry zoned area in Village Forestry Association land be allocated to the resettlers? Will all the resettlers on Nakai plateau receive additional land for growing forage, vegetables and others?
- 3) Will all the resettlers on Nakai plateau have irrigation system in 0.66ha of land or access to the drawdown zone by COD?

**2. Project Lands near the downstream channel and transmission line**

- 1) What is the status of compensation payments for project-affected households in Project Lands areas? How many households who lost more than 20% of their land have received replacement land and how many households are still looking for replacement land?

**3. Downstream Area**

- 1) Does Management believe the funding for the downstream program to be adequate? If so, why? If not, what are the World Bank and Asian Development Bank doing to secure additional funding for downstream villagers?
- 2) What flood protection plans exist for the Xe Bang Fai area?
- 3) What steps will be taken to develop a more comprehensive irrigation plan and secure the budget for that plan in the downstream area?
- 4) Is there any plan to develop an interim compensation scheme to address the impacts of NT2 operations on downstream villagers until livelihood restoration programs yield sustainable results?
- 5) What steps will be taken to support people who have become indebted to the savings and credit scheme? Is there any plan to cancel the debt because of the failures of the livelihood programs?

**4. Revenue Management Arrangements**

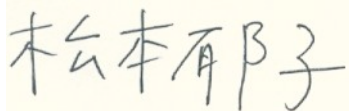
- 1) Has the government of Lao PDR mandated that a portion of Nam Theun 2 revenues be used to support project-affected communities?

**5. Disclosure of the documents**

- 1) Will monitoring data on water quality, fish catch, erosion, nutrition status, socio-economic changes, and others including the Living Standard Management Survey (LSMS) the evaluation of the savings and credit scheme in the downstream area, and the Food Consumption Monitoring Program be disclosed?
- 2) Where can we find the Independent Monitoring Agency (IMA) reports?

We look forward to your response to the recommendations and questions raised in this letter by the end of September 2009.

Sincerely,



Ikuko Matsumoto  
Lao Program Director

Cc:

Executive Directors of World Bank  
Executive Directors of Asian Development Bank  
U.S. Department of the Treasury  
Nam Theun 2 Power Company

## **Annex I: Stories from people affected by Nam Theun 2 (May 2009)**

### **1. Resettlement Villages on the Nakai Plateau**

#### ***Insufficient Land***

The village headman in Ban Nong Boua Kham village told us *“I used to grow enough rice for my family with 2 ha of upland rice fields and 1 ha of paddy land, but cannot grow enough rice anymore with only 0.66 ha of land, which I use to grow upland rice”*. With his 0.66 ha plot, he harvested 10-30 bags of rice, which is not enough to feed his family and only enough for a family with 2-3 family members. Another woman interviewed in the same village grew 25 bags of rice (900 kg) last year, although she used to have more than one hectare of rice fields and harvested 150 mum of rice (1800 kg) in the old village.

Another man from Ban Nong Boua Kham village told us *“I used to have 3-4 ha of upland rice fields and cultivated 1 ha each year. I harvested 40-50 bags of rice (1440-1800kg) per year.”* After moving to the resettlement site, he harvested 18-19 bags of rice in the plot of land allocated by NTPC last year; however he harvested much less this year and is afraid that future harvests will be even lower because upland rice fields need to be rotated every year. *“It was fine to grow rice in the first year, but it is getting harder in the second and third year since soil quality will decline.”*

#### ***Livelihood Programs***

One man from Ban Nong Boua Kham village told us *“I am thinking to switch to planting fruit trees such as mango or jackfruit instead of cultivating rice. If NTPC provides irrigation, we can water the trees, although we have no idea where to sell fruits. NTPC has not helped us at all to find new livelihood. Two to three years ago, many livelihood programs such as pig and chicken raising, forage growing, and vegetable gardens were introduced in a meeting; however nothing happened in this village.”*

#### ***Buffalo Deaths***

A man from Ban Sop Ma told us *“I used to have more than ten buffalos in the old village, but three of them died after the reservoir water level rose and grazing land got scarce.”* *“NTPC collected data about how many buffalos died, but nothing has happened since then.”* Now he has only two buffalos. A man from Ban Nong Boua Kham village said: *“Cows and buffalos are not healthy, getting sick, and dying because there is no grazing land around resettlement site.”* *“The company told us that we can grow forage for cows and buffalos; however, again, there is no land to grow forage.”*

#### ***Reservoir Fishing***

One of the villagers in Ban Sop Ma told us *“Even if I fish all night long and go all the way to the other side of the reservoir, I can get only 2-3 kg of small fish (5 cm or so), just about enough for my family.”* He has decided that it is no longer worthwhile to go fishing. A woman in Ban Sop Hia told us that one or two months ago they could frequently catch 10-20 kg of big fish overnight; however, this month (May 2009), they could only catch 1-2 kg of fish. She says that the middleman buys only big fish and it is more and more difficult to catch big fish. Another man in Phonsavang fishes every day, and is able to get enough to eat, but reports that it has been difficult to find big fish recently. He also said that he could catch big fish last year, but not this year.



## **2. Project Lands near the downstream channel and transmission line**

### ***Compensation in Phon Kham (1)***

We interviewed a family who had to relocate their house to new land allocated by the village headman because their house was within 5m of the transmission line. They moved to the new land in June 2008, and still do not know whether they will have to pay for this new land in order to receive the land title. They received compensation (91 million kip) for the buildings on their original land, plus 15 million kip for fruit trees. NTPC helped to clear some of the new land (20mx40m) and land mines, and connect to the electricity line. They received 400,000 kip to clear the land, although the actual cost was 1.5 million kip.

At first, the family was told by district staff that they could cultivate those parts of their land that were more than 5 meters from the transmission line, as long as the plants were less than 6m in height. They received compensation for the 5 m band next to the transmission line. However, NTPC staff came later and told them that they could not cultivate land 40 m on either side of the power lines. While they cannot cultivate rice anymore on their land, they received no compensation for that land (although they have the land title). They used to cultivate 2.7 ha of rice and harvest around 100 bags of rice (3600kg).

Since they cannot cultivate their rice field this year, they are making charcoal with some remainder timber from a nearby sawmill. After the sawmill closes next month (June 2009), they don't know how they will feed the family. The family is planning to expand their fish pond outside of the 40 m band.

The family has not filed a complaint to the grievance mechanism because they are afraid of being labeled "trouble-makers".

### ***Compensation in Phon Kham (2)***

This family moved their house because of construction on the transmission line in August 2008; however they have not received any compensation other than for fruit trees. At first they were told by NTPC that they would lose part of their land for construction of the transmission line, but they could stay on the remaining land. Thus, they built a new house in May 2008. However, NTPC came to their house again and told them that they were not allowed to stay on their land anymore. Thus, they had to move their house to the current location in August 2008. In effect, whilst they still own the land they are not allowed to use it.

The villager had to find new land himself. He then requested permission from the village headman to clear and use the new land that he had identified (20x40 m). They are waiting to get the land title for this new land. They still do not know whether they will have to buy this land or not.

They did not receive any compensation to move their new house and clear the land even though it cost 1 million kip to move their house. They also bought concrete pillars for their house. They have had to clear the land by themselves and they still need to clear land mines for part of their land. They are afraid to plant new fruit trees in the cleared land in case there are mines lying deeper in the soil.

They complained about the situation to the village headman and he took them to the district

they could not help, “we’ve paid already and the district has approved the compensation”. They are afraid to complain again because they have been told they could be put in jail. They have not received any official documents related to the status of the complaints they submitted (acknowledgement of complaint; assessment of complaints *etc*).

### ***Compensation for lost rice fields, downstream channel***

One man from Tham Phuang told us that he used to have 1 ha of paddy rice, and could grow 100 bags of rice, which was enough to feed eight family members. However, he lost half of his land because of the project, and could grow only 49 bags of rice, which was not enough to feed his family. He said that the nearest available land was 3 kilometers away and that it cost 20 million kip per hectare, more than he could afford with the compensation money he was given. Therefore, he didn’t purchase replacement land and instead used his compensation money to buy rice. He also had to sell several of his buffalos to buy rice. He hasn’t heard of any plans to provide irrigation in the area. While he hasn’t tried to cultivate dry season rice, he believes he could grow enough rice to feed his family if he had access to irrigation water. He continues “*it will be difficult to cultivate dry season rice, but I need to try.*”

Another villager in Ban Sankeo told us that he used to have 25 plots of rice paddy and grew 70-80 bags of rice (2520-2880 kg), which was enough to feed their five family members and a little surplus to sell. She now has to buy rice because she doesn’t have enough rice paddy to feed her family anymore. In addition, the price of food, particularly rice, is more expensive than before; therefore, she spent her compensation money to buy rice. Rice paddy close enough to her house is not affordable with her compensation money. Another villager in Ban Sankeo told us that it is difficult to find new land within 1km from the village. If the field is 1-2 km away from the village, they have to commute by motorcycle or tractor.

## **3. Downstream Xe Bang Fai Area**

### ***Fish Ponds***

If villagers want to undertake aquaculture, they need to pay 2 million kip to dig the fish pond. Borrowing money from the saving and credit fund, a woman in Ban Veunsanah started a fish pond in August 2008 using catfish and Tilapia. She bought the fish fry from a middleman for 20,000 kip per bag. However, in December 2008, during the dry season, the pond dried out. She was forced to sell the fish for 10,000 kip/kg, although the fish were still very small. NTPC didn’t give her any advice when the ponds were drying up, but she didn’t complain. She will try the fish pond again when the water level in the pond is higher. Otherwise, she doesn’t know how to pay the money back. Other villagers from the same village reported the same. Many villagers are indebted to the village savings and credit fund and have to repay the money within two years. Some villagers reported having to sell their buffalos to pay the money back.

In Ban Mahaxai Tai, the fish pond program started in 2007 and there are 20 fish ponds in the village. However, the villagers haven’t made any profit from the fish ponds yet because there is too much water in the wet season and not enough water in dry season. One villager said “*The agricultural officer doesn’t know what to do*”. Digging a fish pond cost two million kip and NTPC provided the villagers with 5-6 bags of free fry (Tilapia). Since the program failed in 2007, the villagers have to find money to pay the two million kip back. In 2007, the interviewee had 60-70 kg of fish (some fish for family) and earned 400,000-500,000 kip. Thus, he paid 500,000 kip back, while he still owes 1.5 million kip. He didn’t participate in

### ***Dry season agriculture***

The village headman in Ban Mahaxai Tai reported that there are many complaints by villagers because of the high cost of fertilizer (5,625,000 kip/ha), water and electricity (400,000 kip/ha). Two families have been unable to pay back their loans from 2008. The irrigation canal is in poor condition and there is little water available, which added to the problems with cultivation.

A man in Ban Hat Kham Hieng borrowed 2 million kip in 2008 for dry season cultivation, mainly for buying fertilizer, which cost 3 million kip (1,200 Baht/bag). His total investment for 1.3 ha of land was 5 million kip including fertilizer (3 million kip) and water fee (0.5 million kip). He harvested 170 bag of rice (2040 kg), sold for 1,200 kip/kg (price at the end of last dry season), and earned 2,448,000 kip. Thus, he lost money from his investment in dry season cultivation, because the price of rice was too low. This year, he hopes it will be better because the price of rice has increased, but he doesn't know what the cost of fertilizer will be.