



(RESEARCH ARTICLE)



Assessment of occupational allocation for people affected by hydropower projects

Somsanid Oypadid ¹, Bounseng Bounthong ² and Khamphoungern Siphaxay ^{3,*}

¹ Department of Industry and Commerce of Luang Namtha Province, Lao PDR.

² Rector office, Souphanouvong University, Lao PDR.

³ Faculty of Engineering, Souphanouvong University, Lao PDR.

International Journal of Science and Research Archive, 2026, 18(03), 352–360

Publication history: Received on 17 January 2026; revised on 02 March 2026; accepted on 04 March 2026

Article DOI: <https://doi.org/10.30574/ijrsra.2026.18.3.0392>

Abstract

This study aims to assess the impact of the construction of the Nam Tha 1 hydroelectric dam in Ban Vieng Mai, Na Lae District, Luang Nam Tha Province and assess the job allocation and challenges. The data collection was used a quantitative and qualitative methods, which interviewed 16 members of the committee responsible for job allocation and interviewed 65 families that affected by the construction of the hydroelectric dam. The data was analyzed for frequency and percentage by using SPSS and opinions were summarized by using a descriptive research method. The study found that:

Although the hydroelectric dam's construction project is a response to the increasing demand for socio-economic growth, it has also affected on the ecological changes, especially the loss of agricultural land, construction land, economic impacts and socio-cultural changes, including of the traditional lifestyles, which have affected food security. Along with compensation for the dam construction, the development of infrastructure and the job allocation for the people are seen as necessary and important to improve people's lives and enable them to engage in a variety of occupations. The occupations allocated by the project include: planting, animal husbandry, fishing and trading, etc. In addition, the project has also provided plant varieties, animal varieties, and equipment necessary for occupations and has also sent technicians to receive technical and technical training and has been monitored periodically. It was found that the most suitable and acceptable occupations by the people are: animal husbandry (duck and chicken raising), which accounts for 100% because it is a stable occupation and generates continuous income. When viewed as a whole, it can be seen that the income after the dam was built is quite high compared with dam was built. The main income came from rubber plantations in the old village area and some from cattle raising. Regarding the allocation of jobs to the people, there are many challenges in implementing the project, such as: wrong data analysis, some people do not cooperate and most importantly, limited budgets. Although frogs and catfish raising are profitable, both of these animals are not popular for consumption and both animal raising were used high cost and this job are not unsustainable. Another, vegetable gardening is not yet accepted because most of them grow it for family consumption. Similarly, growing bamboo is not yet in demand in the market because bamboo shoots are easy to find in natural area in their villages. Fishing is also not yet a source of income for them because most of the fishing is only for family consumption. However, in order to continue to monitor the quality of life of the people to strengthen the community, especially to promote job creation and income generation to ensure that displaced families are not affected, before allocating jobs to people, it is necessary to study their needs first, including the techniques to be promoted to see if they are suitable for them. In addition, assistance should be continued to help them become strong and self-reliant.

Keywords: Traditional Lifestyle; Compensation; Occupational Allocation; Socio-Economics

* Corresponding author: Khamphoungern Siphaxay

1. Introduction

Occupation and livelihood of the people of Vieng Mai Village, Na Lae District, Luang Nam Tha Province. The village was originally named Hat Thap village. The people are mainly farmers. Before the Nam Tha 1 Hydropower Project, the village was considered a village with poor infrastructure, such as roads, which could only be accessed by boat, lack of access to clean water (no running water or drinking water), no health care, no electricity and other facilities, including the Internet and public utilities. As mentioned above, the majority of the people are farmers (mainly planting and raising animals according to each family) and the rest are employed or work in the city. After the project, the people's livelihood has been encouraged by the government and project developers, starting with the development of infrastructure such as houses, roads, electricity, water running system, schools, and village clubs. At the same time, the village also received assistance in clearing land for production, especially rice fields, gardens and livestock areas. In addition, the project also supported the livelihood of the people, especially fishing, which is a long-standing activity. The project provided fishing equipment and tools such as nets, boats and other necessary equipment. In addition, the project and the government also attached importance to the long-term livelihood of the people, by planning to develop the village's pre-existing knowledge to create products that can generate economic benefits for them. For example, brewing and processing alcohol products is an activity or profession that the people of Na Lae District have a tradition. Lao win has the ability to process and brew alcohol that is unique to him and is popular with society. The project will provide modern equipment and tools for Lao win to increase production and improve quality. As well as encouraging them to create products with local logos (Summary of the Hydropower Project, 2015)

As mentioned, even if people receive improved infrastructure or a better way of life, the displacement of people still has a significant impact on the material and psychological well-being of the people, especially the departure from the places where they have lived and worked for a long time, the way of life that has been passed down from generation to generation, the place of residence, the place of work, where these activities are transformed into new forms that affect the psychological well-being of many people. According to 2016 data from the project, there are people from 34 villages in Pha Oudom District, Bokeo Province and Na Lae District, Luang Nam Tha Province who will be relocated due to the construction of Nam Tha 1 Hydropower dam (Ministry of Natural Resources and Environment, 2016). This displacement has affected the lifestyle and culture of the people in the area as mentioned above. People need to adapt to the new environment and the loss of their old land. After the dam construction, although the project and all parties have provided assistance and improved the life quality of the affected people, the people have encountered challenges in adapting to the market economy and sustainable agriculture. In addition, monitoring and evaluation by relevant parties have not been paid serious attention and are not carried out regularly. The aforementioned problems are the reasons why a number of people still do not have stable jobs, do not have stable incomes and are still poor. The hydroelectric dams project often affects the livelihoods of people who have to be relocated from the construction site Hartung and Taber (2008), especially local communities and villagers living in the area. These impacts can be divided into several aspects such as: 1) Social and cultural impacts, which often result in the loss of unique traditional houses, lifestyles and land for livelihood, which may result in instability in the new location. Local communities may be separated from places of historical or cultural significance such as ancient sites, places of worship or ways of life linked to nature, and relocation may include a loss of community cohesion. 2) Economic impacts, as villagers who previously had areas for farming, herding or fishing may lose their main source of income and must adapt to a new way of life. Even with compensation from the government or project developer, relocation may entail additional costs such as building new or extended houses, finding new or re-allocated land, and adapting to the new environment. 3) Health and environmental impacts (Suiciding, 2021). It causes changes in ecosystems such as deforestation, changes in river flows, impacts on aquatic animals, and people who move to new areas may face health problems such as exposure to toxic air, the spread of diseases or psychological stress, etc. Development is necessary and all development has its benefits and drawbacks. The construction of hydroelectric dams has also created benefits and impacts on people in nearby areas, the allocation of jobs, the improvement of infrastructure, and the improvement of the living conditions of the affected people to normal or better. An assessment of the jobs or production groups that the relevant parties have allocated in accordance with or not, how the operations in the production groups are, including problems that may occur in the future (Phthalein, 2021).

Objectives

- Study the impact of the construction of the Nam THA 1 hydroelectric dam in Vieng Mai Village, Na Lae District, Luang Nam THA Province
- Assess the allocation of jobs, including challenges in implementing the project.

2. Research Methodology

2.1. Data collection tools

This study used a mixed methods research approach, which included both quantitative and qualitative data collection. Tools were used during the interviews and data collection, such as cameras and voice recorders. The interview design used theories related to career allocation for affected people by the hydroelectric dam construction project, including acceptance theory, with a reliability value (Cronbach's Alpha) of 0.964 and an IOC value of 0.92 or higher. The details of the questionnaire are as follows

2.2. Questionnaire for the committee responsible for job allocation

- Part 1: General Information of the Respondents.
- Part 2: Opinions on job allocation for affected people by the Nam Tha 1 hydropower dam project.
- Part 3: Challenges on job allocation for affected people by the Hydropower dam construction project.

2.3. Questionnaire for people Who received job allocation from the hydropower dam construction project

- Part 1: General Information of the Respondents.
- Part 2: Opinions on Acceptance of Job Allocation from the Project.
- Part 3: Suggestions for Guidelines for Job Allocation for People.

2.4. Population and sample size

2.4.1. Population

This data collection was conducted by asking questions and interviewing people affected by the Nam Tha 1 hydroelectric dam construction project in Vieng Mai Village, Na Lae District, Luang Nam Tha Province and the committee responsible for allocating jobs to people affected by the construction of the Nam Tha 1 hydroelectric dam.

2.4.2. Sample size

The population affected by the Nam Tha 1 hydroelectric project and was allocated an occupation. There was a total of 65 households, which was seen as a small number, so the sample size was small, so all were determined according to the method of Krejcie and Morgan (1970)

The committee responsible for allocating jobs to people affected by the construction of the hydroelectric dam consisted of 16 members, from: 1) Electricite du Laos, 2) SSAFE Company, 3) Department of Agriculture and Environment of Luang Namtha Province, 4) Office of Agriculture and Environment of Luang Namtha District, 5) Namtha Company 1, 6) Namtha City Hall, 7) Department of Industry and Commerce of Luang Namtha Province, 8) Office of Industry and Commerce of Namtha District. Therefore, since the sample size was small, all were selected according to the method of Krejcie and Morgan (1970).

2.4.3. Data analysis

In order to make the analysis results accurate and precise, in this study, the researcher used the SPSS version 25 program to analyze according to the research objectives as follows:

- For the personal data of the respondents, frequency values and percentages were calculated.
- For the opinions of the project managers and the public towards the internship, including the post-internship evaluation, the data was summarized using a descriptive research method.

3. Result

3.1. Job allocation for people affected by the hydroelectric dam project

The construction of the Nam Tha 1 hydroelectric dam project in Vieng Mai Village, Na Lae District, Luang Nam Tha Province has affected people in many ways, including: having to relocate their villages to the project area. The project has appointed a committee to assess the damage caused to compensate for this impact, especially the creation of jobs for people who have relocated to the project area. Initially, the committee surveyed their opinions and needs for

occupations according to their needs, based on the special features of the village, the potential and capabilities of the people. The opinions of the people were first asked, and then they were taken into consideration. The occupations that the project allocated include: 1. planting, which includes promoting the cultivation of gardening and bamboo, 2. Animal husbandry, which includes the provision of chicken, duck, small duck and small frog varieties, 3. Promoting fishing, and 4. Promoting other activities to help people earn money, such as promoting trade (Table 1). In addition to providing jobs for people, the project also provides support for various equipment to be used in each occupation, such as: Animal feed, fishing equipment, training and technical support for each important occupation are provided by sending technical staff to each production group to provide advice on various aspects so that they can be strong and self-reliant (Table 2). In addition, there is management and administration after the occupation is provided, which includes: improving the life quality, creating a social security fund, providing assistance to the poor and disadvantaged, including creating a database of the poor and disadvantaged to facilitate future assistance (Table 3). Regarding the challenges in allocating occupations to people, the reasons why the project did not achieve its objectives are: lack of analysis of people's needs, lack of cooperation from some groups of people, including an unfavorable environment and, most importantly, insufficient budget, inflation and lack of market support.

Table 1 Jobs allocates to the people

No	JOBS allocates to the people
1	Planting
2	Animal husbandry
3	Fishing
4	Trading/etc..

Table 2 Post-placement support

No	Supported
1	Provide necessary seeds and equipment
2	Give money to each family
3	Organize training and provide technical skills for each occupation
4	Send technical staff to each production group
5	Wait for the collection and purchase of production results

Table 3 Management and administration after career placement

No	Management and administration
1	Improving the quality of life
2	Creating a social security fund
3	Providing assistance to the poor and disadvantaged
4	Managing labor
5	Creating a database of the poor and disadvantaged to facilitate assistance
6	Raising funds to help villagers
7	Creating a mechanism for evaluating each aspect

3.2. Acceptance of the assigned occupations and proposals for guidelines for assigning occupations to the public

The people chose livestock as their main occupation, 65 families or 100%. In this, it can be seen that the people who chose chicken raising were the most numerous, with 43 families accounting for 66.15%, followed by duck raising with 16 families accounting for 24.62%, followed by frog raising with 4 families accounting for 6.15%, and the least numerous were catfish raising with 2 families accounting for 3.08%. The fact that people chose livestock farming as their main occupation clearly shows that livestock farming is the most popular choice for people in the area after the relocation, especially chicken and duck raising because these occupations were practiced by them in the past and both types of animals are popular for consumption. However, it can be seen that farming is not yet accepted because most of them grow for family consumption, so they do not have any income from gardening. Similarly, for bamboo plantation, it is not yet in demand in the market because bamboo shoots are easy to find in their area. As for fishing, it is also not yet an income for them. Because most fishing is only for family consumption (Table 4), there is a big difference in the average annual income before the construction of the hydroelectric dam. The group with an income of 1,000,000-5,000,000 LAK/year, with an average per person of 330,000-1,600,000 LAK/year, has the largest number, accounting for 29.23% or 19 families, followed by the group with an income of 10,000,001-15,000,000 LAK/year, with an average per person of 2,000,001-3,000,000 LAK/year, accounting for 27.69% or 18 families, and the group with an income of 5,000,001-10,000,000 LAK/year, with an average per person of 1,000,000-2,000,000 LAK/year, accounting for 20.00% or 13 families. The higher income groups have a significantly lower proportion, such as the income group of 15,000,001-20,000,000 LAK/year, with an average per capita income of 2,500,000-3,300,000 LAK/year, with 15.38%, and the group with the highest income of >20,000,001 LAK or more, with an average per capita income of 4,000,000 LAK, with only 7.69% or 5 people. The reason for the wide distribution of people's income reflects differences in the size of agricultural land, the number of livestock, and the production capacity of each household. The low-income group (1,000,000-5,000,000 LAK/year) may be households with small landholdings or only engage in sideline occupations, while the higher-income group may have more land or raise a large number of livestock. This information is very important for career planning because compensation and alternative jobs must be able to ensure income equal to or higher than the original income so that people can live a quality life. Career planning must therefore be flexible and appropriate for each of these different income groups. (Table 5). When looking at income after the dam construction, it is quite high compared to income before the dam construction and there is quite a big difference. The group with an income of 10,000,000-35,000,000 LAK/year, if the average per person is 3,300,000-11,650,000 LAK/year, has the largest number, with 19 families accounting for 29.23%. Next is the group with an income of 52,000,001-92,000,000 LAK/year, if the average per person is 10,400,001-18,400,000 LAK/year, has the largest number, with 15 families accounting for 23.08%. Next is the group with an income between 35,000,001-52,000,000 LAK/year, if the average per person is 7,000,000-10,400,000 LAK/year, there are 13 families, accounting for 20.00%, followed by the group with an income between 92,000,001-130,000,000 LAK/year, if the average per person is 15,333,000-21,667,000 LAK/year, there are 10 families, accounting for 15.38%, and the group with an income between 130,000,001-170,000,000 LAK/year, if the average per person is 26,000,000-34,000,000 LAK, there are 5 families, accounting for 7.69%, and the group with an income between 170,000,001-250,000,000 LAK/year, if the average per person is 34,000,000-50,000,000 LAK/year, there are 3 families covering 4.62% and with an average income of 62,461,538 LAK/year, most of the income comes from selling poultry, selling cattle and growing rubber trees. In addition, there are other incomes, such as general trading/hiring, which are obtained from the creation of facilities by the project, which allow them to engage in a variety of occupations. The group with an income of 10,000,000-30,000,000 LAK/year has income from fishing and selling poultry, while the group with an income of 35,000,000-52,000,000 LAK/year has income from selling cattle and collecting non-timber forest products, including fishing. The group with higher incomes, mainly comes from selling rubber and selling cattle, etc. Importantly, the income in addition to growing rubber trees also comes from other incomes, such as general trading/hiring, which are obtained from the creation of facilities by the project, which allow them to engage in a variety of occupations. This leads to their relatively high income compared to their income before the construction of the hydroelectric dam (Table 6). Regarding the income from the occupations allocated by the project to people after resettlement, namely raising chickens, ducks, ducks and frogs, it can be seen that: the group with an income between 500,000-1,800,000 LAK has 22 families, accounting for 33.85%, followed by the group with an income between 2,700,000-4,000,000 LAK with 19 families, accounting for 29.23%, followed by the group with an income between 1,800,001-2,700,000 LAK with 17 families, accounting for 26.15%, and the least is the group with an income between 4,000,001-6,000,000 LAK with 7 families, accounting for 10.77% and with an average income of 2,490,000 LAK (Table 7).

Table 4 The most popular professions

No	Occupations	Frequency	Percent
I	Planting	0	0
1	Gardening	0	0
2	Bamboo	0	0
II	Animal husbandry	65	100
1	Chicken	43	66.15
2	Duck	16	24.62
3	Frog	4	6.15
4	Catfish	2	3.08
III	Fishing	0	0
IV	Trading/etc..	0	0
	Total	65	100

Table 5 The amount and percentage of average annual income before the construction of the hydroelectric dam (LAK)

No	Average annual income	Frequency	Percent	Amount	Income/person
1	1,000,000-5,000,000	19	29.23	3	330,000-1,600,000
2	5,000,001-10,000,000	13	20	5	1,000,000-2,000,000
3	10,000,001-15,000,000	18	27.69	5	2,000,001-3,000,000
4	15,000,001-20,000,000	10	15.38	6	2,500,000-3,300,000
5	>20,000,001	5	7.69	5	4,000,000
	Total	65	100	4.8	

Table 6 The amount and percentage of average annual income after the construction of the hydroelectric dam (LAK)

No	Average annual income	Frequency	Percent	Amount	Income/person
1	10,000,000-35,000,000	19	29.23	3	3,300,000-11,650,000
2	35,000,001-52,000,000	13	20.00	5	7,000,000-10,400,000
3	52,000,001-92,000,000	15	23.08	5	10,400,001-18,400,000
4	92,000,001-130,000,000	10	15.38	6	15,333,000-21,667,000
5	130,000,001-170,000,000	5	7.69	5	26,000,000-34,000,000
6	170,000,001-250,000,000	3	4.62	5	34,000,000-50,000,000
	Total	65	100	4.8	

Table 7 The amount and percentage of income received from job allocation (LAK)

No	Income	Frequency	Percent
1	500,000-1,800,000	22	33.85
2	1,800,001-2,700,000	17	26.15
3	2,700,001-4,000,000	19	29.23
4	4,000,001-6,000,000	7	10.77
5	Total	65	100
	Average	2,490,000	

4. Discussion

The study results show that the jobs allocation for people affected by the dam is necessary, not only to compensate for the jobs they have previously held, but also to strengthen the community. It is important that the jobs allocation is based on their needs, the local conditions and sustainability, which is something that the project should prioritize. In addition, there should be support and encouragement for new jobs to be accepted, especially during monitoring of each activity. The results of this study reflect a pattern of community adaptation that is consistent with research on many hydropower projects in Laos. The fact that the majority of people (80%) commented that their lives had improved due to access to education and new facilities is consistent with the study by Sayatham and Suhardiman (2015) who found that asset substitution and infrastructure improvements such as access to roads, improved roads to production sites and electricity can improve the quality of life initially. However, the challenge of shifting to 100% livestock farming due to spatial constraints poses a risk to income security, which is consistent with the study by Ahmed and Liquin (2023) which found that dam development in northern of Lao PDR often affects traditional livelihoods of ethnic groups and causes food insecurity due to loss of traditional productive land. The problems of livestock mortality due to disease and lack of technical support encountered by the people of Vieng Mai village are also consistent with the study by Sayatham and Suhardiman (2015) which highlighted that access to land and ongoing technical support are key determinants of successful livelihood restoration. Therefore, the consistency of the results of this study with previous studies suggests that livelihood allocation can only be sustainable if technical and marketing issues are seriously addressed so that people do not fall into the so-called "household but no stable income" situation. In addition, the study of livelihood allocation for the people of Vieng Mai village affected by the Nam Tha 1 hydroelectric dam construction project reflects both the successes and challenges that are consistent with international experience in livelihood restoration for displaced people. The project implementation followed a series of steps, starting with the grouping of occupations, the voluntary survey of the people, and the allocation of labor according to the capacity and availability of each household. This approach is consistent with the principle proposed by the IFC Handbook for Land Acquisition and Involuntary Resettlement that livelihood restoration projects should be initiated from the outset and coordinated with specialized teams such as livelihood managers, agriculture, livestock, and fisheries specialists (International Finance Corporation, 2023). A key feature of the project is the focus on traditional occupations that people have previously engaged in, especially planting and livestock, where all people are primarily engaged in agriculture. This choice of occupations reflects a good understanding that effective livelihood restoration must rely on the existing skills and expertise of the community. This observation is consistent with Owusu (2021) study on the Bui hydroelectric dam project in Ghana, which found that successful projects built on existing skills and practices of the community. However, Owusu (2021) also warns that challenges such as poor soil quality, inadequate fishing equipment and delays in land compensation payments can hinder extensive rehabilitation efforts after the allocation of occupations. The project has provided several key support measures, including the provision of necessary seeds and equipment, training and provision of technical expertise to each occupation, and the deployment of technical staff to each production group. This approach reflects internationally recommended best practices. As stated in the Sustainable Livelihood Framework developed by the UK Department for International Development, supporting human capital through training and skills transfer is essential for the adaptation of displaced communities (Khatiwada, 2021). A study by Nikuze et al. (2019) on the Tanahu hydropower dam project in Nepal country also confirms that: providing 90 days of cash assistance at the local agricultural wage rate, special allowances for poor families and opportunities to participate in vocational training are essential to accelerate livelihood recovery. For the planting and livestock project, the study results clearly show that the highest-performing occupations are crop and livestock, especially large livestock such as cattle and goats, including rubber plantations. This can be explained by several factors, such as: 1. These are occupations that the Leu and Kumm people have had many years of experience in and are in line with their lifestyle and culture. Lu (2024) study in a

literature review on dam-induced displacement highlighted that successful projects tend to maintain cultural continuity and livelihoods of affected communities rather than trying to introduce new, uncertain livelihoods. Second, there are stable markets for these products, particularly rubber, which is in high demand in international markets, and large animals that can be sold in local markets. In addition, the success of livestock projects is consistent with a study by Pandit et al. (2021) in Nepal that found that agroforestry systems improve livelihoods through economic and conservation benefits. Technical support available to new villages, such as the deployment of technical staff to production groups, is an important mechanism to ensure that people can effectively implement new techniques (International Finance Corporation, 2023). In contrast, the project did not continue to support frog and catfish raising, mainly because of the high cost and the fact that these two species are not popular for consumption or market demand. This finding reflects a common problem in livelihood restoration projects around the world. Vanclay (2017) study on the Ghazi Barotha hydroelectric dam in Pakistan country also found that: Incorrect needs analysis and lack of proper market assessment can lead to the failure of some livelihood restoration activities. In the case of Ban Vieng Mai, factors that contributed to the failure of the project included lack of community cooperation, insufficient budget, high inflation, inaccurate community needs analysis, unfavourable environment, lack of market support and inappropriate technical skills. This is consistent with Kirchherr (2016) study on the Belo Monte dam in Brazil, which found that displacement or relocation due to the dam was a major factor leading to economic losses and that without adequate compensation and effective livelihood restoration, displaced families often suffered significant reductions in income. An important lesson from the failure of the fisheries project is the need for a thorough feasibility assessment before introducing new occupations. As the IFC Handbook (2023) warns, “slash-and-burn farmers or pastoralists cannot immediately convert to high-tech drip irrigation simply because the technology works well elsewhere.” This highlights the importance of choosing activities that are consistent with existing skills, geography, and market conditions.

5. Conclusion

Although the hydroelectric dam construction project can provide electricity for domestic use and export to support socio-economic growth, it also has an impact on ecological changes, because it is impact and caused the loss of production land, various types of crops, and the loss of construction areas. Most importantly, the loss of traditional lifestyles. In particular, the professions that people used to practice have changed, which has affected food security. However, in addition to the damage caused, the project contractor has also compensated for the damage caused by helping to rebuild houses and developing infrastructure to create facilities and create new jobs. Importantly, it can increase income for people, especially the construction of schools, temples, water supply, electricity and roads. In addition to compensating for the damage caused, the project has also allocated jobs for people affected by the hydroelectric dam construction project, including supporting plant and animal varieties, as well as the equipment necessary for their jobs. This also includes sending teams (experts) to receive technical and technical training, as well as periodic monitoring. According to the opinion survey, the project includes: farming (gardening and bamboo), animal husbandry (chickens, ducks, catfishes and frogs), fishing and trading, etc. However, after the allocation of occupations, it was found that the occupations that can generate income for people and are most accepted are animal husbandry, especially chicken and duck raising. catfish and frog raising are high-cost and not yet popular, so these two types of animal husbandry are not suitable. Another factor is the limited budget of the project, including the interest rate. The reason why animal husbandry is accepted in this area is that it is suitable. When looking at the overall situation, it is seen that the income after the dam construction is still quite high. However, compared to the income before the dam construction, it is seen that people's income has increased significantly and their main income is from rubber plantations. In terms of allocating occupations and improving people's livelihoods, it is seen that there are still many challenges, especially the lack of understanding of some families about the dam construction, the lack of data analysis that affects the allocation of occupations to them, including the lack of cooperation from them, and refusal to compensate for damages.

However, in view of the damage caused, what is indispensable is the most appropriate compensation for the impacts of the dam construction, including continuing to monitor the life quality of the people from time to time to strengthen the community, especially by promoting job creation and various support measures to promote income generation, as well as ensuring that displaced families are not affected. In the long term, the project and the company contracting the dam project should continue to encourage people in the area to create stable jobs, including improving infrastructure that is important for their livelihoods and creating jobs for people so that they can live better. However, even if the compensation is reasonable, there are still many conflicts that have arisen, including the fact that the lives of some families have not been improved as much as they should and should be resolved.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

References

- [1] Ahmed, S., and Liquin, P. (2023). Socio-ecological challenges of hydroelectric dams among ethnic minorities in northern Laos. *Environmental Development*, 46, 100864. <https://doi.org/10.1016/j.envdev.2023.100864>.
- [2] Hartung, P. J., and Taber, B. J. (2008). Career construction and subjective well-being. *Journal of Career Assessment*, 16(1), 75-85. <https://doi.org/10.1177/1069072707305772>
- [3] International Finance Corporation. (2023). IFC Handbook for Preparing a Resettlement Action Plan. World Bank Group. Retrieved from www.ifc.org: <https://www.ifc.org>
- [4] Krejcie, R.V., and Morgan, D.W. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*, 30, 607-610.
- [5] Khatiwada, L. K. (2021). An operational framework of participation for sustainable hydropower: A case of Nepal. *Energy Policy*, 154, 112260. <https://doi.org/10.1016/j.enpol.2021.112260>.
- [6] Kirchherr, J. P. (2016). Cleaning up the big muddy: A meta-synthesis of the research on the social impact of dams. *Environmental Impact Assessment Review*, 60, 115-125.
- [7] Lu, J. F. (2024). Impact of resettlement caused by reservoir construction on residents' livelihood capital-A case study in China. *International Journal of Environmental Research and Public Health*, 21(4), 402.
- [8] Ministry of Natural Resources and Environment. (2016). Compensation and Resettlement of People from Development Projects No. 84/LP. Dated 5 April 2016. Vientiane: Ministry of Natural Resources and Environment.
- [9] Nikuze, A. S. (2019). Livelihood impacts of displacement and resettlement on informal households-A case study from Kigali, Rwanda. *Habitat International*, 86, 38-47.
- [10] Owusu, K. O. (2021). Downstream effects of dams on livelihoods of river-dependent communities: The case of Ghana's Kpong Dam. *Geoforum*, 120, 165-178.
- [11] Phetchaleun, S. (2021). Allocation of resettlement land for people affected by floods in Sanamxay district, Attapeu Province. National University of Lao PDR. Pandit, R. N. (2021). Agroforestry systems and practices in Nepal: A review. *Journal of Agriculture and Forestry University*, 4, 1-15.
- [12] SPSS (version 25). Software platform offers advanced statistical analysis.
- [13] Summary of the Hydropower Project. (2015). Policies and replacement units for the Nam Tha Hydropower Project 1. No. 623/ChK. dated 14 September 2015. Luang Nam: Luang Nam Tha Provincial Planning and Investment Department.
- [14] Sayatham, M., and Suhardiman, D. (2015). Hydropower resettlement and livelihood adaptation: The Nam Mang 3 project in Laos. *Water Resources and Rural Development*, 5, 17-30. <https://doi.org/10.1016/j.wrr.2015.01.001>.
- [15] Vanclay, F. (2017). Social Impact Assessment: Guidance for assessing and managing the social impacts of projects. *International Association for Impact Assessment*, 35(1), 3-21.