

# Draft Environment and Social Impact Assessment

Project Number: 55205-001  
29 April 2022

## Lao PDR: Monsoon Wind Power Project Part 3: Main Report

Prepared by Impact Energy Asia Development Limited (IEAD) for the Asian Development Bank.

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# Monsoon Wind Power Project, Sekong and Attapeu Provinces, Lao PDR

Environmental and Social Impact  
Assessment

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2	2.1	As above	As above	Kamonthip Ma-Oon	29-04-22	Final ESIA Report

- iii. *Any lesser impacts are mitigated in accordance with para. 27', whereby mitigation measures will be designed to achieve at least no net loss of biodiversity."*

### Requirements in terms of legally protected areas

The project footprint does not overlap with any identified formally legally protected areas therefore the requirements under ADB SPS Paragraph 28 and 30 do not apply.

## 7.5 Social Baseline

### 7.5.1 Introduction

This section presents a description of the socio-economic characteristics of the Project Area of Influence (Aoi), and where available utilizes national and regional level data for providing a more cogent understanding of the context. This social baseline analysis is based on:

- Social baseline provided in the local EIA (2020);
- Primary data collected by conducting a systematic socio-economic household survey, key informant interviews targeting the Aoi, to supplement the available surveys and studies; and
- Secondary data collated from published literature as well as national and regional data sources.

Focus group discussions (FGDs) and key informant interviews (KIIs) were chosen as the qualitative data collection methodology to:

- Provide detailed information rapidly;
- Provide information on the many non-measurable issues (for example, access to natural resources or the structure of social institutions); and
- Ensure a more inclusive, participatory approach than what would have been possible with individual questionnaires.

However, due to the Covid-19 pandemic, government restrictions were imposed on the districts where the Project is located, for the majority of the duration in the second half of 2021. As such, the Project was not able to undertake FGDs. The local villagers were also hesitant to engage in group activities due to the risk of spreading Covid-19.

The Project team was apprehensive of potential risks associated with the undertaking of the social baseline plan, therefore a modification to the plan was implemented with an aim to fill the gaps while respecting the needs to have a Covid-19-safe field operation during the pandemic.

The modification of the social baseline plan consisted of:

- KIIs with village leaders, teachers, healthcare workers, religious leaders, and others; and
- FGDs (in the KII format) with representatives of women groups, youth groups, livelihood groups, ethnic minority groups.

### 7.5.2 National Socio-economic Overview

This section presents national-level overview of demographics, institutional context, and the economy of Laos.

An overview of the national socio-economic conditions provides a context for the socio-economic conditions and characteristics of the Project-affected population to be understood more thoroughly, which in turn, provides a strong basis for the potential socio-economic impacts on the Project-affected population to be assessed, particularly in the area of vulnerability to change.

### 7.5.2.1 Demographic Information

#### *The Laos PDR population*

Lao PDR is a land-locked country in mainland Southeast Asia bordering Myanmar, Cambodia, China, Thailand, and Vietnam, with a total area of approximately 237,000 km<sup>2</sup>. The landscape is mostly mountainous (80%) with some plains and plateaus (20%) found mostly among the Mekong river plains.<sup>42</sup> The country has 7.2 million people live in 18 provinces in 2020, with an estimated annual growth rate of 1.5%.<sup>43</sup> The male and female population of Lao PDR are 3.65 million and 3.62 million respectively, with a corresponding share of 50.2% and 49.8%. The country has a total of approximately 1.3 million households with average household size of 5.3 people per family and population density of 31 people per km<sup>2</sup>.

#### *Ethnicity and Religion*

The country is one of the most ethnically diverse countries in mainland Southeast Asia. The Lao government currently recognises 160 ethnic subgroups within 50 ethnic groups.<sup>44</sup> Out of the total population, the Lao ethnic group accounted for 53 percent, followed by Khamu (11%), Hmong (9%) and other ethnic groups (27%).

Laos is official language and over 80 languages used by different ethnicities in Lao PDR and the most common are Khmu and Hmong languages. Other minority languages include Akha, Arem, Bana, Katu, Ksingmul, Maleng, Lamet, Phai, Tai Daeng, Phu Thai, and Tai Dam.

The most vulnerable ethnic minorities have very few assets, are geographically isolated (mostly highlands), and face language and cultural barriers.

Buddhism is the pre-dominant faith practiced by the population in Lao PDR. Sixty-five percent of the population are Buddhist, while Christians constituted nearly 2%, and 32% reported themselves as having no religion or being animist.<sup>45</sup>

#### *In-migration and out-migration*

A significant portion of the population (35%) still resides in rural areas and work in an agriculture sector dominated by subsistence farming; however, the pace of urbanization (population growth in urban areas) is relatively fast at a rate of at 3.1% per annum in 2015, the highest urbanization rate in the Asia Pacific region.<sup>46</sup>

In addition, there is a strong in-migration trend in Lao PDR, where one in ten residents moved into an area from another province.<sup>47</sup> In the last thirty years, rural to urban migration seems to be a recent phenomenon resulted from networks constructed around the country.<sup>48</sup>

According to United Nations data, there are 1.3 million Lao nationals living abroad, with Thailand the largest destination country (approximately 300,000). Lao migrant workers are predominantly employed in domestic work, construction, manufacturing, agriculture, seafood processing and entertainment work, mainly in neighbouring border provinces and larger cities in Thailand. Financial remittances from these workers are a significant source of income in the Lao People's Democratic Republic, totalling an estimated USD 265 million in 2020.<sup>49</sup> It is within the context of this cross-border

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<sup>42</sup> Land-Links, 2013

<sup>43</sup> Lao Statistic Bureau, 2020a

<sup>44</sup> IWGIA, 2021

<sup>45</sup> IFAD, 2012

<sup>46</sup> UN-Habitat & ESCAP, 2015, p. 23

<sup>47</sup> Lao Statistics Bureau, 2016, p. 56

<sup>48</sup> Bouté, 2017, as cited in UCRSEA, 2017

<sup>49</sup> ILO, 2021

movement that the migrating population is at the risk of being trafficked for forced labour, sexual exploitation, and child labour.<sup>50</sup>

### *Poverty, inequality and human development index*

Lao PDR is classified as a low and middle income country (LMIC) and a least develop country (LDC) by the United Nation. LDCs are low-income countries confronting severe structural impediments to sustainable development. They are highly vulnerable to economic and environmental shocks and have low levels of human assets.<sup>51</sup>

Lao's Gross Domestic Product (GDP) per capita is USD 1,789, with GDP growth rate at 7.2 percent on average over the last 20 years.

The poverty rate of Lao PDR has declined from 24.6% in 2012/2013 to 18.3% in 2018/2019 (Lao Statistics Bureau, 2020b); however, the poverty rate in Lao PDR is now expected to increase to 21.5% due to the impact of Covid-19 (Government of the Lao PDR, 2021). Although the poverty rate has been rapidly reduced in rural areas (while urban poverty reduction has stagnated), the gap in poverty rate between rural (23.8%) and urban (7.0%) poverty rates remain – rural poverty rate is 3.4 times higher than that of urban areas as reflected in increased Gini<sup>52</sup> index from 0.31 in 1992/93 to 0.39 in 2018.<sup>53,54</sup>

In 2019, Lao PDR's Human Development Index (HDI)<sup>55</sup> was 0.61, ranking 137th out of 189 countries indicating a medium human development progress. The Lao PDR HDI comes with a Gender Inequality Index (GII)<sup>56</sup> of 0.46, raking 113th out of 162 countries suggesting a relatively low inequalities between women and men, and the Multidimensional Poverty Index (MPI)<sup>57</sup>, which is the share of the population that is multidimensional poor, adjusted by the intensity of the deprivations, is 0.11.<sup>58</sup>

In 2021, the new prime minister announced seven priorities, vowing to tackle public debt and revenue leakages, boost exports, counter corruption and create more job opportunities. The government has also pledged to foster quality growth and reduce reliance on the natural resource sector, to increase access to basic public services, especially health and education, and to place more emphasis on human resource development.

A brief country overview of Lao PDR is presented in **Figure 7.29**.

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<sup>50</sup> US Department of State, 2021

<sup>51</sup> UN Department of Economic and Social Affairs, n.d.

<sup>52</sup> The Gini Index is a summary measure of income inequality. The Gini coefficient ranges from 0, indicating perfect equality (where everyone receives an equal share), to 1, perfect inequality (where only one recipient or group of recipients receives all the income). Thus, values indicating greater inequality.

<sup>53</sup> Lao Statistics Bureau, 2020b

<sup>54</sup> The World Bank, n.d.

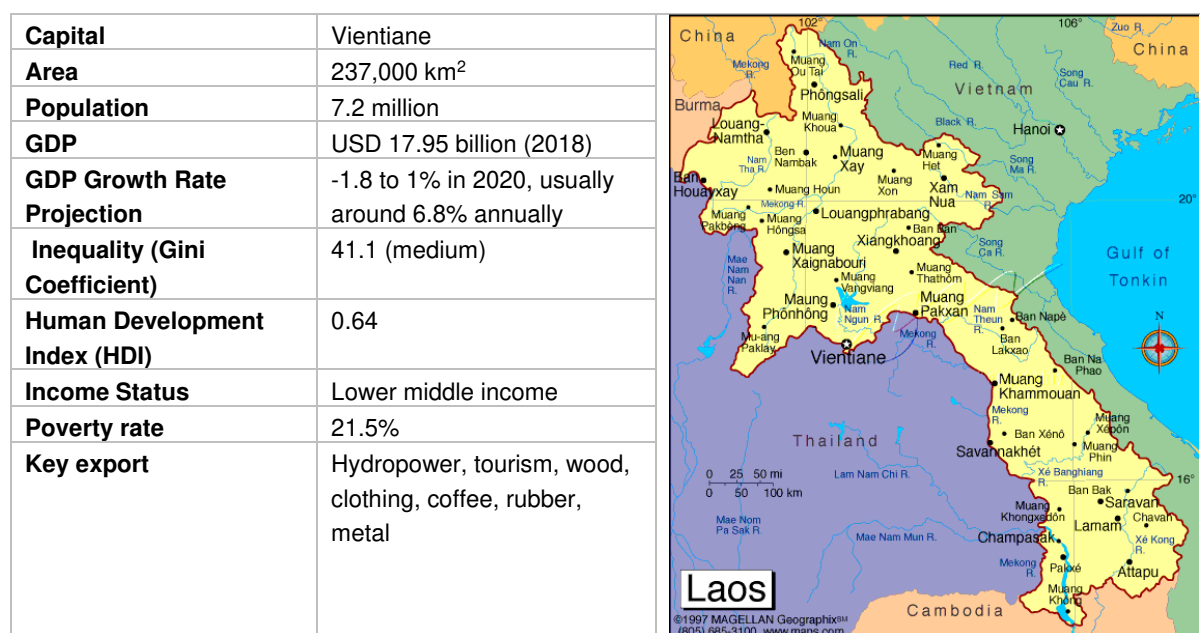
<sup>55</sup> The HDI is a summary measure for assessing long-term progress in three basic dimensions of human development: a long and healthy life, access to knowledge and a decent standard of living.

<sup>56</sup> GI reflects gender-based inequalities in three dimensions – reproductive health, empowerment, and economic activities

<sup>57</sup> MPI identifies multiple overlapping deprivations suffered by individuals in 3 dimensions: health, education and standard of living.

<sup>58</sup> UNDP, 2020a

Figure 7.29: Lao PDR Country Brief Overview



### 7.5.2.2 Institutional Context

Lao PDR's system of governance has four levels: national, provincial, district and village with provincial, district, and village levels classified under local governance. The institutional context is summarised below:

- **The National Assembly:** is the supreme organ of the state and the only body with constitutional and legislative power to draw up, adopt, and amend the constitution and to make and amend laws, to legislate and implement state plans and budgets, and overseeing the activities of the executive and the judiciary bodies. Each National Assembly has a term of five years. Elections for the new National Assembly must be completed no later than 60 days before the old National Assembly expires.
- **The President:** The President is the Head of State of the Lao PDR and represents the Lao people of all ethnic groups both domestically and internationally. The President is elected by the National Assembly by a two-thirds majority vote of the members present. The term of office of the President is the same as that of the National Assembly. The main function of the President is to maintain the regular and coordinated operation and stability of the national government, safeguard the independence and territorial integrity of the country.
- **The Government:** The government is the executive body of the National Assembly and the highest body of state administration of Lao PDR. It oversees performance of state functions in all areas: political, economic, cultural, social, national defense, security and foreign affairs.
- **Local government:** The Lao PDR divides local government into three levels: provincial, district and village. Each level includes: provinces and cities; districts and municipalities; villages. Each level has the governing bodies: Provincial governor, district heads and village heads, and mayor for municipality.
- Courts and the Public Prosecutor's Office
  - **People's Court:** The People's Court is a state judicial body that has the power to protect and enhance the effects of the revolution, political system, economy, culture and society; Punish and educate violators of the law, educate citizens to respect the rules and regulations.



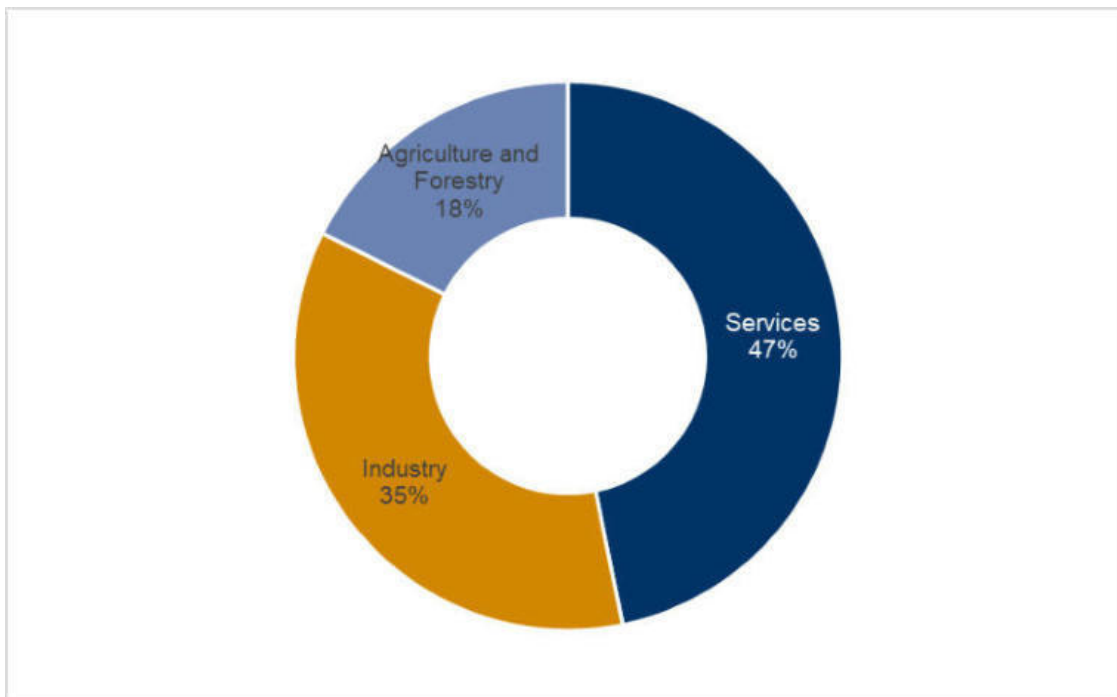
- The court system of the People's Courts of the Lao People's Democratic Republic consists of: The People's Supreme Court; Court of Appeal; Provincial, city people's courts; District People's Court and Military Court.
  - **Public Prosecutor's Office:** The People's Procuratorate is the body that monitors the implementation of the law, which consists of: the Supreme People's Procuratorate; Appellate Public Prosecutor's Office; Provincial and city Public Prosecutor's Office; District Public Prosecutor's Office and Military Prosecutor's Office.<sup>59</sup>

### 7.5.2.3 Economy and Industry

Lao PDR is one of the fastest growing economies in the region, with an average growth rate of 7.5% between 2010 and 2017. Its GDP is driven by energy (hydroelectricity) and mining, timber and non-timber forest products (NTFPs), followed by services and agriculture. Its manufacturing sector has also been steadily growing. The breakdown of the sectoral origins of Lao PDR GDP in 2018 was 41.7% services, 31.7 % industry (including construction and mining), and 15.7 % agriculture, forestry, and fishing.

With a total population of 7.2 million, Lao PDR's population growth is moderate at 1.45 % annually. The majority of the workforce is concentrated in the agricultural sector and lives in rural areas. The agricultural sector is low-tech, labour intensive and has low productivity, i.e. it does not contribute much to GDP growth.<sup>60</sup>

**Figure 7.30: Lao PDR's Main GDP Contributor**



Source: WB Lao Economic Monitor, April 2015

In 2020, like many countries around the world, Lao PDR's economies were impacted by Covid-19 outbreak and its containment measures. Economic growth declined to an estimated 0.4% in 2020, the lowest level in three decades, and a second wave of the pandemic in 2021 has led to a growth rate of just 2.2% forecast for 2021.<sup>61</sup> The agriculture and industry sectors are expected to drive growth, supported by solid external demand as key trading partners recover. However, the services sector –

<sup>59</sup> Government of the Lao PDR, 2003 & 2014; OCSC, n.d.

<sup>60</sup> WB Lao Economic Monitor, April 20

<sup>61</sup> The World Bank, n.d.b



especially hospitality, transport and other tourism-related services – are struggling to recover as the second Covid-19 wave (since mid-April, 2021) has reversed the initial recovery in Q1 2021.<sup>62</sup>

### 7.5.2.4 Renewable Energy Planning and Development

#### Current Status of Power Generation

Lao PDR has capitalized on its estimated 26,000 MW of technical hydropower potential and aims to become the Battery of Southeast Asia by exporting electricity to neighbouring markets. A large investment program increased the installed capacity in the system from only 640 MW in 2000 to around 9,480 MW by 2020. The Mekong Infrastructure Tracker shows that most power generation is supplied from 63 hydropower dams totalling 7,559 MW in generation capacity. The remaining power is produced by the Hongsa coal plant (1,878 MW), a few biomass plants (35 MW), and eight solar projects (42 MW).<sup>63</sup>

Although approximately 70% of Lao PDR's generation capacity has been dedicated for export, domestic demand has been growing rapidly. Lao PDR's per capita electricity consumption is among the lowest in Association of Southeast Asian Nations (ASEAN) but is rising rapidly at an average rate of 14.5% annually over the past 10 years. By 2019, 100% of households nationally had access to electricity.<sup>64</sup>

#### Lao PDR Renewable Energy Planning and Development

The Renewable Energy Development Strategy in Lao PDR of 2011 aims to encourage the development of renewable energy sources at a national level. The Strategy gives:

1. an overview of renewable energy and its potential in the country;
2. lays out strategy and policy; and
3. presents possible implementation measures for renewable energy deployment

The national energy target laid out in the strategy aims to achieve a renewable energy share of:

- 30% in total energy consumption by 2025.
- 10% in total transport energy consumption (using biofuels) by 2025.

Key objectives of the policy are encouraging domestic and foreign investment in renewable energy at the local (village) level to enable a better electricity supply, create socio-economic benefits and sustain an environmentally and socially sustainable development.

Policy priorities are focussed on small power development for self-sufficiency and grid connection, biofuels production and marketing, i.e. through financial incentives to investors and by improving law and regulations on renewable energy. The policy also includes large-scale projects.

### 7.5.3 Overview of Affected Villages

The Project area including wind turbine towers, transmission line, and access roads are located in the administrative boundaries of 23 villages in Dak Cheung District of Sekong Province and 8 villages in Sanxay District of Attapeu Province (**Figure 7.31**). These 31 villages form the Project-affected population/ communities/ villages and the key focus for social impact assessment.

The following section presents the main socio-economic characteristics of the Project's affected villages including: demographic information, livelihood engagement, income and expenditures, land

<sup>62</sup> The World Bank, 2021

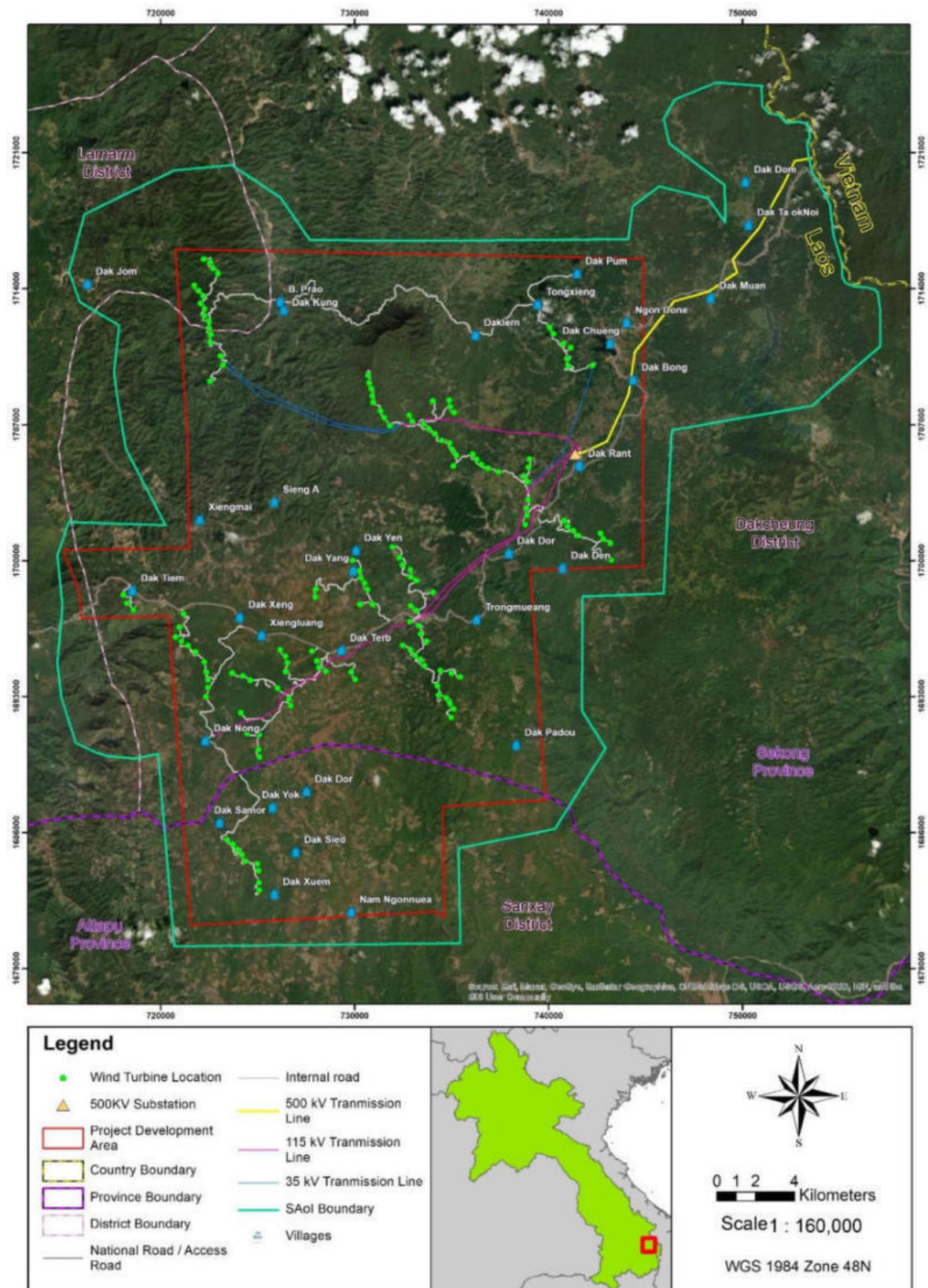
<sup>63</sup> Stimson, 2021. *An overview of policies and trends on energy, transportation, water, and industrial infrastructure in the Lao People's Democratic Republic*. Retrieved from: <https://www.stimson.org/2021/lao-peoples-democratic-republic/>

<sup>64</sup> <https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=LA>

use and tenure, household assets, access to infrastructure and public services, social network and cohesion and vulnerability.

The information for this section were collected through KIIs with relevant stakeholders including livelihood groups, women group, local authorities, youth, and healthcare personnel and socio-economic household survey as outlined in **Table 7.2**. A total of 449 households (17.3%) and 2,984 people (18.6%) of the 31 affected villages were engaged in Project's household socio-economic survey (referred to as HH socio-economic survey) undertaken in November and December 2021.

Figure 7.31: Affected Villages



Source: Innogreen/ERM, 2021, It should be noted that the administrative boundary provided from GIS data is inaccurate. The GIS Data shows that Dak Jom Village is located within Lamarn District; however, based on site visit and engagement with local authorities and villagers it is noted that Dak Jom village is located in and reports to Dak Cheung District.

### 7.5.3.1 Demographic Information

#### Population

**Table 7.27** presents the population of the 31 Project-affected communities, which are clustered into koumban (village cluster)<sup>65</sup> and akkelad villages<sup>66</sup>. A total population of the 31 affected villages is 2,599 households and 16,065 people, of which 7,860 are female (48.9%) and 8,205 are male (51.1%). The gender ratio of the affected villages is 1:1.04 females to males, similarly to the country's which stands at 1:1 (female 49.8: 50.2 male).<sup>67</sup>

**Table 7.27** presents the population by village<sup>68</sup>, the average number of households is 84 and the average population is 518 people per village. Dak Sied of Sanxay District has the lowest population of 117 people, followed by Dak Kung, Sieng A and Dak Pum of Dak Cheung District with approximately 200 people. Dak Bong has the largest population size of 1,228 people, followed by Nam Ngonnuea with 1,031 people. Based on the HH socio-economic survey, the average household size of the affected villages is 6.2 people per household which is higher than the national average of 4.7 people per household as of 2017.<sup>69</sup>

The population density of Dak Cheung District is 11 people per km<sup>2</sup> in 2019<sup>70</sup>, and 6.7 people per km<sup>2</sup> for Sanxay District<sup>71</sup>, which is considerably lower than that of the national population density of 31 people per km<sup>2</sup> in 2020.<sup>72</sup> The mountainous terrain of these districts contributes to a significantly lower population density than the national average.

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<sup>65</sup> Koumban is a cluster of villages which has been a priority for Lao administration since 2004 as an institutional link between District and village levels—it is 'A formal administrative grouping of villages within a District defined for a purpose of extending government policies and development programs'. (MAF and NLMA, 2010). The main objective is to strengthen the political infrastructure to advance rural development by bringing smaller villages together in larger units, as a more efficient basis for local administration and planning. Retrieved from: <http://lad.nafri.org.la/fulltext/1786-0.pdf>

<sup>66</sup> Akkelad villages refer to those villages which are not clustered under any koumban because they are located in close proximity to the District or the municipality and therefore are governed directly by the District or municipality.

<sup>67</sup> The World Bank, n.d.c

<sup>68</sup> Number of village population was obtained through KIs with village heads of each village during the sit visit in November 2021

<sup>69</sup> Lao Statistics Bureau, 2018

<sup>70</sup> Socio-economic Development Plan (2020-2024), Dak Cheung District (Government of the Lao PDR, 2021)

<sup>71</sup> Socio-economic Development Plan (2020-2024), Sanxay District (Government of the Lao PDR, 2021)

<sup>72</sup> Lao Statistics Bureau, 2020c

**Table 7.27: Overview of Demographics of Affected Villages**

Province	District	Koum Ban (Village Cluster)	Village	Impacted by Project Components	Total Village Households	Total Village Population	Surveyed households		Surveyed population	
							N	%	N	%
Sekong	Dak Cheung	Xiengluang	Dak Xeng	Indirect impact	87	419	8	9.2%	61	14.6%
			Xiengluang	Wind turbine, access road and transmission (115kv)	97	571	10	10.3%	59	10.3%
			Dak Tiem	Wind turbine and access road	144	658	21	14.6%	132	20.1%
			Dak Yang	Wind turbine and access road	58	397	10	17.2%	77	19.4%
			Dak Yen	Wind turbine and access road	117	729	17	14.5%	127	17.4%
			Dak Treb	Wind turbine, access road and transmission line (115kv)	149	769	24	16.1%	179	23.3%
			Trongmueang	Wind turbine, access road and transmission line (115kv)	55	366	7	12.7%	51	13.9%
		Dak Duem	Dak Dor	Transmission line facility (115)	100	528	26	26.0%	181	34.3%
			Dak Den	Wind turbine and access road	78	555	10	12.8%	81	14.6%
			Dak Rant	Wind turbine, access road and transmission line (115kv and 35kv)	63	445	25	39.7%	166	37.3%



Province	District	Koum Ban (Village Cluster)	Village	Impacted by Project Components	Total Village Households	Total Village Population	Surveyed households		Surveyed population	
							N	%	N	%
	Nam Dae		Dak Kung	Wind turbine, access road and transmission line (35kv)	40	198	5	12.5%	40	20.2%
			Dak Jom *	Wind turbine and access road	202	1,031	20	9.9%	173	16.8%
			Sieng A	Wind turbine, access road and transmission line (115kv and 35kv)	32	210	6	18.8%	49	23.3%
			Prao	Access road	80	514	14	17.5%	116	22.6%
	Xekamarn		Dak Muan	Transmission line facility (500kv)	67	398	26	38.8%	146	36.7%
			Dak Ta-ok Noi	Transmission line facility (500kv)	46	231	6	13.0%	42	18.2%
			Dak Dom	Transmission Line (500kv)	56	280	6	10.7%	48	17.1%
	Akkelad (no koum ban)		Dak Bong	Transmission line facility (500kv, 115kv, 35kv) and Sub-station 500kv	54	1,228	40	74.1%	203	16.5%
			Ngon Don	Transmission line (500kv)	107	553	20	18.7%	112	20.3%

Province	District	Koum Ban (Village Cluster)	Village	Impacted Project Components	Total Village Households	Total Village Population	Surveyed households		Surveyed population	
							N	%	N	%
			Dak Chueng	Wind turbine, access road and transmission line (35kv)	204	672	20	9.8%	117	17.4%
			Tong Xieng	Wind turbine and access road	45	286	31	68.9%	222	77.6%
			Dak Pum	Access road	36	205	5	13.9%	37	18.0%
			Daklern	Access road, Wind turbine and transmission line 115kv	38	257	18	47.4%	141	54.9%
			Attapeu	Sanxay	Nam Zou	Dak Nong	Access Road and Transmission line 115kv	72	598	7
			Dak Samor	Wind Turbine Facility and Access Road	83	730	8	9.6%	49	6.7%
			Dak Yok	Wind Turbine Facility and Access Road	58	550	10	17.2%	58	10.5%
			Dak Sied	Indirect Impact	23	117	5	21.7%	23	19.7%
			Dak Xuem	Wind Turbine Facility and Access Road	76	445	8	10.5%	42	9.4%
			Dak Dor	Indirect Impact	88	731	10	11.4%	67	9.2%
		Dak Ben	Dak Padou	Wind Turbine Facility and Access Road	66	363	8	12.1%	40	11.0%



Province	District	Koum Ban (Village Cluster)	Village	Impacted Project Components	Total Village Households	Total Village Population	Surveyed households		Surveyed population	
							N	%	N	%
		Nam Ngon	Nam Ngonnuea	Indirect Impact	178	1,031	18	10.1%	104	10.1%
<b>Total</b>					<b>2,599</b>	<b>16,065</b>	<b>449</b>	<b>17.3%</b>	<b>2,984</b>	<b>18.6%</b>

Source: Socio-economic survey undertaken by Innogreen/ERM, November 2021

\* It should be noted that the administrative boundary provided from GIS data is inaccurate. The GIS Data shows that Dak Jom Village is located within Lamarn District; however, based on site visit and engagement with local authorities and villagers it is noted that Dak Jom village is located in and reports to Dak Cheung District.

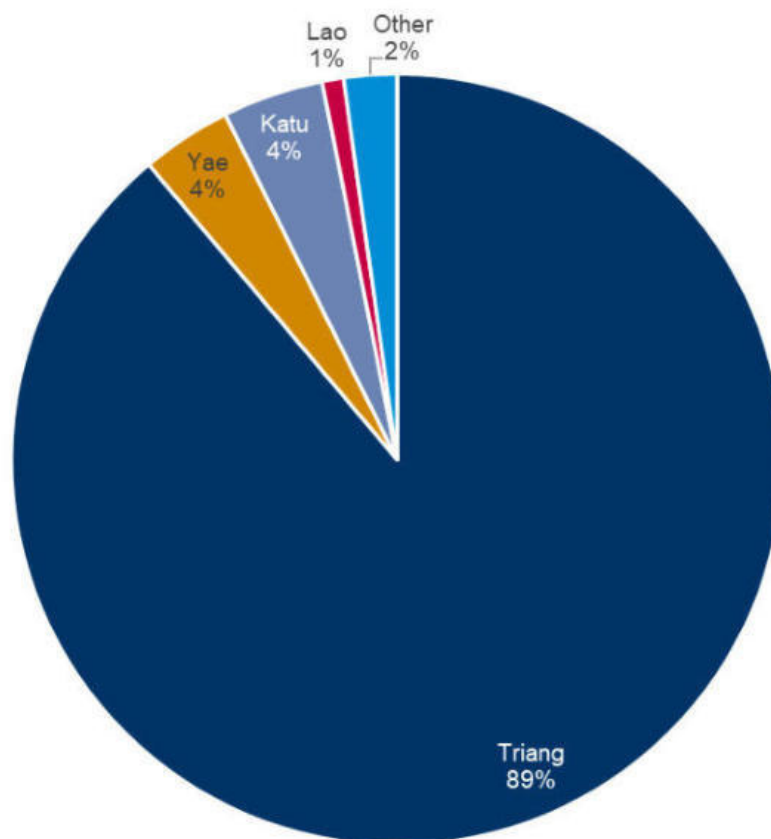
### Ethnicity and Religion

Five ethnic groups were identified in the Project affected villages, namely Triang, Yae, Katu, Lao, and Ha Luk (Ha Hak). Of the 449 surveyed households, 399 are Triang households (89%); 17 are Yae households (4%); 19 are Katu households (4%); 4 are Lao household (1%) and 10 are other ethnic groups (2%) (Figure 7.32). Triang makes up the majority of the surveyed households, with the exception of Dak Rant village (Dak Cheung District) where Yae makes up 85.7% of the village population and Dak Xeum village (Sanxay District) where Ha Luk is the main population of the village.

Three villages in Dak Cheung District were identified with the most diverse ethnicities—Dak Bong, Dak Cheung, and Dak Muan were identified with all four ethnicities, with Triang being the most dominant ethnic group.

While the main religion of Lao PDR is Buddhism, accounting for 65% of the population<sup>73</sup>, about 30% of the population hold an animist belief (believe in spirits and worshiping ancestral spirits). These people are found among the ethnic minority groups of the Lao Theung (people of the mountainous areas) and the Lao Soung (people of the highlands).

**Figure 7.32: Ethnic Groups in the Project Affected Villages**

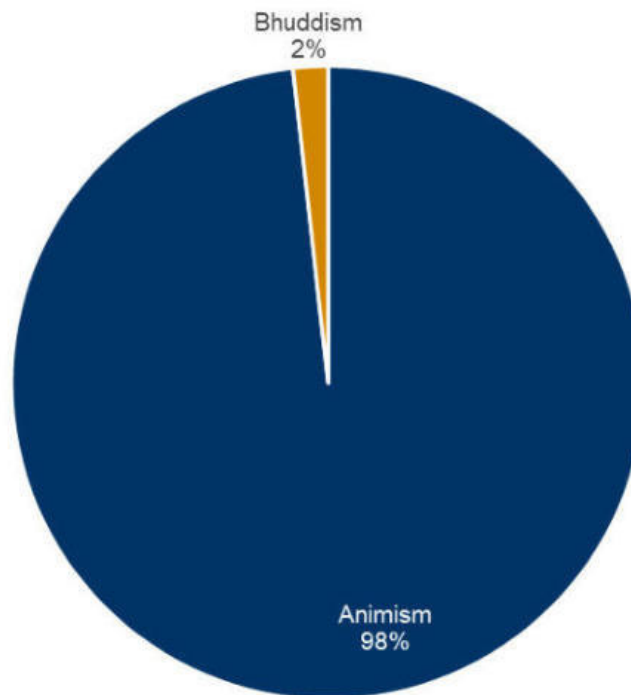


Source: Household socio-economic survey conducted November 2021

The majority of the population of the surveyed villages believe in animism, covering 98% of the surveyed population, whilst Buddhism accounts for 2% of the total surveyed households (Figure 7.33).

<sup>73</sup> PHC, 2015

**Figure 7.33: Religions in the Project Affected Villages**



Source: Household socio-economic survey conducted November 2021

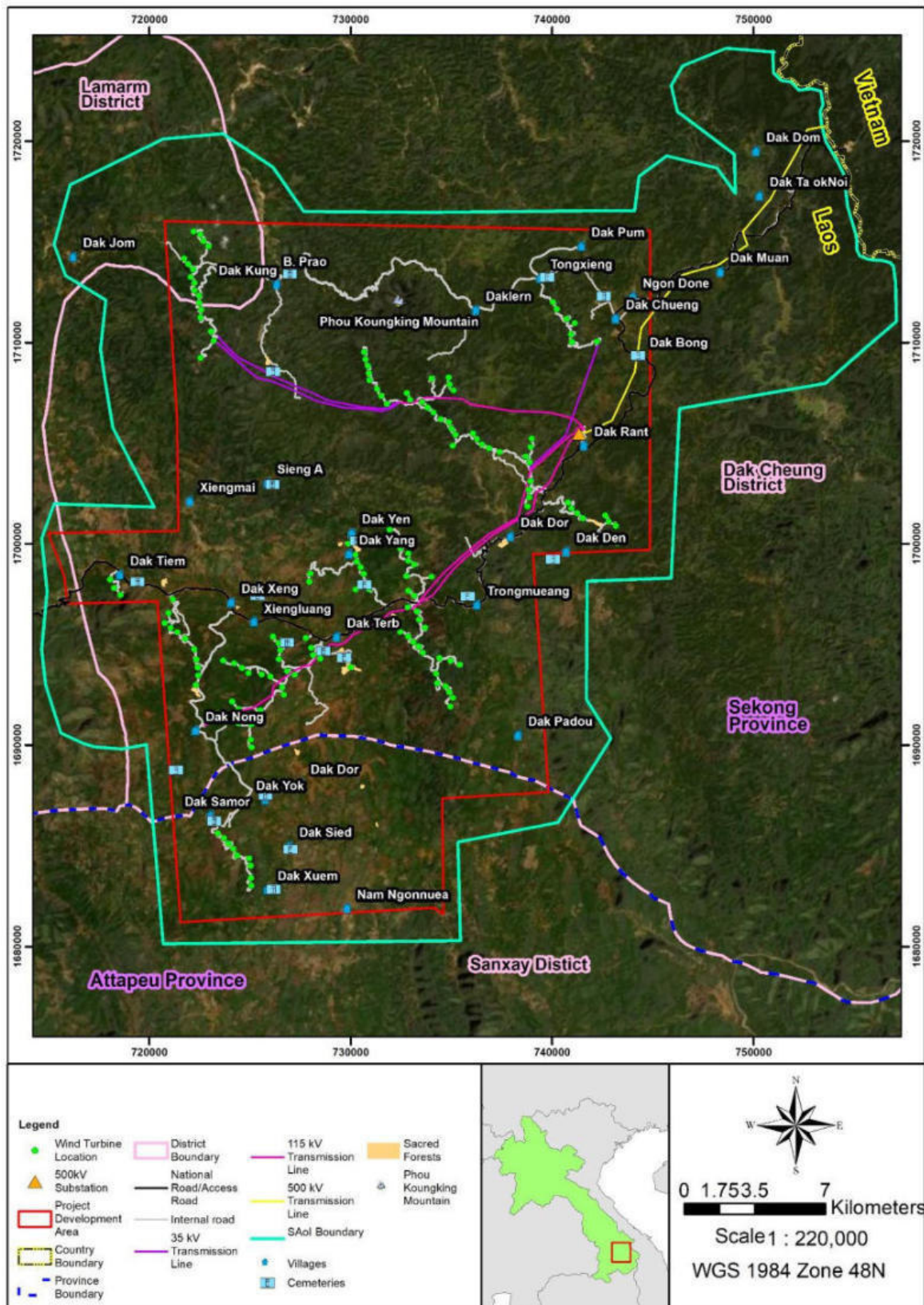
### *Tangible and Intangible Cultural Heritage*

**Figure 7.34** presents cultural heritage resources. One of the core beliefs of animism is the belief and worship in ancestral spirits and cemeteries are observed in all surveyed villages (**Figure 7.35**). The cemeteries are mostly forested area and are sacred as a burial place of the deceased from the villages. People are prohibited from entering for any kind of activities such as hunting or collecting timber and NTFPs. In the cemeteries, there are usually small huts of the deceased where the local people believe the spirits of the deceased live. Local villagers offer food, tools, and other worshipping materials to the deceased at these small huts.

Each year, villagers perform rituals according to the belief of each ethnic group. In addition to ancestral spirits, local people also believe in forest spirits, land spirits, village spirits, and evil spirits that can make people fallen ill.

Sacred forest areas throughout the Project development area have been identified (as shown in **Figure 7.34**). These areas overlap with the Project facilities including access roads and WTG locations. In addition, the ESIA survey team in consultation with the village heads and local villagers of Ban Dak Dreun and Prao have identified a 'Potential Intangible Cultural Heritage' located in Phou Kounking Mountain (as shown in **Figure 7.34**) in the central north of the Project development area. The forest is believed to be inhabited by a ghost known as Phi Bang Bot who can make people fall ill for not asking its permission to enter. This area is listed as a protected forest under the National guidelines and is under the Provincial government management. This type of belief is common across southern Lao.

Figure 7.34: Cultural Heritage



Source: ERM/Innogreen, 2021



**Figure 7.35: Cemeteries and Huts of the Deceased**



*Cemetery of Dak Trab village (left) and Prao village (right) which is a forest area. Hunting and collecting NTFPs are prohibited in this area as it is regarded as a sacred area. There are some small huts of the deceased in the cemetery.*



*Small huts of the deceased located in the cemetery areas of Dak Treb village (left) and Ggon Don village (right). The locals offer food, drink and other worshipping materials to the deceased at these small huts.*

In their animism belief, worshipping spirits involves sacrifice of large animals such as buffalos, cows, and pigs. Animal sacrifice is also practiced during ceremonies such as Kin Khao Mai<sup>74</sup> as a means to worship and offer food for the guests in the ceremonies/ festivals. It is also performed when a family member falls ill as an offering to evil spirits which caused the illness.

Poles located in the middle of the villages are used for securing animals and serve as a place for performing animal sacrifice (**Figure 7.36**). In some villages, such as Dak Jom village, sacred houses or Salakuan in the middle of villages are used for performing animal sacrifices. Women and outsiders are strictly forbidden from entering Salakuan.

<sup>74</sup> Boun Kin Khao Mai is a ceremony held after finished rice harvested (September to October) to celebrate the success after the harvest season. The ceremony is held in families and then gathered in the village to celebrate, the ceremony involves killing of chickens, pigs or large animals (e.g. cows and buffalos) as an offering to village ghost, forest ghost and food for guests in the ceremony.

**Figure 7.36: Pole Used for Securing Animals to Perform Animal Sacrifice**



(i) Dak Den village

(ii) Sieng A village



(iii) Dak Dom village

(iv) Dak Jom Village

The wooden pillars located in the ceremonial courtyard in the center of the villages are used for securing animals such as buffalos to perform animal sacrifice. In some villages, there are Salakuan, a building in the middle of the village, used for village meeting hall and organize ceremonies (refer to (iii) and (iv)).

Through FGDs and KIIs and desktop research, each ethnic group (Triang, Yae, Katu, Lao, and Ha Luk) although believe in animism, have slightly different practices, rituals, customs, and ceremonies in relation to their animism beliefs as discussed in more detail in **Table 7.28**.

### Characteristics of Ethnic Groups

**Table 7.28** presents key characteristics of main ethnic groups identified in the affected villages (Triang, Katu Yae and Ha Luk) including languages, land, ceremony, beliefs, language, and community cohesion. This section provides the basis for the assessment of Project impacts on Indigenous Peoples (IPs) in accordance with ADB's definition of IPs (refer to **Chapter 3** for details).

Through FGDs and KIIs with village heads and ethnic group representatives in affected villages, all ethnic groups have their own spoken languages. Triang, Yae, Katu and Ha Luk are classified under Mon-Khmer Linguistic Group while Lao ethnic group is Lao-Tai Linguistic Group.<sup>75</sup> Due to the similarity of the spoken languages of Triang, Yae Katu, and Ha Luk these ethnic groups can understand one another. The FGDs and KIIs also identified that Lao and Triang are the most common languages for communication in all Project-affected villages. Most of the village members can

<sup>75</sup> IFAD, 2012



understand and communicate in mainstream Lao to a great extent, except some of the older generation who have not gone to school and only communicate in their own ethnic group language. Based on the site visit conducted in November 2021, the communities have absorbed cultures and ways of life from the mainstream Lao society as evidenced in their clothing and housing styles. It was observed that mostly men have adopted the mainstream Lao clothing while women were observed to still wear 'Sin' (a traditional skirt) in combination with modern clothing. In term of housing, some villages have adopted the styles and materials from mainstream Lao for their houses; while in some villages, traditional housing were still observed such as Sieng A and Dak Dom villages (**Figure 7.37**).

The site visit and FGDs with ethnic groups undertaken in November 2021 also found that the locals celebrate Lao mainstream festivals such as Laos' New Year, and wedding ceremonies absorbed from Laos mainstream culture over time. Access to education and information also changed mode of medical treatment from traditional treatment to modern medical treatment in healthcare centers. Currently, only some cultural or rituals are still practiced in pure traditional forms.

The communities have been absorbing Lao mainstream culture and lifestyle mainly due to increased contacts with people from outside communities, increased access to information through radio, television and mobile phone, and increased access to infrastructure and education. Integration with Lao mainstream culture and lifestyle are therefore more visible in youth and younger members of the communities.

**Figure 7.37: Integration of Lifestyle to Mainstream Society**







Current clothing of the surveyed village population which have adopted from the mainstream Laos. Additionally, the house has also adopted materials and style from the mainstream Laos.





Women in some villages were observed to still wear traditional skirt called 'Sin' with a combination of mainstream Laos clothing. In some villages, traditional houses were observed.

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021







**Table 7.28: Characteristics of Ethnic Groups**

Aspect	Triang	Katu	Yae	Ha Luk (Ha Hak)
Language	Triang have their own spoken language, which is similar to Yae and Katu	Katu have their own spoken language, which is similar to Triang and Yae	Yae have their own spoken language, which is similar to Triang and Katu	Ha Luk have their own spoken language, which is similar to Triang, Katu and Yae.
Traditional costume	<p>Triang’s traditional costume is similar to other ethnic groups in the Mhon-Khmer linguistic group. Men usually wear ‘Ka-Tiew’ (rolled tail or end of loincloth which runs between the legs and is tucked into the waistband at back) and cloth across shoulders, women traditionally wear loincloth from chest running to shin.</p>  <p>Source: Department of Ethnic Affairs, 2015a</p>	<p>Katu have unique traditional costume, men wear ‘Ka-Tiew; while women wear shirt and skirt made of traditionally weaved cloth. Men have adopted to cloths from Lao mainstream, while women still preserve traditional costumes as evidenced in ceremonies and festivals.</p>  <p>Source: Department of Ethnic Affairs, 2015b</p>	<p>Men of Yae ethnic groups wear ‘Ka-Tiew’, and women wear loincloth similar to Triang ethnic groups. The key difference is the pattern of Katiew and skirt for women, which are unique to each ethnic group. During winter, they wear additional cloth to keep warm.</p>  <p>Source: Department of Ethnic Affairs, 2015c</p>	<p>Ha Luk have unique traditional costume, men wear ‘Ka-Tiew; while women wear shirt and skirt made of traditionally weaved cloth.</p>  <p>Source: Department of Ethnic Affairs, 2015d</p>
Community feature	Each Triang village usually create fence made of bamboo (height up to 5 meters) around the villages and two gates for entry-exit of the	Traditionally, the houses are built to form a circle around “Salakuan”. Salakuan, a building in the middle of	Traditionally, the houses are built to form a circle around “Salakuan”. In front of the Salakuan and each house, there is usually a pole for	Traditionally, fence made of bamboos are constructed around the houses. Salakuan and Pole for securing

Aspect	Triang	Katu	Yae	Ha Luk (Ha Hak)
	<p>village, known as “Patou Vieng”. The fence is for protection of thieves and wild animals from attacking livestock and village members.</p> <p>Additionally, villages also have Salakuan, a building in the middle of the village, for receiving guests and ritual ceremonies and feasts.</p>  <p>Source: <a href="https://data.opendevlopmentmekong.net/dataset/8590fa46-4edf-46da99ac04715a7d913c/resource/23dd4f82-c985-4fe6-8fbf02b5c51866ed/download/final.pdf">The identity of Triang Ethnic Group [Lao PDR] - Library records OD Mekong Datahub (opendevelopmentmekong.net)</a></p>	<p>the village, used for village meeting hall and ceremonies.</p>  <p>Source: <a href="https://data.opendevlopmentmekong.net/dataset/8590fa46-4edf-46da99ac04715a7d913c/resource/23dd4f82-c985-4fe6-8fbf02b5c51866ed/download/final.pdf">The identity of Katu Ethnic Group [Lao PDR] - Library records OD Mekong Datahub (opendevelopmentmekong.net)</a></p>	<p>securing animals e.g. buffalos, cows, pigs for animal offering/sacrifice rituals.</p>  <p>Source: <a href="https://data.opendevlopmentmekong.net/dataset/8590fa46-4edf-46da99ac04715a7d913c/resource/23dd4f82-c985-4fe6-8fbf02b5c51866ed/download/final.pdf">The identity of Yae Ethnic Group [Lao PDR] - Library records OD Mekong Datahub (opendevelopmentmekong.net)</a></p>	<p>animals for ceremonies and sacrifice rituals are not common in the village. Tree or somewhere appropriate for securing animals e.g. buffalos, cows, pigs, are used for securing animal for sacrifice rituals.</p>  <p>Source: <a href="https://data.opendevlopmentmekong.net/dataset/8590fa46-4edf-46da99ac04715a7d913c/resource/23dd4f82-c985-4fe6-8fbf02b5c51866ed/download/final.pdf">https://data.opendevlopmentmekong.net/dataset/8590fa46-4edf-46da99ac04715a7d913c/resource/23dd4f82-c985-4fe6-8fbf02b5c51866ed/download/final.pdf</a></p>
Livelihood	Based on the FGDs with ethnic groups, all ethnic groups have similar livelihood comprising rice, coffee, and cassava plantation. Some are still engaged in shifting cultivation and collection of NTFPs.			
Ceremony	Triang people organize several ceremonies to worship spirits throughout the year. At the beginning of the year, Triang celebrate the ‘new rice ceremony’	Katu ethnic group holds several ceremonies throughout the year including rice ceremony (Boun Kwan Khao), ceremony prior to planting rice, ceremony for rice harvest and	Celebrations are conducted after rice harvest for 3 days 3 nights which involve animal sacrifice / offering (such as buffalo, cow, pig) to worship	Ha Luk ethnic group holds several ceremonies throughout the year including rice ceremony (Boun Kwan Khao), “Chongkapiew” ceremony which organized within the

Aspect	Triang	Katu	Yae	Ha Luk (Ha Hak)
	<p>or Boun Kin Khao Mai by offering buffalos, cows and pigs to worship and food for community members. In June, they celebrate the festival "Boun Duean 6". At the end of the year, worshipping spirits by offering buffalos for any wrong deeds or rites that have been caused in that year.</p>	<p>other ceremonies which organized within the households or together as a community. The ceremonies usually involve offering of chicken, pig or buffalo to worship spirits.</p>	<p>spirits – known as 'Boon Ja' ceremony. Yae have Boun Phao Thane, Boun Sak Khao, Boun Hor Khao Tom are three festivals celebrated for the rice harvest and they prepare knife for land clearing for the new plantation season by local ironsmiths hitting the iron.</p>	<p>households or together as a community. The ceremonies usually involve offering of buffalos and cows to worship spirits. In the present, "Chongkapiew" ceremony is performed once in 2-3 years.</p>
<p>Religion and belief</p>	<p>Believe in animism and worship ancestral spirits</p>			
<p>Skills sets</p>	<p>All ethnic groups engage in ironsmith, bamboo handicrafts, and weaving, which are unique to their ethnic groups. These skills have been passed on from generation to generation.</p>			

Aspect	Triang	Katu	Yae	Ha Luk (Ha Hak)
Tangible and intangible cultural heritage	<p>Cemeteries are highly respected sacred places for the Triang ethnic group. Additionally, they also have sacred forest, sacred ponds and prohibited areas.</p>  <p>Triang maintain folk songs and folk tales in their own language. Moreover, they have instruments such as drum (Kong La).</p>	<p>Similar to Triang culture, cemeteries, sacred forests, ponds and prohibited areas are highly respected sacred places for the Katu ethnic group.</p>  <p>Katu maintain folk songs and folk tales in their own language. Additionally, they also have local instruments such as drum and pipe.</p>	<p>Same for the Yae ethnic group in terms of cultural heritage.</p>  <p>Yae have their song known as “Lam Yae”, as well as their own drum (Kong La) and sarong (Sin Lom).</p>	<p>Similar to Triang, Katu and Yae, sacred forests and prohibited areas are highly respected sacred places for the Ha luk ethnic group.</p>  <p>Ha Luk maintain folk songs and folk tales in their own language. Additionally, they also have local instruments such as drum and pipe.</p>

Source: Department of Ethnic Affairs, 2015a, 2015b, 2015c & 2015d

## Education Attainment

The FGDs and KIIs with youth and village heads in Dak Cheung District found that the average level of education for girls is 3rd to 4th year of secondary school (equivalent to years 8 and 9) and 4th year of secondary school (9 years of education) for boys. The majority of the villages (18 villages of 23 villages) identified that all students are enrolled in schools, starting from kindergarten at the age of 4-5 years old. However, five villages, namely Sieng A, Xiengluang, Dak Treb, Dak Yang and Daklern indicated that not all students are enrolled in schools, due to poverty.

Most youths attend primary schools in their villages; however secondary schools are only available in some bigger villages including Xiengluang, Dak Cheung, and Dak Dor. Therefore, some students are required to travel from 4 to 10 km to secondary schools. The common means of travel include walking and biking.

The FGDs and KIIs with youth and village heads in Sanxay District identified the average education level primary school, and 4th to 5th year of secondary school. Similarly, youth attend primary education in the village, and are required to travel to Sanxay village and Chalenxay village (approximately 12-16 km away) for secondary education, on foot or by bike.

53% or 1,472 people of the surveyed population have completed primary education<sup>76</sup>, followed by 30% (745 people) attending secondary education. These figures are considerably lower compared to those of Sekong and Attapeu Provinces. In Sekong Province, 94.1% and 92% of population complete primary and (lower) secondary school<sup>77</sup>, while 85.5% and 95.4% of Attapeu's population complete primary education and (lower) secondary education, respectively<sup>78</sup>. 56 people (2%) have attended or completed vocational education and approximately 153 people (5%) have attended university. 209 people of the surveyed population (7%) identified they have not received education (**Figure 7.38**). This figure is lower than the national figure (in 2015) where the population aged 6 years and above who had never attended school accounted for 13%, 27% currently attending school (in 2015) and school dropouts (58%).<sup>79</sup>

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<sup>76</sup> Primary education are for children aged 6-10 years (Grade 1-5)  
Low Secondary Education are for students aged 11-14 (Grade 6-9)  
Upper Secondary Education are for students aged 15-17 (Grade 10-12)  
Source: Government of the Lao PDR, 2015.

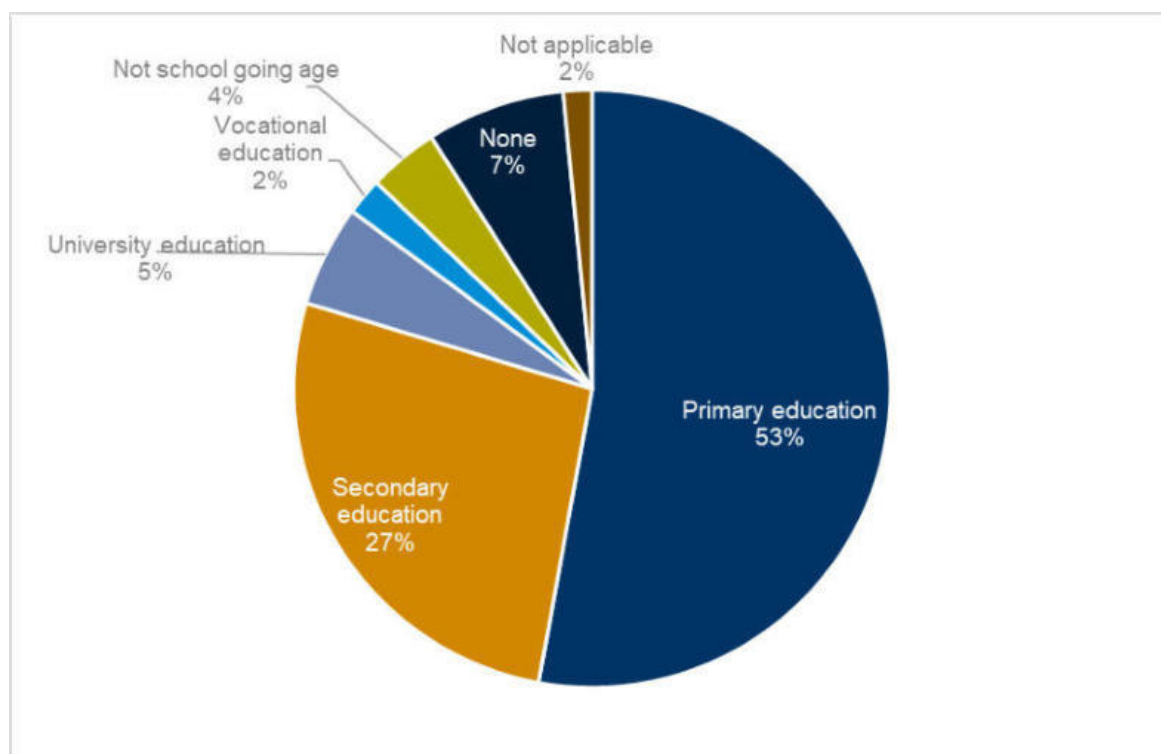
<sup>77</sup> Sekong Statistics Bureau (2018). Local Statistic of Sekong Province Report for 2018 (p.41). Retrieved from: [https://laosis.lsb.gov.la/board/BoardList.do?bbs\\_bbsid=B404](https://laosis.lsb.gov.la/board/BoardList.do?bbs_bbsid=B404)

<sup>78</sup> Attapeu Statistics Bureau (2018). Local Statistic of Attapeu Province Report for 2018 (p.44). Retrieved from: [https://laosis.lsb.gov.la/board/BoardList.do?bbs\\_bbsid=B404](https://laosis.lsb.gov.la/board/BoardList.do?bbs_bbsid=B404)

<sup>79</sup> Lao Statistics Bureau (2015). The 4<sup>th</sup> Population and Housing Census 2015 Retrieved from <https://lao.unfpa.org/en/publications/results-population-and-housing-census-2015-english-version>



**Figure 7.38: Education Attainment of the Surveyed Population**



Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

Disaggregated data per koumban (village cluster) (**Table 7.29**) shows that other villages in Sanxay District (i.e. Dak Padou and Nam Ngon villages) have the highest ratio of its population received education (98%) while Koumban Dak Duem has the lowest ratio of its population receive education (82%). In general, population of villages in Sanxay District have larger proportion of its population having received primary education than Dak Cheung District. Koumban Nam Zou has the highest rate of its population enrolment in basic education (85%), while Akkelad villages in Dak Cheung District have the highest rate of its population attend or complete secondary level education (36%). All koumbans and villages have a small population (1-6%) of its population attended or completed higher education levels such as vocational or university education.

**Table 7.29: Education Attainment by Koumban**

	Dak Cheung District										Sanxay District			
	Koumban Xiengluang		Koumban Dak Duem		Koum Ban Nam Dae		Koumban Xekamarn		Akkelad (Dak Cheung)		Nam Zou		Other villages	
	(N=640)		(N=397)		(N=378)		(N=376)		(N=812)		(N=204)		(N=122)	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No education	118	18	29	7	30	8	30	8	73	9	17	8	3	2
Primary education	402	63	211	53	205	54	205	55	290	36	173	85	90	74
Secondary education	107	17	122	31	116	31	116	31	294	36	12	6	19	16

	Dak Cheung District										Sanxay District			
	Koumban Xiengluang (N=640)		Koumban Dak Duem (N=397)		Koum Ban Nam Dae (N=378)		Koumban Xekamarn (N=376)		Akkelad (Dak Cheung) (N=812)		Nam Zou (N=204)		Other villages (N=122)	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Vocational education	2	0	4	1	5	1	5	1	39	5	0	0	2	2
University education	6	1	25	6	3	1	3	1	99	12	2	1	1	1
Not going to school age	5	1	6	2	16	4	16	4	16	2	25	12	7	6

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

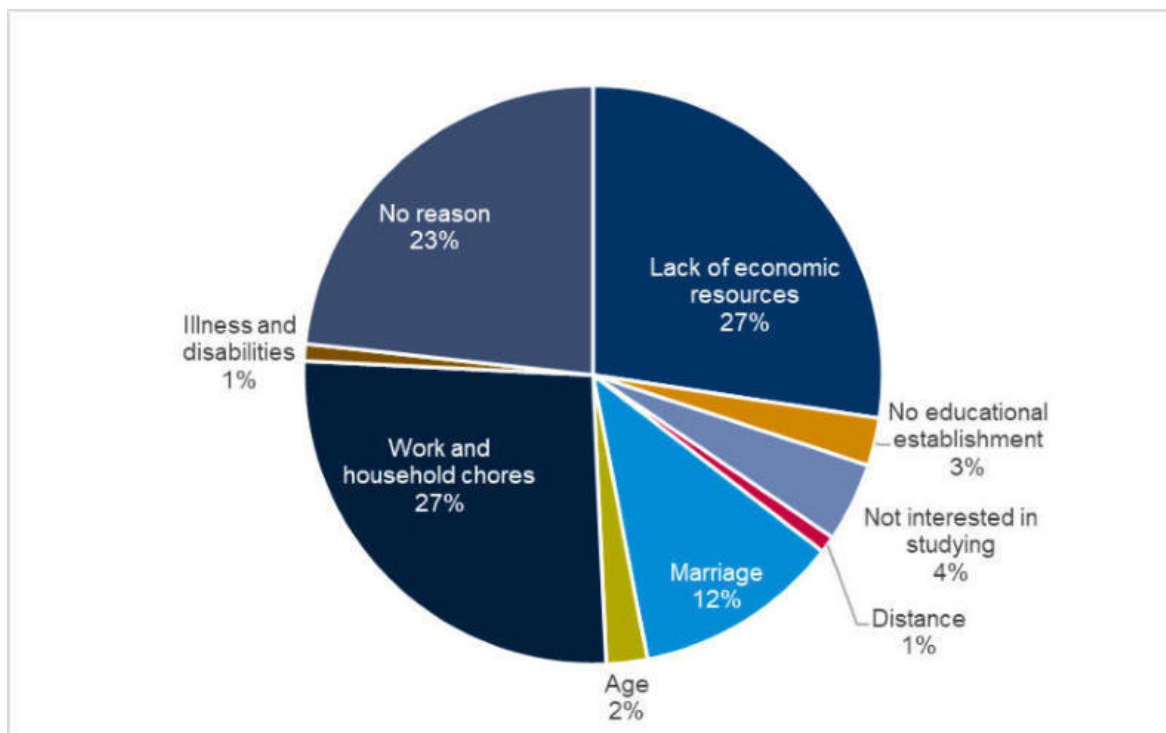
The FGDs and KII with youth and village heads in Dak Cheung District reveal that average dropout age of school for both girls and boys is around the age of 14 to 17 years old. While the average dropout age of Sanxay District is between 12 and 13 years old. The main reasons for dropping out are the lack of economic support from families and work (such as work on families' farms and work as laborers) to earn additional income for the families, particularly in poor families.

The FGD and KII findings are supplemented by the socio-economic HH survey which reveals that the main reasons for discontinuing their study are work and household chores (27%), lack of economic resources (27%), no reason provided (23%), marriage (12%), no interests in studying (4%), and no educational establishments (3%) (**Figure 7.39**). "No reason" given by some respondents can be interpreted as certain individuals dropping out early following the social norms in the area.

The average age to start helping their families by working on farms is between 10 and 13 years old for both boys and girls. Girls usually help with housework (cooking and cleaning), weeding at the farm, and collecting firewood. Boys usually work on the farm such as ploughing the rice farm, fencing of the farm, and other farm works. After graduation or drop-outs, men would be engaged in agricultural work and work as laborers in hydropower projects such as Xekamarn 3 Hydropower and E Moon Hydropower transmission line, while women would work in coffee collection and removing weeds in coffee plantations in Paksong and Pakxe Districts of Champasak province, which are located around 150 – 200 km from the villages. Particularly youth in Sanxay District indicated that both men and women also work as laborers in Chinese banana plantations, such as in Nam Noi area, Ban Phia Keow, and Xaysettha District, Attapeu Province. These plantations are located around 70-90 km from the villages.



**Figure 7.39: Reasons for Discontinuing Study**



Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

Current scholarships and skills training available in the village are mostly livelihood related, with a few related directly to education. These programs, training, and scholarships include:

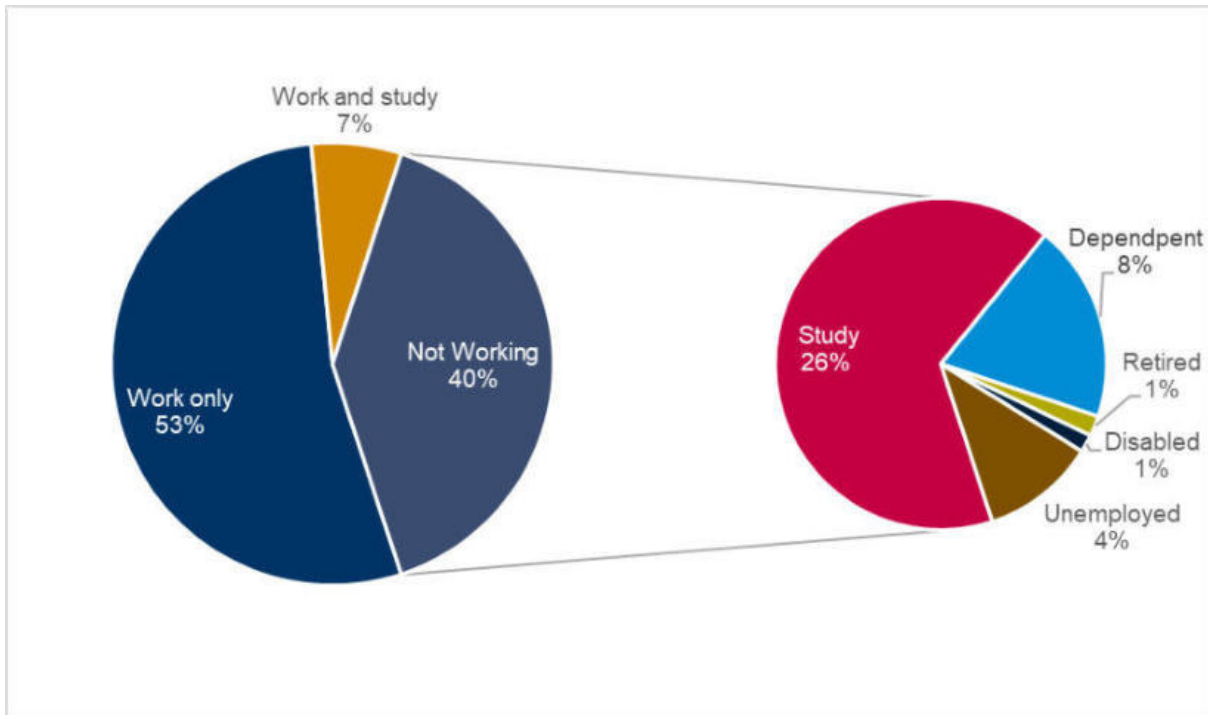
- In last 2 years, the Taiwanese Government has been offering scholarships for students in Xiengluang village;
- The provincial government provides scholarships for education for poor families; and
- Asian Development Bank (ADB) project assisting in further education for boys and girls in Dak Cheung, Dak Muan, Dak Dom, Dak Xeum villages.

### Labor Force

Based on the HH socio-economic survey regarding work engagement in the past 12 months (**Figure 7.40**); of the 2,769 surveyed population, 1,664 people (60%) of the population are in active labor force while the remaining of 879 people (40%) are not engaged in any kind of work as they are in school (728 people or 26%), dependent on the family or remittance (213 people or 8%), incapable of work due to mental or physical disability (19 people or 1%), in retirement (22 people or 1%), or unemployed (123 people or 4%).

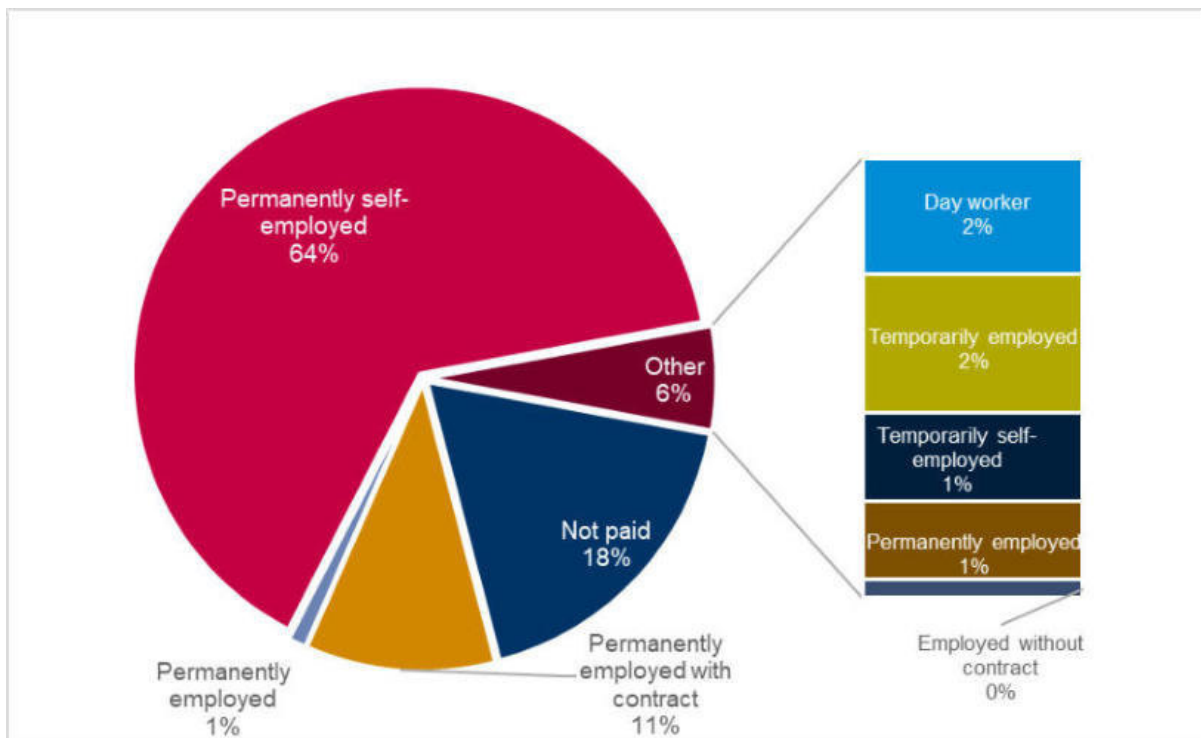
In addition, the survey reveals that of the 1,664 people who are actively working, the majority (58%) are engaged in permanent or self-employed work (such as agriculture and livestock), followed by engaged in unpaid work (such as work in family farms) (22%), and permanently employed with contracts (such as civil servants and company employees) (13%), respectively (**Figure 7.41**). Most of the workforce (1,158 people or 83% of active workforce) work within a short distance from the village while the remaining work in other villages or cities (17%).

**Figure 7.40: Active Labour Force of the Surveyed Population**



Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

**Figure 7.41: Types of Employment (for Primary Occupation)**



Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

### Working Status

Disaggregated data of working status of surveyed population is presented in **Table 7.30**, Koumban Dak Duem have the highest rate of its population in active workforce (71%); of which they are engaged mostly in permanent work (e.g. agriculture and livestock) (73%), followed by unpaid work

(working on families' farms and housework, etc.) (24%), and temporary employment (labourers in hydropower projects and coffee plantation) (5%). On the other hand, Koum Ban Nam Dae have highest ratio (45%) of its population not engaged in any kind of work, the main reasons for no work engagement are shown in **Figure 7.40**.

**Table 7.30: Working Status of Surveyed Population**

	Dak Cheung District										Sanxay District			
	Koum Ban Xiengluang (N=617)		Koum Ban Dak Duem (N=396)		Koum Ban Nam Dae (N=354)		Koum Ban Xekamarm (N=225)		Aekkalad (Dak Cheung) (N=801)		Nam Zou (N=272)		Other villages (N=144)	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<b>Active workforce</b>	<b>382</b>	<b>62</b>	<b>282</b>	<b>71</b>	<b>194</b>	<b>55</b>	<b>132</b>	<b>59</b>	<b>463</b>	<b>58</b>	<b>139</b>	<b>51</b>	<b>80</b>	<b>56</b>
Unpaid work	119	31	67	24	30	15	12	9	66	14	3	1	3	2
Temporary	23	6	14	5	3	2	8	6	20	4	2	1	2	1
Permanent	227	59	206	73	160	82	113	86	365	79	134	49	75	52
<b>No work</b>	<b>235</b>	<b>38</b>	<b>114</b>	<b>29</b>	<b>160</b>	<b>45</b>	<b>93</b>	<b>41</b>	<b>338</b>	<b>42</b>	<b>133</b>	<b>49</b>	<b>64</b>	<b>44</b>

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

## Migration

Through FGDs and KIIs with village heads and youth groups, migration is not a prevalent phenomenon in the area. Prao village had the highest rate of out-migration of 10 households (out of 80 households) migrated to work in urban area, while the remaining villages only have a few or no out-migration. Other villages (i.e. Dak Padou and Nam Ngonnuea) identified that 20-30 households have temporarily migrated to banana plantations in other areas to earn additional income.

The out-migrated population consist of mostly men migrating for work as labourers in bigger cities such as Attapeu, Pakxe, Pakxong; some working in coffee and banana farms; and some working in E Moon hydropower project and traveling back home once per week. Additionally, the FGDs with youth group added that a few youth in the villages have temporarily migrated to bigger cities for higher education such as vocational education, college or university education.

In-migration identified were mostly government employees, for instance, in Dak Den village 10 soldiers, three police and two teachers migrate from other districts/provinces.

### 7.5.3.2 Livelihood Engagement

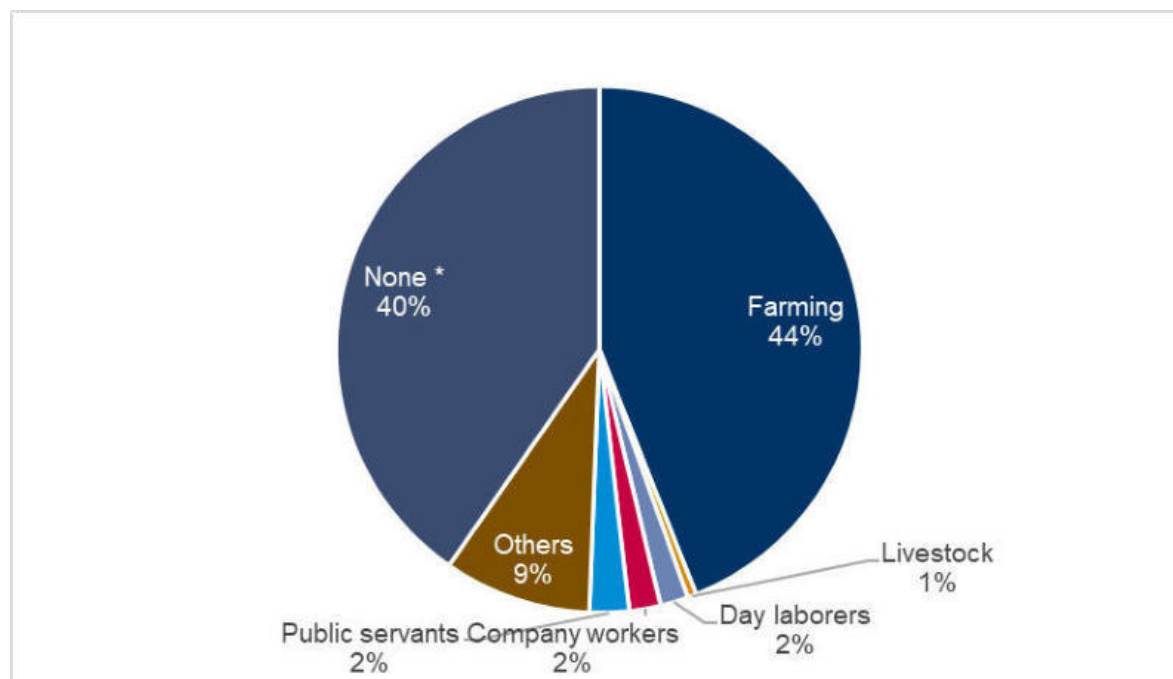
#### Main Livelihoods

The main livelihoods identified through FGDs and KIIs with livelihood groups and local authorities were land-based livelihoods i.e. engagement in agricultural activities including rice farm, coffee and cassava cultivation, livestock and non-timber forest products (NTFPs) collection.

Of the 2,302 surveyed population, the largest percentage (45%) is engaged in land-based livelihoods with farming (44%) and livestock (1%). Wage-based livelihoods have the second largest working population including company workers (2%), day laborers (2%), and public servants (2%). Only approximately 1% of the surveyed population are engaged enterprise-based livelihoods such as small shops/retail shops and production of handicrafts for sale. Other livelihoods include soldiers, traditional

medicine healers, retired, volunteers, etc. No livelihoods (\*none) are identified by the survey population as studying, children, being in the army, and unemployed (**Figure 7.42**).

**Figure 7.42: Livelihoods of the Surveyed Population**



\*Note: No livelihoods identified by surveyed population as still studying, children, unemployed, and being in the army

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

**Table 7.31** presents livelihoods of the surveyed population by koumban. Land-based livelihood is the main livelihood for all koumbans, followed by wage-based livelihood and enterprise-based livelihood, respectively.

**Table 7.31: Livelihoods of the Surveyed Population by Koumban**

District		Dak Cheung District										Sanxay District			
		Xiengluang (N=538)		Dak Duem (N=336)		Nam Dae (N=333)		Xekamarn (N=218)		Aekkalad (N=663)		Nam Zou (N=135)		Other villages (N=79)	
Koumban		N	%	N	%	N	N	%	N	N	%	N	%	N	%
Land-based	Farming	332	62	239	71	160	48	94	43	280	42	129	96	74	94
	Livestock	3	1	3	1	4	1		0	2	0	4	3	0	0
Wage-based	Day laborers	12	2	7	2	5	2	7	3	19	3	0	0	0	0
	Company workers	3	1	0	0	3	1	4	2	44	7	1	1	2	3
	Public servants	2	0	14	4	2	1	8	4	46	7	0	0	0	0
Enterprise-based	Small business	0	0	0	0	0	0	1	0	8	1	0	0	2	3
	Handicrafts	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	Others	75	14	29	9	65	20	25	11	76	11	0	0	0	0

District	Dak Cheung District										Sanxay District			
	Xiengluang (N=538)		Dak Duem (N=336)		Nam Dae (N=333)		Xekamarn (N=218)		Aekkalad (N=663)		Nam Zou (N=135)		Other villages (N=79)	
	N	%	N	%	N	N	%	N	N	%	N	%	N	%
None *	111	21	44	13	93	28	79	36	188	28	1	1	0	0
All surveyed population	<b>538</b>	<b>100</b>	<b>336</b>	<b>100</b>	<b>333</b>	<b>100</b>	<b>218</b>	<b>100</b>	<b>663</b>	<b>100</b>	<b>135</b>	<b>100</b>	<b>79</b>	<b>100</b>

\*Note: No livelihoods or 'none' identified by surveyed population as still studying, children, unemployed, and being in the army

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

### Supplementary Livelihoods

Of the 2,302 surveyed population, 1,022 people (44%) have a second occupation, of which 735 people (31%) work are engaged in farming activities, 214 people (10%) work as day laborers, and 81 people (4%) are engaged in livestock. The remaining supplementary livelihoods include NTFPs collection, small businesses, handicraft productions, and others such as homemakers, carpenters, etc. (**Table 7.32**).

**Table 7.32: Supplementary Livelihood of Surveyed Households**

District	Dak Cheung District										Sanxay District				
	Xiengluang (N=466)		Dak Duem (N=234)		Nam Dae (N=279)		Xekamarn (N=236)		Aekkalad (N=689)		Nam Zou (N=135)		Other villages (N=79)		
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	
Land-based	Farming	118	25	155	66	64	23	67	28	179	26	63	54	7	16
	Livestock		3	15	6	22	8	0	0	19	3	5	4	7	16
	NTFPs collection	0	0	0	0	9	3	0	0	7	1	0	0	0	0
Wage-based	Day laborers	48	10	8	3	18	6	17	7	52	8	41	35	30	67
	Company workers	6	1	0	0		0	0	0	0	0	0	0	0	0
	Public servants	0	0	0	0	2	1	0	0	1	0	0	0	0	0
Enterprise-based	Small business	3	1	0	0		0	0	0	3	0	0	0	0	0
	Handicraft production	7	2	0	0	1	0	3	1	0	0	2	2	0	0
Others		12	3	3	1	3	1	3	1	6	1	2	2	1	2
None		259	56	53	23	160	57	146	62	422	61	3	3	0	0
<b>All surveyed population</b>		<b>466</b>	<b>100</b>	<b>234</b>	<b>100</b>	<b>279</b>	<b>100</b>	<b>236</b>	<b>100</b>	<b>689</b>	<b>100</b>	<b>116</b>	<b>100</b>	<b>45</b>	<b>100</b>

\*Note: No livelihoods or 'none' identified by surveyed population as still studying, children, unemployed, and being in the army

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

### Livelihood Diversification

To understand the resilience to impacts on their livelihoods of the surveyed households, livelihood diversification amongst 2,984 surveyed population was analyzed (**Table 7.33**). In terms of types of livelihoods, 829 out of 2,984 (28%) are dependent on a single livelihood including 467 people (16%) with land-based livelihoods and 45 (2%) with wage-based livelihood, and 314 (11%) with other sources of livelihoods. Approximately 1,011 people (34%) rely on two types of livelihoods, 729 people (24%) get their secondary source of income from land-based livelihoods, 259 people (6%) generated their supplementary income from wage-based livelihood, and 376 people (13%) gain their income from other sources of livelihoods.

**Table 7.33: Livelihood Diversification**

Livelihood Diversification		Type of Livelihood	No. of People	%
Primary Livelihood	Secondary Livelihood			
One Livelihood	None	Land-based	467	16%
		Wage Labour	45	2%
		Business	3	0%
		Other sources	314	11%
<b>Total of Population Dependent on One Livelihood</b>			<b>829</b>	<b>28%</b>
Two-Livelihoods	Land-based	Land-based	585	20%
		Wage Labour	209	7%
		Business	1	0%
		Other sources	57	2%
	Wage Labor	Land-based	64	2%
		Wage Labour	2	0%
		Business	0	0%
		Others	2	0%
	Other	Land-based	80	3%
		Wage Labour	3	0%
		Business	5	0%
		Other sources	3	0%
<b>Total of Population Dependent on Two Livelihoods</b>			<b>1,011</b>	<b>34%</b>
No Livelihoods*			1,144	38%
<b>Total</b>			<b>2,984</b>	<b>100%</b>

\*Note: No livelihoods or 'none' identified by surveyed population as still studying, children, unemployed, and being in the army

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

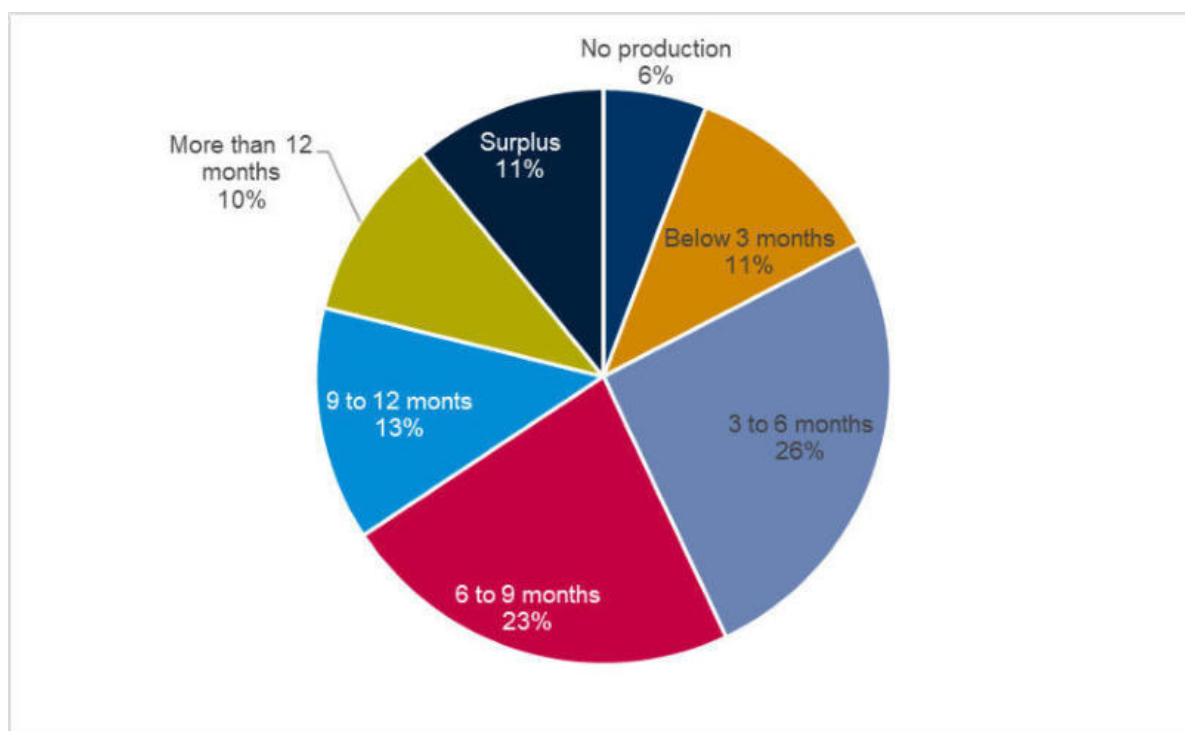
### Land-based livelihoods

Cultivation, animal husbandry, and NTFPs collection are the most common livelihoods in all villages and for all ethnic groups. Through the FGDs with livelihood groups, the majority of the people have agricultural production land with average land holding size of 1 to 3 ha per household. The FGDs and KILs with all relevant groups show that the surveyed population are dependent on the forest resources for food, medicine, hunting, firewood, wood for construction of houses, etc.

Rice, coffee, cassava, and other crops (such as ginger, ginseng, banana, vegetables, etc.) are commonly grown in most of the surveyed villages. The farmers are engaged in rice farming from May to August/November. Rice and vegetables grown are mostly for household consumption, while other crops such as coffee and cassava are for sale. In general, rice harvested is sufficient for the family for the months of June to October. The FGDs with livelihood groups reveal that the villagers experience rice and food deficiency, particularly during the months October to April as it is dry season, with low to no productivity.

Of a total 449 surveyed households, around half (49%) have sufficient amount of food for household consumption for 3 to 9 months – of which 26% have food sufficiency<sup>80</sup> for 3 to 6 months and 23% for 6 to 9 months. Approximately 11% of the surveyed population have food sufficiency below 3 months and 6% have no food production at all (**Figure 7.43**).

**Figure 7.43: Food Sufficiency**



Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

**Table 7.34** presents food sufficiency by koumban (village cluster). Koumban Xiengluang has the highest proportion of population with food sufficiency for lower than 3 months (20%), while the population having food sufficiency for 3 to 9 months constitutes almost 50% of the surveyed households. Whilst koumban Dak Duem appears to have the highest proportion of its households having food surplus (21%).

<sup>80</sup> The number of households which are food secure



**Table 7.34: Food Sufficiency by Koumban**

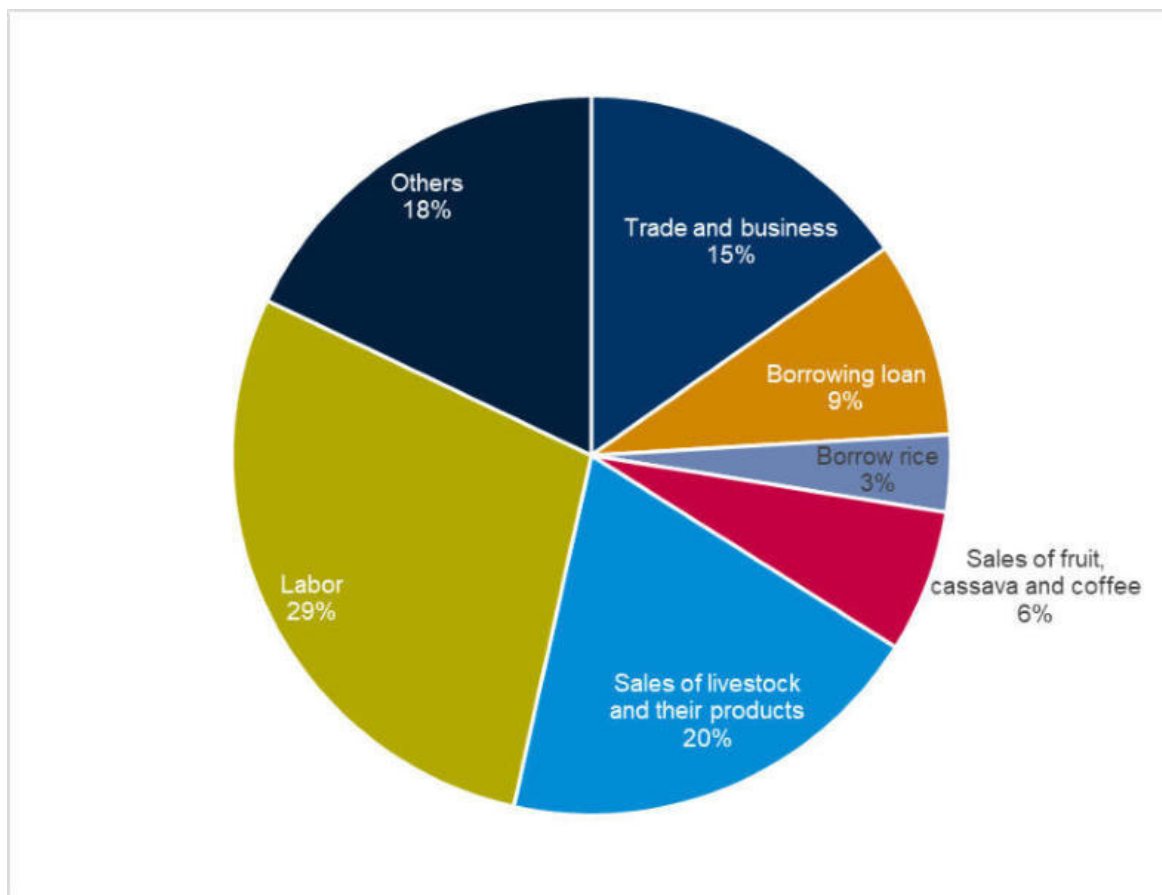
District	Dak Cheung District										Sanxay District				
	Koumban		Xiengluang		Dak Duem		Nam Dae		Xekamarn		Aekkalad		Nam Zou		Other villages
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	
No production	1	1	9	14	1	2	0	0	15	11	0	0	0	0	
Below 3 months	16	19	5	8	5	8	3	9	14	11	7	15	2	8	
3 to 6 months	18	21	8	12	23	38	8	25	36	27	19	40	3	12	
6 to 9 months	23	27	14	21	15	25	9	28	24	18	8	17	9	35	
9 to 12 months	11	13	11	17	10	17	2	6	12	9	7	15	6	23	
More than 12 months	8	9	5	8	3	5	5	16	15	11	5	11	5	19	
Surplus	8	9	14	21	3	5	5	16	17	13	1	2	1	4	
<b>Total</b>	<b>85</b>	<b>100</b>	<b>66</b>	<b>100</b>	<b>60</b>	<b>100</b>	<b>32</b>	<b>100</b>	<b>133</b>	<b>100</b>	<b>47</b>	<b>100</b>	<b>26</b>	<b>100</b>	

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

**Figure 7.44** presents approaches deployed by the surveyed households to make up for household food insecurity. Of the total 375 surveyed households, 29% indicated that they would work as laborers to earn additional income for food purchase, 20% sell livestock and their products, 15% are engaged in trades and business, and 18% have other approaches including handicrafts (e.g. blacksmith and bamboo products), NPFTs collection, service, or are dependent on income from other family members.

Notably, 9% indicated that they would borrow loans, which are understood to be loans from friends and relatives from the same village, and 3% would borrow rice from their friends and relatives in the same villages. This practice of borrowing and exchanging food, products and money within villages show that these villages have a strong social cohesion and established relationships to help each other overcome hardships. It is noted that micro-credits/micro-finance schemes are not currently available in the villages.

**Figure 7.44: Approach for Making Up for Food Insecurity**



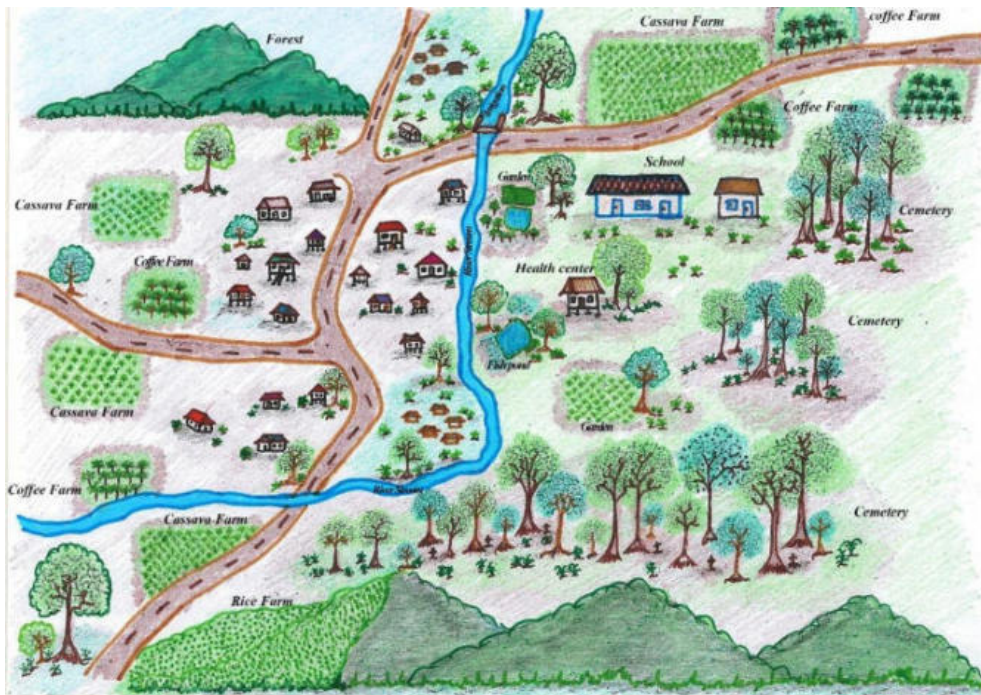
Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

Cultivation, animal husbandry, and NTFPs collection activities are the common livelihoods across surveyed villages. **Figure 7.45** presents an overview of cultivation land, forestry land, cemetery, and village facilities and public services such as school, health centre and Salakuan.

Figure 7.45: Agro-Forestry Production Area



Agriculture production area map of Dak Jom Village, Dak Cheung District



Agriculture production area map of Dak Samor Village, Sanxay District

Source: Site visit and FGDs undertaken by ERM/Innogreen, November 2021

### Cultivation

The following section summarizes the main cultivation practises in the Study Area.

**Rice:** Based on the land and asset survey conducted in November 2021, the cultivated rice paddy area ranges from 0.1 to 3 ha and the average rice farm area is approximately 0.1 ha or 1,000 m<sup>2</sup> (refer to **Figure 7.46** for photos of common rice cultivation). Rice farms are usually located in low land



areas and close to streams as they require sufficient water for irrigation and productivity. Therefore, rice farms are cultivated in fixed locations with limited suitable land plots, and rice farming is not part of the shifting cultivation practices. The rice productivity varies across households, with minimum of rice productivity around 300 kg/year, and maximum of rice productivity around 90-100 ton/year. The average price of rice is between 3,000 and 6,000 kip/kg.

*Coffee:* The FGDs with livelihood groups indicate 90% to 100% of the villages are engaged in coffee cultivation (mainly Catimor coffee) (**Figure 7.46**). The coffee plantations are located between 3 km to 10 km from the households. Coffee is usually planted during March to April and takes around three to four years to yield productivity. Between November and January was identified as the busiest time of the year due to the coffee harvesting season. The average coffee plantation size is 0.14 ha and the average productivity of coffee is approximately 1 ton/household/year. The price for coffee is approximately 5,000 kip/kg in urban Dak Cheung, and the coffee is sold in the villages and urban Dak Cheung.

*Cassava:* cassava is planted around March/April and it takes about one year for productivity, while harvesting of cassava is around November/December. Cassava productivity ranges from 3 ton/household/year (**Figure 7.46**).

**Figure 7.46: Examples of Cultivation**



Rice cultivation in Dak Treb Village



Rice cultivation in Dak Rant Village



Drying rice in Dak Dom Village



Rice storage in Dak Dor Village



Coffee cultivation in Tong Xieng Village



Coffee cultivation in Daklern Village



Cassava cultivation in Dak Nong Village



Cassava cultivation in Dak Treb Village

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

*Shifting Cultivation:* The majority of the villages identified that they still conduct shifting cultivation which is a common practice for coffee and cassava. After approximately 5 years of cultivation, farmers would move to another location as soil becomes less fertile resulting in decreased productivity of coffee and cassava. Some farmers may 'book' (i.e. reserve) the land for future use, by notifying the village heads and communicating to other community members by marking the boundaries of the booked land with sticks and lines. The trend of shifting cultivation varies across villages depending on the productivity of the plantation. Based on the KIIs with the livelihood groups, most of the villages identified that they practice shifting cultivations, while only two villages (out of 13 villages) indicated that there has been decreasing trend in shifting cultivation.

*Farming methods:* Intercropping is practiced among survey villages, as mentioned during KIIs. Intercropping is cultivation of two or more crops simultaneously on the same field. The common crops for intercropping are rice, coffee, and cassava. The farming methods are still labour-intensive as the use of agriculture machinery is still limited in this region. In most villages, there are no irrigation system for their production land due to the mountainous terrain and the dry climate of the regions, resulting in limited water resources for irrigation. Irrigation is mostly available only for rice cultivation as rice requires sufficient water to grow and reach productivity (**Figure 7.47**).



**Figure 7.47: Irrigation for Cultivation**



Irrigation for rice paddy in Dak Rant Village



Irrigation in Dak Rant Village

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

### *Animal Husbandry*

In the surveyed villages, people raise animals in large numbers, including both large animals such as buffalos, cows, goats and pigs, and small animals such as poultry. Large animals are released to graze outside the village and in the mountain areas where grass is available. Pigs and poultry are usually raised in the yards around the house. Animal husbandry is mainly for household consumption, performing ceremonies, and annual festivals (i.e. animal offerings) and for welcoming the visit of relatives and village official guests. Approximately ten households practise animal husbandry in large number for sale and is the main income source for the households (**Figure 7.48**).

**Figure 7.48: Animal Husbandry**



Buffalos grazing in open grassland in Dak Rant Village



Buffalos are kept under the house in Dak Yen Village





Cow husbandry in Dak Rant Village



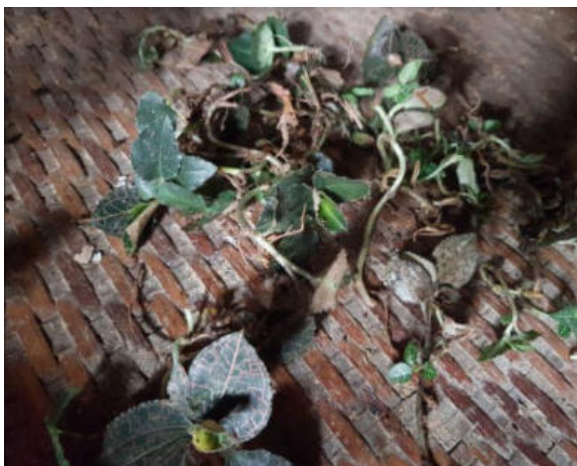
Pig husbandry in Dak Yen Village

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

### *NTFPs Collection*

Livelihoods of the Project-affected households are still highly dependent on natural resources such as forests and rivers. Households surveyed collect food e.g. bamboo, mushrooms, and wood for cooking (firewood) and construction of houses from the forests. Linzhi mushroom and Dok Lhai have been identified as the most common and wanted NTFPs as these products have high local value. There are “middlemen” from nearby cities and Vietnam that come into the village to buy these products or these products will also be sold at local markets. In addition, subsistent hunting is practised, mostly small animals such as wild chickens, squirrels, wild birds, etc. are hunted for household consumption and extra may be sold to the markets (**Figure 7.49**).

**Figure 7.49: NTFPs Collection**



Dok Lhai collection in Dak Kung Village



Selling of hunted small wild life in Xiengluang Village

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

### *Wage-based livelihoods*

#### **Waged labour**

FGDs with livelihood groups indicated that some men from the villages work as labourers in hydropower projects in E-moon Hydropower and Xekamarn Hydropower, while women are engaged in coffee collection in bigger provinces such as Pakxong and Pakxe Provinces. Some households from

Sanxay District work as labourers in banana plantation in Nam Noy area, Ban Phia Keow and Xaysettha District, Attapeu Province (70-90 km from the villages).

### Civil Servants

The fewest number of actively working people surveyed are engaged as civil servants (60 people or 2%). Most are living in the locality and the common positions are teachers; however, some of the teachers and police in-migrated from other districts or provinces.

### Handicraft

In addition to engagement in agricultural production, the people in the villages also have the traditions in production of various handicrafts products including blacksmith products, weaving and bamboo item handicrafts. Weaving is predominately conducted by women while blacksmith products are typical conducted by men. The handicrafts products are mostly for household consumption; some people may be able to produce extra and sell them in the markets. The most outstanding handicraft products are Ban Dak Treb of Dak Cheung District, Ban Dak Dor and Ban Dak Nhok of Sanxay District where the people in these villages have the tradition in smith-work that can generate income for the families. Examples of handicrafts are shown in **Figure 7.50**.

**Figure 7.50: Handicrafts**



Ironsmith handicraft in Dak Xuem Village



Weaving in Dak Ta-ok Noi Village



Ironsmith handicraft in Dak Treb Village



Bamboo handicrafts in Dak Nong Village

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021



### *Enterprise-based livelihoods*

According to the data from the field survey, in the Study Area, there is no trade facility. There are only a few retail shops in some villages on the roadsides, which sell food and consumer goods for daily use. Within the Project and surrounding areas, there is no industrial factory. Industrial factories are located in the surrounding area of the municipality of the District and these factories are mostly of small-scale industrial factories, such as: small furniture factory, rice mill, automobile repair shop, drinking water factory, ice-making factory. Small scale retail shops in the Study Area are shown in **Figure 7.51**.

**Figure 7.51: Small Businesses**



Retail shop in Dak Dor Village



Retail shop in Trong Mueang Village

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

### *Livelihood Trainings and Programs*

According to secondary data and information gained through KIIs, trainings and programs have been provided by the government and non-governmental organizations (NGOs) to improve agricultural practices, livelihoods, and food sufficiency for the Project affected communities. These trainings/programs include the following:

- International Fund for Agricultural Development (IFAD) program supporting agriculture and livestock practice and production, providing training in weaving for women;
- Workshops by the Ministry of Agriculture and Forestry (2021) for soil preparation for coffee plantation (part of the Greater Sub-Region Biodiversity Conservation Corridors Project funded by Asian Development Bank);
- World Food Programme promoting nutrition and providing lunch and water supply for schools;
- German-Laos Association Development (GLAD) supporting people in livestock such as providing goats, pigs and pepper plants;
- Training by CARE International on coffee planting skills;
- Government relation department providing scholarship to women for vocational weaving;
- PRF providing funds to build school in Prao, Dak Pam, Dak Den, Xiengluang, Dak Yen, Tong Xieng, Dak Kung, Dak Dom, Dak Treb, Dak Xeum, Dak Dor, villages;
- Scaling Up Participatory Sustainable Forest Management (SUFORD) providing assistance and promoting forest consumption management; and

- District Agriculture and Forest Office providing seeds and collaboration with organizations and companies to provide assistance and support to people within the district.

### 7.5.3.3 Income and Expenditure

Data available from 443 surveyed households was used in the financial analysis, which is discussed in more details in the following section.

#### Income

The average monthly household income of the 443 surveyed households over the past 12 months is LAK (Laotian Kip) 1,272,593 (approximately USD 110), and the average monthly income per capita (per person) is LAK 199,954 (approximately USD 18), which are lower than provincial and national average of LAK 1,200,000 per month (approximately USD 104) per capita. The monthly income per household and per capita varies across Koumbans. Akkelad villages in Dak Cheung District has the highest average monthly household income of over LAK 2,500,000 (approximately 217 USD), while Koumban Nam Dae has the lowest average monthly household income of LAK 200,470 (approximately 17 USD) (over 10 times less than those of Akkelad villages) **Table 7.35** provides the average monthly household income by Koumban.

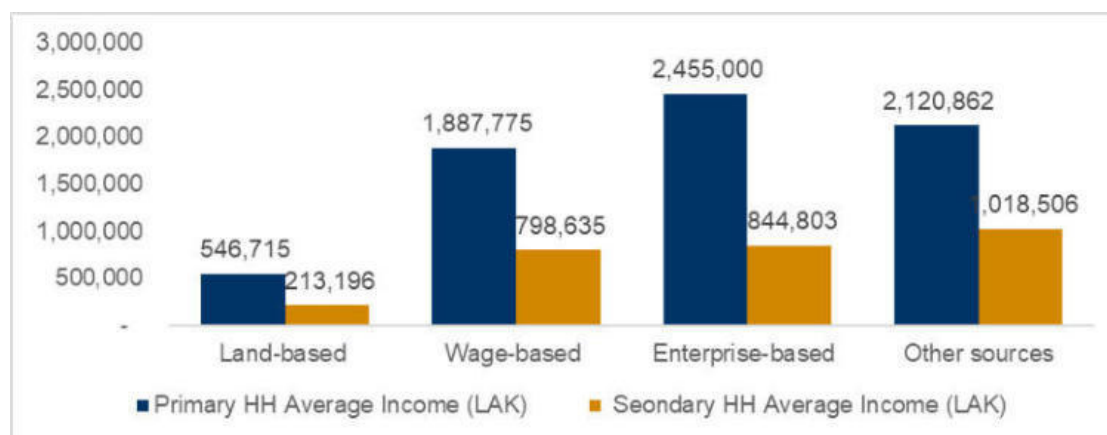
**Table 7.35: Average Monthly Household Income by Koumban**

District	Dak Cheung District					Sanxay District	
	Koumban	Xiengluang	Dak Duem	Nam Dae	Xekamarn	Akkelad	Nam Zou
Average Monthly Income per Household (LAK)	942,834	1,725,018	200,470	1,722,094	2,540,679	744,078	1,032,981
Average Monthly Income per Capita (LAK)	132,794	246,431	23,310	277,757	403,282	128,289	187,815
Minimum Monthly Household Income (LAK)	41,667	41,667	63,333	125,000	121,667	83,333	158,333
Maximum Monthly Household Income (LAK)	45,916,667	8,333,333	3,583,333	7,000,000	11,633,333	3,875,000	3,666,667

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

**Table 7.36** presents disaggregated average monthly household income by livelihood type. Land-based livelihoods contribute to the lowest average HH income—LAK 546,715 (approximately USD 48) for primary income sources and LAK 213,196 (approximately USD 19) for secondary income source. Wage-based and enterprise-based livelihoods have significantly higher average HH income than that of land-based livelihood by 3.4 times and 4.5 times, respectively. In addition to the main livelihood types discussed, other sources of income (such as handicrafts, NPFT collection, remittances and pension) contribute to approximately LAK 2,000,000 (approximately USD 174) HH monthly average income.

**Table 7.36: Average Monthly Household Income by Livelihood Types**



Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

### Expenditure

The average monthly expenditure of 443 surveyed households is LAK 8,740,498 (approximately USD 775) and the expenditure per capita is LAK 728,375 per month (approximately USD 65). The average monthly household expenditure is approximately 6.87 times higher than the average monthly household income (LAK 1,272,593) (**Table 7.37**).

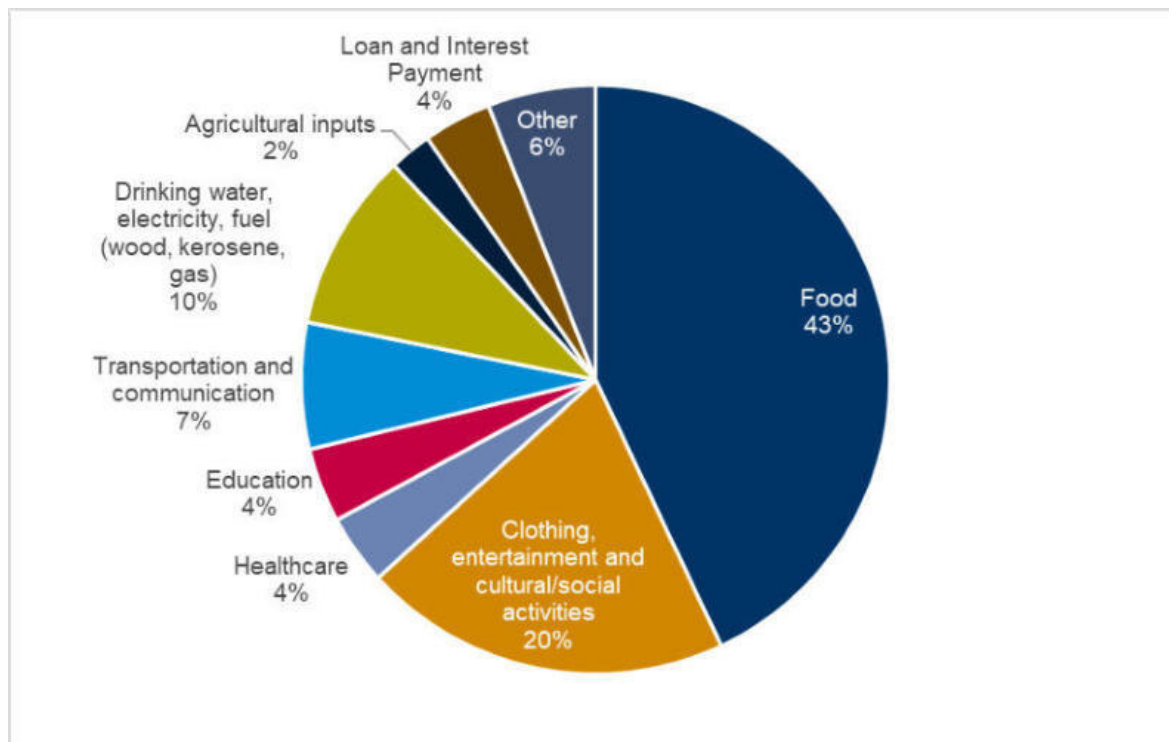
**Table 7.37: Average Monthly Household Expenditure by Koumban**

District	Dak Cheung District					Sanxay District	
	Koumban	Xiengluang	Dak Duem	Nam Dae	Xekamarn	Aekkalad	Nam Zou
Average Monthly Expenditure per Household (LAK) - Year	6,697,908	10,889,594	1,956,500	12,888,342	17,935,400	5,455,745	5,360,000
Average Monthly Expenditure per Household (LAK)	558,159	907,466	163,042	1,074,029	1,494,617	454,645	446,667
Average Monthly Expenditure per Capita (LAK)	78,614	129,638	18,958	173,230	237,241	78,387	81,212
Minimum Monthly Household Expenditure (LAK)	2,700,000	90,000	760,000	13,000,000	850,000	560,000	900,000
Maximum Monthly Household Expenditure (LAK)	35,000,000	67,000,000	30,000,000	46,000,000	135,000,000	32,000,000	15,000,000

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

**Figure 7.52** presents average monthly expenditure by item, which shows that most of the expenditure is spent on food (43%), followed by clothing, entertainment and cultural/social activities (20%), Drinking water, electricity, fuel (wood, kerosene, gas) (10%), transportation and communication (7%), and education (4%) and healthcare (4%). Other expenditures incurred to the households are presented in **Figure 7.52**.

**Figure 7.52: Average Monthly Expenditure by Expenditure Items**



Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

Based on the socio-economic HH survey, almost half of the surveyed households are in debt. Some 191 households (43%) of the surveyed households identified that they are in debt, while 256 households (57%) identified that they have no debts in the past 12 months.

### 7.5.3.4 Land Use and Tenure

The Department of Land under Ministry of Natural Resources and Environment (MONRE) is the main governmental authority responsible for land administration. The 2019 Land Law recognizes land use rights of individuals, legal entities, collectives and organizations of Lao citizens, and stipulates that these rights are to be managed through registration in land books, certification of land use, issuance of land titles and registration of transfer and changes of land use rights. The land title is the primary document that proves land use rights.

There are two land registration methods by which individuals can register the land that they are using lawfully. First is systematic land registration, which is carried out throughout a designated area where land allocation, zoning, or classification is required. Systematic registration confers a Land Title. Second, persons or entities can make application to certify their right to use certain land. Land certificates are issued certifying the temporary right to use agricultural or forest-land which is issued by District level authorities.<sup>81</sup>

During the past two decades, it has become a common practice in Laos for individuals to claim land ownership over plots that they do not legally own and sell such plots despite lacking a formal land

<sup>81</sup> Giz, 2015



title, after having their ownership certified by the village authorities. The process to obtain a land transfer certificate only requires an agreement between the buyer and seller, payment of the land use tax and the certification of village authorities. In this manner, some buyers were also able to have land titles issued by MONRE, using the land use tax payment or land certificate as evidence of their ownership. Following the enactment of the 2019 Land Law, the requirements for formal land purchase are more widely known and therefore this informal form of land transaction has reportedly become less common.

Within the 23 villages located in the vicinity of the Project Area in Dak Cheung District, privately held land plots cover nearly all areas, which are primarily agriculture land in the form of paddy fields, ranging from 1 to 3 ha. Most households have land use certificates and tax payment evidence for the land plots which they reside and conduct cultivation.

The FGDs with livelihood groups found that in the Project Area, land use and tenure include:

- **Booking land:** this is a traditional system, which is not recognized in Laos law. Village members claim or 'book' land for farming (or so-called booking) (e.g. rice, cassava, and coffee) by notifying the village heads and communicate to other village members by marking the booked land with sticks and lines or threads. The one who booked the land will then pay tax on this land to the village head. This land then can be used in the future for farming. After a few years (3-5 years) of farming, the land may become less fertile and less agriculturally productive, land users will move to claim a new piece of land for farming and 'book' the old piece of land which they may come back in the future to farm on this land again. This is understood to be a part of shifting cultivation practice.
  - Booked land can be inherited as land tax documents are recognized by local authorities as evidence for land ownerships. Inherited booked land can transfer into land use right (land use certificate) or land title by informing the village authority and District Natural Resource and Environment office to determine the land and issue a letter to confirm land ownership.
  - Booking land within village communal land or production forest cannot be transferred to land use right nor land titles. The village authorities and the District Natural Resource and Environment Office will conduct survey and determine that such claim do not comply with the policy of the districts and provinces and the Land Law.
- **Land use certificate:** refers to a document that certifies the land use right. It is issued by relevant State agency in pursuance of the policy on land allocation for Lao people to use as place of living and farming.

Individuals, legal entities and organizations who are granted land use rights shall use their lands in accordance with their purposes and in consistency with the Land Allocation Master Plan, land use strategy and land use plan adopted by the State for each time period (Land Law 2019, Article 56).

Article 126 of 2019 Land Law prescribes acquisition of land use rights. Lao citizens including Lao legal entities and organization will acquire land use rights on one of the following bases:

- Allocation by the State;
  - Transfer
  - Inheritance
  - Sale of allocated State land use rights with determined timeframe as prescribed in Article 123 of 2019 Land Law.<sup>82</sup>
- **Land titles (bai taa din):** A land title is the only document considered as the main evidence for permanent land use rights. Titles formally mark the boundaries of land, and the holders of land

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use rights may protect, use, lease and transfer these rights, as well as bequeath or otherwise pass these under inheritance law (Land Law 2019, Article 99). However, land titles are generally only seen in urban and peri-urban areas. Mostly households in the affected villages do not have land titles; however, some land titles are under preparation.

- **Community land and community forest:** All community members can access and make use of community land and forest equally. There is no system for management of community land and forest undertaken by the villages such as community forest management plan. However, local authorities periodically conduct monitoring to see if the forest use by the villages was undertaken in accordance with the Lao laws and requirements.

**Table 7.38** presents the information gained from the initial Land and Assets Survey 2021 of the households affected by the Project's land acquisition, including number of households and land ownership types by village. Booking land is the most popular land ownership type, followed by households with land use certificates. Few affected households own a land title.

**Table 7.38: Land Ownership Type by Village**

District	Koumban (Village cluster)	Village	Booking Land (No. HHs)	Land Use Right (No. HHs)	Land Titles (No. HHs)
Dak Cheung	Xiengluang	Dak Xeng	0	0	0
		Xiengluang	7	1	0
		Dak Tiem	7	11	2
		Dak Yang	5	1	0
		Dak Yen	1	2	0
		Dak Treb	9	6	1
		Trongmueang	2	1	0
	Dak Duem	Dak Dor	13	10	0
		Dak Den	0	0	0
		Dak Rant	10	12	1
	Nam Dae	Dak Kung	0	0	0
		Dak Jom	0	0	0
		Sieng A	0	0	0
		Prao	10	1	0
	Xekamarn	Dak Muan	12	12	2
		Dak Ta-ok Noi	2	0	0
		Dak Dom	0	0	0
	Akkeklad (no koum ban)	Dak Bong	14	28	2
		Ngon Don	23	9	4
		Dak Chueng	0	1	0
		Tong Xieng	33	6	0
		Dak Pum	7	1	0

District	Koumban (Village cluster)	Village	Booking Land (No. HHs)	Land Use Right (No. HHs)	Land Titles (No. HHs)
Sanxay	Other villages	Daklern	6	13	2
		Dak Nong	1	0	0
		Dak Samor	7	0	0
<b>Total</b>			<b>169</b>	<b>115</b>	<b>14</b>

Source: Land and Asset Survey conducted by Innogreen/ERM, November 2021

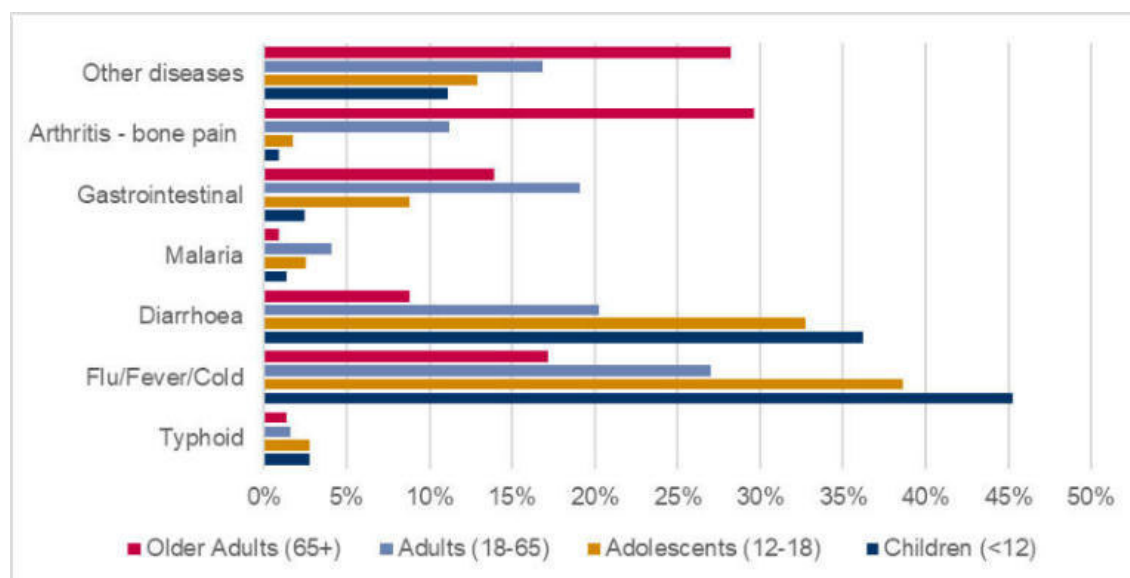
50% of the interviewees asserted that land ownership is mostly in men’s names (or the head of the family), while the other 50% stated that ownership is equal between men and women. The average land holding size is ranging from 1 to 3 ha per household. In general the local people are not concerned about land tenure in the form of land titles because land ownerships are recognized within their villages. Moreover, it is costly for the people to obtain land use certificate or land titles for their booking land.

### 7.5.3.5 Health and Healthcare

Through the KIIs with village heads, the most common diseases in the surveyed villages are cold, diarrhoea particularly for children. Women experience endometritis and concerns around health risks related to giving birth. For the elderly, common diseases are kidney disease and gastritis. Other diseases identified include malaria, stomach pain and leucorrhoea.

Data desegregated by age group reveals that flu/cold/fever and diarrhoea are most common among children (aged <12) and adolescents (aged 12-18) with approximately 40% and 30% of children and adolescents experience flu/cold/fever and diarrhoea, respectively. While flu/cold/fever (25%) and diarrhoea (20%) are also common among adults (Aged 18-65), they have increased experience of gastrointestinal (20%) and arthritis (bone pain) (10%) and other diseases such as liver and kidney related diseases, respiratory diseases, pneumonia, etc. Older adults (Aged +65) commonly experience arthritis (bone pain) (30%), flu/cold/fever (17%), gastrointestinal (14%) and other diarreses (28%) (**Figure 7.53**).

**Figure 7.53: Common Diseases by Age Group**



Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

### 7.5.3.6 Local Healthcare Facilities

Dak Cheung District has the Community Hospital of Dak Cheung District, which has 28 beds and provides small and medium surgical services and 10 dispensaries<sup>83</sup>.

Of the 23 surveyed villages in Dak Cheung District, 10 villages have healthcare centres located within the village. Local healthcare facilities usually have x-ray room, nativity room, and rehabilitation room and a doctor and nurses. The remaining 13 villages have no healthcare facilities available in the villages. For these villages, they have to travel to healthcare facilities in other villages or bigger cities such as Xiengluang Health centre, Dakdor Health Centre, Prao Health Centre, and Dakchueng Hospital. The KIIs with village heads indicate that for closer villages, travel may take 10 minutes while those further away may have to travel 6-17 km to the local health facilities or approximately 1-3 hours. During the KIIs, some concerns were raised about the roads to the healthcare facilities are poor, particularly during rainy seasons which make access to the local healthcare facilities more difficult.

Through KIIs with healthcare personnel from Xiengluang and Dak Jom Villages, local healthcare facilities experience issues with insufficient healthcare personnel, medicines, and medical equipment.<sup>84</sup>

Sanxay District has one District hospital with 20 beds and 9 dispensaries in all Kum Ban with a total of 24 beds and 109 medical staff posted in the dispensaries.

Of 8 villages in Sanxay District, only two villages have healthcare centres available, namely Dak Samor and Nam Ngonguea Villages. The KIIs with healthcare personnel found that these facilities have 5-6 healthcare workers (including doctors and nurses). The medical equipment and medicine have been reported insufficient as one healthcare centre provides healthcare service to five villages with population around 2,300 people.

In Dak Samor, the average number of people receiving treatment from the healthcare centre is 15 people per month, while for Nam Ngonguea village is 60 people per month. The ratio of people having access the healthcare services is relatively low compared to the population. This is partly due to local people still preferring traditional treatment prior to seeking medical treatment from healthcare centres. Additionally, lack of vehicles to travel to healthcare centres and poor road conditions, and lack of economic means<sup>85</sup> also prevent the local people from getting access to these healthcare centres.

There are healthcare centres in Koumban Nam Zou and a hospital in Sanxay District, however this requires people to travel almost 60 km to get medical treatment. Due to the distance to the district hospital, only people with serious illness seek treatment there.

Of 447 surveyed households, 247 (55%) identified to use health centres most frequently, followed by government hospitals (191 people or 43%), pharmacy (4 people or 1%) and traditional medicine/healer (4 people or 1%).

### 7.5.3.7 Access to Infrastructure and Public Services

The following section discusses access to infrastructure and public services of the affected villages.

**Figure 7.54** presents locations of local infrastructures and public services i.e. schools and healthcare facilities of the affected villages which are located in within the Project Area.

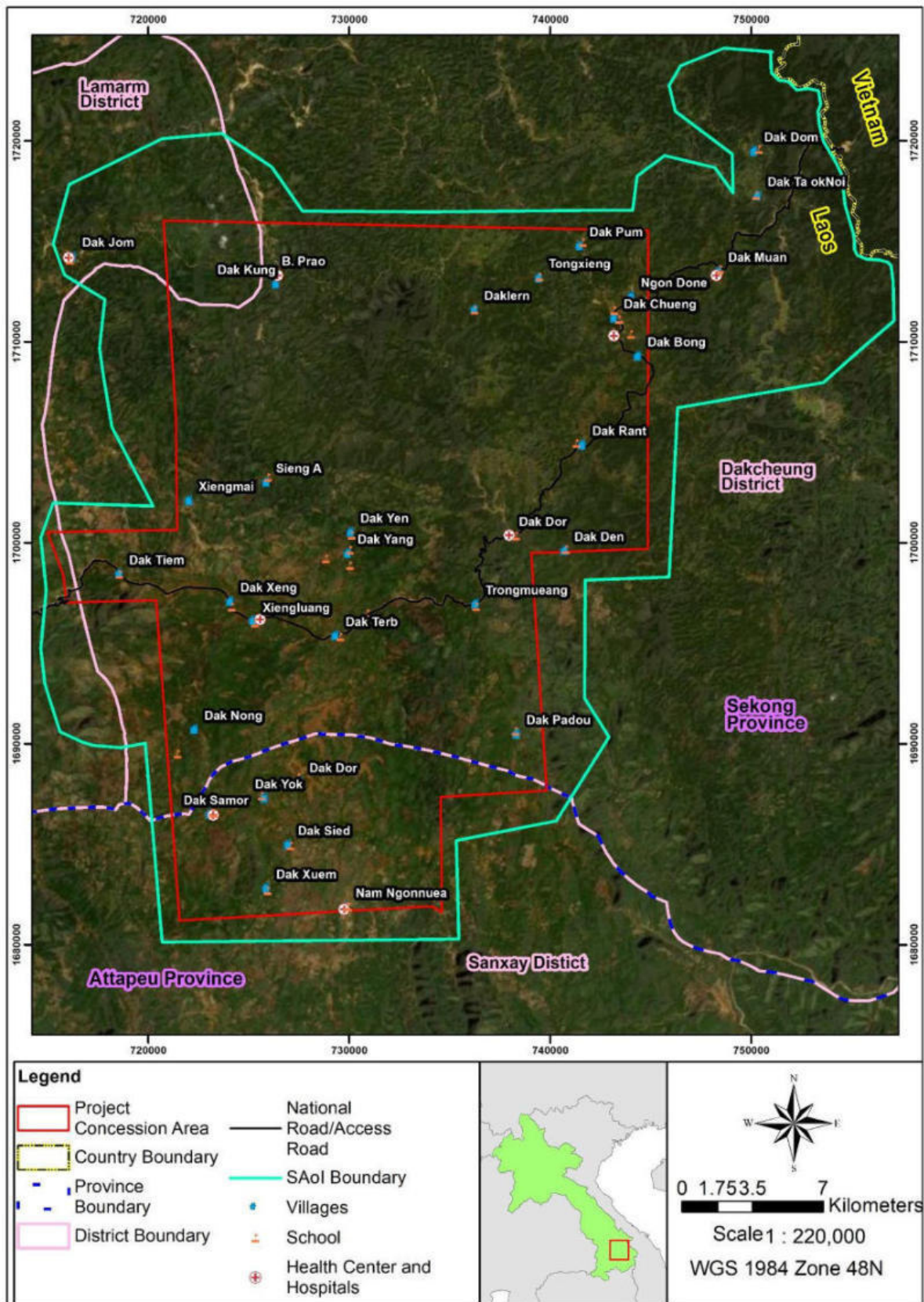
<sup>83</sup> A dispensary is the room or area in a hospital where medicine is prepared and given out to patients. A dispensary is often run by a pharmacist, doctor, or nurse, who is authorized to dispense — or hand out — medicine.

<sup>84</sup> Note that due to the Covid-19 situation at the time of the site visit, only two healthcare personnel were able to participate in the KIIs.

<sup>85</sup> Although the service fee for healthcare centre service is relatively low-cost at 5000kip/person/time of healthcare service.



Figure 7.54: Local Infrastructures and Public Services



Source: ERM/Innogreen, 2021

### Local Schools

Education attainment of the population of the affected villages are discussed under **Section 7.5.3.1**. All Project affected villages have a primary school within the village, which provides education from P1 to P5 classes. All primary schools appear to be sufficient in quality, except Xiengluang (Dak Cheung District) and Dak Padou (Sanxay District) where the school quality was identified as “poor” during interviews.

The villages in Dak Cheung District area have three lower secondary schools and one upper secondary school, which is located at Ban Xiengluang. The villages in Sanxay District have one lower secondary school at Ban Nam Ngonnuea. **Figure 7.55** presents photos of secondary school in Dak Dor Village and primary school in Dak Yang Village.

**Figure 7.55: Schools in Surveyed Villages**



Dak Dor Secondary School



Dak Yang Primary School

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

### Local Roads

Dirt roads are available in all 31 surveyed villages. Of the 23 surveyed villages in Dak Cheung District, 17 villages identified to have “good” conditioned roads from interviewees; two villages (Dak Sieng A and Dak Ta-ok Noy) identified to have “moderate” conditioned roads; and three villages (Dak Tiem, Dak Den and Dak Dom) indicated that the roads are “poor”. Of 8 surveyed villages in Sanxay District, six villages indicated to have “good” conditioned roads; Dak Padou village has “moderate” road conditions, whilst Dak Door indicated to have “poor” road conditions of motor vehicles. The means of transport of the locals include motorbike, walking, biking, and farm tractor.

It was noted during the KIIs that during rainy seasons the (red soil) dirt roads get muddy from heavy rain and make it inconvenient to travel and increase travel times. Examples of conditions of local roads are presented in **Figure 7.56**.



**Figure 7.56: Local Roads**



Access road to Tong Xieng Village



Access road to Dak Kung Village

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

### *Solid Waste Collection*

Through KIIs with village heads, there is no waste collection and disposal system in the surveyed villages; therefore, the village members' burn, bury, and throw waste around the house or into the forests as means of waste disposal.

The use of toilet is extremely low in the Project Area because people are not accustomed to using latrines and most of them still follow the old defecation practices, such as: defecating in the garden behind the house or in the forest area surrounding the village. The local health department have come to the villages to promote the use of toilets in the villages nearly every year (EIA, 2020). This could be a factor in the increase coliform bacteria reported in surface water samples (**Section 7.3.7**).

### *Internet Services*

KIIs with youth groups indicated that they have access to the internet to contact with people from outside communities, to receive news and information, to interact on social media, and to study online during the Covid-19 pandemic.

### *Supply*

From the KIIs with village heads, water supply for domestic use across villages is from multiple sources including wells (Nam Sang), river stream (Houay), and gravity-fed water systems (Nam Lin), which is sourced from streams to store in common tank for water supply to households in the villages (**Figure 7.57**). Rainwater is stored in tanks for drinking and domestic use during rainy season. It is noted that piped water supply system (Nam Papa) is not available in the surveyed villages (water is not pumped into homes). The main source of water identified across survey village is gravity-fed water system.

Of 23 villages surveyed in Dak Cheung District; 12 villages (52%) source their drinking water from gravity-fed water systems sourced from rivers/streams, 6 (26%) villages depend on rivers or streams, 3 villages (13%) use shallow wells, and 2 villages (9%) source drinking water from drinking water factory. Of 8 villages in Sanxay District, 6 villages (75%) sources drinking water from gravity-fed systems sourced from rivers/streams and 2 villages (25%) sourced from dug-well. The remaining villages' source drinking water from other sources including tube/dug wells and drinking water factories (bottled water).

The KIIs found that water supply is insufficient in most villages, particularly during the dry season (April-May). In addition, the villages implement rules and measures to protect drinking water sources

such as prohibition of livestock and littering of waste near water source areas and fencing around the water source. Water is also boiled before drinking for sanitization.

**Figure 7.57: Water Supply**



Gravity-fed water system in Xiengluang Village



Gravity-fed water system in Prao Village



River stream in Dak Tiem Village



Water storage tank in Dak Yen Village

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

## Energy Supply

Based on KIIs with village heads in Dak Cheung District, all surveyed villages have access to electricity, except Dak Dom village where the electricity grid is not available, and the village depends on dynamo generators.

The main sources of electricity supply include transmission line and solar cells. Households access electricity by connecting to the grid (**Figure 7.58**). Poorer households usually share electricity with nearby households or their relatives which have already connected to the grid.

Some village heads indicated that the electricity bill is too expensive and therefore make it unaffordable for some households in the village.

Only three villages (i.e. Dak Yok, Dak Padou, and Nam Ngonnuea) in Sanxay District have access to electricity. The main source is power grid and solar cells. Solar cells are of individual household use and not community based solar cell systems.

Firewood is predominately used for cooking in the villages and is collected from the nearby forest areas. The distance for traveling for cutting firewood is within one km or less (EIA, 2020).

**Figure 7.58: Energy Supply**



Solar cell in Dak Jom Village



Electricity grid in Dak Yang Village

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

### *Markets*

Through KIIs with village heads of affected villages in Dak Chueng District, markets are available in Dak Bong, Dak Cheung, and Ngon Don Villages. The remaining villages in Dak Cheung District do not have markets within their villages. People in villages located nearby urban Dak Chueng usually go to markets in urban Dak Cheung. For those villages located far from the urban markets, there are occasional markets, 2-3 times per month. The people usually purchase or exchange products at retail shops available in the villages.

In Sanxay District, Dak Nong, Dak Smor, Dak Sied, and Dak Xuem villages have access to markets, whereas the remainder do not have market access.

#### *7.5.3.8 Social Network and Cohesion*

Through KIIs with local authorities and ethnic group representatives of Dak Cheung District, it was asserted that there have been no conflicts amongst ethnic groups in villages where multiple ethnic groups are present such as Dak Muan village where four ethnic groups are present (Triang, Yae, Katu and Lao). In addition, different ethnic groups living in the same village also celebrate their ceremonies together despite differences in ethnicity. The FGDs with ethnic group representatives reveal that there have not been any conflicts between ethnic groups in the past.

The KIIs also suggest that there are established social networks particularly support system to help one another overcome hardships. Village members help each other during difficult times such as during shortage of food, by sharing food and rice or money to each other.

Much of the population in rural areas do not have bank accounts and do not use the services provided by the banks, they usually borrow money from relatives in the village when they need financial assistance. Micro-credit schemes and informal loan schemes are not practiced in these rural villages. As discussed earlier, 9% of surveyed households indicated that they would borrow loans, from friends and relatives from the same village, and 3% would borrow rice from their friends and relatives in the same villages.

Labour exchange is also a standard practice across the villages, particularly among families with small number of family members or with elderly people and women-headed households, for agricultural activities.



### 7.5.3.9 Vulnerability

Vulnerable groups are people, especially those below the poverty line, the landless, the elderly, women and children, or other, who by virtue of gender, ethnicity, age, physical or mental disability, economic disadvantage, or social status may be more adversely affected by the Project impacts than others and who may be limited in their ability to claim or take advantage of impact mitigation measures and Project related benefits.

To align with ADB's definition of vulnerability<sup>86</sup>, vulnerable households are defined as meeting at least one of the following criteria:

- Poor households i.e. living under the national poverty line set by the Laos Government (LAK 9,364 (USD 0.83) per day per person);<sup>87</sup>
- Households of elderly persons above the age of 65 with no economic support;
- Households with physically and/or mentally disabled members who need care from other family members;
- Female-headed households with dependents; and
- Households with no land/squatters.

Since the majority of households in the Project Area belong to ethnic groups, being Indigenous Peoples alone in this case does not apply as a criterion for vulnerability.

A total of 178 households out of 449 surveyed households (40%) have been identified as vulnerable. Koumban Xiengluang are identified with the highest proportion (58%), while Koumban Xekamarn have the lowest (18%) proportion of its surveyed population having at least one characteristic of vulnerability (**Table 7.39**).

**Table 7.39: Number of Vulnerable Households**

District	Dak Cheung District										Sanxay District			
	Xiengluang (N =97)		Dak Duem (N =61)		Nam Dae (N =45)		Xekamarn (N =38)		Akkelad (N =134)		Nam Zou (N =48)		Other villages (N =26)	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Vulnerable households	56	58	26	43	21	47	7	18	41	31	19	40	8	31
Non-vulnerable households	41	42	35	57	24	53	31	82	93	69	29	60	18	69
<b>All surveyed households</b>	<b>97</b>	<b>100</b>	<b>61</b>	<b>100</b>	<b>45</b>	<b>100</b>	<b>38</b>	<b>0</b>	<b>134</b>	<b>100</b>	<b>48</b>	<b>100</b>	<b>26</b>	<b>100</b>

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

All surveyed households may have more than one vulnerability. **Table 7.40** illustrates that among the 178 vulnerable households, a large portion of households are categorized as households with one vulnerability (178 households or 40%). There are households having a small proportion of the households (2-6 households) having two vulnerabilities in which are scattered across koumbans.

<sup>86</sup> ADB SPS 2 (2009) Involuntary Resettlement Safeguard has defined vulnerable groups as "...Those below the poverty line, the landless, the elderly, women and children, and Indigenous Peoples, and those without legal title to land...".

<sup>87</sup> The national poverty line is estimated at LAK 280,910 (USD 24.90) per month per person at 2019 prices or approximately LAK 9,364 (0.83 USD) per day per person.

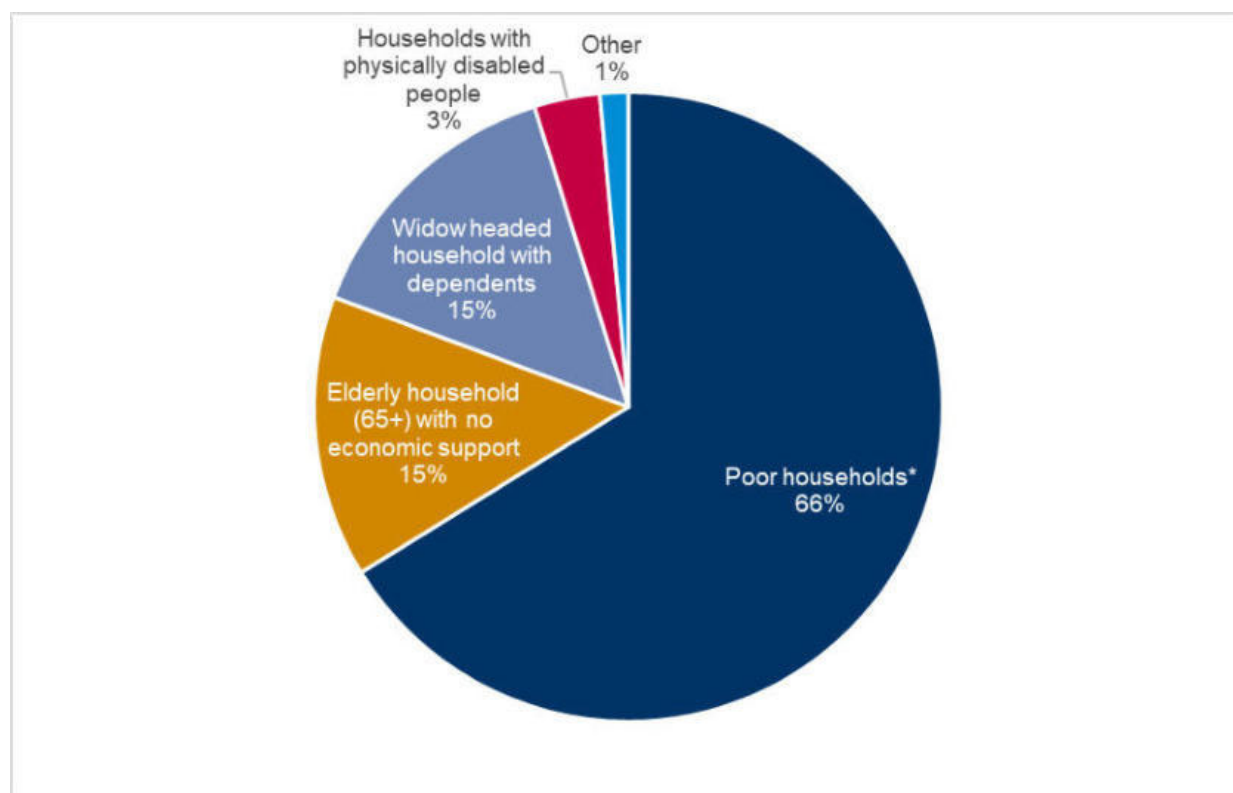
**Table 7.40: Number of Vulnerabilities among the Surveyed Households**

District	Dak Cheung District										Sanxay District			
	Xiengluang (N =97)		Dak Duem (N =61)		Nam Dae (N =45)		Xekamarn (N =38)		Akkelad (N =134)		Nam Zou (N =48)		Other villages (N =26)	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Households with one vulnerability	56	58	26	43	21	47	7	18	41	31	19	40	8	31
Households with two vulnerabilities	6	6	4	7	2	4	0	0	10	7	3	6	2	8
Households with three vulnerabilities	1	1	0	0	0	0	0	0	0	0	1	2	0	0
<b>All surveyed households</b>	<b>97</b>	<b>65</b>	<b>61</b>	<b>50</b>	<b>45</b>	<b>51</b>	<b>38</b>	<b>18</b>	<b>134</b>	<b>38</b>	<b>48</b>	<b>48</b>	<b>26</b>	<b>39</b>

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

Of the 207 vulnerable households, the majority (66%) of the households are identified with poverty, followed by elderly households (65+) with no income support (15%), and widow-headed households with dependents (15%), households with physically disabled people (3%) and other (1%), respectively. Other vulnerabilities include female-headed households, and households with no land (*Figure 7.59*).

**Figure 7.59: Characteristics of Vulnerable Households**



Source: Socio-economic household survey by ERM/Innogreen, November and December 2021



**Table 7.41** presents data analysis of the vulnerable households by category for each koumban. Most of the households in this region are classified as poor households, living below the national poverty line set by the Laos Government of USD 0.83 per person per day and World Bank’s poverty line of USD 1.90 per person per day.

Approximately 10% of the households in koumban Xiengluang, Dak Deum and villages in Sanxay Districts are identified with vulnerability of elderly households (65+) with no economic support. Akkelad villages in Dak Cheung District have the highest share (10%) of its households identified with widow headed household with dependents. Households identified with physically disabled people are considered relatively low across koumbans in both Districts.

**Table 7.41: Vulnerability Household by Category**

District	Dak Cheung District										Sanxay District			
Koumban	Xiengluang (N =97)		Dak Duem (N =61)		Nam Dae (N =45)		Xekamarn (N =38)		Akkelad (N =134)		Nam Zou (N =48)		Other villages (N =26)	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Elderly household (65+) with no economic support	10	10	5	8	3	7	0	0	5	4	5	10	2	8
Widow headed household with dependents	3	3	5	8	2	4	3	8	13	10	3	6	1	4
Households with disabled people requiring care	2	2	0	0	1	2	0	0	4	3	0	0	0	0
Other	2	2	0	0	0	0	0	0	1	1	0	0		0
<b>Total surveyed households</b>	97	17	61	16	45	13	38	8	134	18	48	16	26	12

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

The average monthly household income of the surveyed vulnerable households is LAK 1,261,159 (USD 111.76)<sup>88</sup>, and the average monthly income per capita is LAK 203,412 (USD 18) (**Table 7.42**). This is comparable to the average annual income of 443 surveyed households at approximately USD 110 and monthly income of USD 18. The lowest and highest income per households and per capita among the vulnerable groups are those with income below the government poverty line and the elderly HH +65 with no economic support, respectively.

It must be noted with caution that in this region, income is not the sole indicator for vulnerability. Based on the site visit, the livelihoods of the people e.g. farming, animal husbandry, NTFPs collection, hunting, etc. are mainly for subsistent household consumption, and the people are still highly dependent on natural resources meaning that the people obtain resources for their fundamental needs e.g. food, water, housing, energy, etc. from natural resources. Therefore, their livelihoods are not targeted at generate high income but rather sufficient provision of food and fundamental needs for the households.

According to the Notice on Measures for Poverty Alleviation and Development Plan (No.348, dated 16 November 20117), the Government of Lao defines households that are above poverty as:

- Households that have access to sufficient food of 2,100 kcal per person per day;
- Households that have sufficient clothes;

<sup>88</sup> Exchange rate as of 12 January 2021.

- Households that have housing;
- Households that have sufficient labours, occupations or stable income sources;
- Households that have sufficient finance for medical emergencies; and
- Households that have access to basic public services such as clean water, power, transport, information, bank, markets and safety and security.

**Table 7.42: Average Monthly Household Income per Households and per Capita among the Vulnerable Households**

Type of Household Vulnerability	Average Monthly Income per Household	Average Monthly Income per Capita*
Below poverty as defined by the govt. (<USD0.83/per day/per capita)	688,333	111,021
Elderly HH +65 with no economic support	1,728,347	278,765
Widow headed household with dependents	1,553,791	250,611
Disabled persons requiring family care	1,074,166	173,252
<b>Average</b>	<b>1,261,159</b>	<b>203,412</b>

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

**Table 7.43** presents disaggregated sources of income by vulnerability category. Land-based livelihoods, including agriculture and livestock, are the highest contribution to sources of income across vulnerability category, ranging from 80-88% of all surveyed valuable households. Wage-based is a significant of income contributor in households with handicapped person/s (20%). Enterprise-based livelihoods however were not identified as income sources for any of the vulnerable groups.

**Table 7.43: Sources of Income of Vulnerable Households**

	Elderly HH +65 with no economic support (N=24)	Widow headed household with dependents (N=28)	Households with disabled persons (N=5)
Land-Based	88%	86%	80%
Wage-based	4%	7%	20%
Enterprise-based	0	0	0
Other sources	8%	7%	0

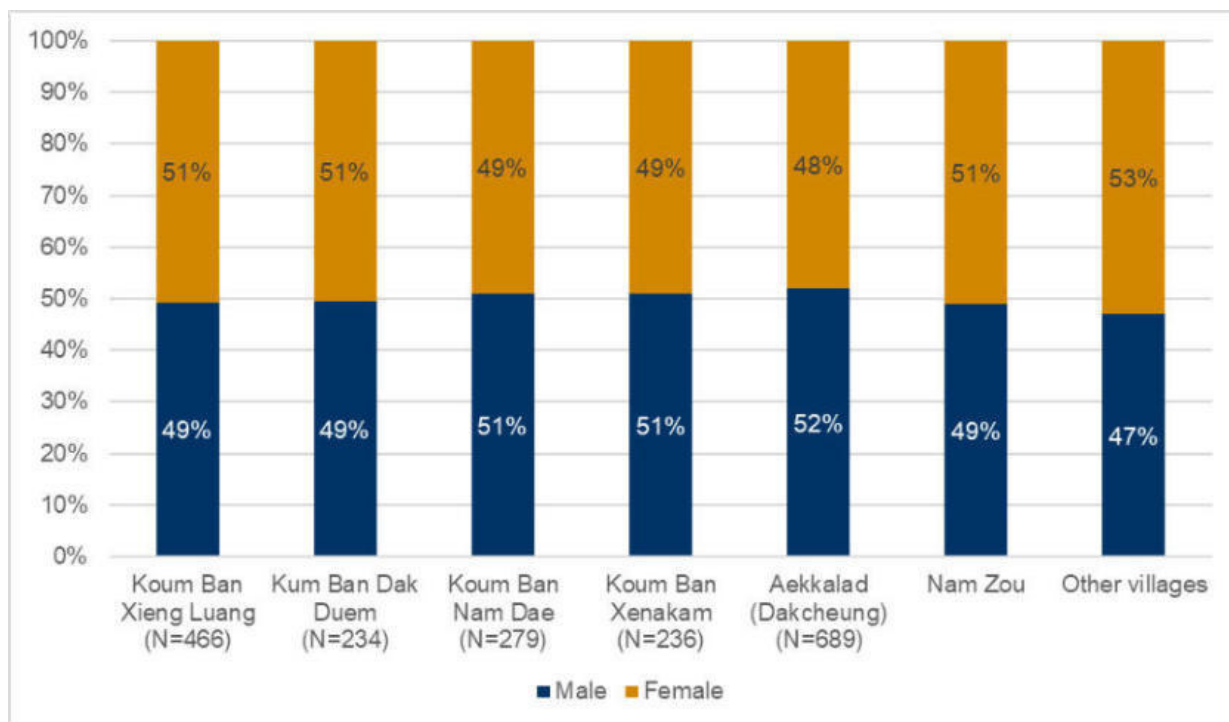
Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

## 7.5.4 Gender Disaggregated Socio-economic Profile

### 7.5.4.1 Demographic Profile of Affected Villages

Of the 370 surveyed households in Dak Cheung District, the ratio between male and female are roughly 1:1 (1,307 males versus 1,274 female), similarly to the country's which stood at 1:1 (female 49.8: 50.2 male) (The World Bank, n.d.c). The gender ratio is slightly different between koumbans; however the ratio remains roughly at 1:1 male to female. Akkelad villages appear to have slightly higher male to female ratio than other koumban at 52% male to 48% female (**Figure 7.60**).

**Figure 7.60: Gender Ratio by Koumban**



Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

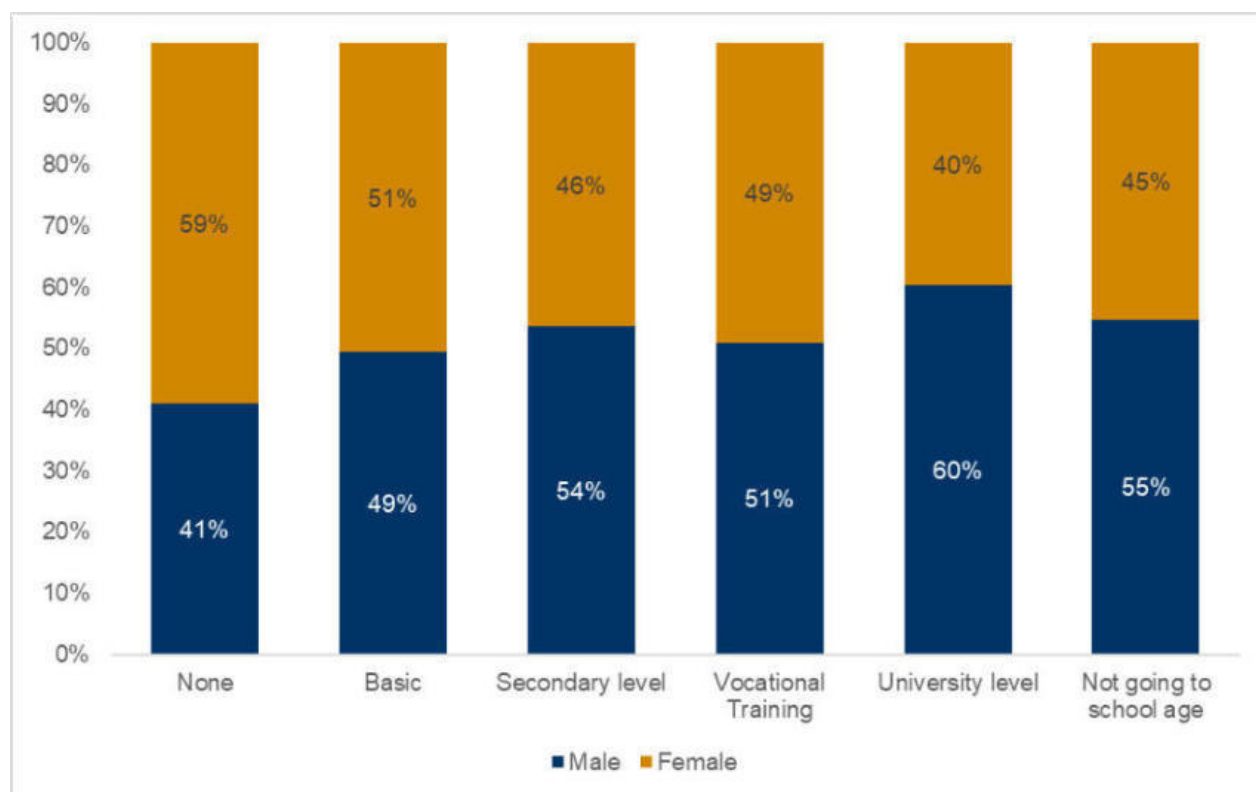
#### 7.5.4.2 Education Attainment

In terms of education attainment, females have slightly lower average level of education than males (according to KIIs with village heads and youth groups). The average level of education for females is up to year 3-4 of secondary school, while for males it was identified that the average education is year 4-5 of secondary school.

Based on the socio-economic household survey (**Figure 7.61**), the data shows that females outnumber their male counterparts at not having received education (59% and 41% respectively). Females and males equally receive primary education, while males have a slightly higher share of receiving secondary education (54% and 46% respectively). The survey shows equal portion of males and female receive vocational education, while males have a higher share of receiving university education than females (60% and 40%) respectively. Notably, males and females equally attend post graduate education.

Based on the 1,483 surveyed female population, the main reasons for discontinuing study include lack of economic resources (19%), work (13%), marriage (11%), household chores (4%), no educational establishment (3%), no interests in studying (2%), no reason (17%), and other reasons (31%) including distance from school, illness and disabilities, age and failing (i.e., not making the necessary grades to continue attending).

**Figure 7.61: Education Attainment by Gender**



Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

### 7.5.4.3 Maternal and Reproductive Health

Through the FGDs with women group, the average age of women getting pregnant is 15-18 years old. Mostly, women give birth at home or at local healthcare centres. For those villages located closer to the district hospitals women would give birth in hospitals.

### 7.5.4.4 Gender-based Violence

Based on the FGDs and site visit observation, gender-based violence does not seem to be an issue in the villages within the Study Area. There have been no reports of gender-based violence to the village heads by women or village heads that participated in the FGDs and KIIs.

It is, however, worth noting that this information should be viewed in the country context. In the Lao PDR, there are several traditional sayings describing the role of men and women in the family; for example, “Men are the net, women are the basket”, “The husband should lead, the wife should follow” and “The man is the boss and women are the labour”. These views, and many others, reinforce gender inequality and creates disparity between the sexes, allowing men to have culturally accepted control over women.

Many different types of violence, physical and non-physical have been reported during the survey conducted for the United Nations <sup>89</sup> looking into gender-based violence in rural Laos. 45% of the women surveyed indicated that their spouses have been violent in some form towards them, revealing the high incidence of domestic violence in the areas surveyed (Bokeo, Luangprabang, Savannakhet, Salavan Provinces and Vientiane Province). These areas are however, located in the North of Laos and not close to the Project. No information is available for the Project area.

<sup>89</sup> CUSO/ GDG, n.d.

This survey suggests that even though gender-based violence is not prevalent in the Project affected villages, it does not necessarily mean that it does not exist. It could be under-reported or that women (and men) accept it as part of the cultural norms.

According to the survey above, the most common factors influencing violent behaviour, as described by women victims, were that the violator was drunk, money, and work-related problems. Gender inequality in family economics is a significant influencing factor in domestic violence. Education can also be a factor in domestic violence as less educated women are more likely to experience violence than women who have some or higher education.

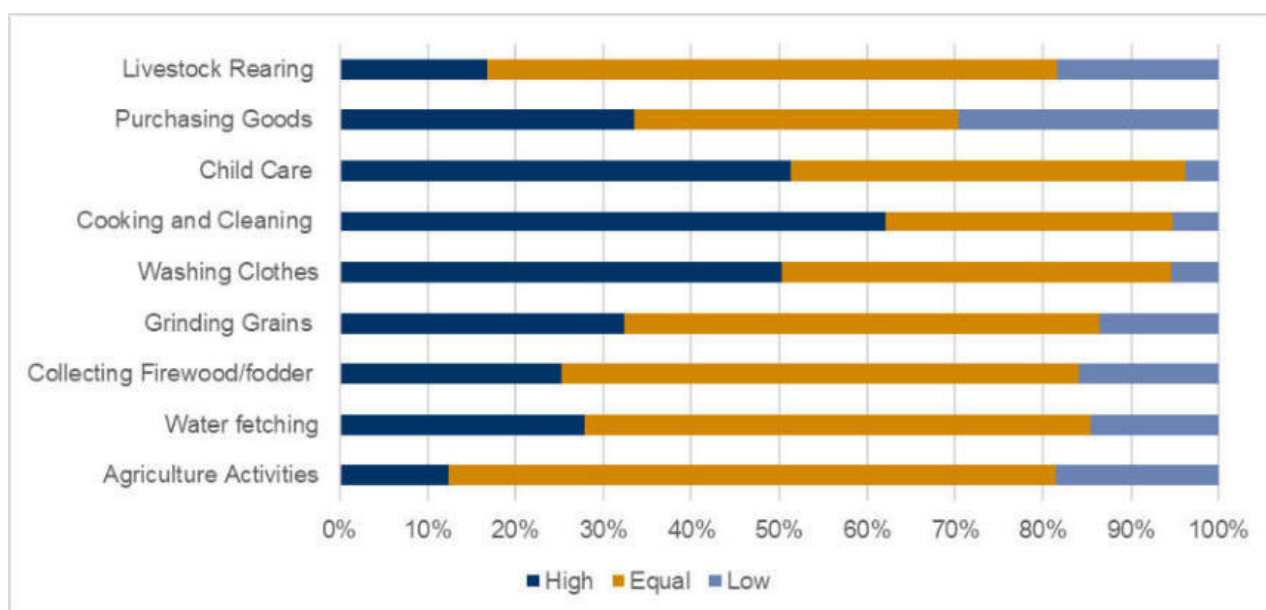
#### 7.5.4.5 Livelihood and Division of Labor

In general, female-headed households and male-headed households have similar livelihoods, i.e. land-based livelihoods including rice, coffee and cassava cultivation, animal husbandry and NTFPs collection. However, it is noticeable that female-headed households, particularly if the rest of the family is composed of females, children or elderly, have a significant fewer cultivation land areas and smaller animals holding size. Female-headed households may not have sufficient laborers for collecting large woods for construction and maintenance of houses and barns as this task is mostly undertaken by males. Additionally, these households may be more likely to experience food insecurity as they have a lower agricultural productivity due to smaller farming size and lack male members to undertake hunting to provide alternative food sources for the family.

Based on the FGDs with women groups, the main tasks undertaken by women in the households include childcare and chores such as cooking, washing clothes, cleaning, etc. In addition, women collect NTFP products such as firewood for cooking and food and conduct farm work. Notably, the women groups interviewed noted they were responsible for income and expenditure management. Women in the villages also engaged in handicrafts such as bamboo products and weaving, while men are engaged in blacksmithing.

Based on the socio-economic HH survey, tasks undertaken by men and women are mostly equally allocated including agricultural activities, water fetching, collecting firewood/fodder, grinding grains, and livestock rearing. However, women have higher responsibility for cooking and cleaning and childcare. Interestingly, women identified to have different levels of participation in purchasing goods –34% indicated to have high participation while 30% indicated to have low participation (**Figure 7.62**).

**Figure 7.62: Participation of Female in Agriculture and Household Activities**



Source: Socio-economic household survey by ERM/Innogreen, November and December 2021



### 7.5.4.6 Access to and Ownership of Land and Natural Resources

As discussed in **Section 7.5.3.4** most people do not have land titles, only land use rights (i.e. land use certificates) and booking land (no formal document). During the KIs with women groups, it was identified that men and women usually have joint ownership of land. However, one women group asserted that despite joint land ownership, most of land use certificates are in the husband's names. Whether both husband and wife names can be included on the land use certificates is dependent on the practice of officials from the land use registration authorities, as in some villages the officials put both males and female names on the land use certificates.

Based on the socio-economic HH survey, the level of ownership between men and women are shown in **Table 7.44**. Approximately 50% of women and men have equal ownership of land, house, cash and livestock. However, over 30% of women was identified to have unequal ownership of land and house compared to their husbands. 74% of women do not have ownership of bank account deposit and 81% do not have ownership of ornaments such as jewellery, ceramics, glassware, and furniture, etc.

**Table 7.44: Ownership over property between male and female**

Ownership	High	Equal	Low	None
Land	9%	49%	36%	5%
House	9%	56%	32%	3%
Cash	43%	41%	13%	3%
Livestock	4%	49%	11%	36%
Bank deposit	5%	16%	5%	74%
Ornaments	8%	10%	1%	81%

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

### 7.5.4.7 Female Support Networks and Organizations

#### Lao Women's Union (LWU)

In 1995, the Lao Women's Union was established to protect the rights of all women in Lao PDR. The main objectives and responsibilities of the LWU include: responding to women's development needs; promoting the status and roles of women; promoting unity amongst women of different ethnic groups and social strata throughout the country. (LWU, n.d.). Another important part of the Lao Women's Union's work is advocating for the protection of women's rights under the law, especially their right to live free from violence and eliminate gender-based violence against women from all sections of society (UNDP, 2021). The organizational system of LWU operates throughout the country at four levels, namely: central; provincial/ministerial, District/municipal and village ones with a total membership of 1,015,506 women (LWU, n.d.).

Through the FGDs with women groups, there are active village-level LWU in all villages. Women in the village regularly participate meetings of LWU and some women are responsible for the LWU at village levels with a representative in the villages participating in village and district level meetings. Village LWU collects data related to women, provides assistance to women and vulnerable groups, addresses gender-based issues, and promotes gender equality.

#### CARE International Laos in Dak Cheung District, Sekong Province

Care International is one of the main active NGOs in Dak Cheung District, particularly in the area of women empowerment. Based on the FGDs with women groups in Dak Cheung District, CARE International has implemented a framework of Gender Equality and Women's Empowerment by supporting coffee cultivation, providing training and workshop on coffee processing and forming of

women's groups (refer to **Box 1**). In addition, CARE also has been providing workshops on early marriage and childbirth and family health planning for those interested, in collaboration with District healthcare centres and office. CARE International also has programs targeting food security and providing assistance to vulnerable people.

### Box 2: Boosting Coffee Production Project

CARE is a global NGO that supports women equal opportunities to earn an income, gain access to their fair share of resources, participate in decisions that affect their lives, and lead their communities through the increasing impacts of climate disasters and other crises.

CARE Australia has established a Boosting Coffee Production project, which seeks to support coffee farmers to increase their income. The Dak Cheung District is identified as a major location where this project is taking place.

The Boosting Coffee Production project involves:

- Increasing farming knowledge within rural communities.
- Establishing women-led coffee producer groups, enabling women to access technical training in coffee production, the establishment of crop nurseries and management of coffee gardens.
- Teaching women how to set up, use and maintain coffee processing centres and building their skills in coffee grading, quality control, basic business and financial literacy.
- Promoting gender equality by applying CARE's Social Analysis and Action and Engaging Men and Boys at household and community levels. Both approaches help to change gender norms and roles around doing housework and caring for children, elderly and people with a disability.

As this is an established program in the Dak Cheung District, the Project should liaise with CARE to determine if there is potential for collaboration.

Source: CARE Australia, n.d.

### *District Health Office*

In addition to LWU and CARE International, the District Office also work in collaborations with these organizations to promote awareness about gender based violence and sexual health.

#### *7.5.4.8 Participation in Decision-making Process and Financial Linkage*

The FGDs with women groups indicate that mostly women and men make decisions related to finance equally in the household; however, in most cases women do not have their own bank accounts. The key areas of decision-making in which women and men make together include household expenditure, saving, and education for children. Women are more dominant in making decisions related to household chores, e.g. cooking and daily expenditure, e.g. food consumption.

**Table 7.45** presents disaggregated data of level of decisions by women by different topics based on the socio-economic HH survey. Women and men in general have equal decision-making power in topics related to pregnancy, children, and household activities. Notably, 43% of the surveyed households identified that women have high power in decision-making related to cash, while 74% of women do not have power in decision-making for bank deposit. Women, however, were identified to have low power in decision-making related to leaderships and politics in particular (45% of the surveyed households).

Women also participate in the village and District meetings, in women's union activities. Women also identified to have increasing roles in village politics and administration (Dak Yen), responsible for women's union, or managing funds.

**Table 7.45: Level of Decision by Women by Topic**

Level \ Topic	High	Equal	Low	None
Activities	10%	72%	14%	4%
Agriculture	12%	66%	15%	7%
Land/house	5%	47%	13%	34%
Pregnancy	4%	89%	3%	4%
Children	6%	85%	4%	5%
Leaderships/politics	17%	21%	45%	17%
Outside home	11%	30%	28%	31%

Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

#### 7.5.4.9 Female's Needs and Challenges

The FGDs with women groups have identified their main needs are improved healthcare and support on livelihoods.

Women identified that they need support in improving livelihoods, including weaving and handicraft training, vocational training, and cassava and coffee processing, in order to increase added values to the agricultural products, and support different farming methods and seeds, which will have increased values. Moreover, women also need support on the linkage of agricultural activities to the market.

Women representatives also expressed their needs for:

- Improved health care centers as currently medicine and medical personnel are not sufficient in the existing healthcare; and
- Improved education for girls and boys and education facilities and supplies as currently these are lacking.

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