

### 8.5.3.1 Demographic Information

#### Population

**Table 8-28** presents the population of the 32 Project-affected communities, which are clustered into koumban (village cluster)<sup>91</sup> and akkelad villages<sup>92</sup>. A total population of the 32 affected villages is 2,761 households and 16,851 people, of which 8,246 are female (48.93%) and 8,605 are male (51.07%). The gender ratio of the affected villages is 1:1.04 females to males, similarly to the country which stands at 1:1 (female 49.8: 50.2 male).<sup>93</sup>

**Table 8-28** presents the population by village<sup>94</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>95</sup>

The population density of Dak Cheung District is 11 people per km<sup>2</sup> in 2019<sup>96</sup>, and 6.7 people per km<sup>2</sup> for Sanxay District<sup>97</sup>, which is considerably lower than that of the national population density of 31 people per km<sup>2</sup> in 2020.<sup>98</sup> The mountainous terrain of these districts contributes to a significantly lower population density than the national average.

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<sup>91</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>92</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>93</sup> The World Bank, n.d.c

<sup>94</sup> Number of village population was obtained through KIIs with village heads of each village during the sit visit in November 2021

<sup>95</sup> Lao Statistics Bureau, 2018

<sup>96</sup> Socio-economic Development Plan (2020-2024), Dak Cheung District (Government of the Lao PDR, 2021)

<sup>97</sup> Socio-economic Development Plan (2020-2024), Sanxay District (Government of the Lao PDR, 2021)

<sup>98</sup> Lao Statistics Bureau, 2020c

**Table 8-28: 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%
		Kekamarn	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	by	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%
			Nonsavan**	Transmission line facility (500kv)		162	786	0	0	0	0
			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%

Province	District	Koum Ban (Village Cluster)	Village	Impacted Project Components	by	Total Village Households	Total Village Population	Surveyed households		Surveyed population	
								N	%	N	%
		Dak Ben	Dak Padou	Wind Turbine Facility and Access Road		66	363	8	12.1%	40	11.0%
		Nam Ngon	Nam Ngonnuea	Indirect Impact		178	1,031	18	10.1%	104	10.1%
<b>Total</b>						<b>2,761</b>	<b>16,851</b>	<b>449</b>	<b>16.3%</b>	<b>2,984</b>	<b>17.7%</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.

\*\* Nonsavan Village was not included in the socio-economic survey as it was later identified during DMS survey in June/July 2022 as one of the affected villages. However, it was included in the DMS survey.

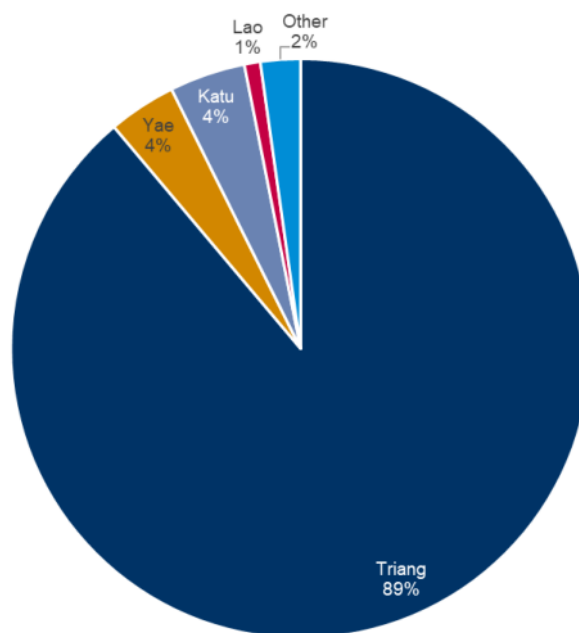
### Ethnicity and Religion

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 8-33). Triang makes up most of the surveyed households, apart from 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. The Triang, Yae, Katu and Ha Luk all belong to the Mon-Khmer (previously Lao Theung (people of the mountainous areas). The Lao ethnic group is part of the Lao-Tai linguistic group (previously Lao Loum geographic group).

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>99</sup>, about 30% of the population hold an animist belief (belief in supernatural beings or spirits as inhabiting animals, plants, rocks, and other objects in nature, and also the worshiping of ancestral spirits<sup>100</sup>). 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). 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 8-34).

**Figure 8-33: Ethnic Groups in the Project Affected Villages**

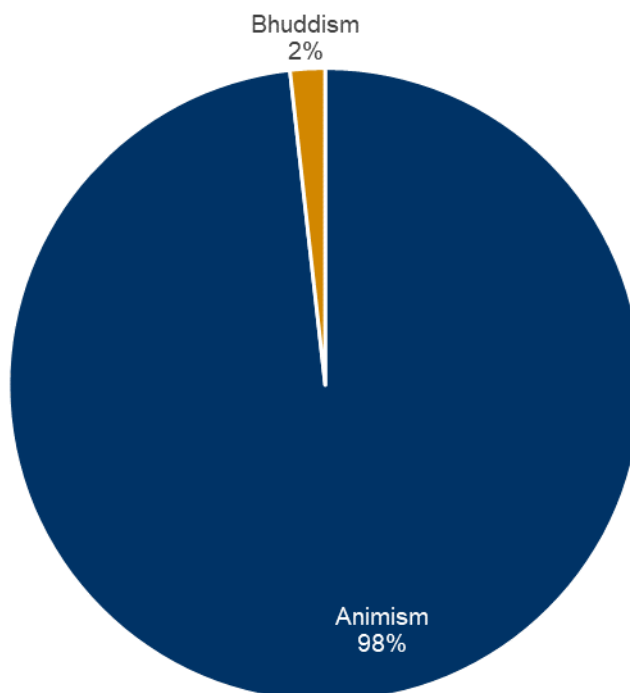


Source: Household socio-economic survey conducted November 2021

<sup>99</sup> PHC, 2015

<sup>100</sup> For a general definition and overview of animism please refer to: <https://iep.utm.edu/animism/>. For reflections on specific animist practices in the Lao PDR, please refer to [https://www2.ohchr.org/english/bodies/hrcouncil/docs/13session/A.HRC.13.40.Add.4\\_enAEV.pdf](https://www2.ohchr.org/english/bodies/hrcouncil/docs/13session/A.HRC.13.40.Add.4_enAEV.pdf), articles 54-57.

**Figure 8-34: Religions in the Project Affected Villages**



Source: Source: Household socio-economic survey conducted November-December 2021

### *Characteristics of Ethnic Groups*

**Table 8-29** 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 and IFC's definition of IPs

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>101</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 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 8-35**).

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

<sup>101</sup> IFAD, 2012

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.

The communities have absorbed 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 internet (young people identified to use internet for social media and contact with other people located outside of the villages), and increased access to infrastructure and education. The project will contribute even more to this because of the infrastructure development, employment, business opportunities and interaction with outsiders. Integration with Lao mainstream culture and lifestyle are therefore more visible in youth and younger members of the communities as presented in **Figure 8-35**.

**Figure 8-35: 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





Through FGDs and KIIIs and desktop research, it was understood that despite common animist beliefs, each ethnic group (Triang, Yae, Katu, Lao, and Ha Luk) has slightly different practices, rituals, customs, and ceremonies. These differences are discussed in more detail in **Table 8-29**.







**Table 8-29: 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.
Political institution	<p>The key political institution of all ethnic groups include:</p> <ul style="list-style-type: none"> <li>■ Village head (<i>Nai Baan or Pok Kong Tong Thin</i>) which is a common village level authority across Laos, not only amongst ethnic groups. Responsibilities of village head may include (but not limited to) (i) allocating the use of communal land and other resources among households in the village; (ii) manage the people in the village, and to support the people in order to bring about more stable employment and sustainable livelihoods; (iii) settling disputes between members of the village; (iv) disciplining members of the village for violation of rules and customs; (v) representing the community or village on meetings convened higher-level authorities; and (iv) disseminate the government policies and laws to all people in the village.<sup>102</sup></li> <li>■ Belief leader or <i>Tao Kae Naew Home</i> which is translatable as an elderly who can gather/assemble all villagers together. Tao Kae Naew Home is usually someone who are well equipped of Heet-Kong (<i>Heet is long inherited traditions and Kong is social norm, custom or guidelines</i>) and have extensive experience in performing rituals that can guide the villagers. <i>Tao Kae Naew Home</i> is responsible for performing rites and guiding the villagers in following Heet-Kong of the village.</li> <li>■ Head of Village Women’s Union which represent the women in the villages. Village Women’s Union main functions include: (i) Protect the rights and interests of the Lao multi-ethnic women and children. (ii) Promote the implementation of the policy on gender equality (iii) Educate women of all ethnic groups to have a proper understanding of the government’s policies/laws; and (iv) protection and the support of customs and traditions of ethnic group women.</li> </ul> <p>The decision at village level is made based on the consultation of the above mentioned parties; however, relevant villagers may also be included in decision making process. In general, the Village Head is the representative of the village in meetings with governmental authorities e.g. district and provincial authorities. to bring concerns of the villages forward to the authorities, and also communicate governmental policies/plans to villagers. It is noted that this format of decision making is common across Laos, not only within ethnic groups communities but also practiced by mainstream Laos communities.</p>			
Traditional clothing	Triang’s traditional clothing 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 the back) and cloth across shoulders, women traditionally	Katu have unique traditional clothing, men wear ‘Ka-Tiew; while women wear shirt and skirt made of traditionally woven cloth. Men have adopted to clothes from the Lao mainstream, while women still preserve traditional clothing	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	Ha Luk have unique traditional clothing, men wear ‘Ka-Tiew; while women wear shirt and skirt made of traditionally woven cloth.

<sup>102</sup> [https://www.vientianetimes.org.la/Laws%20in%20English/49.%20Law%20on%20Local%20Administration%20\(2003\)%20Eng.pdf](https://www.vientianetimes.org.la/Laws%20in%20English/49.%20Law%20on%20Local%20Administration%20(2003)%20Eng.pdf)

Aspect	Triang	Katu	Yae	Ha Luk (Ha Hak)
	<p>wear loincloth, running from from chest down to shins.</p>  <p>Source: Department of Ethnic Affairs, 2015a</p>	<p>as evidenced in ceremonies and festivals.</p>  <p>Source: Department of Ethnic Affairs, 2015b</p>	<p>wear additional clothes to keep warm.</p>  <p>Source: Department of Ethnic Affairs, 2015c</p>	 <p>Source: Department of Ethnic Affairs, 2015d</p>
Community features	<p>Each Triang village usually constructs fences made of bamboo (height up to 5 meters) around the villages and two gates for entry-exit of the village, known as “Patou Vieng”. The fence is for protection against thieves and wild animals from attacking livestock and village members. Additionally, villages also have Salakuan, a building in the middle of the village, for receiving guests and ritual ceremonies and feasts.</p>	<p>Traditionally, the houses are built to form a circle around “Salakuan”, a building in the middle of the village used as a meeting hall and for ceremonies.</p>	<p>Similar to Katu, the houses are built to form a circle around “Salakuan”. In front of the Salakuan and each house, there is usually a pole for securing animals e.g., buffalos, cows, pigs for animal offering/sacrifice rituals.</p>	<p>Traditionally, a fence made of bamboo are constructed around the houses. Salakuan and poles for securing animals for ceremonies and sacrifice rituals are not common in the village. Rather, a nearby tree or somewhere else appropriate for securing animals e.g., buffalos, cows, pigs, are used for securing animals for sacrifice rituals.</p>

Aspect	Triang	Katu	Yae	Ha Luk (Ha Hak)
	 <p>Source: The identity of Trieng Ethnic Group [Lao PDR] - Library records OD Mekong Datahub</p>	 <p>Source: The identity of Katu Ethnic Group [Lao PDR] - Library records OD Mekong Datahub</p>	 <p>Source: The identity of Yae Ethnic Group [Lao PDR] - Library records OD Mekong Datahub</p>	 <p>Source: The identity of Haluk Ethnic Group [Lao PDR] - Library records OD Mekong Datahub</p>
Livelihood	<p>Based on the FGDs with ethnic groups, all ethnic groups have similar livelihoods comprising cultivation of rice, coffee, and cassava plantation. Some are still engaged in shifting cultivation and collection of Non-timber forest products (NTFPs). The socio-economic household survey conducted in November to December 2021, indicated that key primary livelihoods of active workforce comprised agriculture (farming and livestock) (75%) and day laborer (17%), while only 3% are engaged in NTFP collection as their primary livelihood. Consultation with Dak Rant village on 20 July 2022 found that while the villagers indicate to collect NTFPs in addition to agricultural activities or when they are free from agricultural activities. However, in Dak Learn village (and potentially Prao and Dak Kung villages given location being close to Phou Kounking which is a key resource for NTFPs), it was found that NTFP collection makes up a primary livelihood. Based on the village consultation conducted on 18-21 July 2022 in Dak Lern village, all of the households are engaged in timber and non-timber forest products (NTFPs) (mushroom, bamboo shoot, honey, ginseng, orchid, rattan, tiger grass etc.) collection from the foothill of Phou Koun King. Bamboo shoots and tiger grass can be sold as a raw material or processed as added value products. Timber and non-timber forest products (NTFPs) collection is big cash income source of households because these are sold to merchants from Vietnam.</p>			
Ceremony	<p>Triang people organize several ceremonies to worship spirits throughout the year. At the beginning of the year, Triang celebrate the 'new rice ceremony' 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</p>	<p>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 other ceremonies which organized within the households or together as a</p>	<p>Celebrations are conducted after rice harvest for 3 days and 3 nights which involve animal sacrifice / offering (such as buffalo, cow, pig) to worship spirits – known as the 'Boon Ja' ceremony. Yae have Boun Phao Thane, Boun Sak Khao, Boun Hor Khao Tom are</p>	<p>Ha Luk ethnic group holds several ceremonies throughout the year including rice ceremony (Boun Kwan Khao), "Chongkapiew" ceremony which is organized within the households or together as a community. The ceremonies usually involve offering of buffalos</p>

Aspect	Triang	Katu	Yae	Ha Luk (Ha Hak)
	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.	community. The ceremonies usually involve offering of chicken, pig or buffalo to worship spirits.	three festivals celebrated for the rice harvest and they prepare tools for land clearing for the new plantation season, with the tool attended to by local ironsmiths.	and cows to worship spirits. At present, the "Chongkapiew" ceremony is performed once in 2-3 years.
Religion and belief	Animism is belief in supernatural beings or spirits as inhabiting animals, plants, rocks, and other objects in nature. They also worshipf ancestral spirits.			
Skills sets	All ethnic groups engage in ironsmithing, bamboo handicrafts, and weaving, which are unique to their ethnic groups. These skills have been passed on from generation to generation.			
Tangible and intangible cultural heritage	<p>Cemeteries are highly respected sacred places for the Triang ethnic group. Additionally, they also have sacred forests, sacred ponds and prohibited areas.</p>  <p>Triang maintain folk songs and folk tales in their own language. Moreover, they have musical 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 musical 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 musical instruments such as drum and pipe.</p>

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

## Tangible Cultural Heritage

### Cemeteries

**Figure 8-36** presents a map depicting the locations of cultural heritage resources. One of the core beliefs of animism is spirits believed to be inhabiting inanimate, often nature-based objects and also ancestral worship.<sup>103</sup> This is observed within the Project area. Cemeteries (*paa saa*), which are mostly forested areas, are observed in all surveyed villages (**Figure 8-38**). 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 worshiping materials to the deceased at these small huts (**Figure 8-37**).

Based on the consultation with Dak Learn village representative (village deputy and belief leader) on 20 August 2022, cemeteries are regarded as highly sacred place as they expressed the area as being highly respected and prohibited. The village coordinator of Dak Tiem village added to this premise that he considered cemetery as a highly sacred place as his parents who passed away are resting there. Activities to disturb resting of their ancestors such as chopping of wood or loud noise are prohibited—he feared if his parent are woken up from their resting by disturbing activities, the parent spirits will be angry at him for not protecting them and let them rest in peace after death. For this reason, people are prohibited from entering cemeteries for any kind of activities such as hunting or collecting timber and NTFPs. If cemeteries are impacted, it is required to undertake rites involving a sacrifice of a pup and use its blood to spread across affected cemetery area.

### Village Ceremonial Ground (*Salakuan*)

There is ceremonial ground in the village which are used for performing rites or ceremonies. Poles located in the middle of the villages to secure animals and serve as a place for performing animal sacrifice (**Figure 8-36**). 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*.

**Figure 8-36: Pole Used for Securing Animals to Perform Animal Sacrifice**



*Dak Den village*



*Sieng A village*



<sup>103</sup> See <https://iep.utm.edu/animism/>.



Dak Dom village



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, Salakuan, a building in the middle of the village, is used for as a meeting hall and to organize ceremonies (refer to (iii) and (iv)).

### Figure 8-37: Cemeteries and Huts of the Deceased

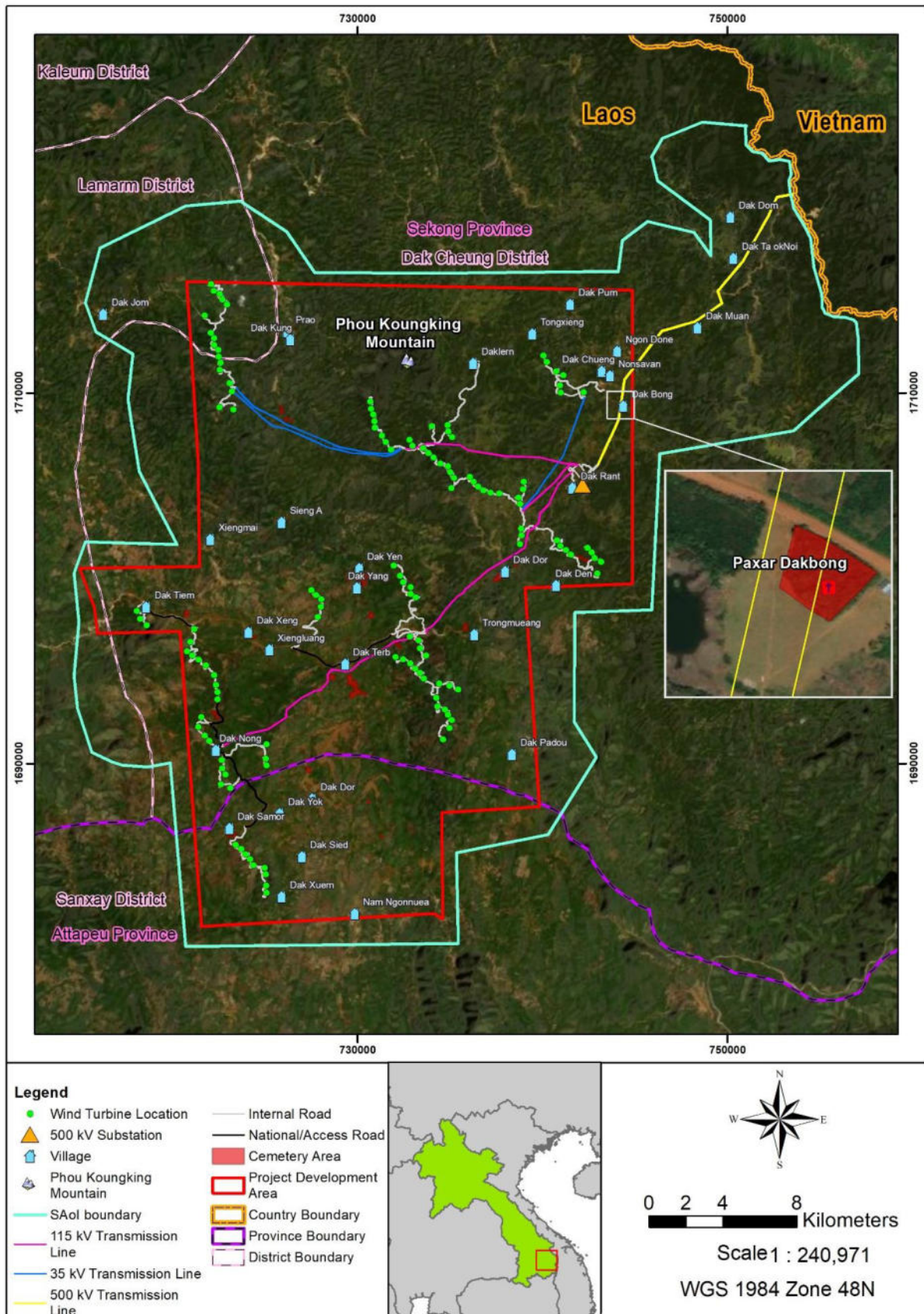


Cemetery of Dak Terb village (left) and Prao village (right) which is a forest area. Hunting and collecting NTFPs are prohibited in this area as it is regarded as a sacred area. There are some small huts of the deceased in the cemetery. None of these are affected by permanent or temporary project facilities.



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

Figure 8-38: Cultural Heritage Sites



Source: ERM/Innogreen, 2021

## *Intangible Cultural Heritage*

In addition to the spiritual significance of cemeteries located throughout the Project development area, community consultation revealed the nature and extent of present animist beliefs among ethnic minorities. Cemeteries were identified as the zones of highest sacredness or spiritual significance due to the connection with more direct and sometimes recently deceased relatives. The spirits of ancestors are widely and highly respected. Unrelated to ancestral spirits, villagers also identified and respected supernatural beings or spirits as inhabiting animals, plants, rocks, and other objects in nature that are commonly recognised in animist beliefs across southern Lao. These beliefs, however, were noted as potentially in decline among younger generations. A third type of spiritual entity, described as an individual ghost, was also identified by the ESIA survey team in consultation with the village heads and local villagers of Ban Dak Dreun and Prao. These consultations noted this ghost as potential intangible cultural heritage associated with Phou Kounking Mountain (as shown in **Figure 8-39**), in the central north of the Project development area. Rites, ceremonies, and festivals also comprise expressions of local intangible cultural heritage of importance to villagers.

### **Phou Kounking**

Based on the consultation with representatives from Prao and Dak Lern (19 and 20 July 2022), Phou Kounking is administratively under the jurisdiction of Prao and Dak Lern and the division of their area of jurisdiction is governed by an agreement of the two villages relating to NTFP collection. The lower elevations of Phou Kounking are designated as a multi-use zone, with ongoing activities in this zone including NTFP collection and other agricultural activities. Information about access to and use of higher elevations of the mountain differed between villages, however all agreed that villagers in Dak Lern are the primary custodians of the mount. Consultations conducted with Dak Lern representatives indicated that accessing the higher elevations of Phou Kounking although not prohibited is highly difficult, and this is the reason why people do not usually access area for NTFP collection. It should be noted that the Project eight WTGs are proposed in the lower elevation which is designated as multi-use zone of the Phou Kounking Mountain, and therefore will not affect the higher elevation of Phou Kounking.

Earlier consultations had revealed that the forest was once believed to have been inhabited by a spirit known as Phi Bang Bot, and this was noted as potentially significant intangible cultural heritage. Phi Bang Bot was believed to be responsible for visitors to the mountain becoming disorientated and lost on the mountain's steep terrain. Additional details clarifying present beliefs about the sacredness of Phou Kounking were obtained during the village consultations conducted during July 2022, revealing that different villages possess different beliefs and myths/legends connected with Phou Kounking.

The consultation with Dak Lern representatives (20 July 2022) suggested that people are not afraid of entering high elevation area because of spirits, but rather dangerous animals such as snakes and also the risk of becoming disorientated and lost. When asked about beliefs in spirit in Phou Kounking, the representatives described 'Phi Bang Bot' (literally translated as covering the eyes), a ghost that has the power to blind people and cause them to get lost in the forest. However, belief in or concern about Phi Bang Bot is neither strong or common among villagers as it has been a long time since individuals claimed to have encountered the ghost. Villagers, however, believe that when entering the forest/mountain, "Heet" (long inherited traditions) and "Kong" (social norms, customs or guidelines) must be followed. For instance, offerings involving incense, rice, and tobacco are commonly performed prior to entering the forest for NTFP collection.

The consultation with Dak Bong representatives (19 July 2022) indicated that entry to the high elevation of Phou Kounking is not prohibited but it is difficult to access the top of Phou Kounking. The sacred forest is at the tip of Phou Kounking Mountain where it is highly steep. For this reason, hunting and NTFP collection activities are only at the foot of the mountain. Villagers do not hunt or collect NTFPs in the sacred forest because of steepness and there is a belief that they will get lost within the sacred forest. It was noted that the location of the project components is approximately 2 km away from the sacred forest at the tip of Phou Kounking Mountain



Consultation with Dak Rant village (20 July 2022) suggested that in general, the villagers don't have a strong connection to Phou Koungking and would defer to the views held by villagers in Prao and Dak Lern. One elderly man recounted a tale suggesting that Phou Koungking was the ancestral origin place people from the Dak Cheung region. However, in the short discussion that followed it was revealed that others had not heard this tale and as such it was concluded that this belief was not widely shared. The same question was put to villagers in Dak Lern who also had no knowledge of this tale.

Based on the above discussions, it can be concluded that Phou Koungking Mountain is not regarded as a "sacred" place considered holy and deserving respect or worship. It appears that due to the steepness and inaccessibility of the terrain it is regarded as a place of some hazard and the stories surrounding it that could be construed as having intangible heritage value are more related to recognition of these hazards than animist spiritual beliefs. Cemeteries, by contrast, are regarded as highly sacred places by villagers, and if impacted certain remediation rituals involving animal sacrifices are required to restore spiritual balance.

### **Project Activities within Phou Koungking**

Consultation with Dak Lern and Proa clarified that the Project activities in the lower elevation of Phou Koungking Mountain are not "Kalem" or prohibited. (*In Triang language Kalam means prohibited, taboo or wrong according to the local customs.*) However, prior to entering the forest and commencing construction activities, the Project must consult with Dak Lern and Prao villages and comply with villages' "Heet-Kong" or rituals (in Triang language Heet-Kong means inherited traditions or ritual practices) and Kong (meaning social norms, customs, or guidelines). For Project construction activities, the project is required to provide budget for the village to perform a specific ritual. The ritual involves animal sacrifice with a pig, a jar of rice whisky and a copper bracelet. The pig will be sacrificed while the blood spills onto the copper bracelet. Following this, everyone in the village must touch the blood of the pig. Thereafter, the pig will be cooked, and all villagers must eat the pork and drink rice whisky from the jar. The copper bracelet will be left there where the ritual is performed. The ritual is usually performed in the village towards the end of the day or in the evening when everyone has returned from their daily activities and is available to participate in the ritual. It is noted that by performing this ritual, permission is sought from all spirits that the people believe in including the village spirit, forest spirit, mountain spirits, etc. Villagers believe that if the rituals are not carried out correctly, it will result in illness and depression of people in the village. However, if errors occur in the performance of rituals, further rituals may be performed to remediate the missteps.

In conclusion, Project activities within the lower elevation of the Phou Koungking Mountain are not prohibited and will not incur any impact on intangible cultural heritage if the Project consults with the villages and complies with villages' Heet-Kong.

### **Rites, Ceremonies and Festivals**

An important component of animist beliefs involves the ritual sacrifice of large animals such as buffalos, cows, and pigs to stay on good terms with the spirits that are believed to inhabit animals, plants, rocks, and other objects in nature, and also ancestral spirits. Animal sacrifice is also performed when a family member falls ill as an offering to evil spirits which are believed to have caused the illness. Consequently, some of the livestock bred by villagers is destined for sacrificial use, though following sacrifice the meat is prepared and eaten by the villagers. Specific seasonal rituals are also linked to rice cultivation as an essential part of a belief system in which the paramount deities are spirits of the soil, such as Boun Duean 6. **Table 8-30** provides a summary of key annual ceremony/festival cycle practiced by the affected villages.

The consultation with Dak Rant village on 20 July 2022 indicated ceremonies and festivals are joint activities by all members of the village. All village members usually help with preparation of the ceremonies and festivals, and high rates of attendance are believed to be required for them to be effective.

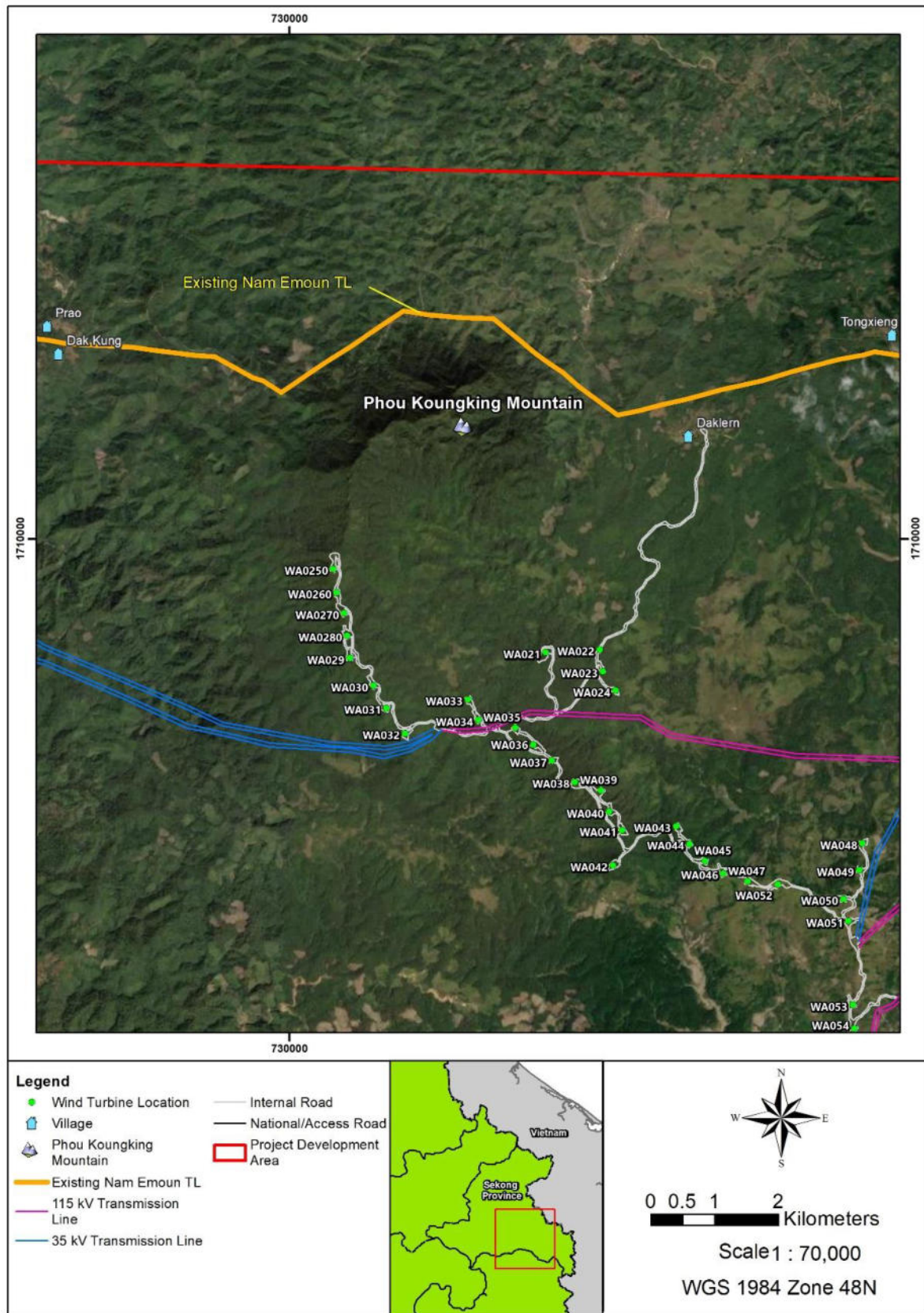
**Table 8-30: Annual Cycle of Ceremonies and Festivals**

Month	Ceremony/Festival	Description
January	Boun Phao Thane or Boun Thang Hai	Boun Phao Thane or Boun Thang Hai is usually held in the first month in each year. Before forest is cleared for rice cultivation or plantation (cassava, coffee, banana, etc.), villagers burn wood or charcoal in a forest and cut down grass or trees with a 'big knife' in the burning area for land clearing. Thereafter, the villagers would go into the forest to collect mushrooms, vegetables and hunt wildlife to celebrate in that area. This is to worship to forest spirit in order to have productive agriculture season.
June	Boun Duean 6 or Boun Sak Khao	Boun Duean 6 and Boun Sak Khao is held June each year prior to rice growing and land clearing. A duck/chicken or a cow/buffalo will be sacrificed using 'a big knife' – as an offering and to worship spirits, and to ask for blessings for productive and fertile rice farming and plantation (cassava, coffee, banana, etc.) season.
September to October	Boun Kin Khao Mai	Boun Kin Khao Mai is usually held at the conclusion of the rice harvest (between September-October). The ceremony takes place within families and then within the community to celebrate. During the ceremony, a duck/chicken or a cow/buffalo will be sacrificed as an offering to the village spirit and forest spirit. Villagers usually bring food to eat together to celebrate the success of the harvest season.
November to December	Boun Hor Khao Tom or Boun Sa Loup Khao	Boun Hor Khao Tom or Boun Sa Loup Khao is usually organized after the finish of harvest season after Boun Kin Khao Mai between November to December each year. All households in the villages would bring a basket of unmilled rice, a chicken (for sacrifice), rice whisky and some flowers to worship the village spirit and forest spirit. The villagers would also eat and celebrate together. It is believed that this ceremony will bring as much agricultural productivity as this year to the next year.
Ritual for entering forest for NTFP collection	Prior entering the forest	Prior to entering the forest for NTFP collection, six grains of rice, tobacco and incense are required to be offered to spirits under a large tree in the forest in order to safe passage from spirits to enter the forest and collect NTFPs.
Ritual for construction activities in Phou Kounking	Prior to entering the forest and any construction activities	For Project construction activities, the project is required to provide budget for the village to perform required rituals. One such ritual described in detail involves a pig, a jar of rice whisky and a copper bracelet. The pig will be sacrificed while its blood flows over the copper bracelet. Everyone in the village must touch the blood of the pig. Thereafter, the pig will be cooked and all villagers must eat the pork and drink rice whisky from the jar. The copper bracelet will be left there where the ritual is performed. The ritual is usually performed in the village in the evening. It is noted that by performing this ritual, it covers asking for permission from all spirits that the

Month	Ceremony/Festival	Description
		people believe in including village spirit, forest spirit, mountain spirits, etc.
Ritual for activities in cemetery area	Prior to entering the cemetery and any activities	Prior to entering or any activities within cemetery area, in consultation with relevant villages, it is required to undertake rites involving the sacrifice of a puppy (i.e., a young dog) and use its blood to spread across affected cemetery area

Source: FGDs and KIIs conducted by ERM/Innogreen, November and December 2021

Figure 8-39: Phou Koungking



Source: ERM/Innogreen, 2021

## 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 Chalensexay 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>104</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>105</sup>, while 85.5% and 95.4% of Attapeu's population complete primary education and (lower) secondary education, respectively<sup>106</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 8-40**). 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>107</sup>

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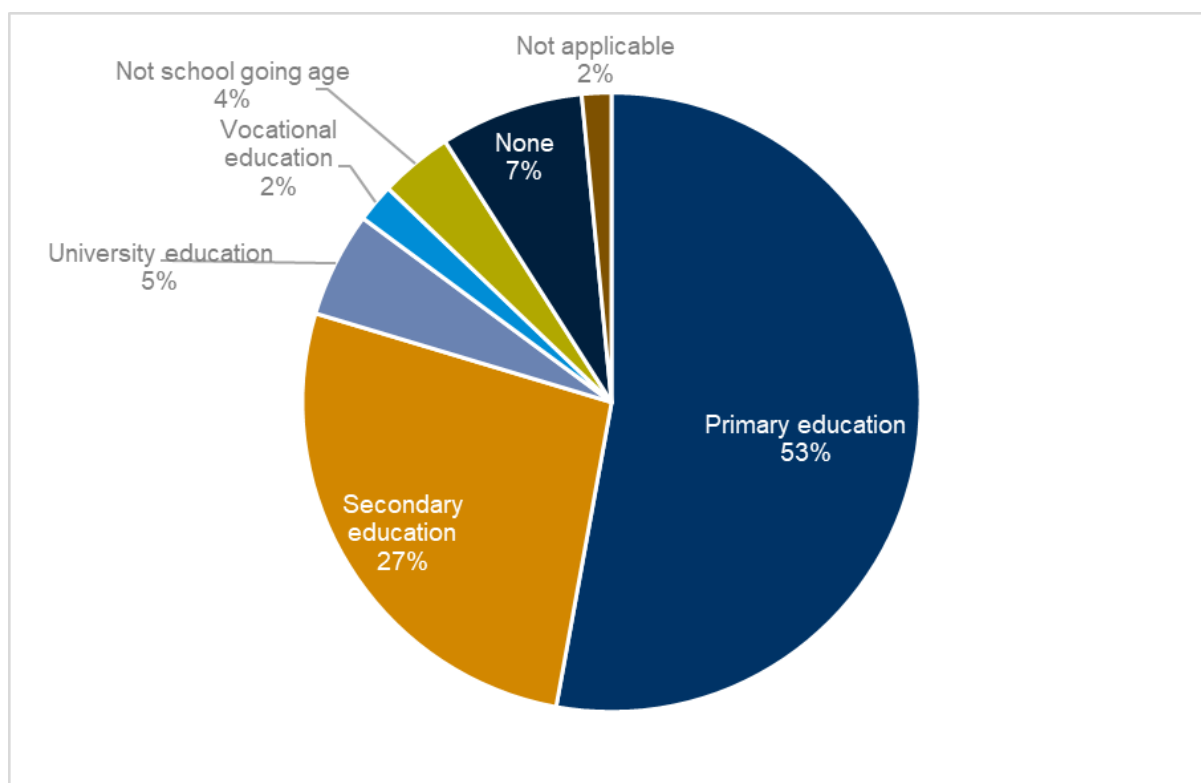
<sup>104</sup> Primary education are for children aged 6-10 years (Grade 1-5)  
Low Secondary Education are for students aged 11-14 (Grade 6-9)  
Upper Secondary Education are for students aged 15-17 (Grade 10-12)  
Source: Government of the Lao PDR, 2015.

<sup>105</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>106</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>107</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 8-40: 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 8-31**) shows that other villages in Sanxay District (i.e., Dak Padou and Nam Ngon villages) have the highest ratio of its population having received education (98%) while Koumban Dak Duem has the lowest ratio of its population having received education (82%). In general, population of villages in Sanxay District have a 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 proportion of its population (1-6%) having attended or completed higher education levels, such as vocational training or university education.

**Table 8-31: 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
Vocational education	2	0	4	1	5	1	5	1	39	5	0	0	2	2

	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	%
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

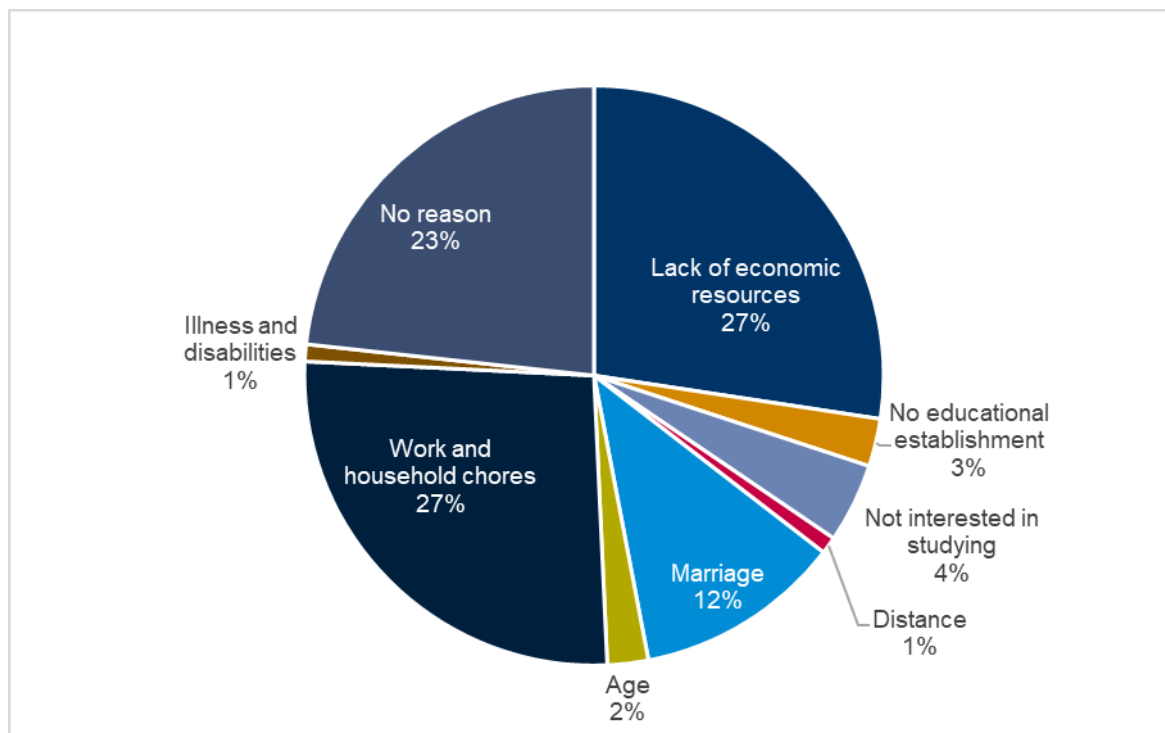
Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

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 8-41**). "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 8-41: 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.

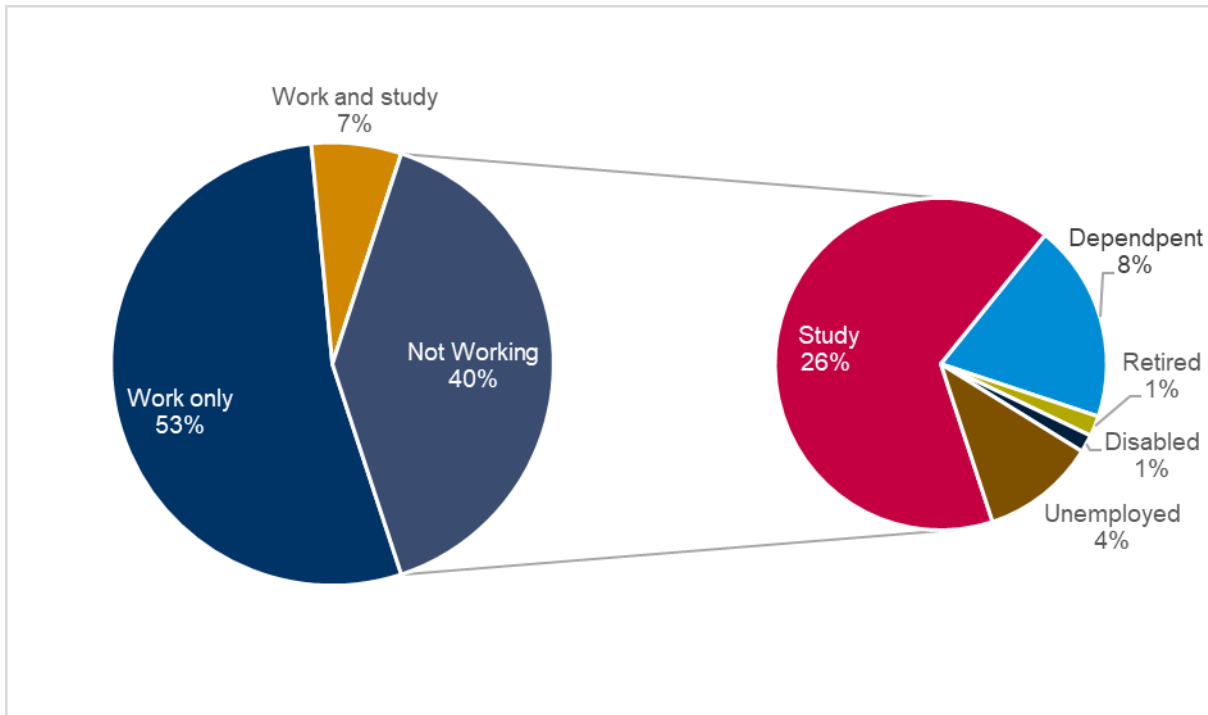
### *Labor Force*

Based on the HH socio-economic survey regarding work engagement in the past 12 months (**Figure 8-42**); 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 8-43**). 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%).

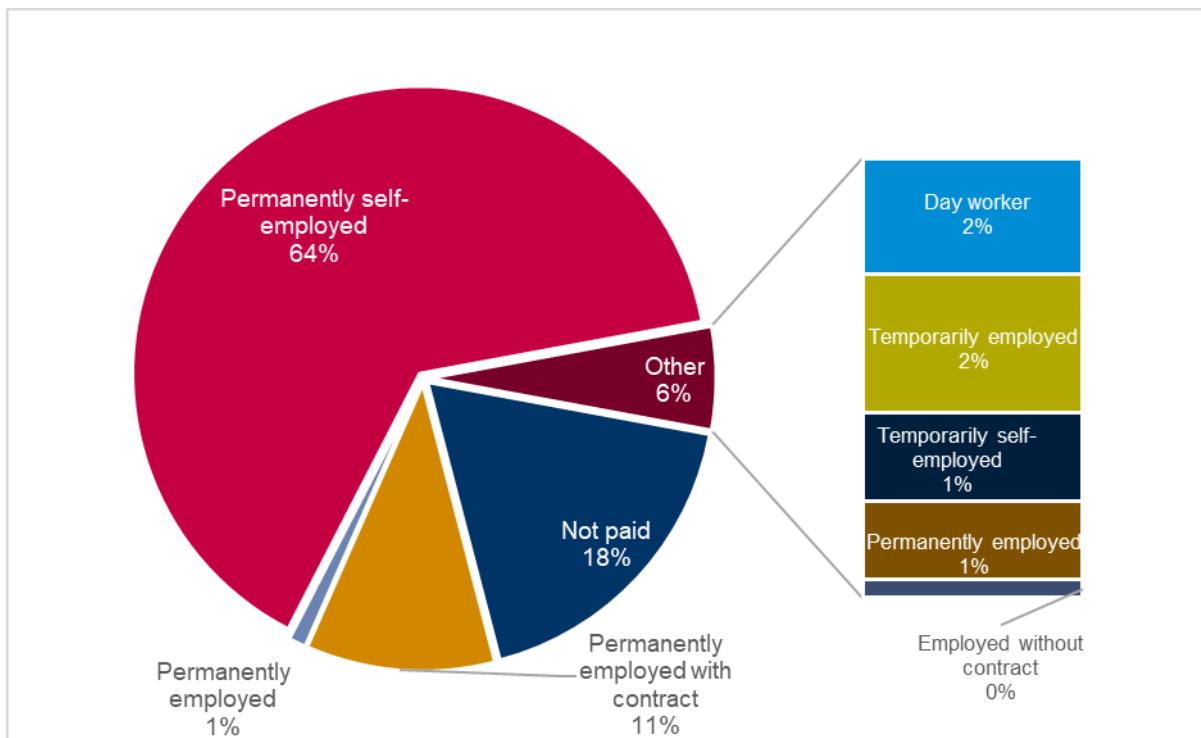


**Figure 8-42: Active Labour Force of the Surveyed Population**



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

**Figure 8-43: 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 8-32**, 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 8-42**.

**Table 8-32: 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.

### 8.5.3.2 Livelihood Engagement

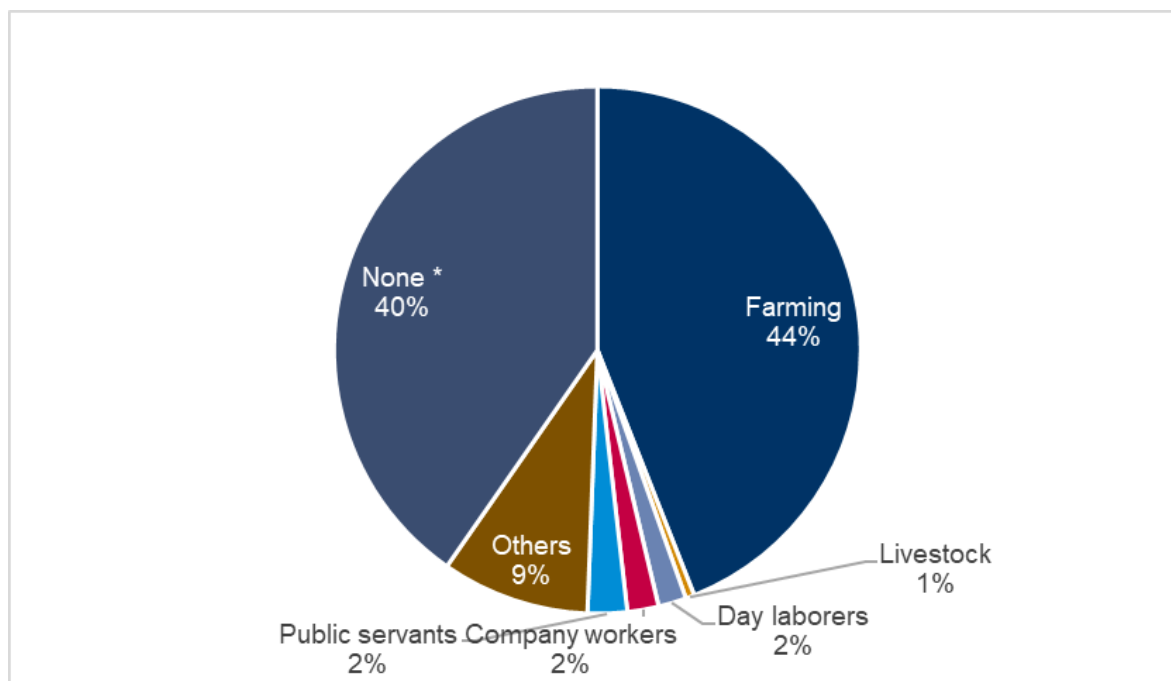
#### Main Livelihoods

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 8-44**).

**Figure 8-44: 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 8-33** 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 8-33: 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			
Koumban	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	538	100	336	100	333	100	218	100	663	100	135	100	79	100

\*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 8-34**).

**Table 8-34: Supplementary Livelihood of Surveyed Households**

District		Dak Cheung District										Sanxay District			
Koumban		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	13	3	15	6	22	8	0	0	19	3	5	4	7	16
	NTFPs collection <sup>^</sup>	620	88	241	100	274	77	169	100	448	93	289	72	66	27
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	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	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

<sup>^</sup>Note: NTFP collection data updated following the DMS result

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 8-35**). 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 8-35: 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

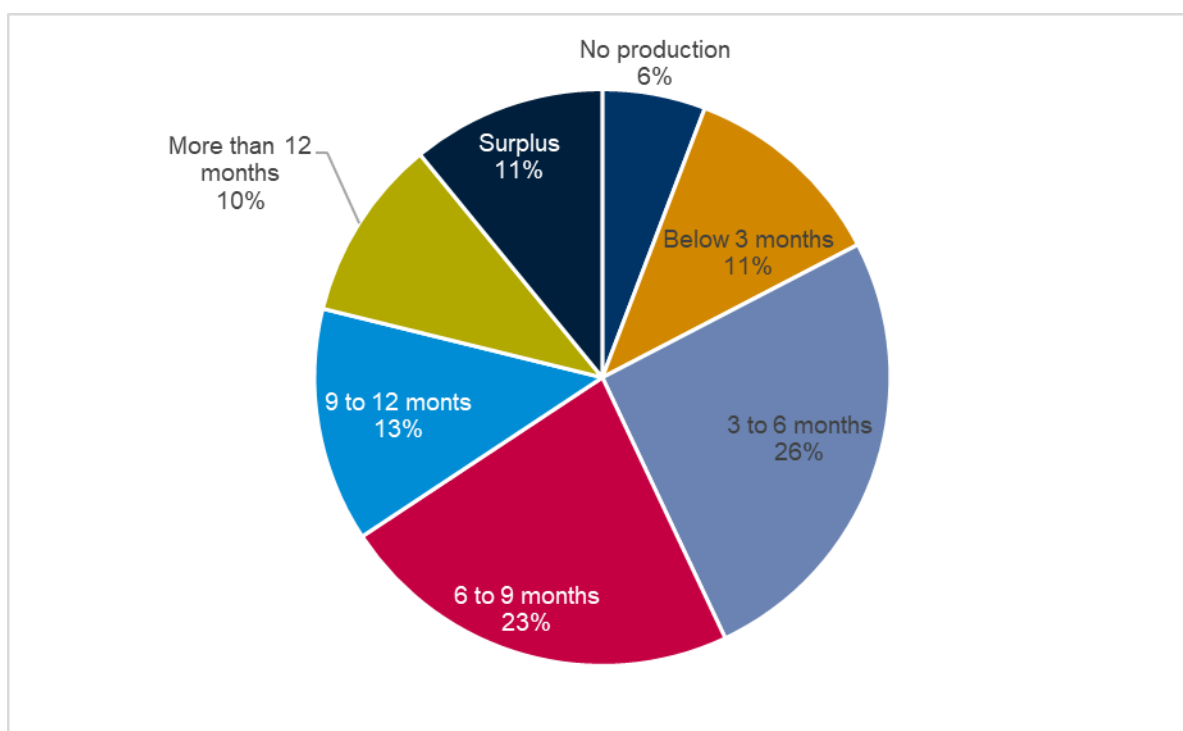
Cultivation, animal husbandry, and NTFPs collection are the most common livelihoods in all villages and for all ethnic groups. Through the FGDs with livelihood groups, the majority of the people have

agricultural production land with average land holding size of 1 to 3 ha per household. The FGDs and KIs 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>108</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 8-45**).

**Figure 8-45: Food Sufficiency**



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

**Table 8-36** 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>108</sup> The number of households which are food secure

**Table 8-36: Food Sufficiency by Koumban**

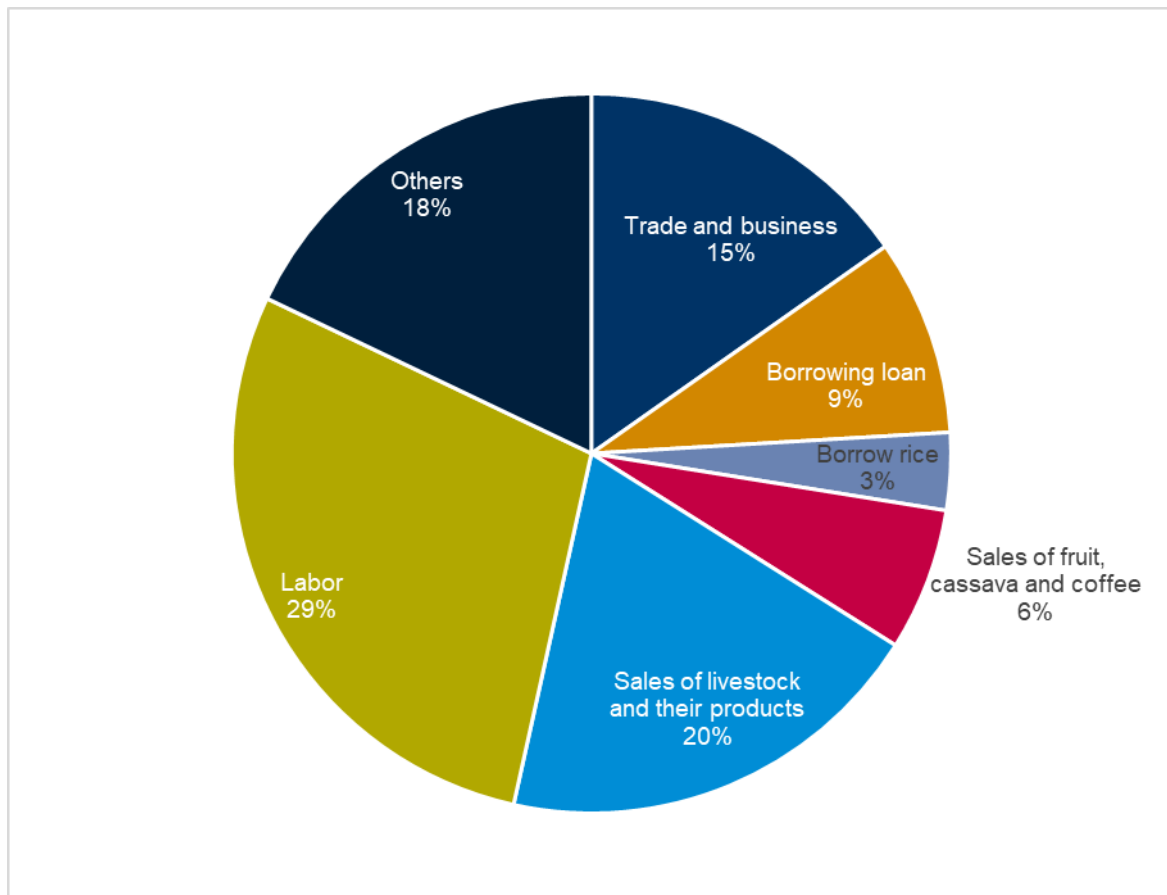
District	Dak Cheung District										Sanxay District					
	Koumban		Xiengluang		Dak Duem		Nam Dae		Xekamarn		Aekkalad		Nam Zou		Other villages	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%		
No production	1	1	9	14	1	2	0	0	15	11	0	0	0	0		
Below 3 months	16	19	5	8	5	8	3	9	14	11	7	15	2	8		
3 to 6 months	18	21	8	12	23	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 8-46** 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 8-46: Approach for Making Up for Food Insecurity**



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

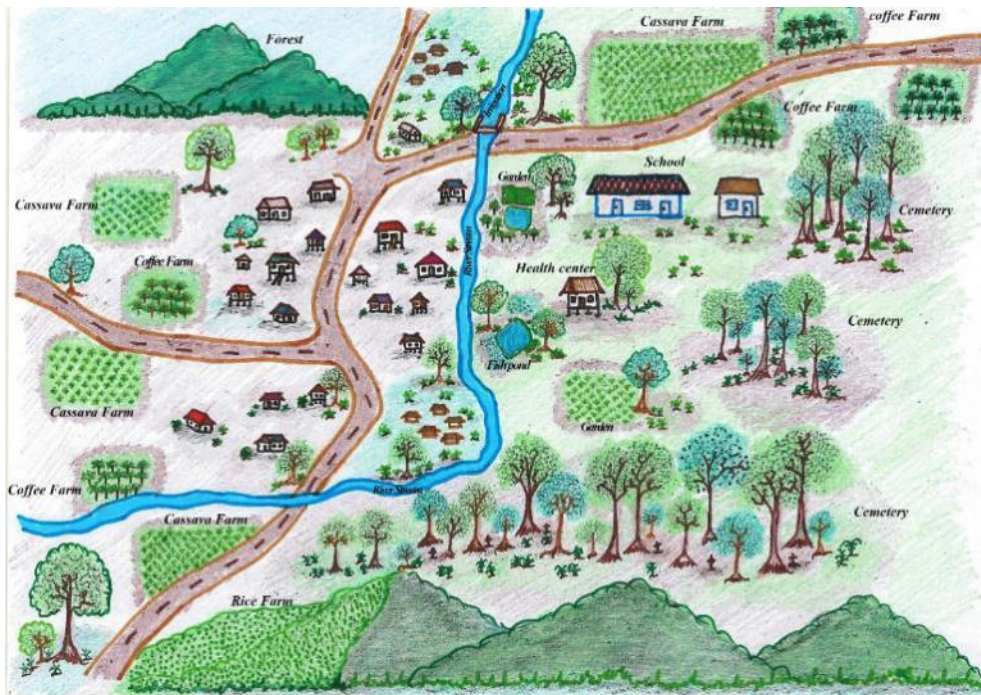
Cultivation, animal husbandry, and NTFPs collection activities are the common livelihoods across surveyed villages. **Figure 8-47** presents an overview of cultivation land, forestry land, cemetery, and village facilities and public services such as school, health centre and Salakuan.



Figure 8-47: 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 and December 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 8-48** 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 8-48**). 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 8-48**).

**Figure 8-48: 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 8-49**).

**Figure 8-49: 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 8-50 **Figure 8-50**).

**Figure 8-50: 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. Based on the FGD in Dak Lern on 19 July 2022, some of the households in Dak Lern are engaged with timber and non-timber forest collection, both for subsistence and commercial/trading. In addition, it was informed by the village head that NTFP collection activity of Dak Lern villagers in Dak Lern area will not be affected by the Project. He believes that the establishment of the Project facilities will open other areas for NTFP collection. There are “middlemen” from nearby cities and Vietnam that come into the village to buy these products (e.g. Linzhi mushroom, Dok Lhai, ginseng), or these products will also be sold at local markets. In addition, subsistence 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 8-51**).

In general, women and men collect the same NTFPs according to seasonality. However, the main difference for gender-based NTFP collection is that men are capable of access to deeper/further part of forests to collect NTFPs than women and mostly hunting activities are practiced by men. **Table 8-37** presents NTFP collection seasonal calendar, frequency and amount of collection and price of each NTFP.

**Table 8-37: NTFP Seasonal Calendar**

Season (month)	Type of NTFP	Frequency of collection/month	Amount collected/time	Price (Kip/Kg)
July - December	Dok Lhai (a medicinal flower sold to Vietnam)	5, 10, 20 times per month depending on the households	100 gram – maximum 2 kg. Sometimes none.	250,000 – 1,500,000 LAK/kg (price depends on the quality and size of Dok Lhai)
July - November	Linzhi mushroom (small)	5, 10, 20 times per month depending on the households	500 gram to max 2 kg. Sometimes none.	80,000-200,000Kip/kg
	Linzhi mushroom (large)			5,000Kip/kg - 80,000Kip/kg

Season (month)	Type of NTFP	Frequency of collection/month	Amount collected/time	Price (Kip/Kg)
August - September	Dok Sao Nam Khung	5-6 times	Amount varies a lot—from none to a few kgs.	600,000-1000,000kip/kg
January - March	Broomgrass	More than 5 times (depends on each family)	Minimum 1 bundle	Small bundle 5000Kip/bundle  Large bundle 20,000-30,000kip/bundle
All year round	Wood ( <i>Mai Baek</i> )	For household use and for sale		5000-50,000Kip/kg
January - March	Rattan	For household use and for sale	1-3 kg	5000 Kip/kg
-	Somsamongling (ginseng)	-	Due to limited availability, villagers could only collect small amount	1 million Kip/kg
-	Bamboo shoots	For household consumption and sell	-	Raw bamboo is sold at 20,000 Kip/kg while fermented bamboo is sold at 30,000 Kip/kg
-	Honey	For household consumption and sell	-	-
-	Fruits such as rambutan	For household consumption and sell	-	-
-	Orchids	-	-	The following flowers are sold Hang-Yao, Kai-Kua and Lai Noi
-	Agarwood ( <i>Por Hueng in Laos language</i> ) – a high-valued fragrant resinous dark wood	-	-	-

**Figure 8-51: 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

### *8.5.3.2.1 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 8-52**.

**Figure 8-52: 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

### **8.5.3.2.2 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 8-53**.



**Figure 8-53: 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

### 8.5.3.2.3 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.

### 8.5.3.3 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 8-38** provides the average monthly household income by Koumban.

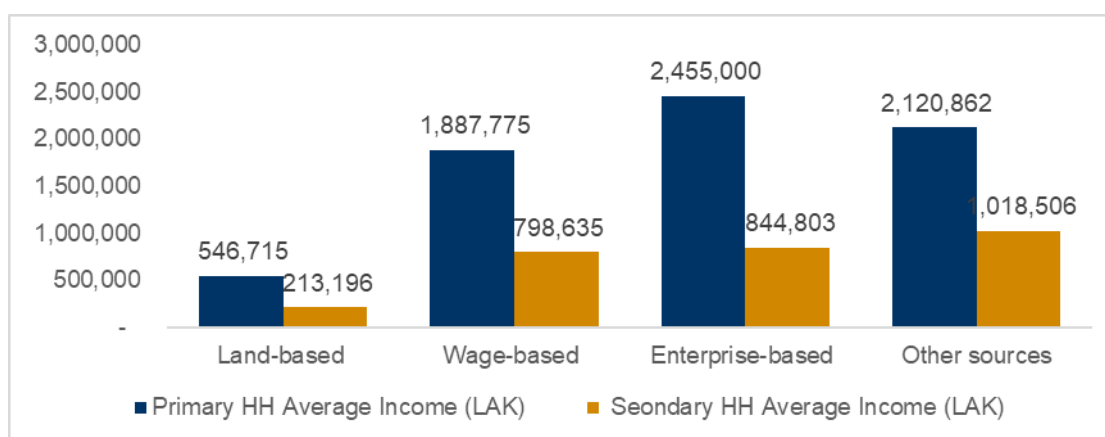
**Table 8-38: Average Monthly Household Income by Koumban**

District	Dak Cheung District					Sanxay District	
Koumban	Xiengluang	Dak Duem	Nam Dae	Xekamarn	Akkelad	Nam Zou	Other villages
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 8-39** 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 8-39: 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 8-40**).

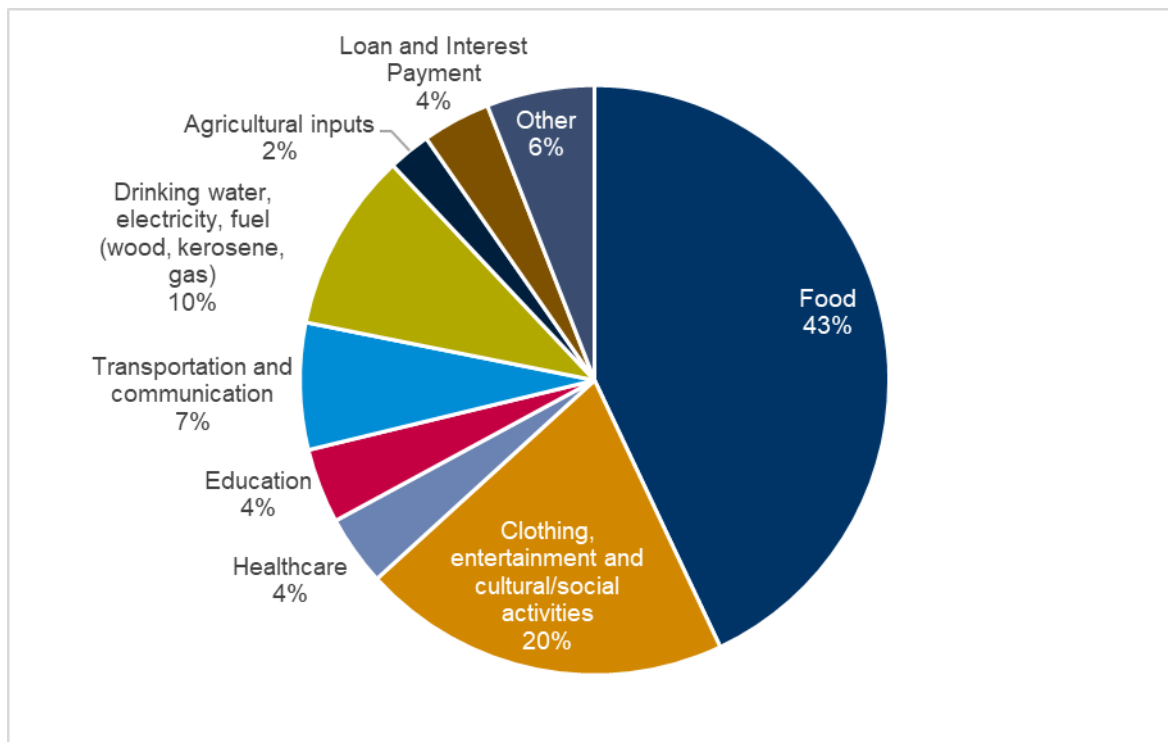
**Table 8-40: Average Monthly Household Expenditure by Koumban**

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 8-54** 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 8-54**.

**Figure 8-54: 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.

### 8.5.3.4 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 forestland which is issued by District level authorities.<sup>109</sup>

<sup>109</sup> Giz, 2015

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 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 receipts 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:** This 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 86).

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>110</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 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 and the process of obtaining them and paying for systematic adjudication is expensive. 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.

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.

The Detailed Measurement Survey (DMS) conducted in June-July 2022 suggests that, of 396 affected land parcels, 15 land parcels have land titles (3.8%), 320 land parcels have land tax payment receipts (80.8%) and 61 land parcels are booking land (without land ownership documents e.g., land tax receipts) (15.04%). Refer to the Resettlement Plan (RP) for more details on Project land acquisition impacts.

#### 8.5.3.5 Health and Healthcare

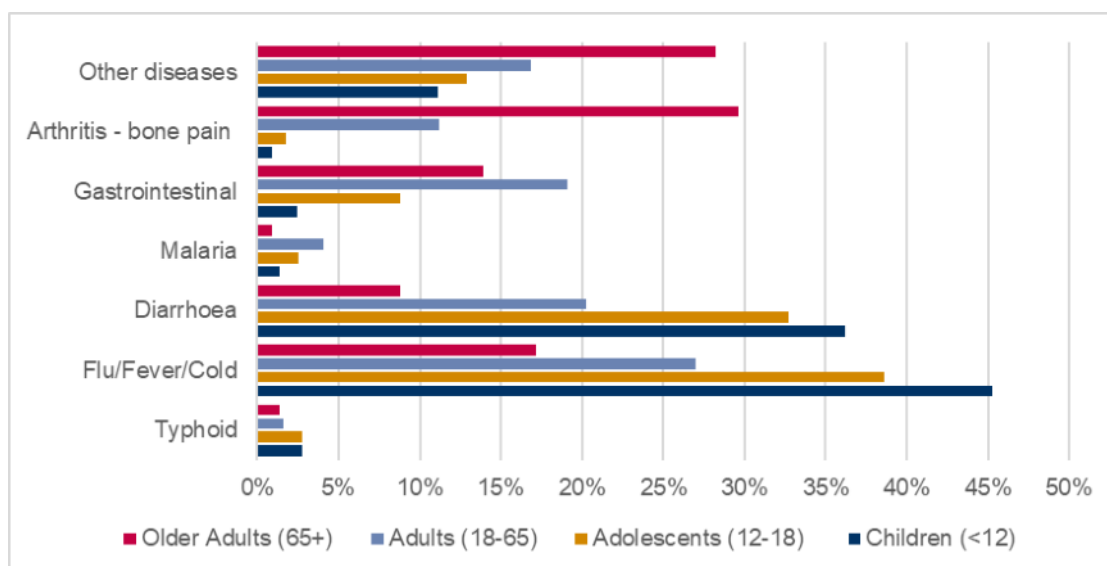
During the time of the site visit (November – December 2021), the majority of the affected community population have been vaccinated against COVID-19.

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 diseases (28%) (**Figure 8-55**).

Sexually transmissible diseases (e.g., HIV/AIDs) were not identified as common diseases in the Project Area. Based on the Department of Planning and Cooperation, Ministry of Health (2020), in 2020 there were a total of 1,414 people identified with HIV positive, of which 41% is female and 59% is male. In Southeast Asia, the average rate of HIV positive is 0.06 per 1,000 uninfected people (WHO, 2022), whilst for Lao PDR the rate is 0.02 per 1,000 uninfected people—it can therefore be assumed that rate of sexually transmissible diseases such as HIV is low in Laos PDR, particularly in remote area as such the Project area.

**Figure 8-55: Common Diseases by Age Group**



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

### 8.5.3.6 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>111</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 Dakcheung 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>112</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 Ngonnuea 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 Ngonnuea 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

<sup>111</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>112</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.

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>113</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%).

### *8.5.3.7 Access to Infrastructure and Public Services*

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

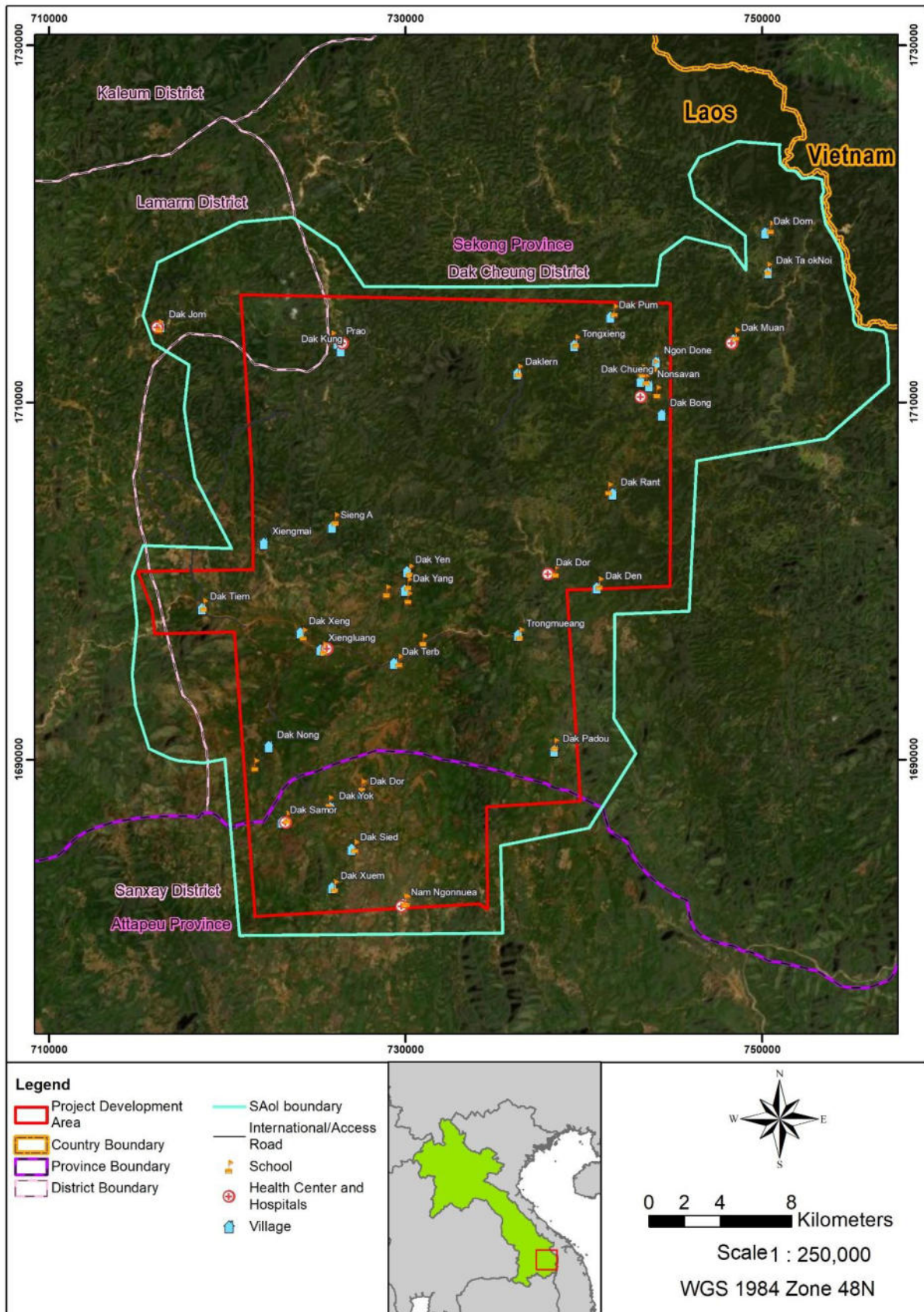
**Figure 8-56** presents locations of local infrastructures and public services i.e. schools and healthcare facilities of the affected villages which are located in within the Project Area.

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<sup>113</sup> Although the service fee for healthcare centre service is relatively low-cost at 5000kip/person/time of healthcare service.



Figure 8-56: Local Infrastructures and Public Services



Source: ERM/Innogreen, 2021

### Local Schools

Education attainment of the population of the affected villages are discussed under **Section 8.5.3.1**. 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 8-57** presents photos of secondary school in Dak Dor Village and primary school in Dak Yang Village.

**Figure 8-57: 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 8-58**.

**Figure 8-58: 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 8.3.6**).

### *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 8-59**). 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 8-59: 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 8-60**). 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, 2022).

**Figure 8-60: 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.

#### *8.5.3.8 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.

### 8.5.3.9 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>114</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>115</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 8-41**).

**Table 8-41: 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 8-42** 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>114</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>115</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.

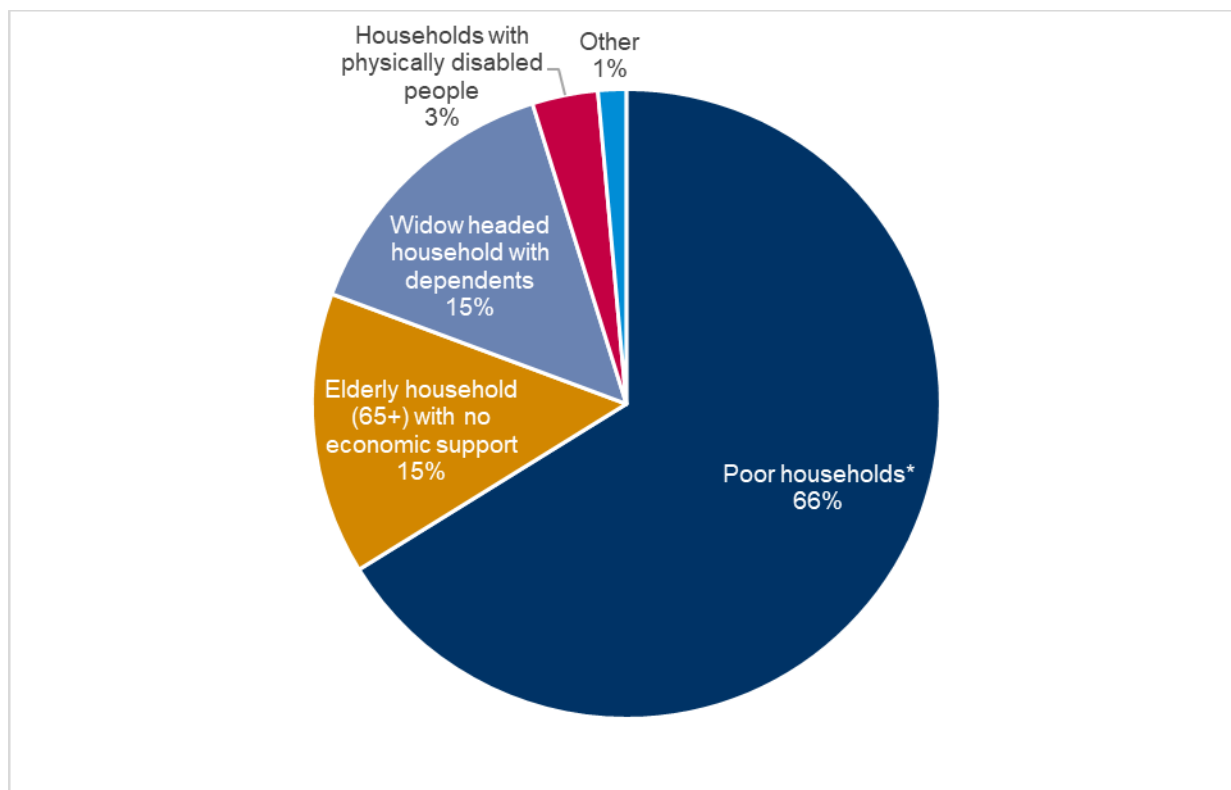
**Table 8-42: Number of Vulnerabilities among the Surveyed Households**

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 178 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 8-61**).

**Figure 8-61: Characteristics of Vulnerable Households**



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

**Table 8-43** 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 8-43: Vulnerability Household by Category**

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)	
Koumban	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>	<b>97</b>	<b>17</b>	<b>61</b>	<b>16</b>	<b>45</b>	<b>13</b>	<b>38</b>	<b>8</b>	<b>134</b>	<b>18</b>	<b>48</b>	<b>16</b>	<b>26</b>	<b>12</b>

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>116</sup>, and the average monthly income per capita is LAK 203,412 (USD 18) (**Table 8-44**). 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>116</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 8-44: 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 8-45** 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 8-45: Sources of Income of Vulnerable Households**

Type	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

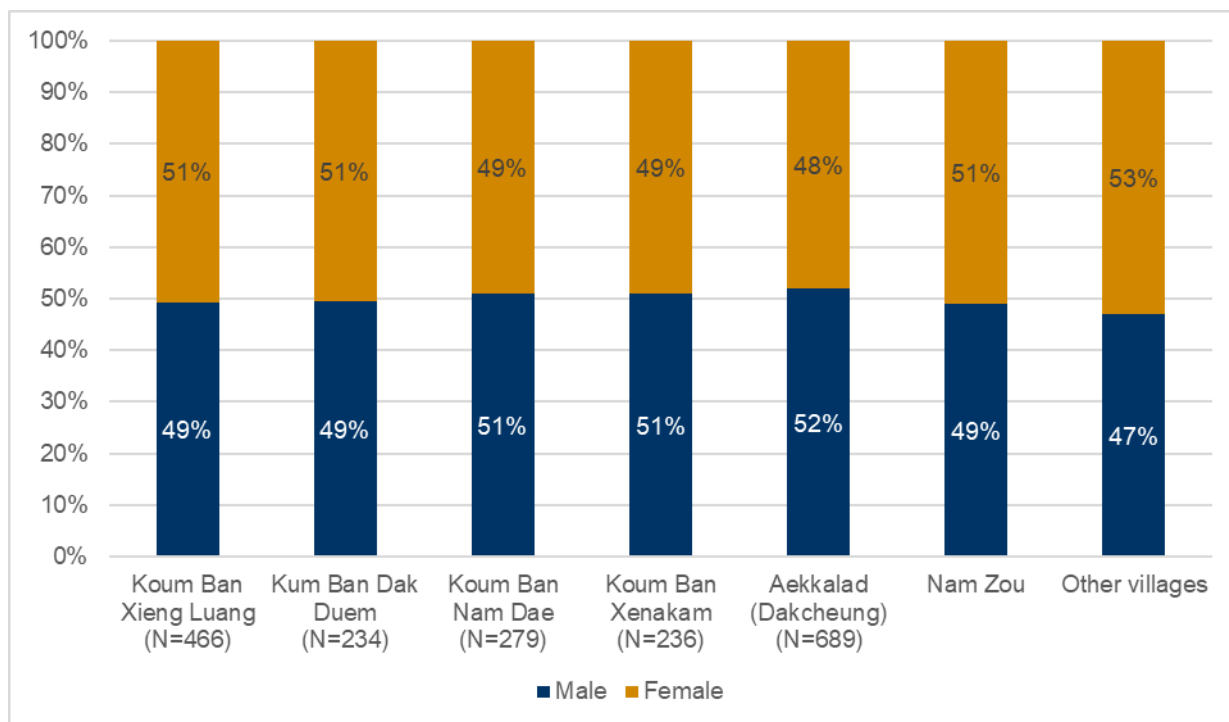
Source: Socio-economic household survey by ERM/Innogreen, November and December 2021

## 8.5.4 Gender Disaggregated Socio-economic Profile

### 8.5.4.1 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 8-62**).

Figure 8-62: Gender Ratio by Koumban



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

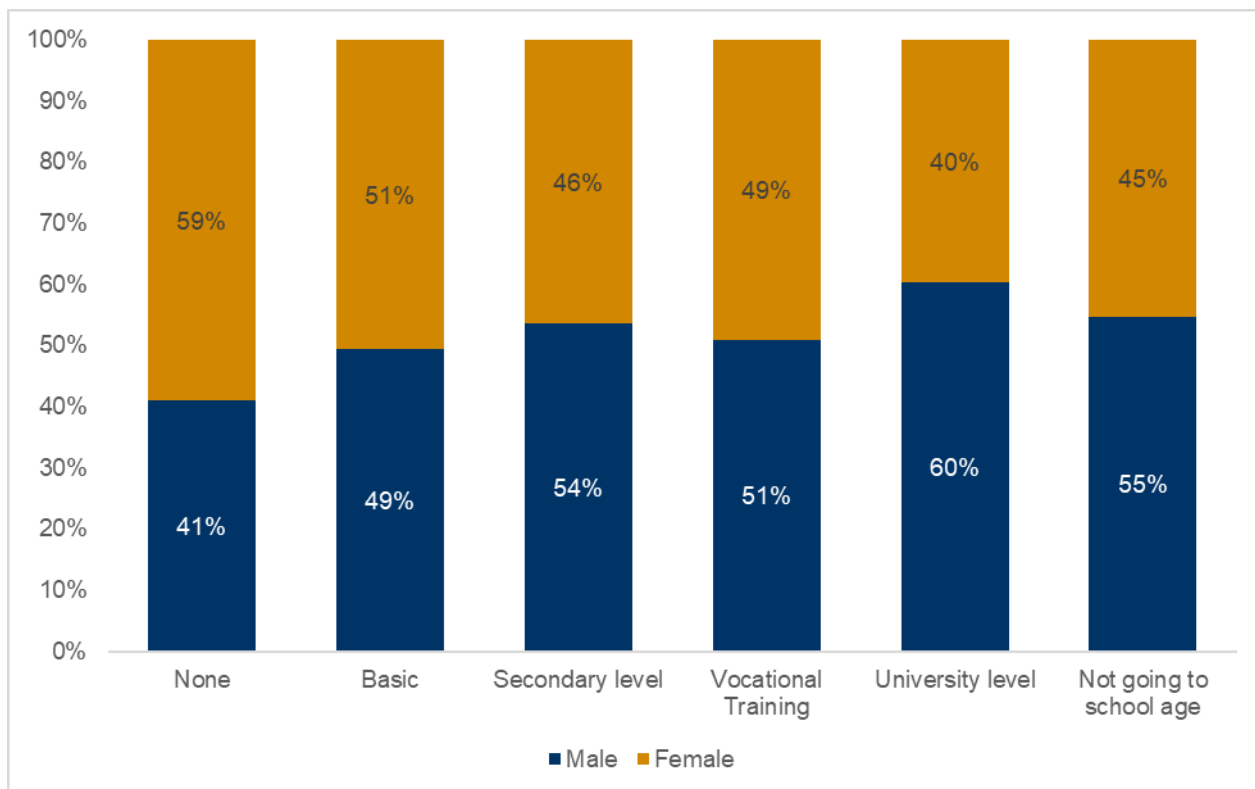
### 8.5.4.2 Education Attainment

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 8-63**), 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 8-63: Education Attainment by Gender**



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

### 8.5.4.3 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.

### 8.5.4.4 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>117</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>117</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.

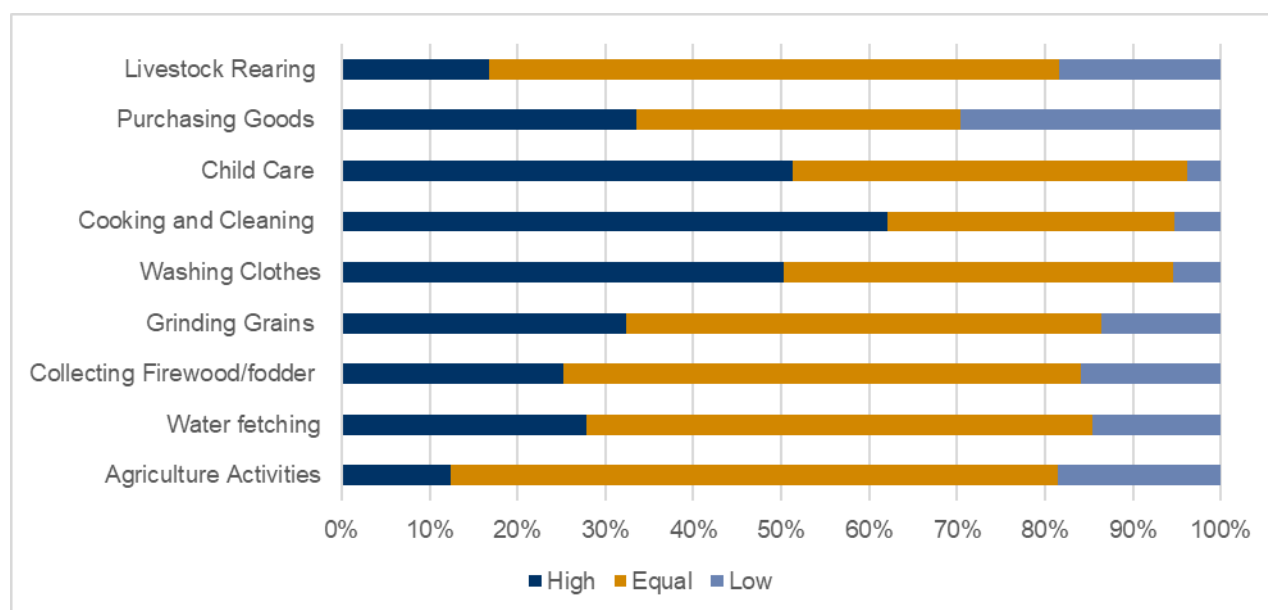
#### 8.5.4.5 Livelihood and Division of Labor

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 8-64**).

**Figure 8-64: Participation of Female in Agriculture and Household Activities**



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

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

As discussed in **Section 8.5.3.4** 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 8-46**. 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 8-46: 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

### 8.5.4.7 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 Chueng 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 8.1: Boosting Coffee Production Project **Box 8.1**). 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 8.1: 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.

#### 8.5.4.8 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 8-47** 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 8-47: 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

#### 8.5.4.9 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.