

Housing Ecosystem Assessment Cambodia

An analysis of internal and external forces that make housing inadequate in The Kingdom of Cambodia



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Proclamation

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ABBREVIATIONS

ACHR	Asian Coalition for Housing Rights				
ADB	Asian Development Bank				
AIMF	Association International des Maires Fracophones				
AP	Asia-Pacific				
BTB Battambang province					
CAIN Cambodian Angel Investors Network					
СВО	Community Based Organization				
CCC	Cambodian Cooperation Committee				
CCCSP Cambodia Climate Change Strategic Plan					
CIPA	Cambodia Indigenous Peoples Alliance				
CIPO	Cambodia Indigenous Peoples Organization				
CLT	Collective Land Title (collective land registration of indigenous communities)				
СМА	Cambodian Microfinance Association				
COCI	Committee on Culture and Information				
COHR	Community Organizing for Human Rights				
COMPED	Cambodian Education and Waste Management Organization				
СоР	Community of Practice				
CPP Cambodia People's Party					
CSF Commune/Sankat Funds					
CSNC Community Savings Network of Cambodia					
CSO	Civil Society Organization				
CSR	R Corporate Social Responsibility				
D&D Decentralization and Deconcentration					
DMK	District, Municipality, and Khan				
DPA Development and Partnership in Action					
ELCs	Economic Land Concessions				
ESG	Environmental, Social, and Governance				
EU	European Union				
FGDs	Focus Group Discussions				
FOI	Foundations, Organizations, and Institutions				
FTA	Free Trade Agreement				
GAC	Global Affairs Canada				
GDP	Gross Domestic Product				
GEDSI	Gender, Disability, and Social Inclusion				
GFN	Global Funding Network				
GGGI	Global Green Growth Institute				
GIS	Geographic Information System				
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit				
GNG	Greenhouse Gas				
HDI	Human Development Index				
HEA	HEA Housing Ecosystem Assessment				
НН	Household				

HRBA	Human Rights Based Approach				
HRTF	Housing Rights Task Force				
HURREDO	Human Resource and Rural Economic Development Organization				
ICSO	Indigenous Community Support Organization (local organization)				
IDA	International Development Association				
IP Indigenous People					
IPCCs	Indigenous Peoples' Community Councils				
IPCs Indigenous Peoples' Communities					
KAM Kampot province					
Klls	Key Informant Interviews				
KOICA	Korean International Cooperation Agency				
LASED	Land Allocation for Social and Economic Development				
LHRN	Land and Housing Rights Network				
LRT	Land Registration Teams				
MEL	Monitoring, Evaluation and Learning				
MFIs	Microfinance Institutes				
MLMUPC	Ministry of Land Management, Urban Planning and Construction				
MoEF	Ministry of Economy and Finance				
MRD	Ministry of Rural Development				
NCD	National Determined Contributions				
NCDD National Committee for Sub-National Democratic Development					
NGO Non-government organization					
NHP National Housing Policy					
NLLC	National League of Local Councils				
NP2-SNDD	National Program Phase 2 for Sub-National Democratic Development				
NTFP	Non-Timber Forest Products (local organization)				
ODA Official Development Assistance					
PASSA	Participatory Approach for Safe Shelter Awareness				
PDoLMUPC	Provincial Department of Land Management, Urban Planning and Construction				
PESTE	Political, Economic, Social, Technological, and Environmental				
PIN	People In Need				
PLWD	People Living With Disabilities				
PNP	Phnom Penh				
PPP	Private Public Partnership				
QA	Quality Assurance				
RD	Resource Development				
RGC	Royal Government of Cambodia				
RAT Ratanakiri province					
SDI	Shack/Slum Dwellers International				
SLCs	Social Land Concessions				
SLR Systematic Land Registration					
SNAs	Sub-National Administrations				
SRP	Siem Reap province				

STT	Sahmakum Teang Tnaut			
SUPF Solidarity for the Urban Poor Federation				
SWM Solid Waste Management				
SWOT Strengths, Weaknesses, Opportunities and Threats				
TBK Tboung Khmum province				
TCF	The Charitable Foundation			
ТоС	Theory of Change			
ToR	Terms of reference			
UCLG United Cities and Local Governments				
UN United Nations				
UNDP United Nations Development Program				
UNESCAP United Nations Economic and Social Commission for Asia and the Pacific				
UNFCC	United Nations Framework Convention on Climate Change			
UPR	Universal Periodic Review			
UPWD	Urban Poor Women Development			
USAID United States Agency for International Development				
VNR	Voluntary National Review			
WASH	Water, Sanitation, and Hygiene			
WEE	Women's Economic Empowerment			

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EXECUTIVE SUMMARY

Habitat Cambodia's two decades of partnership related work and innovative approach to housing solutions have supported vulnerable communities to thrive, live with dignity, security and resilience. Obviously, Habitat Cambodia has been recognized by the state and non-state stakeholders including local communities, as a unique/lead organization. In preparation for its strategic development and formulation of the FY 24-27 country strategy, the organization conducted a housing ecosystem study.

a. Background and rationale of the study

This Housing Ecosystem Assessment (HEA) aims to provide a situational and contextual analysis of the current housing state in Cambodia and propose Habitat Cambodia's strategic priorities for the next five years. It considers the socio-economic transformations, land dynamics, and urbanization that impact the housing inadequacy of the poor. It is conducted according to the principles of participation, co-creation, and close engagement with Habitat Cambodia and teams from the Mekong Hub and Asia-Pacific during the assignment process.

b. Study methodology

The overall design was intensively discussed and presented in the inception report. Firstly, a household survey is critical to assess the housing conditions and root causes from the views of the population living with housing inadequacy (296 respondents). Secondly, broader consultations with key ministries, government entities, relevant stakeholders, private developers, and local communities through key informant interviews and focus group discussions is equally important to understand their different perspectives on the most significant policy barriers and practices in supply and demands and to triangulate with the findings of HH survey and the literature review of secondary data. Thirdly, the preliminary findings were consulted with Habitat Cambodia and MH/AP teams for their views on the housing situation in Cambodia, and all these steps provided opportunities for Habitat Cambodia and partners to review, interact, and ensure the usefulness of the findings and recommendations to form Habitat Cambodia's new strategic development plan.

c. Highlight of the findings

HEA was endeavored to give insights with regard the housing conditions and a balanced view of Habitat Cambodia's interventions over the years. Where are we now? Where do we want to be in the future?

All evidence showed that the housing needs of the most vulnerable become an urgent problem to tackle due to persistent poverty, vulnerability, and other social problems including economic and financial consequences of the COVID-19 crisis. The stakeholders and community people interviewed expressed that despite the efforts that have been made by the national and local governments, private sector, development partners and civil society, housing inadequacy remains a major challenge for the poorest in urban, peri-urban, and rural areas for some reasons that (1) the government's national and local actors lack financial resources for improving access to affordable housing despite the fact that the government demonstrates strong political commitment¹ to affordable housing, (2) housing inadequacy is not the priority of major international development partners/ donors, (3) rights to adequate housing and land are not integrated in spatial planning process of the subnational levels (e.g.; City's master plan or commune land use planning) through land management policy, (4) vulnerability to climate and DRR and (5) the role or function to address housing inadequacy has not been transferred from the central government to local governments whilst some obligation functions for service delivery were transferred as part of fiscal decentralization process such as solid waste management.

d. Recommendations

- **Partnership:** This would be the preferred approach to engage with a broad range of stakeholders in the future; however, partnerships at a local level would be further strengthened to make long-term impacts in terms of addressing 1) policy barriers, 2) technical and 3) resource/financial barriers around housing development and sustainability. Operationalize its people-private-public partnerships (P4) approach as this is something new in the country. Linking horizontal linkages at the sub-national administrative areas to vertical linkages at the national level will be key for government actors to fully appreciate the work of Habitat Cambodia. This requires significant visibility related work.
- Land Tenure Security: Influencing work needs to be strengthened especially on established accomplishments with social land concessions linked to Circular 03, affordability and basic services and can expand to CLCs. There is a significant number of NGOs who are doing considerable work and research in and around ELCs. This can be done through evidence-based measures and white papers to make visible the expertise provided by Habitat. Through prepositioning with the government, it can also engage in the spatial and local development planning processes.
- **Capacity Building:** Community champions can be developed at the grassroots level to include women, the youth, and the most marginalized. Habitat can strengthen community organizations as well as its PASSA groups to build a network across the country of housing and youth advocates.
- Linking Livelihood: Integrate livelihood solutions at the household level and or communities linked to sustainable value chains.
- **Financial Inclusion:** Stratify its community beneficiaries by income level to be able to expand its work and link with responsible MFIs.
- Promote its work and deepen solutions on sustainable construction technologies.
- Continue to work in the **solid waste management** governance space, areas in and around climate change mitigation and adaptation as well as expand on business solutions for the bottom of the pyramid when it comes to basic services.
- Develop projects centered on its cross-cutting issues of gender, inclusion and environment.

1. INTRODUCTION AND RATIONALE



1.1. Introduction

This Housing Ecosystem Assessment (HEA) aims to provide an in-depth analysis of the pilot country assessment applying the Housing Ecosystem Framework conducted by Habitat Cambodia between March – June 2022. It contextualizes the new Theory of Change (ToC) of Habitat for Humanity International and, subsequently, gives information about the new 5-year country strategy of Habitat Cambodia. Through identifying and prioritizing six HEA categories out of ten, Habitat Cambodia conducted a macro assessment to come up with findings and implications falling under the economic, political, environmental, and social factors. This assessment is to expand the findings from the pilot study through primary data collection from a household survey, key stakeholder interviews, and focus group discussions and link the findings with the strategy for the upcoming five years for a more effective and collaborative program development that could bring positive transformation to society.

To undertake the in-depth assessment, the consultants listened to the voices of selected communities and households to ensure the visibility of their perspectives and perceptions about housing issues. Stakeholders involved in the housing ecosystem included governments, civil society, and market actors were heard to discover the systemic influences affecting housing inadequacies in Cambodia.

The assessment will be shared within the Habitat for Humanity network, which includes Habitat for Humanity International, including the Asia-Pacific Area Office, and the Mekong Hub, as well as its external stakeholders, such as partners and associates, to 1) help make decisions about who the programs should support, to know how Habitat Cambodia support those people and which parts of the housing ecosystem the program focus on trying to change, 2) more effectively collaborate with people to serve and other stakeholders to achieve lasting positive changes, 3) use resources more efficiently and effectively by informing programmatic strategy development and broader business planning process, and 4) design projects and programs, develop funding concept notes and proposals, and inform advocacy initiatives.

The HEA assessment team (consultants) and Habitat Cambodia agreed on a co-development, iterative process throughout the assessment process. Discussions and a validation workshop were provided to further refine the tools prior to finalization, and the consultancy team developed a synthesized report through triangulation and analysis of findings from the primary and secondary datasets obtained over the assessment.

1.2. Limitations

The scope of this assessment overs what is agreed on as detailed in Habitat Cambodia's terms of reference. It explores and identifies the relevance between housing inadequacies and other areas of human life, including income generation, basic services, disaster experiences, livelihood, and land security though it does not claim to be exhaustive or statistically representative. The researchers sought to represent better the views and insights of the poor households and stakeholders from different geographical areas (urban, peri-urban, and rural areas) contributing to the housing ecosystem. However, this report had limitations and some lessons were learned during the assessment process.

- Because most of the technical terms related to housing, such as housing ecosystem, housing mortgage, affordable housing, and public housing, are relatively new to the Cambodia context, many stakeholders found it challenging to understand and interact during the discussions and interviews, especially if not directly working in the housing sector. Therefore, the consultants and Habitat Cambodia co-created specific tools and tested phrases and words prior to translating them into Khmer in an easy-to-understand manner. The opening and closing remarks for each interview were addressed to ensure proper interpretation of the terms for the interviewees. This ensured that all groups of respondents were well introduced to the objectives and agenda items for the discussions and interviews.
- The households for the survey, mostly held land with the hard title, were selected based on an agreed criteria with Habitat Cambodia, which means a high-security level as the sampling process went through Habitat Cambodia and its partners. Thus, it was hard to include perspectives from people living in informal settlements in the survey findings. Instead, a desk review was conducted, paying particular attention to the informal settlements, and additional casual interviews were conducted during the field visit in Siem Reap province.

- Despite the full-day training and frequent consultations with the junior researchers who conducted a household survey in target areas, including the testing of data collection tools, the data collection team struggled to fully understand the questions and implications as the nature of the topic was complex and broad. Although the consultants aimed to engage the youth familiar with the work of Habitat Cambodia in the areas, it was hard to find youth familiar with the topic in the areas where Habitat Cambodia has not intervened yet.
- Despite the dynamics and a variety of private (market) actors involved in the housing sector, this assessment included a few stakeholders from the market side due to inadequate access to those actors who responded to the request for interviews. Habitat Cambodia supported the consultants to include their perspectives, both online and in-person, by having at least one actor from various categories, such as real estate developers, construction suppliers, material suppliers, and local technicians/carpenters/mason.
- Even though the pilot HEA conducted by Habitat Cambodia prioritized assessment category number three (3): geographic areas where inadequate housing is prevalent, the result of this report does not include answers as the primary data does not represent the entire nation exhaustively. Instead, the desk review included the national-level secondary data to grasp a broad perspective, while the data is not the latest one.
- The lack of publicly available secondary data related to housing issues, particularly for the poorest, restricted grasp of what is going on at the household and community levels. This limited critical examination of the housing environment of the poorest households made it difficult to analyze narratives in relation to accessing housing adequacy, including enabling environment and disablers of them. The consultants informed and involved Habitat Cambodia team for clarifications and conducted additional and follow-up interviews with independent experts to build a better understanding and to get insights.



2. METHODOLOGY

Photo by: Habitat for Humanity Cambodia/Sorng Bunna

2.1. Frameworks

The HEA analytical framework covers ten (10) data categories, each with a set of questions. Through the pilot assessment, Habitat Cambodia conducted the macro assessment adopting six categories out of ten. Based on the findings from the pilot assessment, the consultants and Habitat Cambodia has contextualized the framework and included one more category (Q. 3-2) from the HEA analytical framework for the assessment (Table 1). The consultants also followed the people-centered approach guided by the HEA framework in the development of questions and sub-questions to adapt to Cambodia's context. The people-centered approach aims to understand the progress people can make towards achieving adequate housing and the parts of the housing ecosystem that can be supported or enabled.

Table 1. HEA analytical framework and master questions

HEA ANALYTICAL FRAMEWORK AND MASTER QUESTIONS

Question 1. What are the *(economic, social, political, and environmental)* stressors and shocks affecting people's access to adequate housing? (Last 5 – 10 years)

Question 2. What are the critical hazards (including both sudden and slow-onset events) affecting Cambodia?

Question 3. What is the impact of climate change frequency and intensity on people's housing and vulnerability?

Question 3-2. What determines the vulnerability of this population (individuals, households, and communities) to stressors and shocks and their capacity to manage housing needs and opportunities?

Question 4. What are the drivers of systemic inequity that perpetuate inadequate housing (e.g., political factors, economic factors, social factors, environmental factors, & urbanization) in the Cambodian context and specific targeted geographic areas?

Question 5. What are the *people-centered* housing initiatives (in the Cambodia context and specific targeted geographic areas (past, present, planned, or emerging)?

Question 6. What are the intended and unintended effects of these initiatives on national housing needs?

Four primary methodologies were applied in this assessment to delve into the perspectives of respondents with regard the housing inadequacy in Cambodia:

- 1. The researchers applied PESTE analysis derived from the desk review which involved situational trends in Cambodia's political (including legislation), economic, social, technical, and environmental contexts,
- 2. The researchers applied a quantitative methodology through a household survey (HHS) targeting 296 households in five provinces and in the Phnom Penh capital to understand the conditions of housing inadequacies of the poor, understand perceptions, define stressors and shocks, and discover enablers and barriers in accessing adequate housing,
- **3.** The researchers conducted focus group discussions (FGDs) with the PASSA groups and community representatives in the five provinces and in the Capital to triangulate the findings from the household survey to further understand the root causes of housing inadequacies,
- **4.** The researchers applied key informant interviews (KIIs) involving the national government, local governments at the district and commune levels, donors, multilateral agencies, thought leaders, think tanks, market actors, Habitat Cambodia, and its partner NGOs.

The following sections provide a detailed description of methodologies applied to this assessment encompassing data collection, processing, and analysis of each methodology.

2.2. PESTE

The data collected from the desk review is grouped into five areas: political, including legislation and policies; economics, social, and environmental areas. Reports from government agencies and reports issued by the UN and international banks were included for data collection and analysis. Academic papers issued by other NGOs and international agencies and GIS data published by the government and international agencies were also included in the analysis. The first part of the analysis was informed by the pilot assessment ("the pilot) from Habitat Cambodia (Table 2), and the consultant team explored various kinds of secondary data to contextualize and deepen the understanding of situations related to housing. The findings informed guidance to the development of primary data collection tools for HHS, FGDs, and KIIs and enabled extensive situational analysis.

Table 2. Key findings from the pilot HEA conducted by Habitat Cambodia

POLITICAL FACTORS		SOCIAL FACTORS		
1.	The democratic space has shrunk – Cambodia is a one party- state. There is no drastic political change at the commune level and no change at the parliamentary level.	1. 2.	Cambodia has a young population (low fertility and low mortality). Rural-urban migration is likely to continue, especially among	
2.	Self-censorship is prevalent among the public and CSO sectors.		young people. Female migrants are amongst the most vulnerable populations in terms of access to adequate housing and health services.	
З.	Political factors pervade the environmental, economic, and social factors (e.g., political factors determine poor regulation of the construction industry, resulting in negative environmental effects that are felt the most by vulnerable rural and urban bouseholds)		A significant number of people in Cambodia do not have access to safe water and improved sanitation facilities.	
		4.	Linked to political and environmental factors, most indigenous people continue to face tenure security challenges.	
		5.	Women still earn 19% less than men, and they are overly represented in poorly paid occupations. Women own less than 12% of agricultural land.	
	ENVIRONMENTAL FACTORS		ECONOMIC FACTORS	
1.	Manmade disasters: construction linked to rapid urbanization (poorly regulated because of political patronage and corruption) has negative environmental effects, especially for poor families.	1.	Post-COVID-19 restrictions, the economy is bouncing back. However, vulnerable rural and urban households are not benefiting from this recovery.	
2.	Natural disasters: vulnerability to floods and drought. This is acute for poor families because of the house materials they use.	2.	17.8% of the population is living below the poverty line.	
З.	Political will determines how disaster readiness is prioritized and how environmental issues are interpreted as technical and not as	З.	Poverty is persistent and more prevalent in rural areas compared to urban areas – close to 90% of rural dwellers live in poverty.	
	social justice issues.	4.	Construction remains the second largest contributor to the national GDP. While beneficial for tourism and for employment creation, it results in the displacement of vulnerable urban and rural households – socially and economically.	

2.3. Household Survey (HHS)

According to the selection criteria guided by geographic characteristics and socio-spatial conditions, such as a specific province in which the marginalized (indigenous) group is residing, the consultants and advisory groups from Habitat Cambodia identified five provinces and the Capital as the target areas for the HHS to cover the representative conditions across Cambodia. The identified areas were the capital, Phnom Penh (PNP), Siem Reap (SRP), Battambang (BTB), Kampot (KAM), Ratanakiri (RAT), and Tboung Khmum (TBK). The areas covered a variety of geography in Cambodia, such as floodplains, mountainous and indigenous regions, and coastal areas. It also covered urban, peri-urban, and rural areas. In total, the survey covered 296 households. The GPS locations of the data collection are illustrated in Figure 1. The details of the respondents from each target area are illustrated in Table 4. The survey questionnaire included 230 questions that are categorized into 11 sections 1) consent form, 2) basic information, 3) housing inadequacy, 4) land tenure, 5) community participation, 6) affordability, 7) legal status, 8) barriers, 9) disasters, 10) market factors, and 11) physical conditions including pictures of each house. The questionnaire is provided in Annex 2.



Figure 1. Poverty rate by capital, provinces, municipalities, districts, khans, communes, and sangkat in 2015 (Ministry of Planning) and the locations with distribution of housing inadequacy in the survey conducted areas (Source: HEA consultant)

The identified provinces were selected due to their various conditions to include the nationwide characteristics of Cambodia. The consultant team purposively surveyed the poor households living in inadequate conditions as per the selection criteria (Table 3) to see the relevance with other aspects such as social and economic conditions, perceptions, and disasters. The sample included non-intervention provinces to ensure the diversity and inclusiveness of the sample. It further included households that were not beneficiaries of Habitat Cambodia in the same intervention provinces. As a result, it included 68.9 percent of respondents from the non-beneficiary group (Figure 2). In addition, the assessment excluded households with improved housing conditions with support from Habitat Cambodia to explore the conditions of inadequate housing. Therefore, the junior researchers or surveyors were instructed to ask the Habitat-beneficiary-respondents only about their previous inadequate housing conditions (before receiving housing support) as guided by the selection criteria endorsed by Habitat Cambodia.

Table 3. Selection criteria for household survey respondents

	THE RESPONDENTS OF THE HOUSEHOLD SURVEY MUST MEET ONE OF THESE CRITERIA:
1	The materials of the foundation and structure of the respondent's house are not durable such as thatched houses.
2	The size of the living space is less than 3.5m ² per person (according to the sphere standard).
3	Households without pit latrines (without access to clean water).
4	Households with latrines but without proper use/sanitation.
5	Households without proper kitchen facilities (without access to piped water and fuel).
6	Households temporarily occupy their living spaces but will soon be moved by external forces.
7	Households affected by natural disasters and experienced severe damage to their houses.
8	Households living in shared or rental housing.

Table 4. Administrative areas of household survey respondents

PROVINCE/CAPITAL	VILLAGE	COMMUNE/DISTRICT	CATEGORY	CASE
Ratanakiri (RAT)	La Eun Chong,		Rural	49
	L'Eun Kraen	- Ocnum commune, Ocnum district	Rural	
Battambang (BTB)	Watroka		Peri-urban	
	Roka		Peri-urban	
	Braleay Thngaur	To Don commune Conglice district	Rural	E1
	Beoung Tim	Ta Pon commune, Sangkae district.	Rural	51
	Lor Eth]	Urban	
	Crab Krasang		Urban	
Siem Reap (SRP)	Brolay	Sangkat Sigm Doop	Urban	
	Phnum Kraom	Saligkat Siem Reap	Urban	
	Trapeang Thmar	Khun Doom commune	Rural	40
	Poeungchhat	Rhuitheamcommune	Rural	49
	Sambour	Sambour communo	Peri-urban	
	Voat Bour	Sambour commune	Urban	
Phnom Penh (PNP)	Andoung (1, 2, 6)	Sangkat Kauk Daka	Urban	44
	Khmer Leu	Sangkal Kouk Roka	Urban	
	Samroung Meanchey	Sangkat Khmounh	Urban	
	Sen Sokh (5, 6)		Urban	
	Svay Checkthmey		Urban	
Kampot (KAM)	Chumkriel	Chumkristeemmune	Peri-urban	
	Tropang Tom	Chumknercommune	Peri-urban	
	Ang		Rural	50
	Bostrobak	Transpage Dring commune	Rural	52
	Tropang Pring N	I rapeang Pring commune.	Rural	
	Tropang Pring S		Rural	
Tboung Khmum (TBK)	Toul Dombang		Rural	
	Spean Chheu	Boeng Pruol commune, Tboung Khmum district.	Rural	E1
	Boeng Kambor		Rural	51
	Boeng Pruol Leu		Rural	



Demographics of respondents

This section provides the overall demographic information of the survey respondents. There were 294 respondents in total, with 49 cases surveyed in Ratanakiri, 51 in Battambang, 49 in Siem Reap, 52 in Kampot, 51 in Tboung Khmum, and 44 in Phnom Penh (Figure 4). When the cases were classified based on geographical category, 72 were from urban areas, 39 were from peri-urban areas, and 185 were from rural areas (Figure 5).

Among the respondents, 63.9 percent were female, and 29.4 percent were male. More than two people as respondents, such as married couples which comprised 6.8 percent of the responses answered 'Both' (Figure 3). Although the surveyors interviewed one or two persons only per household, the respondents are considered as representatives already of the household. The 6.8 percent means that two representatives, one male and another female, were interviewed at once.

The average number of people in the households sharing a house in all six areas was 4.79. The figure showed the statistical significance among the six areas. In Ratanakiri, the average number of people sharing a house is 6.33 members, which was the highest among the survey areas, while Kampot showed the smallest figure of 3.38 members out of the six areas (Figure 6). On the other hand, the average number of people sharing a house did not show statistical significance among urban, peri-urban, and rural areas, which meant the sizes of households that responded were similar as per the types of areas (Figure 7). Figure 6 and Figure 7 also included the number of women members to provide a brief view of the composition of the households.

The survey included 143 households (48.3 percent) having at least one member with vulnerable features of PLWD, elderly, widow, and orphan in the house. The categories of vulnerabilities are illustrated in Figure 8. Other 153 households do not have a member with vulnerable features.

Regarding ethnicity, all 49 respondent-households from Ratanakiri, answered that they belong to the Tompoun ethnic group, that believes in Verdic. In the other five survey areas, all households belong to Khmer, which is a major ethnicity in Cambodia. Regarding religion, eight households (2.7 percent) were Khmer Muslims, and four (1.4 percent) households had members who were Christian. The rest were Buddhists, which is also a major religious group in Cambodia.

Household heads do not significantly vary across the study areas. In most households, the father (husband) is considered the head of the household (65.9%), followed by the mother (wife) (24%). The breadwinner or head of the households also followed a similar pattern with the father (husband) being the breadwinner (63.1%) in most households followed by the mother (wife) (23.1%). While in general terms, the breadwinner is also likely the household head, in a number of cases, the oldest children serve as the breadwinners of the household (7.1%) but are not the designated household heads. The survey noted these distinctions.



Figure 4. The number of surveyed households in each province and the capital (Source: HHS)















Figure 8. Percentage of households with vulnerable members per types (Source: HHS)

The survey analysis applied two different methodologies: 1) a cross-tabulation analysis of the housing inadequacy's various aspects by provinces and types of locations (urban, peri-urban, and rural areas) and 2) machine learning modeling, including logistic regression, by dividing the population into two groups according to the perception of housing adequacy. The detailed analysis report of the second methodology is in Annex 1. The FGDs and KIIs validated the findings from the survey to provide a substantial picture of housing inadequacy.



2.4. Focus Group Discussions (FGDs)

FGDs with the villagers where the survey was conducted aimed to collect more profound and qualitative data for triangulating the quantitative data. At least one FGD was conducted in each province, and the list of communities is provided in Table 5. The FGDs targeted the PASSA groups that Habitat Cambodia formed in Siem Reap, Tboung Khmum, Battambang, and Phnom Penh. In total, 46 people participated in the FGDs, and among them 24 people were females. The consultants mobilized FGDs in the communities where there are no PASSA groups such as in Kampot and Ratanakiri through other NGOs with a consultation with Habitat Cambodia.

CAPITAL/PROVINCES	VILLAGE, COMMUEN/SANGKAT, DISTRICT/MUNICIPALITY NAME	PARTICIPANTS (Female)	
Dhnom Donh	Andong 1 & Andong 2 village, Sangkat: Kouk Roka, Khan Preaek Pnov	7 (6)	
Philom Pehn	Khmer Leu Thmei village, Sangkat: Kouk Roka, Khan Preaek Pnov	8 (3)	
Tboung Khmum	Cher Teal 2 village, Peam Jileang commune, Tboung Khmum district	7 (3)	
Battambang	3attambang Kdol Village, Sangkat Kdol, Krong Battambang		
Ratanakiri	Tharong Svay, Ou Chum commune, Ou Chum district	7 (3)	
Siem Reap	Santey village, Dan Run commune, Soutr Nilom district	8 (6)	
Kampot	Chum Kriel village, Chum Kriel commune, Tuek Chhou district	7 (3)	

Table 5. List of FGDs conducted for the assessment

2.5. Key Informant Interviews (KIIs)

In total, 63 respondents from 40 organizations from various levels of the housing ecosystem participated in this assessment through interviews. It aimed to capture the perspectives of government officials from the national level to the sub-national levels such as those from UN-Habitat, thought leaders, other NGOs, social entrepreneurs, and market actors in relation to the housing sector. The KIIs sought to understand the interventions and the perspectives of frontline actors regarding housing inadequacies. It further sought to discuss expected changes they foresee and inclusive and collaborative interventions in the housing sector in Cambodia. The profiles of the key informants are provided in Annex 3, and a summary of the responses of the key informants who participated in the interviews is in Table 6.

CATEGORY	NAME OF THE VILLAGES	ORGANIZATIONS	RESPONDENTS	
	National Level Ministry	2	5	
Government	Provincial Government	3	7	
	District / City Level Government	3	7	
	Commune Level	5	9	
Donors and multilaterals		3	6	
Thought Leaders and Think Tanks		2	2	
NGOs/CSOs	International NGOs	3	3	
	LocalNGOs	8	12	
	Associations	2	3	
	Real estate developers 1		2	
Market Astern	Construction Material Suppliers	2	2	
Markel Actors	Construction Suppliers	1	1	
	Local Carpenters	4	4	
Social Entrepreneurs		1	1	
TOTAL		40	63	

Table 6. Category of Key Informants

2.6. Data Collection Process

The data collection tools, including the survey questionnaires, key interview guides, and FGD guides, were developed through discussions with Habitat Cambodia. The survey data collection utilized the KOBO Toolbox for real-time data collection with other important data, such as pictures of the houses and GPS coordinates. Through the validation session with Habitat Cambodia and HFHI, all data collection tools were revised to improve critical variables' comprehensibility aspects and response options.

Once Habitat Cambodia endorsed the tools on 15 July 2022, the assessment team trained the surveyors on 23 July 2022. The surveyors, along with the country lead from the consultant team, conducted a pre-test of the questionnaires on 21-22 July 2022 in Phnom Penh. The FGD guides and KII guides were also tested through an FGD with a PASSA group in Phnom Penh by the country lead consultant. The schedules of data collection are indicated below:

- 1. The survey data (HHS): 30 July 2022 to 25 August 2022 in the five provinces and the capital.
- **2.** FGDs: 30 July 2022 to 25 August 2022.
- 3. Klls: 15 August to 9 September

At the end of the data collection, the surveyors provided feedback to validate the data collected. The consultants validated the findings from each tool to come up with a synthesized analysis. Data was further triangulated from other sources as is the usual standard process. For example, the data on the dynamics of land tenure has been collected from the household level through HHS and community level through FGDs. The collected datasets have validated the information through processing and analysis. The findings from the PESTE analysis also validated the findings from the primary data, so the analysis captured the synthesized conditions related to land tenure in Cambodia. The detail of the assessment process is illustrated in Figure 9.

The findings focused on the features influencing the housing of the vulnerable as well as external and internal stressors and shocks in various levels. The findings attempted to capture potential opportunities for collaboration, partnership, and cooperation with defined stakeholders to enable accessibility to housing for the vulnerable.



Figure 9. The HEA assessment process

3. FINDINGS AND ANALYSIS

Habitat for Humanity® Cambodia

Photo by: Habitat for Humanity Camb

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ia/Mien Teu



3.1. Political and Legal

3.1.1. The Status of the National Housing Policy and Affordable Housing Scheme Implementations

Through the analysis, the consultants focused on four key legislations¹ – 1) the National Housing Policy (NHP, 2014), 2) the Land Law (2001), 3) the Law in Construction (2019), and 4) Circular 03 (2010). The four were selected primarily because they are the key legislation pieces that Habitat Cambodia advocates for and presents fundamental elements for accessible and adequate housing – that land is secured for housing and low-income homeowners can afford a house. In general, the aforementioned key legislation forms the enabling legal environment towards adequate housing but based on interviews with stakeholders and the literature reviewed there are discrepancies between policy and implementation as well as co-related policies such as the Land Law and Circular 03.

National Housing Policy (2014)

The policy introduced the affordable housing scheme that provides incentives for developers such as tax breaks, favorable terms for previously public land, and reduced red tape², including the approval of construction permits and business licenses. To avail the incentives, projects must comply with the 100 low-cost housing units priced between US\$15,000 and US\$30,000 defined as affordable housing prices as per the NHP. The projects initially targeted civil servants and soldiers but later expanded to lower middle-income citizens, according to key interviews with government authorities. Additional criteria include development of green spaces and a distance within 20 kilometers of the city. Developers must cooperate with financial institutions to create low-interest credit schemes to increase attraction by the public of its affordability (Bunthoeun, 2020a). The technical department in MLMUPC was established specifically to respond to the sub-decree of the National Housing Policy. Through the sub-decree in 2017, MLMUPC promoted the private sector actors to contribute and participate in affordable housing schemes.

A policy document for affordable housing was circulated, allowing collaboration work with private companies such as Arakawa company to construct condominiums as part of affordable housing projects, according to the interview with MLMUPC. By 2021, the ministry supplied 8,331 affordable houses across the country through five affordable housing projects (Table 7) (Bunthoeun, 2020b).

NAME OF PROJECTS		NUMBER OF UNITS	LOCATION
1.	Arakawa Affordable Housing Project	1,800	Russian Federation Blvd, Phnom Penh
2.	Grand Park Affordable Housing Project	214	Toul Key Village, Por Senchey district, Phnom Penh
3.	Borey Sen Monorom Prek Taten Affordable Housing Project	1,500	Sleng Dey Dus Village, Ponhea Leu district, Kandal Province
4.	World Bridge's Serei Mongkul Satellite City	2,457	Takhmao city, Kandal Province
5.	Sokha Residence Affordable Housing Project	4,296	Poipet City, Banteay Meanchey Province

Table 7. The list of five affordable housing projects (Construction and Property, 2021)

²It generally refers to excessive bureaucracy or government regulations that create delays, barriers, or complications in carrying out certain activities. According to the World Bank's Doing Business Report 2020, Cambodia ranked 144th out of 190 countries in terms of ease of doing business, with challenges related to obtaining construction permits,

registering property, and enforcing contracts (World Bank 2020).

¹The consultants mapped out relevant legislation related to the housing in Annex 4.

Weaknesses of the Policy: Seven years after the enactment of the NHP was enacted, only five affordable housing projects that have engaged with the MLMUPC by 2021 were mentioned in the desk analysis. This indicated a low attraction by property developers for the affordable housing market. Loopholes in the policy such as unclarity on project implementation by property developers reinforced the low appetite (Sreyleap, 2021). The literature review and stakeholders interviewed gave no indication of options such as rent-to-own package. Stakeholders interviewed mentioned that due to increasing land value and market distortions, most property developers were not incentivized to construct affordable housing projects.

The influx of foreign developers, such as Singapore's Oxley Holdings and China's Prince Real Estate Group, drove a preference for luxury residences. In Phnom Penh, this came in the form of boreys or gated communities. Stakeholders previously mentioned the increasing land value – desk analysis noted the sharp increase from 10 to 100 percent per year, varying by location. Government incentives would not attract developers given the increasing value of land as they need to recoup their investments. Any increase in income patterns would not be able to compete with such a steady rise. Policy dissemination to private companies was also weak (Sreyleap, 2021). CBRE – a global commercial real estate agency and, by extension, its research department confirmed this through an interview, stating there was a need for an up-to-date, readily accessible NHP. Urban specialist practitioners at the Cambodia Institute for Urban Studies (CIUS) said that the incentives were in place – but the relevant ministries needed to provide either more favorable incentives given the market distortions or further "bite" or compliance to encourage property developers.

Limited progress on the NHP manifested itself at the sub-national level, mainly due to the fiscal weak capacities at the provincial levels – the designated decision maker at the sub-national level (SNA). The interviews with the Provincial Department of Land Management in Battambang and Siem Reap provinces informed that the authorities seek to collaborate with civil society and the private sector to implement the NHP due to budget limitations. The support for ID Poor 1 and 2 in terms of housing is also limited at the commune council level as they only mobilize external support to provide emergency support to disaster-affected households, such as providing construction materials. The ID poor does not have housing support.

Moreover, "affordable housing" as pegged by the NHP is out of reach for the poor. Most of the poor population cannot afford the US\$15,000 ~ 30,000 per unit. The monthly minimum wage for textile, garment, and footwear was pegged at US\$200 per month (Falak Medina, 2022), and the average income for the survey respondents who are classified as poor households is US\$7 per day equivalent to US\$140 if they work around 20 days per month. With this amount of income, the PIR (Price Income Ratio) index of the group is calculated as 8.92. This meant it will take an interested homeowner whose income is around US\$7/day almost nine years to buy a house if they save all their earnings. The poor do not have surplus money to invest in houses after covering living expenses. Even if 10-15 percent of that went to savings for purchasing a new unit, it would take more than a decade to pay off the amount. Consequently, housing units would need to be priced below US\$15,000 to meet the needs of the poor population.



3.1.2. Inequitable Land Distributions and Land Contestation

Land distribution was reviewed as highly inequitable in the country, causing conflicts between concessionaires, migrants, and communities. As of 2017, 1.8 million hectares were granted by the government to agro-industrial concessions and 0.8 million hectares to mining concessions by domestic and foreign investors. However, in 2011, "29 percent of rural households had no agricultural land, and 47 percent had less than one hectare to cultivate" (Ngin & Neef, 2021). The Land Law was promulgated in 2001 and became the keystone of land reforms in the country. The framework governing land rights was created through the 2001 Land Law. The Law provided the legal framework for economic land concessions (ELCs), social land concessions (SLCs), and communal land titling (CLT). The Law further resulted in a dual land tenure system with both "soft" and "hard" titles to eventually register all land under a nationally recognized "hard" title. The soft title means rights are registered or recognized by the district authority, but according to the Land Law, it does not confer a right to legal ownership, only recognition of the right to possess property. A hard or formal title was the indisputable proof of ownership.

Cambodia implemented land privatization through registration since 1989. So far, more than 4 million titles out of an estimated 7 million plots were recognized for registration as of the end of 2017. Interviewees recalled when the government distributed undocumented private ownership titles to households decades ago. The rules of land distribution were different for each authority, but most authorities decided the size of the lands according to the number of family members according to interviews. To ensure consistency, Sub-decrees No. 46 and No. 47 were adopted in 2002; systematic and sporadic land registration processes were enacted. Systematic land registration (SLR) involved surveying and demarcating identified and specific land areas by official land registration teams (LRT). Subsequently, land claims were adjudicated, and land title certificates issued. MLMUPC in 2019 stated that "out of roughly 5.2 million land parcels registered nationwide, 4.6 million were registered in a systematic manner and around 600,000 in a sporadic manner" (Open Development Cambodia, 2015c). While this progress was noteworthy, land registration had its challenges. This was derived from the weak "registration culture" resulting to insufficient data to be able to monitor land registration. This can be due to inadequate access of information and education to ensure communities are compliant to register. Even unregistered marriage records can lead to unclear land transactions as titles reflect the names of the marriage couple (Thiel, Fabian, 2010)⁴. Such residents may reside within adjudication areas and especially where land values were high or marked for development, transactions of registered land were not subsequently registered which raised issues about the accuracy of the land register (Open Development Cambodia, 2019). The possibility exists that while landholders wait for their land rights to be assessed or registered, that a corporation or community may be granted rights over that same land through a concession (Open Development Cambodia, 2015c). This placed into doubt the land registration process.

Social Land Concessions (SLCs) under Sub-Decree 19; and Economic Land Concessions (ELCs) under Sub-Decree 146; Sub-Decree 83 under the Collective Land Titling for Indigenous Communities

Social Land Concessions (SLCs) were intended to provide to the landless or generate income through agriculture. Sub-decree 19 sets out the mechanisms for SLCs. During the concession period, the rights of a concessionaire were similar to that of an owner but do not have the right to transfer to another person. SLCs can be initiated at the local or national level utilizing state-private property. SLC recipients must sign an agreement with the granting authorities and reside permanently on the land. After five continuous years of occupation, the recipient could request for the (hard) title to the land.

The balance in provision of land to the land-poor under Sub-Decree 19 vastly differs from that of the Economic Land Concession policy framework. As of 2010, 2,595 households were granted SLCs (Open Development Cambodia) whereas the amount of land granted to ELCs was upward to 1.2 million hectares. Sub Decree 146 is a 99-year term lease allowing concessionaires to clear land to develop industrial scale agricultural activities. ELCs are legally granted to state private land and cannot exceed 10,000 hectares. No one person can hold several ELCs of more than 10,000 hectares (Open Development Cambodia). Prior to conversion of ELCs, environmental and social impact assessment need to be conducted and public consultants held. Solutions to resettlement issues need to be in place prior to conversation but the law expressly states that "there can be no involuntary resettlement of lawful landholders and access to private land must be respected". There is considerable research on ELCs as there are reports of communities losing land to concession holders (Open Development Cambodia). At present, there is no legal framework to regulate evictions by private entities.

⁴Gender Equality And Land Law In Cambodia Fabian THIEL, Cambodia

Due to the lack of available land for SLCs, the government identified unused land available from canceled ELCs. However, Habitat Cambodia staff indicated that the duration for permanent residency in SLCs and continuous occupation in ELCs are distinct and separate as there is no clear articulation between SLCs and ELC schemes (Müller 2012).

Sub-Decree 83 provided the framework by which indigenous communities can acquire collective titles. The NGO Forum report noted that since 2007, only 33 indigenous communities have received Collective Land Titling (CLT), or 7 percent of the total 455 indigenous communities in the country. The process and system for securing CLT is lengthy and complicated. An individual indigenous community needed to gain recognition from its provincial authorities and Cambodia's Rural Development Ministry that they are residing in ancestral land. They need to also register legally with the Ministry of Interior as a first step. Only about a third of Cambodia's indigenous communities have accomplished this. The next process maps designated areas for homes, rotational farmland, ancestral burial grounds, spirit forests, and mountains. Generally, a local NGO that supports indigenous communities assist them in the map creation process. The MLMUPC confirmed the area and ensured that no overlaps with other land users and titles were issued. The same report indicated that out of 85 communities with pending applications, 33 have received land titles so far (Keeton-Olsen, 2021).

Challenges arising from SLCs, ELCs and CLTs under the Land Law (2001)

The process of allocating SLCs was linked to land-poor communities (Open Development Cambodia, 2015b) across the country. Allotments were provided in areas with inadequate access to basic services, remote and infertile areas with limited physical and social infrastructure (Ngin & Neef, 2021). Conflicts were also reported when SLCs were granted in areas where communities already reside. ELCs, on the other hand, were intended to enhance agricultural productivity and overall reduce poverty and were supposed to be granted in idle lands. Yet, ELCs were granted in biodiversity-rich areas or in conflict with forested CLT areas or land used by communities before or after the ELC was granted. Cambodia Indigenous Peoples' Alliance (CIPA) stated through a key interview that according to customary rules and practices, the community land size is more than 5,000 hectares, but the available offer from the government is limited to 1,000 to 1,500 hectares. The UN recommended to the Royal Government of Cambodia (RGC) to streamline the process to secure CLT. NGOs have further requested that the ministry in charge of the environment be included with the Ministries of Interior and Rural Development (MRD) and MLMUPC to improve the titling system and simplify the preliminary maps developed by communities (Keeton-Olsen, 2021).

This assessment included communities of the Tompoun ethnic group. The majority of its community members believe in the Verdic religion. Collective ownership of land was established in 2005 with support from NTFP (Non-Timber Forest Products) and ICSO (United Nations Civil Society Participation)/EU (European Union). The community established a community committee to manage land, natural resources, and community households with subcommittees to support village chiefs on development activities and natural resource management.

There were potential challenges in collective land titles from interviews with NTFP and DPA (Development and Partnership in Action). First, there was an emerging trend of individualism in the indigenous communities, preferring individual ownership to collective ownership. The objective was mostly to secure loans to build houses from MFIs by putting their individual land title as collateral. People perceived the population increase in the same community with a limited size of the land as a challenge. Concerns about increasing indebtedness and land loss linked to housing mortgages and homelessness were emerging within the indigenous communities themselves. Second, the Economic Land Concession involving the lands, territories, and resources of the indigenous communities caused challenges since the communities were often left to deal with companies. An interview with CIPO (Cambodia Indigenous Peoples Organization) confirmed that the indigenous communities were often excluded from the development benefits in terms of infrastructure development of the neighborhood (i.e., road construction) and employment opportunities. In such unequal power dynamics, the indigenous communities lacked the ability to protect their rights against more powerful actors, and the local authorities usually were not responsive to the needs or requests of the community actively. According to DPA, the political conditions impacted negatively against indigenous communities. The MLMUPC asked the indigenous peoples' community councils (IPCCs) to stop requesting CLT, and LASED has stopped supporting ICC areas, according to the interview with DPA.

3.1.3. Competition between Informal Settlements and Urban Development: Circular 03

Resolving housing issues in urban contexts, as per the NHP, means consolidating spatial planning, land use planning, and understanding the housing demands with mix use planning so the residential areas can supplement urban economics and development. The enabling environment, such as green mobility, public space, and schools for sustainable cities, are also important. However, in interviews with the city government in Siem Reap and Battambang, it was found that the master plans and land use plans need to be regularly updated to catch up to relevant needs and trends. This is due to authorities largely requiring more financial and technical capacities to enhance their planning process. An interview with Kork Roka Councilor confirmed the lack of NHP implementation in Phnom Penh. It was confirmed that the land use planning approved in 2015 did not include affordable housing plans and houses for the poor. There was no land reserved for the poor as well. The counselor mentioned that the developers did not care about affordable housing for the poor, and there needs to be guidance from the policy level to consult with the developers on affordable housing for the poor in Sangkat. He urged that the implementation of affordable housing schemes requires the capacity building of Sangkat authorities to learn best practices and build a platform for authorities to discuss adequate and affordable housing for the poor with the private sector. Authorities also mentioned disallowed practices of land selling of the informal settlers after receiving land plots from the government. There are criminalized perceptions from the interviews with authorities accusing the informal settlers of utilizing received lands to make money. The authority also emphasized that this practice should be managed by building a record tracking system and limiting land selling for a certain period.



Figure 10. Seven Steps of Circular 03 (Lindstrom, 2013)

The National Circular 03 (2010) on Informal Settlement Development and Upgrading was a legal framework established to avoid urban eviction (Thuon, 2021). The CSO supporting the respective informal communities, together with the communities themselves, and the local technical department under the provincial level work through the possible options, such as resettlements, basic services upgrading and land compensations, with the slum communities after a mapping exercise is conducted together with the communities. While progress is made on the first three steps relatively easily, it remained difficult to proceed past step three, due to increasing land market services creating competition for available land (Figure 10). Local authorities are hesitant to allocate land to low-income housing without higher-level approval. It indicated a disconnect in authority and governance for the process and an issue that is currently in the process of being addressed. The executive director from STT mentioned challenges in the implementation of Circular 03. He noted that the law is not effectively implemented yet, and they frequently face challenges from the government as they consider NGOs as troublemakers by claiming land rights of the informal settlers. Because the law required collaboration between CSOs and the local authorities, it was hard to provide support to the community without the support from the authorities.

3.1.4. Absence of Building Code for the Small-Scale Constructions: Law on Construction

Law on Construction (2019)

The Construction Law was adopted in 2019 although there are no building codes in place yet in Cambodia, and it is still being established with support from JICA (Japan International Cooperation Agency). According to the law, a regular house with a floor space of less than 500m² must get approval from the city government. Construction with floor space exceeding 500m² and less than 3,000m², including restaurants, guest houses, and commercial buildings, must get approval from provincial authorities. Construction with floor space bigger than 3,000m², including commercial buildings, must get approval from the MLMUPC. Some challenges to the implementation of the law were defined through interviews with the Provincial Department of Land Management, Urban Planning and Construction (PDoLMUPC) office in Siem Reap. First, the law requires private or consulting companies to design houses, although there are not enough companies that have certificates or are capable to design and evaluate buildings. There were cases in which people spent huge amounts of money to comply with technical standards. These private companies required many professional fees, and there were no regulations to control the fees. The provincial government requested the ministry to categorize types of construction more specifically so that technical evaluation from external actors was not needed for smaller constructions anymore. Second, there were vulnerable housing structures that were affected by frequent flash floods both in rural and urban areas. However, there was no requirement for construction approval and monitoring standards for these substandardized structures. In order to ensure strong and resilient constructions, the law should be more specific in monitoring specifications, use of materials, and disaster resiliency.

3.1.5. Household Perception toward Land Title and Its Dynamics

The household survey confirmed that the households who do not have a land title or occupy public land perceived their land security as more vulnerable than others. The household survey regarding land also showed the emerging nature of the land market. The data indicated that 72.6 percent of respondents considered their land title (soft or hard) as an asset (Figure 11). Through FGDs conducted in Phnom Penh and Siem Reap, households living on public land informally had been given pieces of land by the government decades ago, but they sold their land for personal emergencies or to pay off loans as they lacked other financing sources other than the land given to them. Coincidentally the capacity to secure loans requires collateral such as a land title. Also, the issues with informal settlement were related to the repatriation of refugees, in-country migration to cities, and the development of the land market (selling of lands). People who even received their titles through redistribution or the Social Land Concession (SLCs) sold their titles for financial needs, as evident in the case of urban slum families in Siem Reap. The family who occupied public land (road) in one of the slum villages in Siem Reap testified that they received compensation from the government instead of lands when they had to repatriate from the Thai border after the civil war that resulted in them being dependent on relatives and living off public land with poor housing conditions. This case showed that the poor were not aware of the importance of title as well as the lack of social protection that led them to the poverty trap.

The emerging capitalization of the housing market was an inherent threat to the poor and marginalized, excluded from the share of development benefits. Therefore, appropriate knowledge and awareness to deal with land security with other actors involved in the housing sector were keys to ensuring inclusive urban development. Furthermore, proper social protection should be in place, so the poor can have other options than selling land titles.

The indigenous community in Ratanakiri showed an identical perception of land titles compared to other study areas. First, the solidarity and unity of the community were more substantial than in other communities by having organized self-help groups (collective community farms) and community committees. The survey data explained that they relied more on their neighbors for financial and technical support in the construction of houses. Second, the respondents in Ratanakiri perceived the title as a legal protection of their houses and livelihoods, while the respondents in other provinces predominantly perceived it as an asset (Figure 11 and Figure 12) against any financial or economic disruptions. In the interviews conducted with NTFP it was mentioned that the collective land title for the community was "financial bondage," which confirms the identical perception of the land title of Ratanakiri.



Figure 11. Perception toward the land title in each province and the capital (Source: HHS)



Figure 12. Perception toward land title by urban, peri-urban, and rural (Source: HHS)

*Figure 11 is drawn to a maximum scale of 100%, whereas Figure 12 is drawn to a maximum scale of 90% to provide a clearer representation of the extent of perception.

3.1.6. Evolving Decentralization and Deconcentration Reforms

For many years, administrative and political power in Cambodia was largely in the hands of the central government. Under decentralization and deconcentration (D&D) reforms, responsibilities for providing public service delivery were shifted to Sub-National Administrations (SNAs), including the commune/sangkat, district, municipal or khan and capital and provincial levels of government forming the essence of local self-governance. Yet the persistent challenge remained of inexperienced locally elected councils. The desk analysis indicated limited powers and autonomy, combined with insufficient coordination between regional administrations, made it difficult for the councils and administrations to perform their functions and provide efficient public services. The World Bank noted that further deconcentrating relevant service delivery ministries and their respective budgets to SNAs were important. For now, the most deconcentrated social services delivery was education, solid waste management and health. Housing was not included - and it made sense as social land concessions can be approved at the provincial and national level, but housing delivery as public goods were limited to government engagement with the private sector and NGOs such as Habitat Cambodia. Yet the opportunities to influence at the SNA level on areas in and around adequate housing were not maximized given that as of 2017, the SNA's budget had increased but only accounted for around 10 percent of total SNA budgets despite becoming the primary subnational level for service delivery (The World Bank, 2022). Other challenges that impeded D&D reforms were (a) cultural factors embedded in society such as patron-client relationships⁵, power distance⁶, lack of trust between citizens and leaders, and (b) since the ban imposed on the largest opposition party and the tightening of regulations for NGOs, citizens did not feel they were sufficiently well-informed⁷. The commune Sangkat funds (CSF) was one community-based mechanism and an opportunity for Habitat Cambodia to engage with local governance. It implemented more than 40,000 local infrastructure projects across 14,073 villages and was fully financed by the RGC.

3.2. Economic

3.2.1. The Significant Relevance Between Livelihoods and Housing Adequacy

The national poverty line is now US\$2.70 per day. However, poverty rates varied considerably per location. The poverty rate in Phnom Penh, for example, is one-third (10 percent) of the rate in Battambang (31.70%). From 2009 to 2020, poverty rates declined by 1.6 percent a year (Table8). The COVID-19 pandemic led to an increase in unemployment, poverty, and inequality. The scale of social assistance to the poor and vulnerable households launched in 2020 moderated income losses (World Bank, 2022). The poverty incidence rate contrasted with the economic accomplishments achieved by the country. Over two decades before COVID-19 struck in 2020, Cambodia thrived economically, having reached a lower middle-income country status in 2015, and aspires to attain upper middle-income status by 2030. Its economic drivers of garment exports and tourism allowed the country to grow at an average annual rate of 7.7 percent between 1998 and 2019, making it one of the fastest-growing economies in the world (World Bank, 2022).

⁵ Patron-client relationship is a mutual arrangement between a person that has authority, social status, wealth, or some personal resource and another who benefits from their support or influence.

⁶ Power Distance refers to the relationship between authority and subordinate individuals that depends on how the latter reacts to the former. ⁷ Collectivism is where citizens are seen are subordinate to the state.

PROVINCE	AREA(KM²)	HOUSEHOLDS	POVERTY RATE	PROVINCE	AREA(KM²)	HOUSEHOLDS	POVERTY RATE
Phnom Penh	679	333,090	10.00%	Oddar Meanchey	6,158	66,696	17.47%
Kandal	3,179	283,690	13.28%	Siem Reap	10,299	247,844	20.79%
Takeo	3,563	230,018	18.47%	Preah Vihear	13,788	64,957	23.25%
Kampot	4,873	161,457	16.26%	Stung Treng	11,092	40,882	24.29%
Preah Sihanouk	1,938	50,522	13.55%	Ratanakiri	10,782	53,607	29.38%
Кер	336	9,898	18.42%	Mondulkiri	14,288	23,539	21.07%
Koh Kong	10,090	29,738	30.99%	Kratie	11,094	100,484	28.08%
Kampong Speu	7,017	195,401	31.40%	Kampong Thom	13,814	180,837	24.31%
Pursat	12,692	120,683	23.64%	Kampong Chhnang	5,521	138,878	20.00%
Battambang	11,702	293,614	31.70%	Kampong Cham	4,549	281,213	17.23%
Pailin	803	18,504	31.34%	Prey Veng	4,883	295,594	18.08%
Banteay Meanchey	6,679	230,175	14.59%	Svay Rieng	2,966	157,877	16.69%
Tboung Khmum	5,250	211,771	19.41%				

Table 8. Poverty rate in each province (source: Cambodia National Poverty Identification System)

Livelihood and housing inadequacy

The survey data also showed that the average income of households was US\$7 per day, and the amount of daily income tend to increase by around 63 percent from the households perceiving their house as very inadequate (US\$6.6) to those perceived it as adequate (US\$10.75). Specifically, urban respondents have the highest income with US\$9, and rural respondents have the lowest income with US\$6. Considering that the average number of family members who participated in the survey was 4.8 members, it indicated that the households that participated in this survey as poor households living with around US\$1.4 per day per person. The weekly expenses also differed between the groups. The average expenses amount was US\$112 per week, and most respondents answered that they spend their income on food. The group that responded that their house was "very inadequate" and spent US\$180 per week (Figure 13 and Figure 14). The regression analysis showed that the households spending more on agriculture considered their houses more inadequate.





Figure 13. Housing conditions and weekly expenses with the number of family members (Source: HHS)

According to regression analysis, the availability of secondary income sources is also essential in the positive perception of housing adequacy. The primary income does not show significant relevance to the level of housing inadequacy, only the households that earn their primary income from small businesses have a positive association with the perception of housing adequacy. However, more household members earning income translated to a positive perception of housing conditions significantly. Therefore, the lack of secondary income affected the entire household income and the resiliency of housing finance management. Considering that the number of family members was bigger if the household perceived their house as "adequate," income-earning household members were vital to household economics (Annex 1).

The livelihood opportunities in rural areas, where most people work as farmers or fishermen, are challenging. From FGDs in one of the rural communities, people responded that the lack of access to markets to sell their agricultural products and the lack of proper infrastructure, such as paved roads to transport their product, hindered them from securing income generation. The other identical challenge is related to land security. Families without agricultural land had to rent land for agri-related work. When the families experienced a scanty harvest season, they consequently ended up in debt without income after the season. Considering that the rural economy was mainly dependent on agricultural productivity and there were no other adequate sources of income, it was crucial to provide combined support to families with housing support. The interview with the MRD stressed that the income generation of households would help them improve their housing situation.

"Housing is one significant indicator of the census – the poor have limited access to proper housing. The best way to improve housing is to improve the socio-economy and opportunity for adequate housing. Housing is not a standalone issue in our culture. If we have stability, we will build a house. First, we have to improve the income of those households. More holistic programs together – to find out the potential areas of collaboration, and housing is part of the comprehensive program to be implemented in the rural area." (Interview with Ministry of Rural Development)

Figure 14. Housing conditions and daily income with the number of family members (Source: HHS)


KAM

Figure 15. Barriers to accessing adequate housing in each province and the capital (Source: HHS)



Figure 16. Barriers to accessing adequate housing in urban, peri-urban, and rural areas (Source: HHS)



Figure 17. External barriers to accessing adequate housing in each province and the capital (Source: HHS)



Figure 18. External barriers to accessing adequate housing in urban, peri-urban, and rural areas (Source: HHS)

The survey results demonstrate that financial constraints are the primary barriers to accessing adequate housing conditions in all provinces, including urban and rural areas (refer to Figure 15 and Figure 16). Additionally, a considerable number of households reported a lack of knowledge and limited access to building materials as significant barriers. Concerning external barriers, the price of housing was identified as the primary barrier. In urban areas, like Phnom Penh, the limited availability of housing stock was also a significant external obstacle (refer to Figure 17 and Figure 18). As financial constraints were identified as both internal and external barriers by most respondents, poverty reduction programs addressing external issues, such as creating livelihood opportunities, may be considered relevant variables for obtaining adequate housing.

3.2.2. Limited Housing Finance and Microfinance with Perilous Coping Tactics

Microfinance targets individuals and small businesses that lack access to conventional banking and financial services, especially those living in poverty. Between 2010 and 2018, there was unprecedented growth in the microfinance sector, with 70 registered microfinance institutions (MFIs). Two-thirds had a commercial mandate, whereas the rest had an NGO semblance – all reached out to 1.8 million borrowers compared to 0.78 million in the conventional banking sector. Seventy percent of borrowers are women. The average microfinance loan was US\$2,372 in 2018, up from US\$1,483 in 2016. The increased growth indicated growing accessibility and demand for MFI services. However, interest rates continued to be high (18 percent per year from 25.7 percent in 2016). It was not surprising that non-performing loans were 5 percent in the MFI sector compared to 3.1 percent in the banking sector. Studies indicated 22 percent of over-indebtedness through multiple and short-term loan contracts, with over half of the clients possessing 2 to 4 credit lines.

An inclusive business assessment indicated that most MFIs provided traditional products with limited innovation to reduce risk exposure (United Nations, 2020). This confirmed the rest of the desk review findings, which found scant quantitative data linking the use of microloans for housing. In general, housing loans comprised 3-10 percent of the total loan portfolio of the larger banks, and non-performing loans (Traub, 2020) were generally quite low for this product (Anthony, 2010) but there was no information if it was utilized by those at the bottom of the pyramid clients. The Global Green Growth Institute (GGGI) came to the same conclusion and noted the lack of affordable housing products and services in the market. GGGI still recommended microfinance as a vehicle for affordable housing finance, albeit with protection and inclusive measures in place. Another reason for the weak appetite for micro-housing loans could be since 78 percent of Cambodians did not have a savings account in 2017, which was a prerequisite to acquiring a housing loan. It noted that unmarried household heads, those without complete primary education, and households belonging to an ethnic minority were significantly more likely to borrow from informal sources, highlighting further financial inclusion challenges.

The household debt rate in Cambodia was 34.4 percent in 2021 (CEIC, 2022), which has increased around ten times since 2011. Of the survey respondents for this assessment, 41.2 percent answered that they had taken loans. Housing-related loans such as construction, renovation, and land purchase show significance among reasons for taking loans. Large amounts of loans were generally taken for housing and other purposes, such as living expenses. After the COVID-19 outbreak, 67.2 percent of the loans were secured, and 70.5 percent of the respondents answered that it was hard to keep up with the repayments. In the Cambodian context, the risk of unpaid loans correlated to the land-selling practice of the poor. Several FGD participants confirmed the practices as the poor had no other sources of income and coping strategies when they faced challenges. The lack of social protection and proper microfinance regulations to protect the poor led them into a deeper poverty trap which made them occupy government lands informally.



Figure 19. The average amount of loans per household (urban, peri-urban, and rural areas) (Source: HHS)

The survey results demonstrated that the average amount of loans in all provinces was US\$2,354. The loan amount is significantly high in urban areas (US\$5,252) and relatively small in rural areas (US\$1,593) (Figure 19). More households that took loans for housing-related issues are those from urban areas (Figure 20). Given that housing prices are significantly higher in urban areas compared to rural areas, it is evident that people living in urban areas heavily depend on financial resources as the primary modality for acquiring housing (Figure 21). In contrast, most of the respondents in rural areas took loans for their living expenses and take smaller loans more frequently. The majority of borrowers (67.2 percent) rely on microfinance, whereas banks are only accessible in the capital, and some households depend on loans from family or friends. (Figure 22 and Figure 23). The data demonstrates the necessity of financial assistance for housing, particularly in urban areas. One of the challenges is the lack of diversity in loan options, as the majority of respondents reported relying on microfinance institutions (MFIs) for their loans. Regression analysis revealed that households that perceived their housing conditions as more inadequate tended to obtain loans from MFIs (Annex 1). This suggests that poorer households are more likely to resort to MFIs as their primary source of loans compared to other options. Some respondents though, in Ratanakiri, answered that they took loans from saving groups, while the majority answered that they took loans from MFIs in all six provinces. The findings indicated that certain community-based financing alternatives remained accessible in indigenous communities (Figure 22 and Figure 23).

The MFIs helped to improve the living standards of people. Yet there were increasing concerns such as high debt burden, possibly resulting from high borrowing costs or high loan interest rates in the microfinance sector (Samreth et al., 2021). The FGD conducted with a rural community in BTB reinforced the possible challenges with debt. Households took on loans of US\$30,000 to build a new house by putting up their lands as collateral, and the interest rate was 1.5 percent per month. The participants in the FGD mentioned that the rate is low as the families put their land title as collateral. Without the title and with a smaller loan, the interest rate increases higher than 1.5 percent per month. The same concern was largely found in other interviews with NGOs such as Cambodia Indigenous Peoples Organization (CIPO), Development and Partnership in Action (DPA), and Human Resource and Rural Economic Development Organization (HURREDO) that the debt rate with high-interest rates became a significant challenge for poor households. Although the government made a regulation for maximum interest rate, the poor is paying around 18 percent per year for interest. They also emphasized the role of the community by organizing them through saving groups. However, the interviewees from NGOs stated the large failure of saving groups in many communities due to the lack of trust and management capacities.



Figure 20. Reasons for taking loans by urban, peri-urban, and rural areas (Source: HHS)



Figure 21. The average amount invested per household to its own houses (urban, peri-urban, and rural areas) (Source: HHS)



Figure 22. Source of loans in each province and the capital (Source: HHS)



Figure 23. Source of loans by urban, peri-urban, and rural areas (Source: HHS)

The KW (a global real estate developer) respondents in Battambang said that the developer mobilized MFIs to finance their project. The housing project on the outskirts of Battambang planned to provide houses at a selling price of US\$22,000 per unit. They mobilized their MFI partners to offer loans to their customers and finance their construction by paying through installments the total amount of the houses during the construction phase. It negotiated bulk contracts with material suppliers and was able to mark down the housing price at the level of "affordable house." Considering their target customers were workers and civil servants with a salary between US\$400-500 per month, they even provided shop house option typologies in their housing catalog so people would have an opportunity to generate income. They also had a project near the Thai border for workers who cross the border frequently at an affordable price of US\$9,500, which is lower compared to the government National Housing Policy price estimates. This reflected an expanding housing market targeting middle and lower-income households.

Most people invest their earnings of several years in owning a house. A reliable housing financing system would be vital to the housing ecosystem. From the survey, people perceived US\$2,446 as the average amount they invested to own their houses. There was a marked difference between rural areas (US\$1,867) and urban areas (US\$3,839) house investments (Figure 21). People perceived the current housing market as inaccessible since they noted housing prices had increased 2.5 (rural) to 4.6 (urban) times with very little corresponding increase in their earned income and limited financial opportunities (Figure 24). However, reliance on private microfinance in financing houses could cause many social challenges as currently, there was no interest rate cap on financial inclusion (Heng et al., 2021) nor financial consumer protection in place. Banks and MFIs were strongly encouraged by the government and the Cambodian Microfinance Association (CMA) this year (Sothear, 2022). However, compliance was weak as the Financial Consumer Protection Act still needs to be strengthened.



Figure 24. Perceptions on the housing price increasing rate (urban, peri-urban, and rural) (Source: HHS)

3.2.3. Housing Market Actors Working with Poor Households

The survey identified the stakeholders affecting the prices of land in their neighborhood. The respondents noted the significant influence of government and real estate developers on the local housing market, while urban respondents perceived that the government was the most critical factor influencing housing prices. On the other hand, respondents from peri-urban areas perceived that real estate developers have the most significant impact on housing prices. Most respondents in Ratanakiri mentioned that the increase in population is the most significant reason for the surging price of land. It showed the potential challenges with collective lands as the community shares the limited size of land collectively (refer to Figure 25 and Figure 26).

It was also confirmed from the survey that there were relatively enough options to choose budget-friendly carpenters, engineers, and local material suppliers. People perceived they were accessible from their proximate neighbors in the villages and provinces. In urban areas, a significantly higher number of households answered that reliable and affordable carpenters, engineers, and suppliers are not easily accessible to them. In particular, in the BTB and SRP regions, the majority of households who answered a lack of accessibility were from urban or peri-urban areas. This surmises that the housing typologies in urban areas require more advanced skills and expertise. Additionally, people with vulnerabilities, such as the elderly and PLWD, answered that they had challenges finding accessible and cost-friendly technicians for house construction. It showed that the stratified provisions were needed as per the vulnerability level. For example, direct support for the most vulnerable was still necessary for them to secure adequate housing conditions (refer to Figure 27 and Figure 28).

In the survey, there was another question aimed at assessing the perceived reliability of engineers and suppliers in terms of their quality. Although the respondents perceived that suppliers were accessible to them when they need construction materials across the survey areas (Figure 29), they perceived that the materials had lower reliability and their prices were not affordable for them (Figure 30 and Figure 31). Thus, the survey surmises that the respondents who are from poor households have seen them in the market or working for their neighbors but have difficulty using their services for their own housing construction due to concerns about reliability and affordability.

The perceptions of accessibility to carpenters, engineers, and suppliers were different from the market actors' perceptions. According to an interview conducted with a supplier, there were not many architects and engineers who comply with the requirements set by the government. Interviews with authorities confirmed that there were not many qualified architects in Cambodia. Therefore, it showed gaps between the knowledge of the households and the required skills to build robust houses. It surmises the need to provide skill training for local carpenters and engineers to provide better and more affordable technical services for poor households. The supplier interviewed said collaboration to enable an inclusive housing value chain for the poor has many challenges. The first challenge was the considerable increase in construction materials that ultimately affect the price of house construction. With proper measures by competent ministries to reduce the cost of materials, such as gasoline subsidies, the suppliers could lower prices. Second, there must be competent architects and engineers to ensure the quality of construction and materials complying with the standards. The increasing migration trends among the youth might also impact the lack of human resources in the construction sector in the future. The desk review indicated a significant interest in green growth and the sustainable construction industry. The growth of such a sector will be hampered by the need for upskilling by the current crop of construction workers and the human resources gap to fill in such a demand in the next five to ten years. Further, the construction suppliers mentioned that finding architects in the market was challenging. Thus, affordable and competent suppliers and engineers (carpenters) are still crucial factors considering the significant influence on their housing quality, as proven by the survey result. Partnering with the private sector for housing support, as suggested by the supplier interviewee, to bring about an inclusive housing value chain also included co-financing, policy support, and technical resources, as well as the coming together of actors in the housing market. Favorable policies such as reducing local taxes for imported supplies on enterprises focused on the poor were also another recommendation.

The survey also showed that 68 percent of the respondents answered that they lacked negotiation power in the housing market. The figure is much higher in urban areas (92.5%), in which more market actors are competing in the market. On the other hand, the majority of the respondents in rural areas answered that they ended up living in unwanted places (61.5%) (Figure 32). This surmises that poor households get frequently pushed out of the proper negotiation with other market actors such as community leaders, authorities, and suppliers. Considering the increasing dynamics in the housing market in Cambodia, capacity-building support for the poor would play a key role. Therefore, multilateral approaches to improve the competencies of local actors and negotiation ability based on the basic knowledge of the construction and market of the households should be taken into consideration. The most vulnerable may need more support to apply the approaches, so stratified programs targeting different target groups should also be customized to engage market actors in the housing program.





Figure 25. Major actors affecting housing prices in each province and the capital (Source: HHS)



Figure 26. Major actors affecting housing prices (urban, peri-urban, and rural areas) (Source: HHS)



Figure 27. Availability of reliable and affordable engineers, carpenters, and masons for construction in each province and the capital (Source: HHS)



Figure 28. Availability of reliable and affordable engineers, carpenters, and masons for construction (urban, peri-urban, and rural areas) (Source: HHS)



Figure 29. Perception toward availability (accessibility) of material suppliers in each province and the capital (Source: HHS)



Figure 30. Perception toward affordability of material suppliers in each province and the capital (Source: HHS)



Figure 31. Perception toward the reliability of material suppliers in each province and the capital (Source: HHS)



Figure 32. Impact of the barriers (urban, peri-urban, and rural areas) (Source: HHS)

Role of social entrepreneurs

There was very little data related to the role of social entrepreneurs and links to affordable housing. But social entrepreneurs could drive innovation and build responsible business models. Cambodia had a strong history of social enterprise formation. Impact Hub Phnom Penh was a social enterprise dedicated to supporting impact-driven entrepreneurs in the country through training and mentorship. The platform noted that "the social innovation ecosystem was well-connected, there was a lack of coordination and joining of efforts resulting in fragmentation and concerning inefficiencies" (Hazenberg & Perriman, 2020). Impact Hub Phnom Penh helped to nurture Dream Homes – where Kongngy Hav created cheap, easy-to-use construct environmentally-friendly bricks that can reduce the cost of building a house by 20 percent to 40 percent. According to the interview with him for the assessment, he urged that the current ecosystem working with existing networks for NGOs hindered the participation of social entrepreneurs as the NGOs are reluctant to apply innovative and new mechanisms. It was hard for him to participate in the multistakeholder meetings or other residential project meetings resulting in less practical experiences in improving the affordability and quality of the construction materials. He emphasized that an inclusive environment was key to activating collaboration, as one single actor cannot change the entire system.

3.3. Social

3.3.1. Lack of Social Protection for the Vulnerable

Social protection provision for vulnerable groups was very limited in Cambodia. There was no direct financial support for the elderly, who had no alternative but to keep working. An allowance for people with disabilities exists but has not yet been implemented. ID Poor Linked tangentially to social protection provisions was the poverty mapping under the ID Poor system. Identifying the poor and vulnerable is key in designing and anticipating propoverty growth programs. However, the system is focused more on rural areas, and the unregistered population is not recorded, making a potential challenge for social protection schemes.

The survey data also included the vulnerable features of households. The analysis showed that households living with vulnerable members are more likely to perceive their houses as inadequate. Especially, households that have family members with disability showed the lowest figures in perceiving housing inadequacy. Orphans and widows also showed lower figures in perceiving housing inadequacy compared to the mean value of the entire survey respondents (Figure 33).





Figure 33. Perceptions toward housing inadequacy according to presence of vulnerable members within household (Source: HHS)

Gender

Interviews with Urban Poor Women Development (UPWD) and Cambodia Indigenous Peoples' Organization (CIPO) indicated reinforced vulnerabilities faced by women in informal settlements and within their own indigenous groups, respectively, largely rooted in gender and societal norms restricting their education and financial opportunities. Female factory workers were the only groups with an explicit link to housing with government figures indicating that over 700,000 workers were employed in garment and footwear factories (Construction & Property, 2019); 80 percent of whom were women. The plight of women in the garment, footwear, and textile factories was well documented with housing conditions linked to the lack of safety and the potential threat of gender-based violence (Lawreniuk & Parsons, 2017; Sophorn, 2020; The World Bank, 2021b). There were discussions held by the Ministry of Labor and Vocational Training (MoLVT) on rented accommodation support with \$50 per month for garment workers in the private sector However, the information was dated 2019, pre-pandemic, and there were no updates during the pandemic. This was not substantiated through interviews as the consultants, and Habitat Cambodia did not include female garment workers in the identification of stakeholders.

Direct linkages to housing issues may also be found in securing property and or land registration. A few stakeholders have mentioned that access to housing and property rights by women had increased as the Royal Government of Cambodia (RGC) through the Land Law and Circular 03 were stringent with this process. The literature the consultants came up with on gender implications to issues in and around housing and property rights was outdated. It is surmised that this gap has to do with access to information and education on the importance of registration, which limited the monitoring of gender equality in land administration (Thiel, 2010). Further, while there was general agreement on the importance of educating women on their land rights, procedures, and institutions of land administration and dispute resolution - there was no research if local community action as a cornerstone for land administration involving males and females is still nascent or has progressed. Opportunities for further gender research on this could take a look at the cadastral systems, which are meant to serve all sectors of Cambodian society equitably, and the processes for equitable land title provision for social land concessions that are aimed to strengthen income generation and agricultural activities for women.

Some respondents of the FGDs and key interviews confirmed that there are several obstacles to women's economic empowerment in Cambodia's rural areas, such as 1) persistent poverty since the end of the civil war to the present, 2) impacts by the COVID-19 pandemic, 3) low level of literacy and education, 4) a lack of access to resources necessary for small businesses, 5) low wages for domestic labor service, 6) rising debts generally required land as collateral among many rural households, and 7) unfavorable environment for farming and livelihood improvement, markets, and technology. All these factors made rural communities vulnerable to housing inadequacy - women-headed households with children, the elderly, and PLWD were among the most vulnerable groups.

3.3.2. Empower Community through the Spontaneous Capacity

Mobilizing local communities to take collective action to protect their rights was an important feature of social development. However, the survey data reflected the limited organization and participation in the six areas. Only the indigenous community in Ratanakiri shows that most people participate in community savings or agriculture, with the highest community participation rate out of the six study areas (Figure 34). In other provinces, participation was through government organizations and NGOs, meaning the catalyst for community participation was external to the community itself. Therefore, the data showed community mobilization, other than the communities in Ratanakiri, had less spontaneous or organized community structure. This showed the influence of prevalent individualism across the country, while the indigenous community was bonded by the CLT and still maintained its collective living culture (Figure 35). For poor households, solidarity and collective action directly affect the capacity to protect them from external forces. In this context, external actors such as NGOs need to empower communities or nurture champions who would go on to further the empowerment process and mobilize community organizations. This intervention should focus on building the spontaneous capacity of the community by promoting collective actions that can benefit individual households.



Figure 34. Community participation rates in each province and the capital (Source: HHS)



Figure 35. Types of community participation in each province and the capital (Source: HHS)

The youth population is a key catalyst for building the spontaneous capacity of communities. Cambodia's large youth population (32 percent aged 10-24 years presented a unique opportunity to increase human investment, as indicated in a situational analysis report by the UN to the RGC) (the UN, 2021). It outlined challenges towards increased human investment – such as around 29 percent had dropped out of formal education, including 38 percent who belonged to a family that qualified as ID Poor. Around 34 percent of adolescents aged 15-19 and around 71 percent of youth aged 20-24 were not in formal education. Out-of-school adolescents and youth reported that they stopped their education at different levels, with 34 percent when in primary school, 46 percent when in lower secondary school, and 20 percent when in upper secondary school (the UN, 2021). This presented tremendous opportunities for Habitat Cambodia to work in capacitating the youths at the grassroots level, especially around youth and adolescent participation in the planning and budgeting processes at the commune-Sangkat level and other community-based mechanisms.

3.3.3. Barriers to Adequate Housing: Education and Power

The survey respondents perceived the most significant barrier to accessing adequate housing was their lack of education. People considered their lack of education to be the cause of their limited access to better job opportunities resulting in receiving low income. Among other responses, it was notable that the respondents in RAT perceived their ethnicity as a barrier (Figure 36). In accessing adequate housing, most people mentioned these barriers limited their ability to negotiate with other actors in the housing sector. The respondents also answered that, consequently, they ended up living in inadequate living conditions with limited access to proper information. In contrast, only a few answered they had further limitations in the accessibility to labor and vendors (Figure 37). The findings indicated that it was more crucial to empower people to access the necessary information they need and negotiate on the basis of it. An interview with UN-Habitat also emphasized the significance of capacity building, primarily through vocational training to improve income and capacities of local resources such as carpenters and masons.

"NGOs need to shift from a transactional way of working with communities and see communities as agents of change to be inclusive partners with the government. NGOs can also move from service providers to provide for technical analyses and "capacity builders" to ministry (government) partners - this can be in the way of conducting housing profling, for example, slum upgrading and cross-sectoral partnerships for affordable, resilient housing. Skills in human resources, especially in the area of housing construction, i.e., masons and carpenters. UN-Habitat has raised this as well to Habitat Cambodia for the last five years."

Interview with UN Habitat, Vanna Sok, Country Program Manager



Figure 36. Barriers against accessing housing adequacy in each province and the capital (Source: HHS)



Figure 37. Impact of the barriers in each province and the capital (Source: HHS)

3.4. Technology

3.4.1. Typologies of Inadequate Houses

Technology was synonymous with constructing low-cost technologies and, broadly, addressing sustainability and climate change adaptation and mitigation. There were no officially documented housing typologies or options menus per geographic province. In the absence of a shelter and/or a building code, while resilient housing was desired, the pricing of housing construction materials was paramount. While this was an emerging area, anecdotal evidence suggested that the concept of sustainable technology was not adequately implemented in many developing countries. Industry-wide adoption of practices was poor, which is believed to be due to a lack of awareness, knowledge, and reluctance to adopt new sustainable technologies. Furthermore, the incentive to put more durable materials into the selection, for the prolonged existence and durability of buildings, to minimize material consumption, as well as to develop energy-efficient buildings with minimal environmental impact and a healthy indoor environment, was absent (Durdyev et al., 2018).

This section attempted to capture the identical characteristics of inadequate housing in urban and rural areas. It did not represent the character of the total population or housing typologies in the provinces as it only selected the limited number of households in each study area. It also showed the relevance between the perception of housing inadequacy and the technical aspects of houses, such as typologies, materials, and geographic conditions.

Data from the survey found five major typologies from the sample families selected from households living in inadequate housing conditions in the research areas. Row houses or standalone (brick and concrete) houses built with bricks or concrete are available mainly in urban areas (Figure 38 and Figure 39). They were considered an adequate typology with more robust structures than other typologies. Wooden houses were usually built on concrete foundations extended to support wooden pillars of elevated living spaces in rural areas. The typology had a staircase to access the living space and install a kitchen, resting areas, or storage under the elevated mass of the house. Walls were covered with wood panels and roofs with metal sheets. Wooden houses were usually found in rural areas as an incremental or downgraded typology of the traditional house. Regardless of the typologies of houses, corrugated metal (tin) sheets were largely used for roofing materials. The last two typologies were the most common inadequate housing typologies across the research areas. Tin houses took up the largest portion of the housing typology; concrete or wood was utilized for the sides and a roof with corrugated metal sheets. This typology was vulnerable to heat and other climate hazards due to the high thermal conductivity of the materials. However, the affordability and accessibility of the materials were key to the prevailing phenomena of metal as construction materials, considering the respondents assumed housing price is a fifth of a standalone house (Table 9 and Table 10).



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Table 9. Major characteristics of typologies found from the assessment

DESCRIPTION	MAJOR CHARACTERS	MATERIALS	PREVALENT AREAS	PICTURES
Row/ standalone house	Separately built with RC structure or attached houses in a row	Brick and cement	Urban	
Wooden house	Elevated and simpler form of traditional house	Concrete (foundation), and wood walls with Metal sheets roof	Rural	
Tin house	Used corrugated iron sheets as a major material. Some houses are elevated if it is in flood-prone area	Concrete or wood (foundation), Metal for wall and roof	Urban, rural, and peri-urban	
Temporary house	Houses without robust structures or used thin wood pillars for structure. The quality of materials is very low.	Wood structure, salvaged Metal or wood panel, or temporary materials such as banana leaves or jut, and Metal roof (or thatches)	Rural	

Photo: HEA Consultant

Table 10. The geographical fabric of urban, peri-urban, and rural areas; the red dots on the satellite map is locations of survey conducted houses (Source: the consultant analysis on Google satellite data)



Chumkriel and Tropang Tom)

Svay Chekthmey)

La Eun Chong)

Although the different typologies were a standard feature for rural and urban areas, respectively, the temporary and tin housing typologies prevailed across the country. For these houses, households mobilized low-quality materials such as used or salvaged wood and iron sheets with minimal knowledge of construction. Considering the price of tin and temporary houses was far cheaper than other typologies, according to the survey respondents, the building practice to build these houses caused vulnerable housing conditions (Figure 40). For example, people mobilized materials and labor for these houses whenever their financial competencies led to improper budgeting that impacted construction plans. The lack of standard practice in building these houses resulted in inadequate and sub-standard houses. Therefore, it was essential to understand the built environment that makes specific typologies.

Understanding context and applying locally available construction knowledge and material were also crucial to reducing the environmental impacts of construction practices. According to the National Green House Gas Inventory report, Cambodia stated that the greenhouse gas emission from manufacturing and construction took 8.2 percent in 2016 (López 2019). Building durable houses by expanding the lifecycles of houses also helped reduce the environmental impact of such houses through construction practices.

The legislation and political conditions also impacted the housing typologies as the law did not allow people defined as illegal occupants of public lands to build permanent structures. Klls and FGDs informed that the illegal status of land tenure hindered households from building permanent structures on government-owned land. Therefore, the people with informal status have no choice but to build houses with temporary and salvaged construction materials that aggravate their housing conditions further (interview with CEO of STT). The dynamics of housing inadequacies are further explored in the later sections.

"After the Pol Pot regime, people moved to occupy the state's public land (riverbanks). They tried to build their houses. Years later, the majority of them do not have permanent jobs or income sources and lack financial support to build their houses. On top of that is the land tenure security, as the government did not allow them to build concrete houses on the state's land."

(Soeung Saran, Executive Director, STT)

"After 1979, 80 percent of them migrated from refugee camps and other provinces to live here. So, they have lived in temporary shelters over the years. Although local authorities instruct them to designated areas to reside the authority does not allow them to build concrete houses."

(Tho Samreth, Battambang Commune Council)



Figure 40. Price estimation of each typology of survey responded households (Source: HHS)

3.4.2. Underserved Crucial Basic Services: Water, Sanitation, and Electricity

The household survey revealed that in rural areas, 30 percent of residents used inappropriate latrines such as digging a hole, open defecation, or using their neighbors' toilets. In urban areas, 89 percent of respondents had access to relatively adequate latrine options, such as flush toilets or pit latrines (Figure 41 and Figure 42). Regarding access to water, 69.4 percent of respondents in urban areas and 30.8 percent in peri-urban areas reported accessing piped water from the government. Only 3 percent of the respondents answered that they were connected to the government water network. A private water pipe supply was found in Siem Reap and Battambang. In Ratanakiri, most respondents receive water from the government, and many people in rural areas still use water from rivers, springs, lakes (21.1 percent), rainwater (19.5 percent), and unprotected dug wells (7.6 percent) (Figure 43 and Figure 44).

The concern about the water capacity and population increase was also raised in an interview with the PDoLMUPC in Siem Reap. As the population is expected to increase by a double by 2035, it was mentioned that they had to prepare for water-saving approaches, especially if underground water (the project supported by Japan is being implemented) will be tapped.



Figure 41. Conditions of sanitation in each province and the capital of surveyed households (Source: HHS)



Figure 42. Conditions of sanitation in urban, peri-urban, and rural areas (Source: HHS)



Figure 43. Access to water in each province and the capital (Source: HHS)



Figure 44. Access to water in urban, peri-urban, and rural areas (Source: HHS)

In urban areas, electricity covered almost 97.2 percent of respondents, although the respondents were classified as households living in inadequate housing conditions. On the other hand, only 61.6 percent of the respondents had access to electricity in rural areas (Figure 45 and Figure 46). Households without electricity used solar panels or batteries as alternative energy sources. Those using alternative sources were only 46 percent. Breaking them down further, it was found that the majority (71.4 percent) used solar panels, whereas 20 percent used battery-operated energy sources according to the result of the survey.



Figure 45. Access to electricity in each province and the capital (Source: HHS)



Figure 46. Access to electricity in urban, peri-urban, and rural areas (Source: HHS)

3.4.3. Robust Housing Structure and Significance of Local Technicians

The 2017 Census noted that hard/permanent wall materials largely predominate, constituting about 99 percent of the structure (Ministry of Planning 2017). In contrast, the wall material used in rural areas was "wood or log," which included 56 percent of all materials. The survey collected samples defined as living in vulnerable housing conditions, as shown in Figure 47. The figure is 1.9 on average of the total population, meaning that the respondents consider their housing conditions "inadequate." The household survey for this assessment included perception aspects of the elements that form adequate housing for the respondents. The lists of the elements are: 1) size, 2) structure, 3) design, 5) location, 6) price, 7) ownership status, 8) vulnerability to disasters, 9) social status, 10) accessibility to basic services, 11) sanitation, 12) entitlement of the house.



Figure 47. Perception of the extent of housing inadequacy in each province and the capital (Source: HHS)



Figure 48. Perception of the extent of housing inadequacy in urban, peri-urban, and rural areas (Source: HHS)



Figure 49. Perceptions toward the elements forming housing inadequacy in each province and the capital (Source: HHS)



Figure 50. Perceptions toward the elements forming housing inadequacy in urban, peri-urban, and rural areas (Source: HHS)

The perception aspect of the household survey indicated that the respondents (68.2 percent) value strong housing structures as a critical element in housing adequacy. Among the respondents, 66.2 percent answered that the structure correlates to its ability to withstand natural disasters. This is important to note, given that 72.3 percent of them experience natural disasters more than once a year and 77.6 percent experience damage to their houses. Specifically, more than 90 percent of Ratanakiri and Phnom Penh respondents answered that disasters had damaged their houses (Figure 49 and Figure 50). Given this, people want to "reconstruct" their houses with more robust and more durable structures. The respondents placed a premium on construction technology and preferred access to such services to build durable and stronger structures.

According to various community FGDs, a house with solid foundations, concrete pillars, plastered walls, and roofs with tiles or corrugated metal sheets was considered adequate. In Ratanakiri, specifically, people are still using indigenous technology to build their houses manually with materials from nature without proper processing and thereby lacking in strength and durability to be used as walls. During the FGD, people answered that they are slowly learning construction technologies from the outside, while the lack of construction knowledge still hinders them from building more adequate houses (Table 11).

The size of a house is the second important element that people perceive as an aspect of housing inadequacy, and the design of a house is the third essential element (Figure 49 and Figure 50). Given that the average family size is six people, the few houses surveyed had two rooms at most. Ultimately, the houses were overcrowded, and it was challenging for the members of the household to have privacy. The design of a house was also selected as an important element by the respondents. Houses built with higher standards and improved materials were referred to by the respondents in the community FGDs as "better" houses.



Table 11. Aggregation of discussions during FGDs that described housing adequacy in each province and the capital

RATANA- KIRI	 "Adequate housing" is a house built with concrete or bricks, strong structures, and a roof using tiles. 	
SIEM REAP	 "Adequate housing" has a strong foundation, strong structure, plastered, built against disasters with enough space. Housing built with a good technical standard. "Inadequate housing" is vulnerable to strong winds or storms. Housing structure made of bamboo with a thatched roof or plastic sheets. 	
BATTAM- BANG	 "Adequate housing " is a standalone house built with cement plaster, steel, and Metal for the roof with a yard. I think a new house was built against disaster/climate. In 2021, I experienced a storm but was often time face with strong winds. Thus, we do not want to build a high house. 	
TBOUNG KHMUM	 "Adequate housing" is a house with high standards built with a strong structure, green environment, and goo sanitation system. A house that could resist every disaster (flooding, storm, rain) and also have easy access to clean water and a suitable toilet. 	
KAMPOT	 "Adequate housing" is a dwelling with a well-built structure that allows for adequate airflow and sunshine. Green space should be introduced to meet the healthy notion of living with a clean sanitation system for the elderly and women's safety. 	
PHNOM PENH	 "Adequate housing" is like "gated community" projects. "Inadequate housing" or "shelter" has many problems, such as vulnerability to disasters such as heavy rain and regular flooding. We can say that houses are built without standards. 	

The data showed that people think construction technology is "very important (4.66 - Likert scale)" in building adequate houses. Housing structure and budgeting are the most preferred areas rather than receiving technology and professional support. Most of the answers showed that housing technology heavily relies on local carpenters and family members with knowledge in construction. An interview with a local NGO, HURREDO, working in Siem Reap province, supported the findings.

"Housing structure. Most people like using wood more than concrete or steel, but wood is expensive. Housing design in the rural (typology) looks similar due to the presence of carpenters living in the villages having strong capacity. People employ them to build their houses. People follow the example/practice of other neighbors. Official designs would need approval from authority and sectoral departments, which cost them a lot. So, they do not want the design to go through the authority. Designing and building houses by themselves is good, but it is very dependent on carpenters or local construction workers.

Housing using local carpenters/construction workers. Mostly, it is affordable. Today, carpenters know how to build and how to respond to disasters, and they learn from experience. Neighbors also learned from Habitat Cambodia to build their houses about the housing typologies, structures, and designs."

(Group Interview with staffs from HURREDO: Mr. Savuth, Mr. Ratana, Ms. Phounam)

An interview with local carpenters in Siem Reap also explained the local housing value chain environment. Carpenters answered that they receive a lump sum only for hiring laborers to build typical houses in rural areas. Materials were excluded from the price in rural construction as the customers are the ones who usually prepare such materials. The lead carpenter hires five to six unskilled people to support him with construction. Cost does not include access to water or electricity as the contracting amount would increase to employ electricians and plumbers. They have more customers in urban areas than rural areas as rich people could afford housing construction and technical support to build houses. In rural areas, there are no desirable typologies, so carpenters merely copy house designs according to their customers' preferences. They observe that the significance of resilient housing technologies in construction is increasing when interacting with their customers due to the increase in disaster incidences.

The survey result shows that most of respondents consider the technology is significant to have better housing condition. Specifically, the respondents from urban areas place more emphasis on technology and engineering than rural and peri-urban areas, and this could be due to compliance issues with authorities (Figure 51).

The survey revealed that people in these communities mostly rely on their intimate circle of social network, such as family members, friends, or neighbors, for technical support. The main source of technical support for construction is local carpenters, with a very low presence of professional services such as companies, NGOs, and government. In RAT, people rely more on resources from within their community than in other provinces. Respondents from rural areas tended to rely more on their local network, while those from urban areas showed a higher reliance on local government (Figure 52 and Figure 53).

Regarding the areas where they need technical support, the majority of respondents identified structure and budgeting as the most critical. This finding is consistent with the aforementioned interviews with local carpenters, who noted the increasing need for resilient housing (Figure 54 and Figure 55).



Figure 51. Perceptions of the extent of the significance of construction technology in urban, peri-urban, and rural areas (Source: HHS)



Figure 52. The source of technological information and support for households in each province and the capital (Source: HHS)



Central government

Figure 53. The source of technological information and support for households in urban, peri-urban, and rural areas (Source: HHS)



Figure 54. Components that households perceive that they need professional (technical) support in each province and the capital (Source: HHS)



Figure 55. Components that households perceive that they need professional (technical) support in urban, peri-urban, and rural areas (Source: HHS)

3.5. Environment

3.5.1. Increasing Threats of Disasters and Housing Resiliency

According to World Bank, Cambodia is one of the most disaster-prone countries in Southeast Asia, which is usually affected by floods and droughts on a seasonal basis (Figure 56). Floods along the Mekong River and its tributaries, as well as from the Tonle Sap Lake, were recurrent and often constituted major disasters. Approximately 80 percent of the country's population lives along the Mekong River, which is known to have large fluctuations. However, the incidence of storms has been increasing since 2010 due to the influences of climate change (Figure 57). Droughts also affect some provinces, such as Svay Rieng, due to the poor management of water resources or the early ending of the monsoon rains and erratic rainfalls. Rising sea levels could pose a significant threat to marine coastal areas, which have already suffered from storm surges, high tides, beach erosion, and seawater intrusion. Low-lying areas, including settlements, beach resorts, seaports, coastal fisheries, and mangrove forests, could all be affected (The World Bank, 2021a). Although the target provinces of this assessment do not represent nor include the disaster incidence of the entire country, the findings showed a trend of storm surges.



Figure 56. Distribution of Annual Natural Hazard Occurrence Percentage for 1980-2020 (Source: The World Bank, 2021a)



Figure 57. Key Natural Hazard Statistics for 1980 - 2020 (The World Bank, 2021a)

The survey showed that natural disasters were a high risk to securing housing adequacy across the country. Of the respondents, 72.3 percent answered that they experienced disasters several times a year. The types of disasters that people perceived as the most dangerous differed from each geographic region: TBK is located near a river indicating higher risks of flooding compared to other areas. At the same time, RAT, which had a mountainous geography, did not include floods as a high-risk natural hazard. Yet, flash flood risks prevailed across the country (Figure 58 and Figure 59).

According to the regression analysis (Annex1), the households that perceived their housing conditions as adequate answered fire, heavy rain, or heat as significant hazards. The reasoning could be that such hazards had the potential to inflict the same damage to livelihoods regardless of the housing conditions or wealth status. This is interpreted that the households living with housing adequacy had less impact by the more common disasters such as floods, drought, or storms. Therefore, natural hazards, such as floods, drought, or storms, were considered devastating or avoidable depending on the housing conditions, which require specific preventive measures in housing conditions with a long-term perspective.



Figure 58. The frequency of disaster experiences in each province and the capital (Source: HHS)







Figure 60. Types of experienced disasters in each province and the capital (Source: HHS)





The survey results indicate that storms and floods are the most common disasters. TBK and BTB are more susceptible to floods than other provinces due to their geographical location, while storms pose a threat throughout the surveyed areas (Figure 60 and Figure 61). The extent of house damage caused by different types of disasters was also analyzed to deepen the analysis. Of the survey respondents, 77.6 percent answered that certain disasters have damaged their houses, and the level of damage showed a "severe" level in most provinces except for BTB. According to the data, floods, fires, and storms indicated a high risk of hazards causing house damage. However, only eleven (11) respondents (4.2 percent) answered that they experienced fire incidents, while floods and storms were experienced by 65 (24.7 percent) and 163 (62 percent) respondents, respectively. Thus, floods and storms were considered high risk in terms of their severity and frequency, while localized fire incidents severely affected houses on a case-by-case basis (Figure 62).



Figure 62. The severity of damage for each type of disaster and the number of households that have experienced each type of disaster (Source: HHS)

While the data also showed most people stayed in their houses without relocation after the disaster, 18.8 percent (55 respondents) answered that they had to relocate after a catastrophe. Responses from victims of floods and storms reflected 41.8 percent and 50 percent, respectively while 46.5 percent of disaster victims experienced relocation away from their houses for more than two weeks. As per the types of disasters that affected relocations, the majority of the victims by storm were able to return to their houses after a few days. Most of the flood victims experienced being relocated for more than a month. The fire victims required the longest relocations while the number of respondents who experienced fire incidents was only eleven (11) households (Figure 63).



Figure 63. The relocating duration after the disaster (Source: HHS)

The survey results highlighted the significance of a sturdy housing structure in preparation for disasters and hazards. About 80.8 percent of the respondents recognized that their houses are not resilient to disasters due to their weak structure. Furthermore, there were several instances of disasters leading to temporary or prolonged relocations. Given that weaker structures are more susceptible to disasters, there is a pressing need for temporary shelter assistance for those who have been displaced due to disasters.

Most of the respondents answered that their houses needed reconstruction to make them more disaster resilient. However, it differed by location as more people in urban areas sought major repair (including structure) while people in rural and peri-urban areas mostly want reconstruction only to improve the resilience of their houses (Figure 64 and Figure 65). It reflected the different housing typologies scattered in urban and rural areas that require customized support. The additional analysis showed that the row and standalone houses sought support for major or minor renovations more than other typologies. In contrast, other typologies show significant needs in the reconstruction of houses (Figure 66).



Figure 64. Necessary support for the survey responded households to improve housing resiliency in each province and the capital (Source: HHS)



Figure65. Necessary support for the survey responded households to improve housing resiliency in urban, peri-urban, and rural areas (Source: HHS)



Figure 66. Housing typologies and necessary support for the houses (Source: HHS)
3.5.2. Reinforcing Local Networks by Organizing People for the Effective Disaster Responses

The survey results showed that the primary barrier to recovering from housing damage was the lack of financial resources across all survey areas. Respondents in urban areas emphasized the importance of knowledge alone in the recovery process, while those in peri-urban areas placed greater emphasis on materials. Nonetheless, financial obstacles were perceived as the most significant barrier to recovering from disaster damages, highlighting the challenges associated with mobilizing resources and capacities. Overall, this finding confirmed that financial challenges posed the most significant obstacle to housing recovery.



Figure 67. Barriers against recovering from the disaster damages in each province and the capital (Source: HHS)



Figure 68. Barriers against recovering from the disaster damages in urban, peri-urban, and rural areas (Source: HHS)

The survey for this part aimed to assess the sources of support that people can receive after disasters. Notably, most answers reflect the lack of institutional support from the government and NGOs after the catastrophes across the country, while most rely heavily on their families, relatives, and neighbors. Specifically, urban respondents, mostly from Phnom Penh, show higher dependency on their local government than on social networks such as their neighbors. The respondents from Ratanakiri also show high dependence for recovery on their families and relatives. This data primarily shows the need to strengthen institutional support for disaster recovery (Figure 69 and Figure 70).



Neighbos and friends

Figure 69. Enablers of recovery from the disaster damages in urban, peri-urban, and rural areas (Source: HHS)



Neighbos and friends

Figure 70. Enablers of recovery from the disaster damages in each province and the capital (Source: HHS)

3.5.3. Environmental Threats Caused by Wood for Cooking Fuel

The 2017 Census indicated that 67 percent of the households in the country used firewood for cooking (Ministry of Planning 2017). This was validated in the household survey, where most respondents answered that they still use wood for cooking. Especially in rural areas, 87 percent of the respondents answered that they use wood for cooking. Even in peri-urban areas, 53 percent of the respondents answered that they still use wood for cooking. Except for Phnom Penh, the other five provinces where the survey was conducted, show that most respondents use wood and fuel for cooking which cause respiratory diseases through indoor air pollution (Figure 71 and Figure 72). A World Bank study on cooking using fuel indicated that the use of LPG had strong ties to household wealth and the shift to modern cooking technologies had an enormous impact on the workload of members doing the cooking. The United Nations Framework Convention on Climate Change (UNFCC) noted that the Cambodian rural population represents 12 million people (80.5 percent of the total population) who still massively rely on inefficient and polluting cooking devices (the UN, 2022).



Figure 71. Types of cooking fuels in each province and the capital (Source: HHS)



Figure 72. Types of cooking fuels in urban, peri-urban, and rural areas (Source: HHS)

3.5.4. Solid and Liquid Waste Management for Sustainable Improvement of Living Environment

Solid Waste

Economic development activities generate major environmental consequences, including air pollution, water pollution, noise pollution, and solid waste. Environmentalists identified four main industrial activities that significantly contribute to environmental pollution: garment factories, brick kilns, rice milling, and rubber processing. In Cambodia, as with other developing countries, another environmental issue was solid waste management and disposal. Waste generation is directly associated with population growth which leads to environment and human health concerns.

Of respondents in the household survey in Phnom Penh, 93.2 percent indicated established sites for waste collection. However, other provinces offered minimal coverage of waste management systems, even in other urban areas in Siem Reap and Battambang. Incineration of waste was a widespread practice in Kampot (90 percent) and Tboung Khmum (76 percent) that could affect the quality of the air. In Ratanakiri and Siem Reap, 94 percent and 65 percent of the households surveyed, respectively, dispose their waste anywhere near their houses (Figure 73 and Figure 74). The absence of a solid waste management system would badly affect the environment surrounding their houses. The Cambodian government decentralized the operational tasks of waste management to local levels in 1999, but local authorities were still unaware of their responsibilities and struggled to fulfill them. In the major cities, the Deutsche Gesellschaft fur Internationale Zusammenarbeit (GIZ) noted that private companies operate waste collection and transport. Some towns do not possess any waste management services at all. Most municipalities do not even have the financial resources or land available to invest in appropriate landfill sites. An additional barrier is the lack of qualified staff within existing waste management operators. Comprehensive studies on SWM have been limited to Phnom Penh and filtered down to the rapidly urbanizing provinces such as Battambang (EuroCham Cambodia, 2019).



Disposal at a particular place for waste collection



Figure 73. Household-level solid waste management in each province and the capital (Source: HHS)

Figure 74. Household-level solid waste management in urban, peri-urban, and rural areas (Source: HHS) The lack of proper waste management practices and limited public awareness are some of the greatest environmental pressures in urban areas. The solid waste management and circular economy space are largely dominated by either clean-tech or start-ups, meaning there are opportunities for NGO-tech collaboration. One NGO that did work by far in the SWM is the Cambodian Education and Waste Management Organization (COMPED), which focused on the livelihood of informal waste pickers and was funded by GGGI. Legislation around environmental pollution and solid waste management is present, but not all SNAs develop their own strategies. The same is true for the National Green Growth Roadmap (2013-2030), which aimed to promote and develop a green economy through environmental sustainability, green jobs, green technologies, green finance, green credit, and green investment. New laws are being designed, such as a draft Environmental Code, which will provide a framework of foundation for improved land-use management systems and prevent environmental degradation.

Liquid Waste

The coverage of proper drainage follows a similar pattern with SWM, as only the respondents living in Phnom Penh at 86.4 percent answered that they use pipes to dispose of contaminated water. More than 80 percent of the total respondents answered that they dispose of their contaminated water in rivers, ponds, or on the ground. This data does not reflect the infrastructure and drainage of Phnom Penh appropriately since it is notable that the drainage system in Phnom Penh is beyond capacity with a problem exacerbated by the reclamation of urban lakes for development projects and increases in the proportion of paved roads (Paling 2012). Rather, this data shows the availability of household-level waste management along with contaminated water. It has the potential to deteriorate the environment, such as water sources and the urban environment, if the situation continues (Figure 75 and Figure 76). Ultimately, the deterioration of the environment affects the living condition of people. Especially the program in rural areas should consider including the components discussed in this section along with the housing with intensive consideration of the impact on the environment. Since most of these efforts relate to the planning scheme of the government, relevant cooperation and advocacy actions targeting the local government are also potent in improving the living conditions of the poor.



Figure 75. Ways of draining polluted water at household-level in each province and the capital (Source: HHS)

Figure 76. Ways of draining polluted water at household-level in urban, peri-urban, and rural areas (Source: HHS)

	OPPORTUNITIES TO WORK TOGETHER	gislative environment is in place 1) affordable housing, 2) SLCs, 3) incentivizing private investors (under Policy on Incentive Establishment of National Program for Development of rdable Housing 23). Implementation gaps on incentivization and pliance can be a platform for advocacy and co-development of sing solutions. tinue to work with the government SLCs especially an equitable inclusive process on land registration under Sub-Decree 19 of Social Land Concessions. To ach on areas related to the PPP Policy and public specifically PP policy enforcement. K on pilots or "proof of concept" approaches ranging from dable housing to social housing for the poor to affordable rent actory workers.	age in the updates of cities' master plans, in particular icipation in consultation on land use planning, inclusive real the development, and housing standard designs. ocacy for substantial resources from the Government. acity and institutional building. 1 allocation/SLC for informal shelters and/or newly resettled jes. ientic approach is to integrate factors such as healthcare, cation, food, rural credit (finance and non-finance), community slopment, skills for doing small businesses, creating doment, skills for doing small businesses, creating doment opportunities that are relevant to housing (e.g., Habitat bodia mission is highly relevant to MRD mandate).	ocate for existing and new investors or partners to invest in dable and low-cost housing choices. Itified inclusive developers would be encouraged to create dable or low-cost housing to quantify the benefits of the armment's legislation (ex., incentivizing private investors with Jus tax exemptions.
w summarizes the actors of the Housing Ecosystem	LIMITATIONS TO WORK TOGETHER	 Alle and There are implementation policy gaps in the NHP, Land Law and its respective sub-decrees and Circular 03. Limited human and financial resources for capacity building of Sub national administration and their provincial sectoral departments. There is no financing commitment from the government on housing, but it focuses on SLC in the support of ID-Poor families. Housing for the poor and affordable housing are two different things from the policy perspectives. 	 Encention of transferred functions on housing part from the central government to SNAs, especially district/city level. Adaptive capacity among main cities remains low. Population is increasing in the main cities of the 25 provinces with housing unit targets and provision of land for residence attempting to catch up. Many authorities often arbitrarily relocate people to rural areas. Can develation 	 Persistent challenge is the lack of affordable or rental housing investments for the bottom of the pyramid. Private sector, NGOs, and government' interests are not always in alfo alignment. Housing and land developers tend to let the market solve the problems and look at the opportunity for profits rather than help the poor. No interventions for low-income people such as those holding ID POOR cards.
stakeholder table bel	IMPACTING WHAT?	Legislation and policy	Policyimplementation	Land Economy Markets Infrastructure
keholders The:	WHO ARE THEY?	Government's ministries MLMUPC GDH MEF Mol MMD MRD MRD	Sub-national administrations (SNAs)	Investors in inclusive business invest in housing/services, ie. Solar panels, etc.
3.6. Stal	ACTORS	Decision makers at the national level	Decision makers at sub- national level	

Innovation and technology-oriented for the reform initiatives to be

Influence the government's legal and policy framework.

Increase resources to support the poor without houses/land.

implemented.

Limited assistance of major donors in Cambodia threatened to slow

•

Regulation Land Economy

Development partners Development

Markets

the progress in inadequate housing/land and basic services for both the rural and urban poor communities.

OPPORTUNITIES TO WORK TOGETHER	Developing partnerships with civil society, government, or local developers and responsible MFIs to provide low-interest rates for low-income families to access affordable land and housing. Protection scheme from the bankruptcy and expropriation of land (or revenue) for vulnerable households.	NGOs can participate in the political process or national development framework, such as Rectangle Strategy Phase V for the next development mandate of the government. Creating and nurturing self-reliant community organizations; developing relations between these communities with local governments. Capacity building for SNAs on effective urban governance linking land tenure and adequate housing. Collaborating with social entrepreneurs to make affordable housing models through workshops and dialogues. Circulating agendas collaboratively with entrepreneurs about affordable housing. Construction supplies and companies: Provision of Low-cost housing designs/options resilient to climate and disasters.	The most vulnerable households should receive grant housing support through the clear selection process with the participation of the community and authority. The vulnerable (lower-middle income) household should have opportunities to improve their capacity to access adequate housing through training, in-kind support, housing finance, etc.
LIMITATIONS TO WORK TOGETHER	 Rapid urbanization in main and secondary cities have long-term impact to low-income people, such as increasing interest rate (10- 12 percent annually), diminishing the efforts for affordability. 	 NGO and community networks have limited positioning efforts on government platforms. Construction supply is not stable as it is heavily influenced by the global market. This led to an increase in the prices of supplies and affected the housing sector. The majority of property developers are not interested in the government's affordable housing policy. Persistent poverty and unemployment continue to pressure livelihood from the community perspective. Many stakeholders perceive a clear difference that housing is standalone, whereas MLMUPC has the mandate to address affordable housing in the short, medium, and long terms. 	 The lack of population registration creates a gap between the ID POOR system and the number of poor households. The informal settlers sold lands after allocation and moved to other informal settlements. The lack of knowledge and support from the authority hinder them from accessing housing support.
IMPACTING WHAT?	Access to Finance	Construction Design Materials Labor Innovative design and materials Support/Facilitate social change Facilitate at the grassroots level Advocate for changes to legislation	Housing demand
WHO ARE THEY?	Responsible MFIs Banks Finance specialists Responsible Ienders	Formal and informal developers Construction companies Architecture firms Social entrepreneurs NGOs NGOs Community organizations	The poor households live without livelihood opportunities, are excluded from development, marginalized, and disregarded.
ACTORS	Finance/ commercial actors	Supply actors	Demand actors (households and individuals)

4. LEARNINGS AND RECOMMENDATIONS

L. MANNEL

Photo by: Habitat for Humanity Cambodia/Sorng Bunna



4.1. Learnings

The learnings were centered on the HEA process:

- The validation workshops with the Habitat Cambodia team, such as the preliminary findings, stakeholder analysis, and analysis of external forces, were crucial to refining and sharpening the thinking process repeatedly.
- The absence of the Habitat Cambodia in-house institutional and housing experts to sit in the reference group proposed by HEA Consultants to guide and manage the inputs of HEA consultants posed some difficulties during the assignment process. Institutional memory was weak due to staff turnover, and organizational learning documents tracking reflections and insights of teams and monitoring what was applied as recommendations in the available research provided were absent. To mitigate the gap, the HEA consultants requested weekly meetings together with the group to discuss emerging issues and requests on the assignment process.

The HEA as a process was heavy on the HH survey, consultations, interviews, and desk review and, as a result,

was labor-intensive and time-consuming. More importantly, it required documents on organizational learning to provide context to discussions on where the teams see the direction of the organization, complemented by independent conversations with partners, peers, and stakeholders. At the onset, the teams within Habitat Cambodia need time and effort to clarify, reflect, and think through internally in the absence of any systematic or accessible organizational learnings on what the processes could look like. This would be helpful to have representatives of programs, MEAL, and RD, be part of the process for the next iteration of the HEA (if this would be taken on by Habitat Cambodia) rather than having one unit and or team lead the process. Such a reference group can be complemented by other unit members and even partners acting to "audit" the findings and prompting any learnings and or insights. This could avoid a narrow perspective, and the reinforcement of a "group think" phenomenon. A substantial contribution to the next HEA iteration would be ensuring that the PDMEAL systems, its organizational learnings, and or events such as lessons learned workshops, reviews, and tracking of those agreed recommendations will be established.

The terminology used by the housing ecosystem was not familiar to any of the stakeholders interviewed, and time was needed among the team to consult and translate the tools. The HEA consultants were able to translate the research questions of the HH survey tools, FGD, and key interviews into the local language, training, and field coaching of junior researchers, and provided sufficient time for all interviews with stakeholders.

4.2. Recommendations

Recommendations are framed as per the PESTE analysis for easy reference and are linked to the work of Habitat Cambodia. Areas in and around organizational recommendations are indicated in a sub-section under organizational as those are specific to Habitat Cambodia. Recommendations are derived from the analysis and interviews with Habitat Cambodia and Asia-Pacific representatives.

POLITICAL

Recommendations are framed as per the PESTE analysis for easy reference and are linked to the work of Habitat Cambodia. Areas in and around organizational recommendations are indicated in a sub-section under organizational as those are specific to Habitat Cambodia. Recommendations are derived from the analysis and interviews with Habitat Cambodia and Asia-Pacific representatives.

Continue

- Focus on advocating for an inclusive housing agenda addressing housing inadequacies utilizing home-driven ownership approaches and appropriate construction technology in and around the following legislation: Sub-Decree 19, Circular 03 and Sub-Decree 83. Habitat Cambodia has a history in working in and around SLCs and the government at all levels recognize this. It can further work with the government to anticipate other potential SLC sites. Circular 03 goes hand in hand with Sub-Decree 19. A focus on the ELCs is not so much on the radar of Habitat Cambodia as the space for this work is taken up by rights-based NGOs. It can however participate in advocacy-based issues in relation to addressing involuntary resettlements and include this in dialogues with government actors.
- Partnership and Advocacy: Embed engagement of sub-national administrations (SNAs), in particular at the district/municipality/khan(DMK) level collaboration into the project and program design as part of sustainability. National ministries, particularly the Ministry of Land Management, Urban Planning, and Construction, the General Department on Housing, and its respective provincial departments and technical working groups, are designated as natural partners of Habitat Cambodia. Specific ways of engaging with government actors are:
 - a. Ministry of Land Management, Urban Planning and Construction: Studies, consultations, policy dialogues, and implement joint housing undertakings through grants or co-financing projects.
 - b. Ministry of Rural Development sees the need to engage with the private sector and NGOs from the experience of resettlement programs (social land concession) and housing projects (e.g., Mekong Lang Chhang financed by China). Entry points for engagement can be built in and around this.
 - c. National League of Local Councils (NLLC) is the umbrella organization of local governments in Cambodia representing the benefits and interests of local councils at district/municipality/khan and commune/sangat levels across the country. They are the national advocate of the local governments and sits in the National Committee for Sub-National Democratic Development (NCDD) sub-committees. Partnership, advocacy, capacity building, and exchanges of experiences of projects related to local councils across the country should and need to include this group as this organization has worked with some international associations of cities in the region and the world (e.g.; UCLG United Cities and Local Governments, AIMF Association International des Maires Francophones) to address urban and rural challenges relevant to the work of Habitat Cambodia.
 - d. The Phnom Penh Capital and Provincial Authority have authority over local governments in their jurisdictions. Overall, they represent the central government. While they remain limited in terms of authority, the D&D reform processes indicate they are decision-makers. A careful evaluation needs to be done on how to engage them, as communication protocols at this level are complicated and not easy to access. They can however block any local authority from collaborating with CSOs. Partnership arrangements can be made through MOUs, co-financing, and or joint planning/projects. Because they create an enabling environment, dialogues are crucial with them, and one can seek national guidance as part of a collaborative arrangement on specific initiatives. Advocacy work could be done by means of strengthening of urban and rural poor communities, workshops, exchange visits, and negotiations.

- e. Local governments or local councils at District/Khan/Municipal level (D/K/M) and Commune/ Sangkat (C/S): Local governments have the general mandate to serve people including the vulnerable populations and are considered gatekeepers as per the Organic Laws. Local councilors are politicians, and they tend to expect housing provision from Habitat Cambodia and partners whilst local resources allocated by the central government are very limited. Habitat Cambodia can view them as local collaborators and partners where integration and cost-sharing from local development budgets can potentially occur especially given the future of D and D reforms and growing GDP for substantial transfer of financial resources to local governments. Partnerships at this level, together with communities, can promote trust building, and at this governance level, it is a platform for influencing and advocating with higher authority and sectoral departments. It is important that Habitat Cambodia and its partners position themselves within existing local platforms.
- f. Other entry points: There is no current housing platform where NGOs can engage with the different levels of the SNA for now with the exception of the district integration workshop which is the mechanism wherein NGOs and other partners engage with communes and Sangkats for the planning and budgeting for the next fiscal year. It is important for Habitat Cambodia to understand when the schedules are for planning when designing programs or long-term projects so they can be incorporated into project designs. However, based on experience, it is strongly recommended that Habitat Cambodia advocates for housing prior to the District Integrated Workshop through formal discussions with both DMK/CS councils and the Board of Governors of DMK Councils. Another option is to engage directly with the key divisions, especially the inter-sectoral division of provincial authority, and have low-key dialogues bringing together other property developers interested in affordable and low-cost housing solutions.
- Continue to focus on land registration processes (and be able to track and document this), Circular 03 on
 resettlements, and social land concession. Collaborate with the partner sub-national governments on social
 and economic land concessions and/or collective land registration (CLT) for indigenous people (IP).



ECONOMIC

Improve

- In community consultations, target beneficiaries can be stratified by vulnerability and income groups to develop holistic, integrated, tailor-made housing solutions. This will be an entry point for financing blended approaches with microfinance and property developers. Those who cannot afford can be recipients of fully subsidized housing by the project or grant, and those who can save and build, could focus on incremental housing. This requires building the trust of communities as subsidized housing provision may cause resource-based conflict.
- Micro grants provided to small community-groups can be considered a catalyst for them to empower and upskill themselves. A systems-focused thoughtful and intentional development plan that they themselves can monitor will be very helpful to understand the returns of a small micro-grant investment.
- Partnership, Advocacy, and Market Approaches: Through the "provincial mini strategic plans", Habitat Cambodia can identify potential property-developer-partners and MFIs it can work with within the first year and have regular consultations with them and the local government on ways to collaborate. The creation of an inclusive and systematic housing value chain can be nurtured by also identifying local and collaborative supply chain actors such as vendors, suppliers, masons, and carpenters. Altogether, Habitat can form provincial networked groupings that can make them accessible to communities. Such network groupings can be integrated into the projects of Habitat but require extensive consultations. A way to bring these actors to the work of Habitat would be to organize local builds with them.
- This means increasing Habitat Cambodia organizational capacity and expertise in strengthening publicprivate relationships (P4) and corporate social responsibility with real estate agencies and property developers. It also means that Habitat Cambodia needs to compute for this investment – not just in terms of organizational capacity and expertise but also what it brings to a P4 approach.
- Partnership, Advocacy, and Market Approaches: It is still worthwhile to partner with responsible MFIs to form a hybrid or blended model or arrangements together with property developers or with property developers who bring in their own financing. Especially property developers with a focus on the lower middle-income groups. A potential model could be the Asian Coalition for Human Rights (ACHR) community savings fund mentioned in the PESTE. Another option, if it has not been done already, is to consolidate a "save and build" approach

Innovate

- Given the diversity of actors in a segmented housing market, the adoption of a collaborative approach using strategic networks can aid in advocating for affordable housing. The network perspective was identified by the consultants because of its straightforward alignment with the systems approach wherein it views the market as a network where actors do not work in isolation but depend on each other's skills and resources to harness opportunities and meet market challenges. In this case, Habitat Cambodia could establish, build, promote, and sustain a community network of carpenters, masons, and suppliers in the respective provinces where Habitat Cambodia works. Locally sourcing accessible and affordable carpenters and vendors and disseminating that information in a cohesive systematic manner to communities and or PASSA groups as well as engaging them in the housing value chain analysis will develop linkages between supply and demand. In this way, Habitat Cambodia builds a multi-stakeholder platform it can facilitate and/or coordinate with other actors. The platform can initially start with an agenda on affordability and financial inclusion as this is of interest to several actors and link these issues on land tenure.
- Development of a housing graduation pathway similar to a model that BRAC has established. It provides a systematic and potential solution to help the most vulnerable communities of Habitat Cambodia "graduate" from poverty. It also answers the question "how do communities utilize the micro-grants we apply in such a way that there is a positive social return on investment"? For such a pathway to work, it is necessary to set of holistic, time-bound, and sequenced set of interventions derived from the plans of the communities themselves. This approach combines a savings mechanism to build up assets together with complementary financial literacy. Once Habitat Cambodia communities reach a set goal in terms of responsible savings, they can be linked to responsibly vetted MFI partners for microloan offers.

It is essential that a careful "mini" study be done to assess the viability of the community's plans in terms of livelihood/economic opportunities linked to existing value chains in the area. This can be an element that can "ride" onto the housing value chain assessment.

SOCIAL

Improve

- Continue to empower community leadership and inter-household support by having them co-facilitate on the baseline and endline activities with specific focus on women and girls.
- While gender, inclusion (youth, the elderly and people living with disabilities), and environment are considered cross-cutting, Habitat Cambodia can develop projects focused on these issues. It does however require some investment i.e. implementation or operationalization of approaches in existing projects and robust monitoring.
- Institutionalize beneficiary selection: Increased awareness and understanding of the work of Habitat Cambodia at the grassroots level need to start with institutionalizing their beneficiary targeting as the documentation review and interviews noted that beneficiary targeting is done transparently within the context of what the government's counterparts and donors expect.
- Advocacy for Sub-Decrees related to land registration and Circular #03: Habitat Cambodia, as a housing NGO, can advocate for private sectors and the government to have onsite upgrading and inclusive development plan that include the informal settlers by advocating housing rights as basic human rights. Partnering with IP-based grassroots NGOs to support CLT processes for IP communities where appropriate.

Innovate

- Create a housing community toolbox integrating the PASSA manual, which is a training and empowerment toolkit geared towards PASSA groups or Habitat Cambodia-established groups with experiential learning sessions on institutional and organizational capacity development, leadership training, understanding of legislation, conflict resolutions, grassroots advocacy, business development and/or livelihood skills around areas related to green jobs, entrepreneurship or agri-livelihoods that link to value chains in their communities. This can be a documented tool of Habitat Cambodia on the community's journey towards housing self-reliance.
- Partnerships and Advocacy: Gender equality, disabilities and social inclusion (GEDSI) means giving equal access and opportunities, removing barriers of discrimination towards women and other vulnerable populations facilitating greater utilization of services, and co-design housing solutions with them. Intentional partnerships can be cultivated with either women's rights organizations (WROs) or grassroots organizations. A GEDSI project developed in and around the market approach that focuses on women could be linked to women's participation in decision-making and women's economic empowerment (WEE) this can link with Commune/District Committee for Women and Children, female social entrepreneurs, or MFI partners with a track record of supporting women. Identifying youth female volunteer champions from the grassroots level confident and articulate to discuss youth issues and housing inadequacies can be linked to identified national champions who are thought leaders and influencers in their own rights in areas in and around gender. This requires careful identification and cultivation of a few champions linked to gender and should not be limited to one-off awareness and promotional events. The national champions can even be advisors of Habitat Cambodia. This provides a modeling approach where female grassroots volunteers can look up to the national champions.
- There is an opportunity to engage the youths at the grassroots level, in particular, community youth in PASSA groups linked to national or grassroots volunteering. It would be necessary to conduct a needs analysis on the youth and housing inadequacies and how to link and amplify their voice through Habitat Cambodia's global and local volunteering activities.
- Develop a people-centered grassroots advocacy and influencing framework or strategy integrated into programming and project design linked to evidence-based approaches. Empowering PASSA champions linked to other self-help groups in the communities can be a keystone to advocate and influence resilient housing through existing local governance mechanisms and processes such as the commune/district council's monthly mandatory and or extraordinary activities.

TECNOLOGICAL AND ENVIRONMENT

Improve

- Develop a menu of participatory-centered, geographically suitable, innovative climate resilient, and costeffective with corresponding budgets housing typologies that can be used as the basis to advocate and present to potential partners. Add-on services such as access to latrines and water for sanitation, main water sources, rainwater harvesting and sanitation, and age-friendly or child-friendly facilities can be included. As part of disaster risk reduction management, temporary shelter needs to be included in the menu of housing typologies with pricing and contextualized to different geographic terrain.
- Continue and build on areas in and around solid waste management, climate change mitigation and adaption, especially on planning and development, such as the strategy paper on urban resource management conducted for the municipality of Battambang.
- Water and sanitation: Habitat Cambodia could improve this business model by doing a small analysis on how to scale via a P4 approach. Expanding the work of water and sanitation business models based on the evaluation recommendations conducted by SEVEA would be a worthwhile endeavor to assess how to expand to other districts in Siem Reap or even in other provinces – if this can be through existing projects or internally resourced.

Innovate

- It is essential for Habitat Cambodia to understand the environmental impacts of construction practices. It would be useful to invest in a specialist that can help Habitat Cambodia with this as it can incorporate it into its housing typologies and form part of its messaging. According to the National Green House Gas Inventory report, Cambodia states the greenhouse gas emission from manufacturing and construction took 8.2 percent in 2016[1]; efforts to use locally available materials and expand the lifecycles of houses (building durable houses) should be considered.
- For disaster risk reduction and management, Habitat Cambodia could conduct a study or review the potential for a small surge capacity fund in-house or at the ready small funding to mobilize PASSA groups. The groups themselves should have community-based disaster preparedness plans in place aligned with the DRRM plans of the Commune/Sangkat Disaster Management Committee.
- Solid Waste Management (SWM) is a current emerging issue and something that development partners and agencies are paying attention to together with issues on single-use plastic and the circular economy. Habitat International can move into this space given its UNESCAP accomplishment as there are not a lot of NGOs in this field. It is also ripe for partnerships with clean tech and start-ups. However, Habitat Cambodia needs to be realistic as to what component of the continuum of SWM will directly implement and which areas can be taken on in partnership with other organizations.
- Green housing Green housing is linked to climate finance and environmental, social, and governance (ESG) standards and is tangentially linked to climate finance and the nationally determined contributions (NCD) towards greenhouse gas emissions. This is a new area for Habitat Cambodia, but this is a growing sector. It would be worthwhile to do a deep dive into this specific sector to assess what Habitat Cambodia can do realistically and how it can be integrated into its strategies and its work on sustainable construction. The PESTE analysis noted that there is evidence for sustainable building materials for low-cost housing utilizing bamboo and timber, compressed earth bricks/blocks, adobe blocks, interlocking blocks of recycled materials, and improved concrete panels as well as the use of plastics. However, these are limited to pilot projects with little momentum for scale-up. Potentially, Habitat Cambodia could work with relevant ministries or even at the level of the SNA to develop "proof of concept" pilots following the Royal Government of Cambodia (RGC) focus areas namely; energy, agriculture, building industry, and waste, or it can integrate elements into its basic services or housing typologies.
- Partnership and advocacy: Collaborate with other relevant ministries such as the Ministry of Rural Development, Ministry of Interior, Ministry of Environment, and Ministry of Planning as well as clean tech organizations, start-ups, NGOs, and responsible MFIs with an agenda on green growth to discuss solutions and trends on innovative and sustainable approaches to basic service delivery (water and sanitation, SWM, electricity, clean fuel, drainage) in both rural and urban areas. There is already an enabling environment for this as articulated in National Program Phase 2 for Sub-National Democratic Development (NP2-SNDD, 2021-2030) and relevant Sub-Decrees (Sub-Decree #182, #183, #184 on Public Service Delivery at District/Khan/

Municipal level). It encourages the participation of the private sector and CSOs in the governance process to form partnerships with Sub-National Administrations (SNAs) to deliver services. For example, CSOs, and the private sector are encouraged to have a cooperative agreement with SNAs but it is important to keep their roles separate in the governance and planning process (e.g., solid waste management).

• Where there are opportunities, co-design innovative resilient housing solutions with the private sector, relevant housing market actors, and local suppliers where appropriate with the idea of scale-up.

Organizational Recommendations

- PDMEL processes need to be strengthened knowledge management needs to be systematic lessons synthesized, and follow-up actions discussed at leadership meetings; technical assurance standards such as baselines-endlines and lessons learned workshops be institutionalized by the organization and integrated into project pilot models and proposals
- Its prepositioning plan needs to have outcome-based metrics that capture strategic partnership agreements and or contextualized country-level framework agreements i.e. UN Habitat.
- Introduce systems thinking approach and a gender and social inclusion lens to programming linking activities to impact as part of the evidence-based methodology.
- Need for a systematic and regularly updated stakeholder analysis and engagement plan based on studies such as the HEA, advocacy-related research, or proposals. The nature of partnerships does not have to be implementation, and it can be what the organization or entity can bring in terms of improvement to Habitat programming and services.
- The resource development and business plan needs to be updated to accommodate local fundraising as part of its funding mix.
- Habitat needs to build its capacities in and around consistent advocacy research efforts on land tenure linked directly to their communities as well as documenting achievements and contextualized approaches per province and/or city. This requires partnering with institutes and grassroots NGOs with extensive experience around these issues. It is also important to understand what a GEDSI approach to land tenure security means for Habitat and how land tenure affects its programming.
- Operationalize its gender audit that it had commissioned.

In conclusion, the HEA study concludes there is a lot of work for Habitat Cambodia to take on – affordability and access to land and basic resources are key aspects of that given the country's target to be a higher-end middle income country by 2030 and the fact that the country is bouncing back economically from the COVID-19 pandemic. Yet there is a wealth of partnership opportunities given that the organization is one of the very few to provide what the country urgently needs – a decent shelter for all - those especially with little voice in society.



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