

CRED Baseline Survey Report

Houaphanh Province (Hiem, Sopbao, Viengxay and Xamneua Districts)

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Table of Contents

Executive Summary.....	3
1. Coverage and Survey Scope	4
2. Population Structure	5
3. Village Structure and Administrative Configuration	5
3.1 Single vs. Combined Villages.....	5
3.2 Access to Basic Infrastructure and Services.....	6
4. Village Establishment Period.....	9
5. Household Distribution by District and Village	9
6. Household Economic Categorization	10
6.1 Household Economic Profile	10
6.2 District-Level Comparison of Household Economic Categories.....	11
7. Livelihood Activities and Place of Work.....	12
7.1 Main and Secondary Livelihood Activities by Village.....	12
7.2 Livelihood Activities and Place of Work.....	13
7.3 Farming System Composition	13
8. Key Household Assets	14
9. Sources of Agricultural Knowledge and Learning	15
9.1 Ongoing Development Projects at Village Level (Evidence-Based)	15
10. Local Economy, Market Access and Trading Conditions	16
10.1 Products Available and Trading Arrangements.....	16
11. Ethnic Composition	17
11.1 Ethnic Composition at Province Level.....	17
11.2 Ethnic Composition at Village Level	17
12. Village Institutions and Local Governance Structures	19
13. Local Economic Activities and Business Environment	19

13.1 Business Activities at Village Level	19
13.2 Infrastructure Constraints Affecting Business Development	20
13.3 Community Responses to These Problems.....	20
14. Natural Resource Management and Land Use Governance.....	21
15. Climate Change Awareness, Hazards, and Disaster Impacts	21
15.1 Awareness of Climate Change	21
15.2 Types of Hazards Experienced	21
15.3 Occurrence of Disasters and Affected Households (Past Three Years).....	22
15.4 Disaster Risk Reduction (DRR) Planning and Institutional Capacity	22
16. Perceived Changes Over Time and Well-being Trends	22
17. Perceived Major Problems.....	23
18. Household Resilience and Well-being Scores	23
18.1 Overview of CRED Household Score Dimensions	23
18.2 Results: Average Scores by Dimension	24
18.3 Interpretation: Strengths, Gaps, and Implications for CRED.....	25
19. Key Baseline Implications for CRED.....	26

Executive Summary

This report presents the findings of the **CRED baseline survey conducted in Houaphan Province** in 2023, covering **12 villages** across **Hiem, Sopbao, Viengxay, and Xamneua districts**. Data collected through structured interviews with village authorities and provide aggregated village-level information on population structure, livelihoods, infrastructure and services, governance, market access, and disaster risks. The baseline establishes a reference point for monitoring change under the CRED programme.

The survey covers **1,120 households**, representing an estimated population of **6,082 people**. The population structure is broadly balanced by gender. Settlement patterns vary and include both single and combined villages, with combined villages implying greater geographic dispersion and coordination requirements for programme implementation.

Access to basic infrastructure is generally favorable, with **near-universal electricity coverage** across all surveyed villages. Road access is mostly year-round; however, several villages particularly in **Hiem and Xamneua districts** experience **seasonal inaccessibility**, constraining mobility and market access during the rainy season. Education services are uneven, and **piped water supply systems are almost entirely absent**, with households relying on gravity-fed systems, surface water, and rainwater collection. This reliance on informal water sources reflects ongoing vulnerability to seasonal and climate-related variability.

Livelihoods remain **strongly agriculture-based**, with rice cultivation reported as the main livelihood activity across nearly all villages. Government employment provides a stable income source where available, while most other activities such as cash cropping, hired labor, and small-scale trading—are secondary. Farming systems are rice-centered and complemented by livestock rearing, particularly poultry and large ruminants. Crop diversification beyond rice is limited and geographically concentrated, increasing exposure to production and climate risks.

Most households fall into the **medium-income category**, although vulnerability differs across districts. **Xamneua and Sopbao** show higher proportions of poor households, while **Viengxay** displays stronger economic differentiation. These differences point to the need for district-specific targeting under the CRED programme.

Market engagement remains a key constraint. Although villages produce a diverse range of agricultural and natural products, **middlemen dominate trading arrangements**, and direct engagement with companies is limited. Combined with constraints related to roads, transport, and storage infrastructure, these limits bargaining power and income potential for farming households.

Village-level governance structures are present in all surveyed villages. Women's participation is most visible through the **Lao Women's Union**, while leadership roles in other village institutions remain limited. Joint decision-making between husbands and wives is widely reported, though this reflects reported practice rather than decision-making power across different domains.

All villages report awareness of climate change and experience multiple hazards, including **droughts, floods, landslides, and pest or disease outbreaks**, as well as localized events such as storms and frost. Disaster impacts affect both households and village infrastructure, yet responses remain largely reactive. Notably, **no surveyed village has a formal Disaster Risk Reduction (DRR) plan or committee**, indicating a significant institutional gap at baseline.

Household resilience and well-being scores confirm these patterns. While households report moderate conditions in terms of income, access to services, agrobiodiversity, and community self-reliance, scores for

market engagement, productivity, access to productive resources, and disaster preparedness are low. Overall, the baseline highlights favorable entry points for CRED implementation alongside clear structural constraints, underscoring the importance of **targeted, resilience-focused, and village-specific interventions** in Houaphan Province.

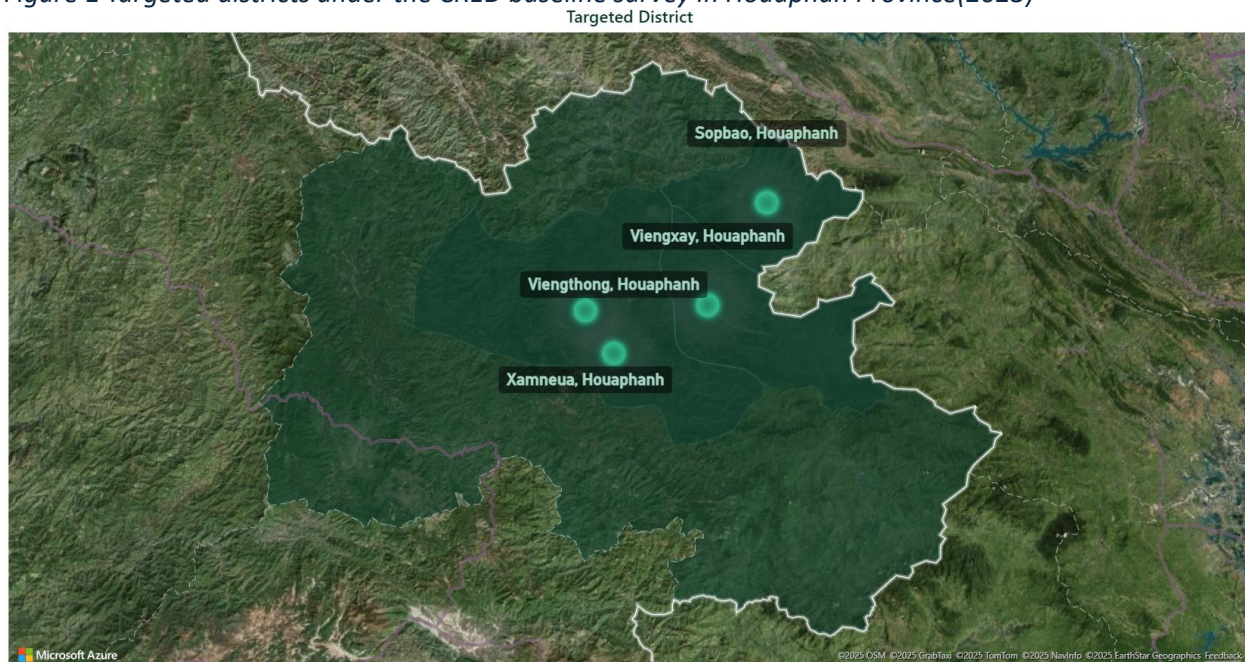
1. Coverage and Survey Scope

The CRED baseline survey in Houaphan Province was conducted in 2023 and covered four districts: Hiem, Sopbao, Viengxay, and Xamneua. Data were collected through structured interviews with village authorities in each targeted village, generating aggregated village-level information on population, livelihoods, infrastructure, and local conditions.

In total, the survey covered 12 villages and captured administrative information for 1,120 households across the four districts. As the survey relied on key informant reporting by village authorities, the findings reflect village-level baseline conditions rather than household-level survey responses.

Household distribution varies across districts. Hiem District accounts for the largest share of households, followed by Viengxay and Sopbao, while Xamneua District includes a smaller number of households. These differences are relevant for CRED implementation, as they influence the scale of outreach, coordination requirements with village authorities, and resource allocation across districts and villages.

Figure 1 Targeted districts under the CRED baseline survey in Houaphan Province(2023)



Methodological Note and Limitations

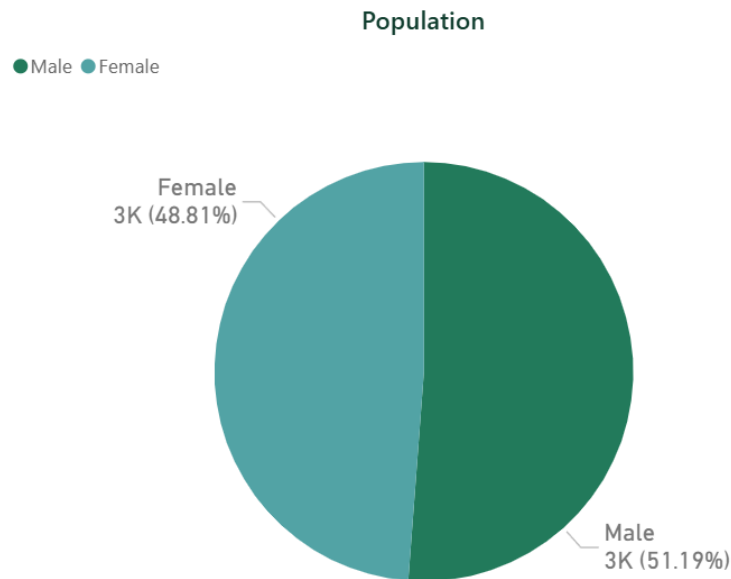
The findings presented in this report are based on village-level data collected through the CRED baseline survey conducted in 2023 in Houaphan Province. Information was obtained through self-reported inputs from village authorities and community representatives. While the survey provides a structured snapshot of baseline conditions across the targeted villages, the results should be interpreted as indicative rather than exhaustive, particularly for qualitative perceptions related to climate change, hazards, and well-being.

2. Population Structure

The surveyed villages in Houaphan Province report a total population of 6,082 people, including 3,111 males (51.19%) and 2,966 females (48.81%) (Figure 2). The gender distribution is broadly balanced, with no significant demographic skew observed at baseline.

Population figures are based on aggregated village-level estimates reported by village authorities. Minor discrepancies between total population and gender subtotals likely reflect rounding or reporting gaps and do not affect the overall population profile.

Figure 2 Population by gender in surveyed villages, Houaphan Province (CRED Baseline Survey, 2023)



3. Village Structure and Administrative Configuration

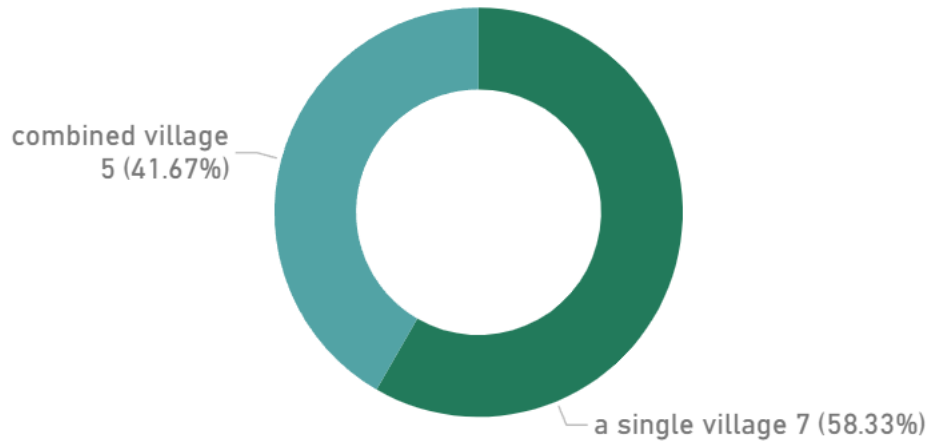
3.1 Single vs. Combined Villages

Of the 12 villages covered by the CRED baseline survey in Houaphan Province, seven villages (58.33%) are classified as single villages, while five villages (41.67%) are administratively defined as combined villages (Figure 3).

Combined villages include Back, Kanghao, Navieng, Pawan, and Viengthong, where multiple sub-settlements are administered under a single village authority. The remaining villages are single-settlement villages.

The presence of both single and combined village structures has implications for programme implementation. In combined villages, households are more geographically dispersed, which may require additional coordination efforts to ensure that CRED activities and information reach all sub-settlements rather than only the village center.

Figure 3 Distribution of single and combined villages, Houaphan Province (CREG Baseline Survey, 2023)
Single or Combined Village



3.2 Access to Basic Infrastructure and Services

3.2.1 Access to Roads, Education, Electricity, and Water

Most surveyed villages report year-round road access; however, four villages (Thamla Tay in Hiem District, and Pawan and Poulon in Xamneua District) report seasonal road inaccessibility, indicating constraints on mobility during the rainy season.

Education infrastructure is present in most villages. All but one village report at least a primary school within the village. Two villages (Meuanghang in Sopbao District and Kangmeang in Viengxay District) report both primary and secondary schools, while Nasan village reports no school, requiring households to access education services outside the village.

Electricity access is high across all surveyed villages. All villages report electricity availability, with near-universal household coverage. Most villages report 100% coverage, with lower levels reported in Phoulaouag (83.02%) and Kanghao (99.12%).

Access to piped water infrastructure is very limited. Only one village (Back, Viengxay District) reports having a piped water supply system, while all other villages rely on alternative water sources.

Figure 4 Access to basic infrastructure and services by village, Houaphan Province (CRED Baseline Survey, 2023).

District	Village	Road accessible all year	School in village	Electricity available	% Households with electricity	Piped water supply
Hiem	Navieng	Yes	Primary	Yes	100.00%	No
	Phoulaouag	Yes	Primary	Yes	83.02%	No
	Thamla Tay	No	Primary	Yes	100.00%	No
	Viengthong	Yes	Primary	Yes	100.00%	No
Sopbao	Kanghao	Yes	Primary	Yes	99.12%	No
	Khangkard	Yes	Primary	Yes	100.00%	No
	Meuanghang	Yes	Primary & Secondary	Yes	100.00%	No
Viengxay	Back	Yes	Primary	Yes	100.00%	Yes
	Kangmeang	Yes	Primary & Secondary	Yes	100.00%	No
	Nasan	Yes	None	Yes	100.00%	No
Xamneua	Pawan	No	Primary	Yes	100.00%	No
	Poulon	No	Primary	Yes	100.00%	No

Note: Information is based on administrative data reported by village authorities during the CRED baseline survey.

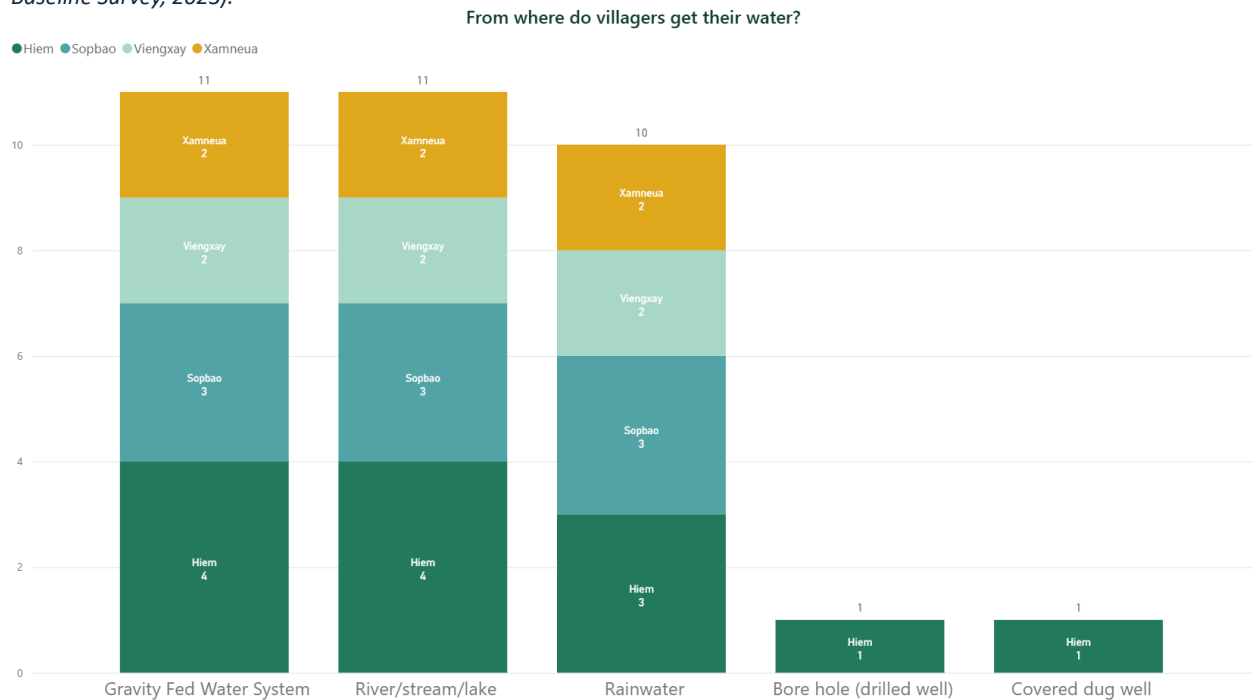
3.2.2 Key Baseline Implications

Infrastructure access presents a mixed baseline picture across the surveyed villages. While electricity coverage is high and provides a strong enabling condition for CRED implementation, seasonal road inaccessibility, uneven access to education services, and the near absence of piped water systems remain important structural constraints.

Where piped water systems are absent, villages rely on a range of alternative water sources for domestic and productive uses. As shown in Figure 5, gravity-fed water systems and surface water sources (rivers, streams, or lakes) are used by nearly all surveyed villages. Rainwater collection is also commonly reported, while boreholes and covered dug wells are rare. This pattern indicates that households meet water needs through multiple informal sources, reflecting adaptation to limited infrastructure rather than secure or centralized water access.

Villages without year-round road access are likely to experience constraints related to market participation, service delivery, and emergency response, particularly during the rainy season. At the same time, reliance on informal water sources suggests continued vulnerability related to seasonal availability and climate variability, reinforcing the relevance of resilience-oriented CRED interventions.

Figure 5 Alternative water sources used by villages in the absence of piped water supply, by district, Houaphan Province (CRED Baseline Survey, 2023).



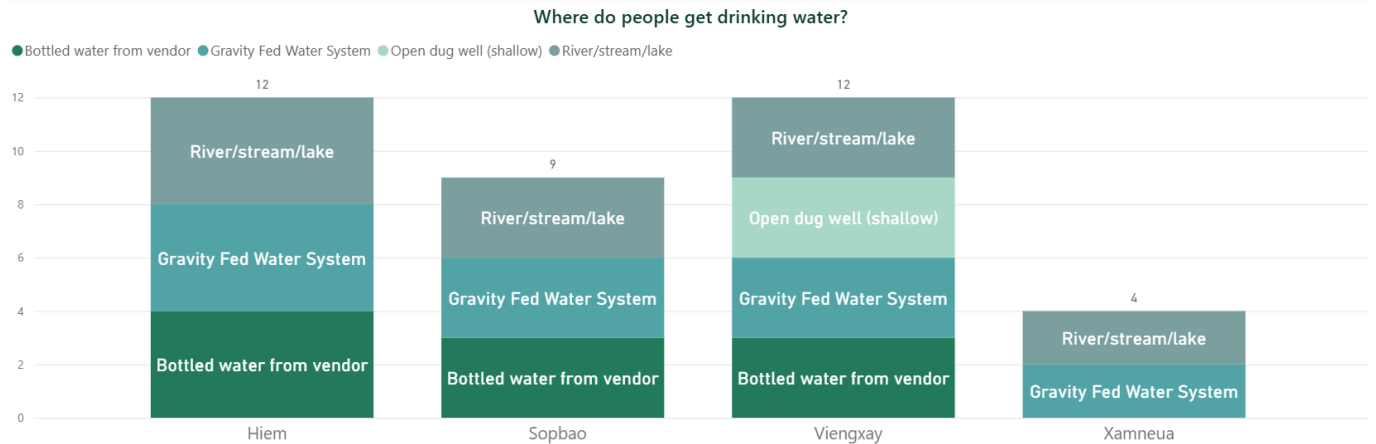
3.2.3 Drinking Water Sources and Water Supply

Across the surveyed districts in Houaphan Province, drinking water access relies on multiple non-piped sources. As shown in Figure 6, gravity-fed water systems and surface water (rivers, streams, or lakes) are reported in all four districts, indicating that these sources constitute the primary water supply at baseline. Additional water sources are used in selected locations. Bottled water from vendors is reported in Hiem, Sopbao, and Viengxay, while shallow open dug wells are reported only in Viengxay District, reflecting localized differences in access options. At village level, Back village reports the widest mix of water sources, whereas villages such as Khangkard, Pawan, Phoulaouag, and Poulon rely on a narrower range, mainly gravity-fed systems and surface water.

The widespread use of multiple drinking water sources within districts and villages indicates reliability and seasonal availability constraints, rather than complete absence of water. At baseline, drinking water access in Houaphan Province is therefore characterized by dependence on informal or semi-formal sources, with minimal coverage of centralized piped systems.

This pattern shows that drinking water access remains a basic constraint, especially during dry or rainy seasons, and is therefore relevant for climate-resilient CRED interventions.

Figure 6 : Drinking water sources by district, Houaphan Province (CRED Baseline Survey, 2023)



4. Village Establishment Period

Most surveyed villages in Houaphan Province were established between 1950 and 1975, indicating long-standing settlement patterns across the four districts. This suggests that the majority of communities have existed for several decades and share a broadly similar historical context.

A smaller number of villages were established before 1950, mainly in Sopbao and Viengxay Districts, reflecting older settlement histories in these areas. Villages established between 1975 and 1995 are concentrated in Hiem and Xamneua Districts, corresponding to later phases of settlement and administrative reorganization.

Overall, the distribution of village establishment periods shows that most villages share a relatively long settlement history, providing a common structural context for land use, village institutions, and service development. At the same time, differences in establishment timing indicate variation in settlement trajectories that may influence infrastructure development and access to services across villages.

Figure 7 Distribution of village establishment periods by district, Houaphan Province (CRED Baseline Survey, 2023).
Village Establishment Period



5. Household Distribution by District and Village

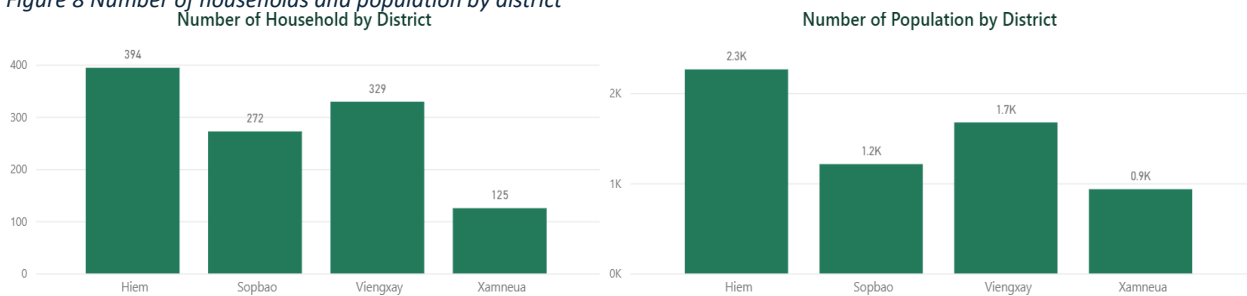
The CRED baseline survey in Houaphan Province covers 1,120 households across 12 villages in four districts: Hiem, Sopbao, Viengxay, and Xamneua. Household distribution is uneven across districts, indicating differences in settlement scale and implementation needs.

- Hiem District has the largest coverage, with 394 households across four villages, accounting for over one-third of all surveyed households. This concentration implies higher coordination and outreach requirements for CRED activities in this district.

- Viengxay District includes 329 households across three villages, representing medium-to-large settlements despite the smaller number of villages covered.
- Sopbao District accounts for 272 households across three villages, with household numbers more evenly distributed, suggesting moderately sized settlements.
- Xamneua District has the smallest coverage, with 125 households across two villages, indicating smaller settlements and a more limited scale of intervention relative to other districts.

Population distribution broadly mirrors household patterns. Hiem District has the largest population (2,262 people), followed by Viengxay (1,674), Sopbao (1,212), and Xamneua (934). Based on these figures, the average household size across surveyed districts is approximately 5.4 persons per household, ranging from 4.5 persons in Sopbao to 7.5 persons in Xamneua. Larger household sizes, particularly in Xamneua, suggest higher dependency ratios and greater pressure on household resources, which is relevant for targeting and resilience-oriented CRED interventions.

Figure 8 Number of households and population by district



6. Household Economic Categorization

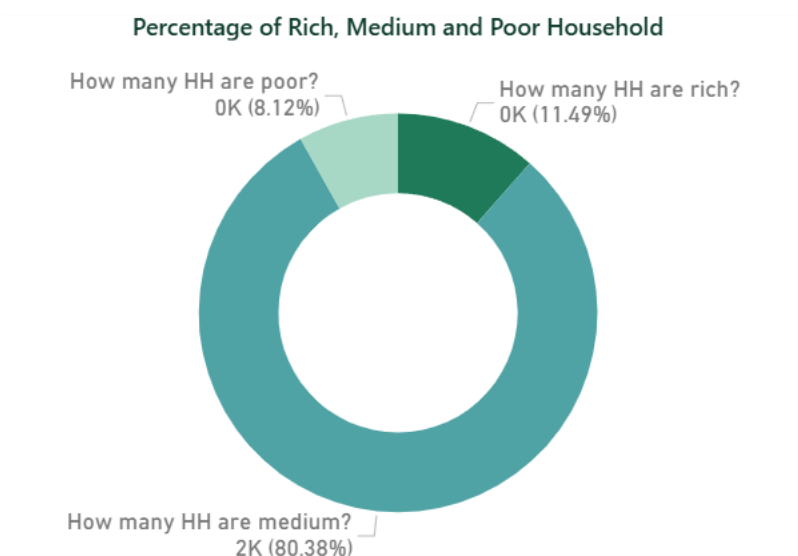
6.1 Household Economic Profile

Household economic categorization was available for 1,090 of the 1,120 surveyed households in Houaphan Province. The remaining 30 households (2.7%) had missing or unreported classification and are excluded from this analysis.

Among households with available data, medium-income households dominate the baseline profile (837 households; 76.8%). Rich households account for 173 households (15.9%), while poor households represent a smaller share (80 households; 7.3%).

While relatively few households are classified as poor, most fall into the medium-income category. These households typically rely on climate-sensitive livelihoods and have limited capacity to absorb shocks, making them vulnerable to economic or climate-related disruptions.

Figure 9 Percentage distribution of rich, medium, and poor households (n = 1,090), Houaphan Province (CRED Baseline Survey, 2023)



6.2 District-Level Comparison of Household Economic Categories

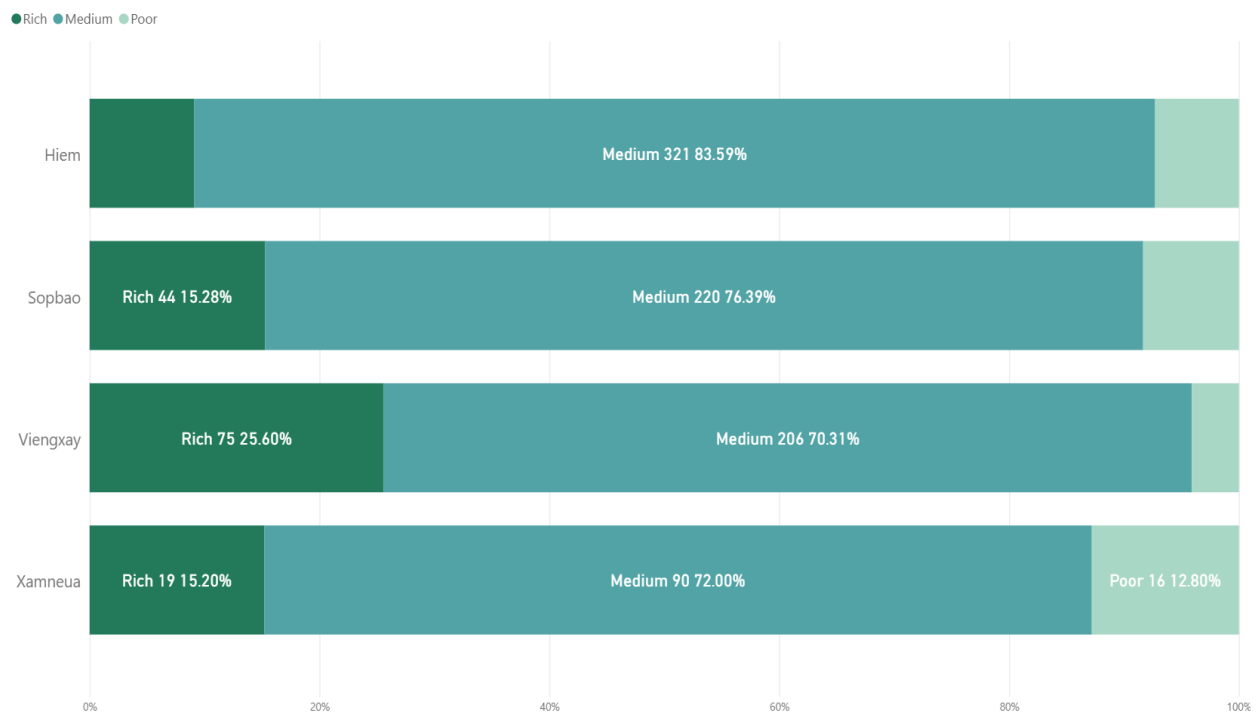
Household economic structure differs clearly across districts in Houaphan Province, revealing uneven patterns of vulnerability and economic differentiation.

Hiem District is characterized by a highly concentrated economic profile, with 83.6% of households classified as medium, and relatively small shares of rich (9.1%) and poor households (7.3%). This indicates generally stable conditions, with limited economic polarization at baseline.

- In Sopbao District, medium households remain dominant (76.4%), but both rich (15.3%) and poor households (8.3%) represent larger shares than in Hiem. This reflects a more mixed economic structure, with vulnerability affecting a wider segment of the population.
- Viengxay District shows the strongest economic differentiation among all districts. While medium households still form the majority (70.3%), the share of rich households is the highest (25.6%), and poor households are least prevalent (4.1%). This pattern points to comparatively stronger livelihood outcomes for a substantial proportion of households.
- By contrast, Xamneua District records the highest proportion of poor households (12.8%), alongside 72.0% medium and 15.2% rich households. Despite a majority of households falling into the medium category, the higher poverty share indicates greater baseline vulnerability relative to other districts.

Overall, while medium-income households dominate across all districts, the balance between poverty and relative wealth varies significantly. Xamneua and Sopbao emerge as districts with higher vulnerability, whereas Viengxay demonstrates stronger economic differentiation. These differences underscore the need for district-specific targeting and differentiated CRED interventions, rather than uniform implementation.

Figure 10 Household economic categories (rich, medium, poor) by district, Houaphan Province (CREd Baseline Survey, 2023).
Household Economic Categories by District and Village



7. Livelihood Activities and Place of Work

7.1 Main and Secondary Livelihood Activities by Village

Across the twelve surveyed villages in Houaphan Province, livelihoods are predominantly agriculture-based, with rice farming consistently reported as a main occupation. This confirms subsistence and semi-subsistence agriculture as the foundation of household livelihoods at baseline.

Government employment is widely reported as a main occupation across villages, highlighting its importance as one of the few stable non-farm income sources available locally. Where present, it provides regular cash income that complements agricultural production.

Most other livelihood activities are reported as secondary, reflecting income supplementation rather than full diversification. These secondary activities include cash crop production, gardening, hired labour, and wage work, which are present in most villages and serve as additional income sources alongside farming. Trading activities are reported in eight out of the twelve surveyed villages, indicating that small-scale trade is geographically widespread. However, trading is reported predominantly as a secondary activity, with only one village identifying it as a main occupation. This suggests that while trading is commonly practiced, it functions mainly as a supplementary livelihood, rather than a core income strategy.

Private employment is reported in four villages and remains limited in geographic coverage. Although it provides an important income source where available, it does not constitute a widespread alternative to agriculture across the survey area.

A comparison across villages indicates that villages with poorer households tend to rely on a narrower set of livelihood activities, typically centred on rice farming combined with one or two secondary income sources. In contrast, villages reporting a broader mix of livelihood options, including salaried employment or trading, generally show fewer poor households.

Overall, the livelihood structure in Houaphan Province is characterized by high dependence on agriculture and secondary income activities, with limited access to stable non-farm employment. This pattern underscores the importance of CRED interventions that strengthen and diversify livelihood options, particularly in villages with limited income alternatives.

Figure 11 Main and secondary occupations by village

District	Household Occupation											
	Hiem				Sopbao			Viengxay			Xamneua	
Occupation	Navieng	Phouloaug	Thamla Tay	Viengthong	Kanghao	Khangkard	Meuanghang	Back	kangmeang	Nasan	Pawan	Poulon
Factory					Secondary	Secondary		Main	Secondary			
Cash crop	Secondary	Secondary	Secondary	Secondary	Secondary	Secondary	Secondary	Secondary	Secondary	Secondary	Secondary	Secondary
Corn		Secondary			Secondary		Secondary					
Garden(Vegetable)	Secondary	Secondary	Secondary	Secondary	Secondary	Secondary	Secondary	Secondary	Secondary	Secondary	Secondary	Secondary
Go to abroad		Secondary						Secondary	Secondary			
Government officer	Main	Main	Main	Main	Main		Main	Main	Main	Main	Main	
Hired labourer/worker	Secondary	Secondary	Secondary		Secondary	Secondary	Secondary	Secondary	Secondary			
Migrant labourer and back to home town because of COVID	Secondary											
Private employee	Secondary			Secondary				Main	Main			
Rice	Main	Main	Main	Main	Main	Main	Main	Main	Secondary	Main	Main	
Trader	Secondary	Secondary	Secondary	Secondary	Secondary		Secondary	Main	Secondary			
Worker	Secondary				Secondary			Secondary				Secondary

7.2 Livelihood Activities and Place of Work

Livelihood activities in Houaphan Province are predominantly local, with most income generated within villages or nearby areas, and only limited engagement beyond the district or province.

Agriculture-based activities, including farming, gardening, livestock rearing, and small-scale trading, are largely village-based and form the core of household livelihoods. These activities are closely tied to local natural resources and environmental conditions, increasing exposure to climate and hazard-related shocks.

Government employment occurs both within and outside villages, including at district and provincial levels, providing relatively stable income while maintaining strong links to home communities.

Private employment and factory work are reported in a smaller number of villages and take place both locally and outside the village, and in some cases outside the district or province. However, these activities remain secondary and involve a limited share of households.

A small number of villages report cross-border employment, mainly to China and Vietnam. Where present, such migration functions as a supplementary income strategy, rather than a dominant livelihood pathway. Overall, the limited scale of extra-district and cross-border employment indicates that household incomes remain highly dependent on local conditions. As a result, most households have few alternative income buffers when local livelihoods are disrupted, underscoring the importance of place-based and resilience-focused CRED interventions.

7.3 Farming System Composition

Farming systems in Houaphan Province are predominantly rice-based. Rice cultivation is reported in almost all surveyed villages, with high participation rates, confirming its role as the primary staple crop and main pillar of household food security at baseline.

By contrast, maize (corn) cultivation is not a core component of the provincial farming system. It is reported only in Hiem and Sopbao districts, with meaningful participation concentrated exclusively in Phoulouang village, where all households report maize cultivation. In other villages where maize is present, participation is marginal, and no maize cultivation is reported in Viengxay or Xamneua districts.

This indicates that maize functions as a highly localized livelihood activity, rather than a broadly adopted diversification option.

Livestock ownership is widespread but species-specific and uneven across villages. Poultry is reported in all surveyed villages, making it the most universal livestock activity. Cattle and buffalo are present in many villages and often at substantial levels, reflecting their importance as productive assets and stores of wealth. Pig rearing is common but variable, suggesting differences in household capacity and management conditions. Goat ownership is limited and reported only in a few villages, indicating a marginal role in current farming systems.

Overall, farming systems in Houaphan Province are characterized by high dependence on rice cultivation complemented by small-scale livestock rearing, particularly poultry and large ruminants. Crop diversification beyond rice remains limited, spatially concentrated, and uneven, underscoring households' exposure to climate and production risks. This baseline structure highlights the need for CRED interventions that prioritize climate-resilient rice systems, improve livestock productivity, and carefully targeted diversification aligned with local feasibility.

Figure 12 Crop and livestock activities by village (% of households)

Farming System							
Category	Crops		Livestock				
District	Corn	Rice	Buffalo	Cow	Goat	Pig	Poultry
Hiem							
Navieng	2%	89%	10%	29%	4%	20%	100%
Phouloaug	100%	100%	13%	67%	1%	85%	100%
Thamla Tay		100%	74%	100%	1%	86%	100%
Viengthong	5%	84%	13%	51%	2%	29%	100%
Sopbao							
Kanghao	3%	100%	11%			42%	100%
Khangkard		100%	100%			31%	100%
Meuanghang	13%	84%	36%	36%	1%	9%	86%
Viengxay							
Back		65%	6%	30%	1%	7%	75%
kangmeang		100%	30%	78%		20%	100%
Nasan		100%	29%	93%		46%	100%
Xamneua							
Pawan		100%	32%	66%		37%	100%
Poulon		100%	57%	57%	12%	18%	100%

8. Key Household Assets

Responses on farmers' most valuable assets show a clear and uniform prioritization of agricultural land and livestock. Across surveyed villages, respondents consistently identify paddy land, upland fields, gardens, and cultivated land, almost always in combination with livestock, as their primary assets.

This pattern indicates that household wealth is defined overwhelmingly by assets directly used for agricultural production and food security, with little reference to financial, movable, or non-agricultural assets. Mentions of fences and access roads to production areas further reinforce the importance of assets that enable farming activities rather than generate independent income.

9. Sources of Agricultural Knowledge and Learning

Village-level responses indicate that farmers in Houaphan Province obtain agricultural and livestock information primarily through government extension services, most commonly the District Agriculture and Forestry Office (DAFO). DAFO is cited across villages as a source of information on crop production, livestock raising, and farming practices.

Several villages also report receiving information through development projects and village-level activities, where present. These sources are mentioned alongside DAFO and include project staff visits, technical guidance, and activity-based support. The presence of project-related information varies by village.

In addition to formal sources, villages report informal knowledge exchange, including learning from other farmers, village leaders, and personal experience. These sources are mentioned as supplementary ways farmers access information related to agriculture and livestock.

Examples provided by villages include advice on crop production techniques, livestock management, animal health, and general farming practices. Information is reported to be received through village visits, discussions, and practical guidance, as described by respondents.

9.1 Ongoing Development Projects at Village Level

Village-level responses indicate the presence of ongoing development projects in a subset of surveyed villages, covering four main sectors: agriculture, health, irrigation, and nutrition.

Agriculture-related projects are the most frequently reported and are present in all districts, including villages in Hiem, Sopbao, Viengxay, and Xamneua. This confirms that agriculture-focused interventions constitute the most common form of external project engagement at village level.

Health-related projects are reported in a smaller number of villages, primarily in Hiem and Sopbao districts, while nutrition-related activities are reported only in Viengthong village (Hiem District). Irrigation-related projects are reported in Thamlā Tay village (Hiem District), indicating highly localized infrastructure support.

Several villages report multiple project types operating concurrently, while others report only agriculture-related projects or no additional sectoral interventions beyond agriculture. The presence and sectoral coverage of projects therefore vary substantially by village.

Figure 13 Projects operating in the village

What project are going on in this village?				
District	Agriculture	Health	Irrigation	Nutrition
Hiem				
Navieng	Agriculture	Health		
Phouloaug	Agriculture			
Thamla Tay	Agriculture		Irrigation	
Viengthong	Agriculture	Health		Nutrition
Sopbao				
Meuanghang	Agriculture	Health		
Viengxay				
Nasan	Agriculture			
Xamneua				
Poulon	Agriculture			

10. Local Economy, Market Access and Trading Conditions

10.1 Products Available and Trading Arrangements

Village-level data indicate that a diverse range of agricultural and natural products are reported across the surveyed districts in Houaphan Province. Products identified include rice, maize (corn), tea, vegetables and fruit, livestock, bamboo shoots, non-timber forest products (NTFPs), handicrafts, Sichuan pepper, and other locally named products. The mix of products varies by district, reflecting differences in agro-ecological conditions and livelihood strategies.

Across all districts, reported products are linked to two main types of market actors: companies and middlemen. However, the evidence shows that middlemen play a dominant role in product marketing across the province.

In Hiem District, a wide range of products including rice, maize, tea, livestock, vegetables and fruit, banana, broomgrass, and bamboo shoots are reported. These products are linked to both companies and middlemen, but middlemen are referenced more frequently, indicating their central role in aggregation and trade at village level.

In Sopbao District, reported products include rice, maize, vegetables and fruit, livestock, and handicrafts. While there are isolated references to company buyers, most products are associated with middlemen, suggesting that farmers primarily rely on intermediary traders for market access.

In Viengxay District, products reported include rice, tea, livestock, NTFPs, handicrafts, Sichuan pepper, and bamboo shoots. These products are linked to both companies and middlemen; however, middlemen are mentioned substantially more often, highlighting their importance in connecting producers to markets.

In Xamneua District, reported products include bamboo shoots, vegetables and fruit, livestock, and other local products. As in other districts, middlemen are the predominant market actors, with only limited references to direct company engagement.

Overall, the evidence shows that market engagement exists in all surveyed districts, with households producing a variety of agricultural and natural products. At baseline, however, middlemen represent the principal marketing channel across Houaphan Province, while direct company linkages are relatively limited and unevenly distributed. This pattern provides a clear reference point for future CRED interventions aimed at strengthening market linkages, improving bargaining power, and diversifying marketing options for farmers.

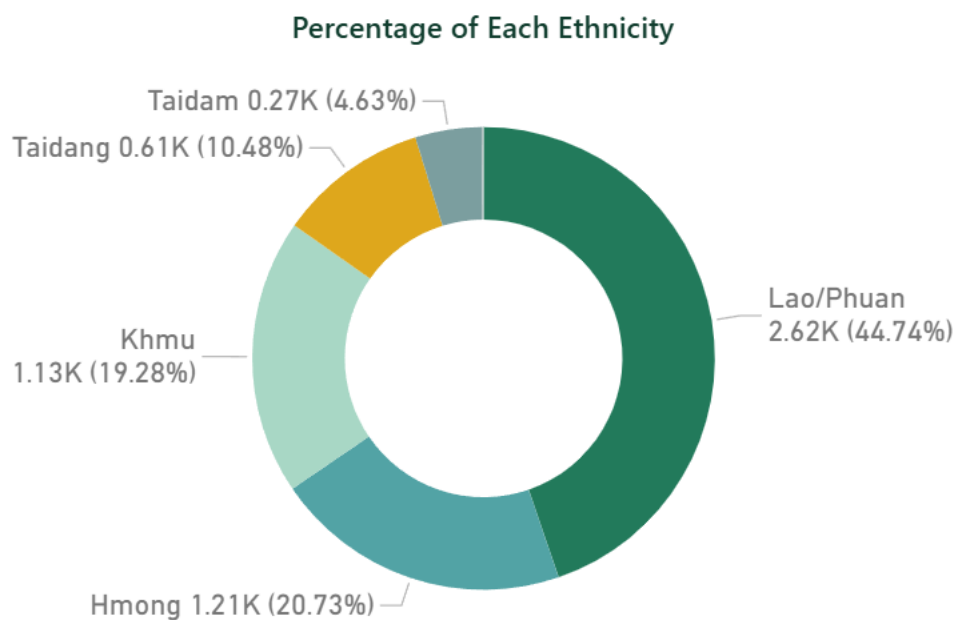
11. Ethnic Composition

The baseline data indicate that the surveyed population in Houaphan Province is ethnically diverse at aggregate level, while village-level settlement patterns remain largely homogeneous.

11.1 Ethnic Composition at Province Level

At provincial level, Lao/Phuan households constitute the largest share of the surveyed population (44.74%), followed by Hmong (20.73%) and Khmu (19.28%) households. Smaller proportions of Taidang (10.48%) and Taidam (4.63%) households are also reported (Figure 14). This distribution indicates that while multiple-ethnic groups are present across the programme area, one group clearly dominates in overall population terms.

Figure 14 Percentage distribution of ethnic groups among households surveyed, Houaphan Province (CRED Baseline Survey, 2023).



11.2 Ethnic Composition at Village Level

Village-level data show that most surveyed villages in Houaphan Province are ethnically homogeneous, with limited ethnic diversity within individual villages. As illustrated in Figure 15, eight out of the twelve villages surveyed report only one ethnic group, indicating strong ethnic concentration at village level.

A smaller number of villages report the presence of two ethnic groups, including Hiem Phoulouag, Sopbao Kanghao, and Sopbao Meuanghang. Only three villages, Viengxay Back, Hiem Navieng, and Hiem Viengthong report three ethnic groups, representing the highest level of ethnic diversity observed in the survey.

Overall, the figure confirms that multi-ethnic villages are the exception rather than the norm. Where ethnic diversity exists, it remains limited in scale and does not indicate highly mixed settlements.

Figure 15 Number of ethnic groups reported per village (village-level presence), Houaphan Province (CRED Baseline Survey, 2023).

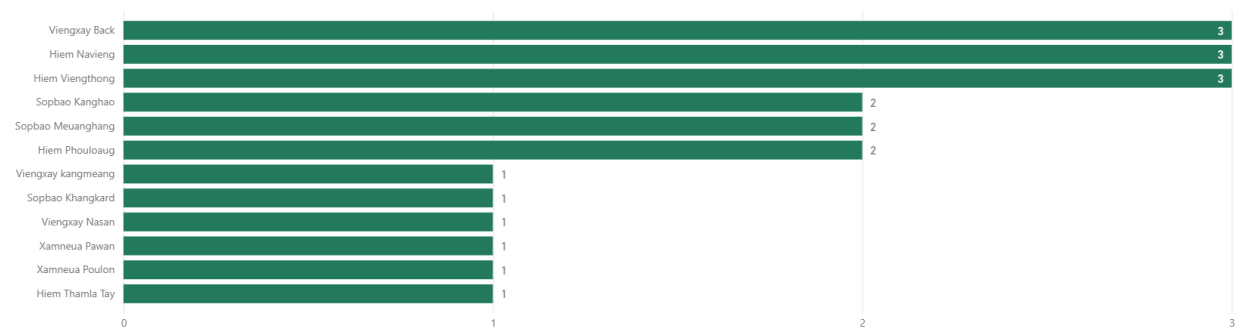
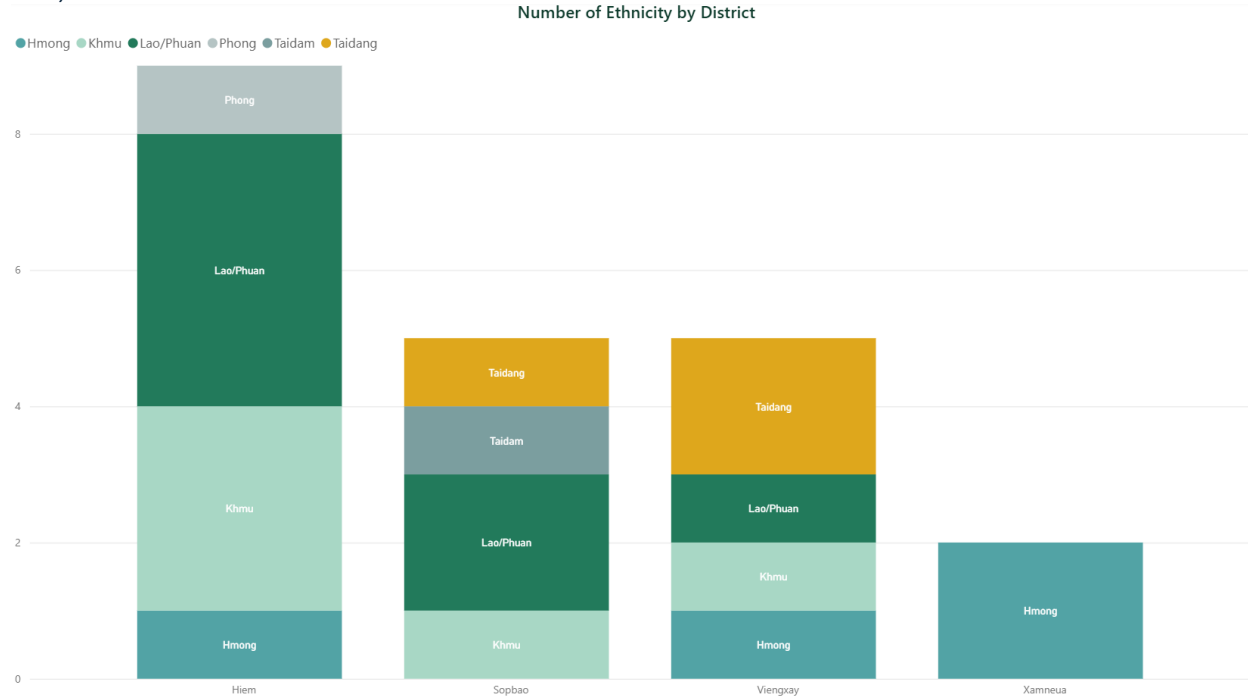


Figure 15 illustrates the number of ethnic groups reported per district, based on village-level data. The figure does not represent population size, but rather the presence of different ethnic groups within villages. It highlights clear differences in settlement patterns across districts, with Hiem showing the highest ethnic diversity, while Xamneua remains largely homogeneous. This reinforces the finding that, although multiple ethnic groups are present across the province, most villages are dominated by a single ethnic group, and highly mixed settlements are limited.

Figure 16 Number of ethnic groups reported per district (village-level presence), Houaphan Province (CRED Baseline Survey, 2023).



12. Village Institutions and Local Governance Structures

Baseline data confirm that core village-level governance and community institutions are present in all surveyed villages. Reported institutions include village authorities, the Lao Youth Union, the Lao Women’s Union, village security structures (village police and village soldiers), and village elder unions. This indicates that basic governance, representation, and coordination structures are established across the survey area. Evidence from membership and leadership data shows that women’s participation in village institutions is uneven and largely non-leadership based. While women are reported as members in some organizations, female leadership roles are rare. Women are most consistently represented within the Lao Women’s Union, where they appear both as members and as heads. In contrast, few villages report women as members of the Lao Youth Union, and women are largely absent from leadership positions in other village institutions.

Where women’s participation is recorded outside the Lao Women’s Union, it is primarily at general membership level, with limited involvement in decision-making roles. The data do not indicate widespread female representation in village authority structures or security-related institutions.

Household Decision-Making and Gender Roles:

Joint decision-making between husbands and wives is reported across all surveyed villages. While this indicates a degree of shared household decision-making at baseline, the finding reflects reported practice rather than relative decision-making power, which may vary depending on the type of decision and household context.

13. Local Economic Activities and Business Environment

13.1 Business Activities at Village Level

The most commonly reported business types are agriculture, forestry and fishing and wholesale and retail trade, each reported in 12 villages. This confirms that the local economy remains strongly agriculture-based, complemented by small-scale trading activities that support household consumption and local markets.

Repairing motor vehicles and motorcycles is also relatively common, reported in six villages, reflecting demand for basic transport and mobility services. A small number of villages report manufacturing or factory-related activities, indicating limited non-farm production at village level.

Other business types, including accommodation and food services, drinking water factories, electricity supply, entertainment, mining, and construction companies are reported only sporadically and in very few villages. This suggests that economic diversification remains narrow, with most villages relying on a small set of economic activities.

Figure 17 Business Activities Operating at Village Level

Type of Business	Hiem	Sopbao	Viengxay	Xamneua	Total
Accommodation and food service activities	-	-	1	-	1
Agriculture, forestry and fishing	4	3	3	2	12
Construction company	-	-	1	-	1
Drinking water factory	1	-	-	-	1
Electricity, gas and air conditioning supply	1	-	-	-	1

Entertainment and relaxation	-	-	1	-	1
Manufacturing / factory	2	-	-	-	2
Mining	1	-	-	-	1
Repair of motor vehicles and motorcycles	2	2	2	-	6
Wholesale and retail trade	4	3	3	2	12
Total	15	8	11	4	38

13.2 Infrastructure Constraints Affecting Business Development

Infrastructure constraints are widespread and systemic across the 12 surveyed villages in Houaphanh Province and represent a key limiting factor for local economic activity.

Three constraints dominate across the province: road conditions, storage infrastructure, and transport conditions, each reported in seven villages. These constraints affect multiple stages of local economic activity, including access to markets, movement of goods, storage of agricultural produce, and continuity of business operations.

In Hiem District, all three constraint types are reported across villages, indicating compound infrastructure limitations that affect both production and post-harvest activities. In Sopbao District, constraints are more concentrated on road access and transport conditions, pointing to physical connectivity as the primary bottleneck. In Viengxay District, storage infrastructure stands out as the main constraint, suggesting challenges related to product preservation and market timing rather than access alone. In Xamneua District, road and transport conditions are again predominant, reflecting persistent access constraints in more remote locations.

13.3 Community Responses to These Problems

Villages report a range of locally managed and largely short-term responses to infrastructure and business-related constraints. Responses vary by village and reflect differing levels of organization, resources, and technical capacity.

In several villages, responses focus on community mobilization, with villagers contributing labor and, in some cases, financial resources to address urgent problems such as damaged roads or access constraints. These actions typically involve basic repair works, such as restoring or filling damaged sections, to maintain minimum functionality.

In Kanhao village (Sopbao District), where storage infrastructure is identified as a key constraint, the community has taken a more structured response by establishing a producer group to collectively manage production and storage. While this organizational arrangement represents a positive step toward addressing storage challenges, villagers report that technical limitations in storage practices persist, indicating that organizational solutions alone have not fully resolved the problem.

In other villages, responses take the form of coping or adaptation measures rather than direct problem-solving, such as adjusting travel and transport arrangements according to road conditions. In some cases, villages report that constraints have not yet been effectively addressed, reflecting limited technical, financial, or institutional capacity to implement solutions.

14. Natural Resource Management and Land Use Governance

The baseline survey shows that natural resource and land use governance structures are formally established across all 12 surveyed villages in Houaphanh Province. All villages report the existence of both a community land use plan and an NTFP management plan, indicating full institutional coverage at village level across Hiem, Sopbao, Viengxay, and Xamneua districts.

Communities report being actively involved in the development of community land use plans, most commonly through village meetings, consultations, and collective discussions. This suggests that land use planning processes have generally followed a participatory approach, with community members engaged in agreeing on land allocation, forest use, and settlement areas.

In addition, all surveyed villages report the existence of an NTFP management plan, indicating that non-timber forest product management is formally recognized at village level across the province.

15. Climate Change Awareness, Hazards, and Disaster Impacts

15.1 Awareness of Climate Change

The baseline survey indicates a high level of awareness of climate change across all surveyed villages in Houaphanh Province. All 12 villages report that they have heard about climate change and believe that it is affecting their communities.

Villages describe a range of perceived impacts linked to climate change, including changes in rainfall patterns, drought, flooding, and effects on agricultural production. Respondents commonly associate climate change with increasing uncertainty in farming conditions, reduced crop performance, and damage to local infrastructure.

The consistent reporting of both awareness and perceived impacts across all districts Hiem, Sopbao, Viengxay, and Xamneua suggests that climate change is a widely recognized issue at community level in Houaphanh Province. Unlike contexts where climate change is understood only through lived experience, villages in Houaphanh demonstrate familiarity with the concept itself alongside direct observations of environmental change.

15.2 Types of Hazards Experienced

Villages across Houaphanh Province report exposure to a **range of natural hazards**, with multiple hazard types often affecting the same village. The most commonly reported hazards are **drought, flooding, landslides, and pest or disease outbreaks**, indicating recurrent climate- and environment-related risks across all districts.

Drought and flooding are reported in **nearly all surveyed villages**, highlighting increasing variability in rainfall patterns and water availability. These hazards directly affect agricultural production, particularly rice and upland crops, and disrupt daily activities.

Landslides are reported in several villages, particularly in **Hiem, Sopbao, and Xamneua districts**, reflecting the combined effects of heavy rainfall, steep terrain, and road conditions. **Pest and disease outbreaks** are also widely reported across villages and districts, suggesting growing pressure on crops and livelihoods.

More localized hazards are also observed. **Destructive storms** are reported in a limited number of villages, including Phoulouag and Khangkard, while **frost** is reported mainly in higher-altitude villages such as Thamlá Tay, Viengthong, and parts of Viengxay District.

Figure 18 Types of Hazards Experienced by Village (Past Years)

District	Village	Destructive Storm	Drought	Flood	Frost	Landslide	Pest / Disease Outbreak
Hiem	Navieng	-	✓	✓	-	✓	✓
Hiem	Phoulouag	✓	✓	✓	✓	✓	✓
Hiem	Thamla Tay	-	✓	✓	✓	✓	✓
Hiem	Viengthong	-	✓	✓	-	✓	✓
Sopbao	Kanghao	-	✓	✓	-	✓	✓
Sopbao	Khangkard	✓	✓	✓	-	✓	✓
Sopbao	Meuanghang	-	✓	✓	-	-	✓
Viengxay	Back	-	✓	✓	✓	-	✓
Viengxay	Kangmeang	-	✓	✓	✓	-	✓
Viengxay	Nasan	-	-	✓	-	-	✓
Xamneua	Pawan	-	✓	✓	-	-	✓
Xamneua	Poulon	✓	-	✓	-	✓	✓

15.3 Occurrence of Disasters and Affected Households (Past Three Years)

All surveyed villages in Houaphanh Province report experiencing recent natural disasters, with impacts affecting both households and village infrastructure. The number of affected households varies widely by village, largely reflecting differences in village size.

Several villages report that recent disaster impacts were more severe than in previous years, while others indicate impacts that were similar to or less severe than in the past, suggesting uneven exposure and coping capacity across locations.

Community responses to disasters are primarily reactive, focusing on immediate recovery actions such as repairing damaged infrastructure and restoring access. Village authorities and local government are consistently identified as the main sources of assistance, with limited involvement of other external actors. Overall, disaster impacts remain significant across the province, while response mechanisms at village level continue to focus on post-disaster recovery rather than preparedness.

15.4 Disaster Risk Reduction (DRR) Planning and Institutional Capacity

The baseline survey shows that none of the surveyed villages have a formal Disaster Risk Reduction (DRR) plan or a dedicated DRR committee. All villages report the absence of both planning documents and institutional structures related to disaster risk reduction.

Consistent with this, villages do not report carrying out specific preventive activities aimed at reducing disaster impacts. Disaster-related actions are therefore limited to post-event responses, rather than planned preparedness or risk reduction measures.

16. Perceived Changes Over Time and Well-being Trends

Across the surveyed villages in Houaphanh Province, respondents generally report that living conditions have improved compared to earlier generations. Key improvements relate to road access, housing quality, electricity, and basic services, which have reduced physical hardship and improved daily convenience.

At the same time, villagers consistently report negative environmental changes. These include rainfall no longer arriving on time, more frequent floods and droughts, and forest degradation, all of which are perceived to negatively affect agriculture and natural resources.

Overall, the findings point to a dual trend: material living conditions are improving, while environmental conditions are deteriorating, creating increasing pressure on livelihoods despite gains in infrastructure and services.

17. Perceived Major Problems

Across the surveyed villages in Houaphanh Province, health-related problems dominate community concerns. Human disease is reported in 11 villages, while animal health problems are reported in nine villages, reflecting persistent risks to both household well-being and livestock-based livelihoods.

Robbery is reported in nine villages, pointing to notable security issues in several locations. Problems classified under “other”, including plant disease and illegal drugs, are reported in two villages only.

Overall, the findings show that health related issues are the primary concern across villages, while security and other issues are secondary and geographically limited.

Figure 19 Perceived Major Problems by District and Village

District	Village	Human Disease	Human Health	Animal Health	Other disease / (Plant / Illegal drugs)	Robbery
Hiem	Navieng	✓	✓	✓	-	✓
Hiem	Phoulouag	-	✓	✓	-	✓
Hiem	Thamla Tay	✓	✓	-	-	✓
Hiem	Viengthong	✓	✓	✓	-	✓
Sopbao	Kanghao	✓	-	✓	-	✓
Sopbao	Khangkard	✓	-	✓	✓	-
Sopbao	Meuanghang	✓	-	-	✓	-
Viengxay	Back	✓	-	-	-	✓
Viengxay	Kangmeang	✓	-	✓	-	✓
Viengxay	Nasan	✓	-	✓	-	✓
Xamneua	Pawan	✓	-	✓	-	-
Xamneua	Poulon	✓	✓	✓	-	✓
Total (villages reporting)		11	5	9	2	9

18. Household Resilience and Well-being Scores

18.1 Overview of CRED Household Score Dimensions

The CRED household resilience and well-being scores are composite indicators derived from the household survey to capture key dimensions of livelihood resilience and vulnerability in a structured and comparable way. Each score aggregates responses from a defined set of related questions and is standardized on a common scale. The scores reflect households’ self-reported conditions and capacities at baseline.

The framework comprises nine dimensions aligned with the core objectives of the CRED programme:

- Income - perceived adequacy and stability of household income sources
- Access to services and information - access to basic services and relevant livelihood information
- Agrobiodiversity - diversity of crops and livestock activities as a proxy for production diversity
- Community self-reliance - perceived collective capacity and mutual support at community level
- Gender equity - selected aspects of participation and decision-making within households
- Disaster - exposure, perceived impacts, and preparedness related to climate and natural hazards
- Resources - access to productive resources such as land, inputs, and natural assets
- Productivity - perceived performance and efficiency of livelihood activities
- Market engagement - degree of interaction with markets, including selling practices and buyer access

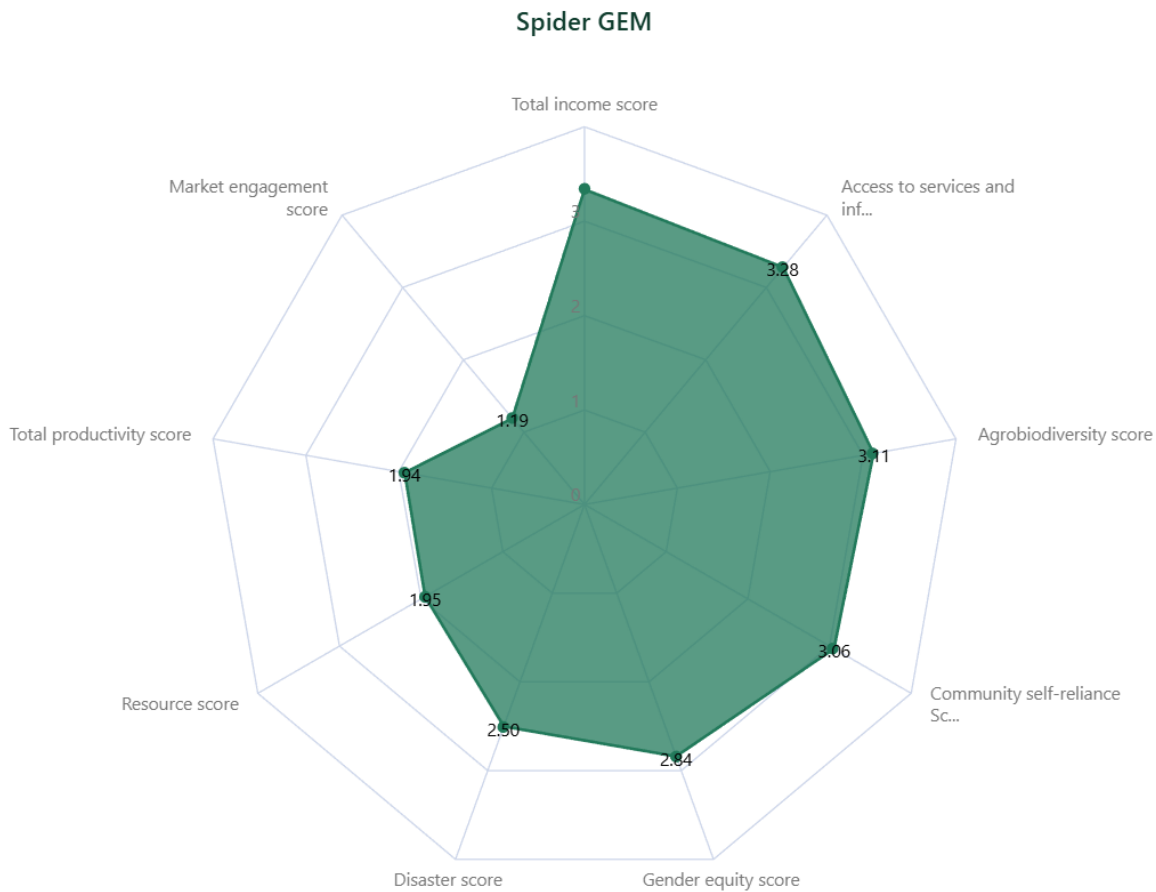
Together, these dimensions provide a multi-dimensional baseline profile of household resilience that complements village-level structural data. The scores are intended to be interpreted comparatively across dimensions, rather than as absolute performance measures. In this report, they serve as a reference point for programme prioritization and for monitoring change over time under the CRED programme.

18.2 Results: Average Scores by Dimension

The household survey results show clear variation across the nine resilience and well-being dimensions measured at baseline (Figure 19). Average scores range from relatively moderate values for income- and service-related dimensions to very low values for market-related and production efficiency dimensions. The highest average scores are recorded for income (3.34) and access to services and information (3.28). Agrobiodiversity (3.11) and community self-reliance (3.06) also score above the mid-point of the scale. Gender equity (2.84) and disaster (2.50) fall below the mid-point, while resources (1.95) and productivity (1.94) score notably low. The lowest score by a wide margin is market engagement (1.19).

This distribution shows a marked contrast between dimensions related to basic livelihood foundations and those linked to economic integration, production performance, and risk preparedness.

Figure 20 Average household resilience and well-being scores by dimension (CRED Household Survey, baseline).



18.3 Interpretation: Strengths, Gaps, and Implications for CRED

The household resilience and well-being profile indicates moderately stable livelihood foundations alongside pronounced structural constraints related to market engagement, productivity, access to productive resources, and disaster preparedness.

Moderate scores for income, access to services and information, agrobiodiversity, and community self-reliance suggest that households maintain multiple livelihood activities, have some access to information and services, and perceive a degree of collective capacity within communities. These dimensions provide entry points for CRED interventions that rely on behavior change, collective action, and uptake of improved practices.

In contrast, very low scores for market engagement, productivity, and access to resources point to systemic barriers that constrain livelihood improvement. Limited market interaction, weak bargaining power, and low production efficiency help explain why income outcomes remain moderate despite widespread engagement in agriculture. The disaster score further indicates that households remain exposed to climate- and hazard-related shocks with limited preparedness, reinforcing village-level findings on the absence of formal DRR planning and institutional capacity.

Gender equity emerges as a cross-cutting issue. While not the lowest-scoring dimension, the gender equity score indicates uneven outcomes and aligns with evidence of limited female leadership and decision-

making influence beyond specific women-focused structures. Without deliberate gender-responsive design, there is a risk that programme benefits may not be equitably distributed.

Taken together, the results suggest that CRED should prioritize transformative interventions that strengthen market engagement, improve productivity through climate-resilient and resource-efficient practices, enhance access to and management of productive resources, and build household and community capacity for disaster preparedness. At the same time, existing strengths in information access and community self-reliance provide a foundation for scaling inclusive, collective, and resilience-oriented approaches.

19. Key Baseline Implications for CRED

The baseline findings from Houaphanh Province highlight several implications for the design and implementation of the CRED programme.

Livelihoods across all surveyed villages remain **strongly agriculture-dependent**, with limited diversification into non-farm activities. The narrow local economic base, combined with widespread infrastructure constraints particularly roads, storage, and transport suggest continued vulnerability to climate shocks and market disruptions. CRED interventions will therefore need to strengthen resilience within existing livelihood systems while gradually supporting diversification where feasible.

Although **awareness of climate change is high across all villages**, natural hazards such as drought, flooding, landslides, frost, and pest or disease outbreaks are recurrent and unevenly distributed. Disaster impacts affect a substantial number of households, yet village responses remain largely **reactive**, focused on post-disaster recovery.

The absence of **village-level Disaster Risk Reduction (DRR) plans and committees** across all surveyed villages represents a critical institutional gap. This underscores the need for CRED support to prioritize **community-based preparedness, risk planning, and institutional strengthening**, moving beyond response-oriented approaches.

At the same time, villages report improvements in living conditions over time, driven mainly by better infrastructure and services. However, these gains coexist with **environmental degradation**, including irregular rainfall, floods, droughts, and forest loss, which increasingly threaten agricultural livelihoods.

Health-related problems particularly **human disease and animal health issues** emerge as the most widespread concerns, highlighting the importance of integrating **health, livestock, and resilience considerations** into CRED activities. Security issues such as robbery and localized problems related to plant disease and illegal drugs further point to the need for context-specific responses.