

CONVERGENCE ACTION BLUEPRINT FOR LAO PDR (CAB 2025 TO 2035)

FOOD SYSTEMS AND CLIMATE ACTION



© FAO/Manan Vatsyayana

TABLE OF CONTENTS

1. Background	3
2. Food Systems and Climate Action in Lao PDR: Dual Focus for Resilience and Sustainability	4
2.1 National Action Plan for Sustainable Food Systems	4
2.2 Nutrition Action Plan	5
2.3 National Biodiversity Action Plan	5
2.4 Green and Sustainable Agriculture Framework	6
2.5 Climate Change Strategies	7
3. Key Challenges and Drivers for Lao PDR's Climate Resilient Food Systems Transformation	8
4. Vision and Objectives of the Convergence for Greater Linkages between Food Systems and Climate Action	19
5. Key Convergence Priority Areas and Game Changers	19
5.1 Priority Areas for Climate-Resilient Food Systems in Lao PDR	19
5.2 Game Changers: Transformative Initiatives	20
5.3 How to Ensure Climate-Resilient Food Systems in Lao PDR	22
6. Convergence Milestones	24
7. Monitoring and Evaluation	30
8. Conclusion and Next Steps for CAB	31

1. BACKGROUND

Lao PDR, as part of its development vision, has recognized the urgent need to accelerate food systems transformations to address interconnected challenges posed by climate change and food insecurity. The country is at a critical juncture where the need for resilient food systems and effective climate action has never been more pressing. As a country heavily reliant on agriculture, which employs a significant portion of the population, the impacts of climate change pose substantial risks to food security and livelihoods. Increasingly erratic weather patterns, prolonged droughts, and flooding threaten agricultural productivity, exacerbating vulnerabilities among rural communities. In this context, transforming food systems to ensure safety, nutrition, and sustainability is essential. By prioritizing nature-positive food production and equitable livelihoods, Lao PDR can enhance the resilience of its agricultural sector while addressing immediate food security challenges.

Simultaneously, climate action is imperative for Lao PDR to safeguard its natural resources and foster sustainable development. The government's commitment to integrating climate change considerations into national policies, such as the National Strategy on Climate Change and the Nationally Determined Contribution (NDC), underscores the recognition of climate resilience as a cornerstone of national development. By aligning food systems with climate strategies, Lao PDR can create synergies that bolster both agricultural productivity and environmental sustainability. This dual focus not only addresses the immediate impacts of climate change but also positions the country to achieve its long-term development goals, particularly as it approaches graduation from Least Developed Country (LDC) status. Through coordinated efforts in food systems and climate action, Lao PDR can build a more resilient and sustainable future for its people and ecosystems.

The Food Systems and Climate Action Convergence Initiative serves as a strategic effort to align Lao PDR's food systems transformation agenda with the United Nations Sustainable Development Goals (SDGs) and the Paris Agreement on climate change, particularly through its national policies and development plans. The Convergence Initiative National Workshop took place in June 2025 in Van Vieng, Lao PDR at a time when the country was undertaking major institutional reforms – notably the merger of the Ministry of Agriculture and Forestry with the Ministry of Natural Resources and Environment – creating an unprecedented opportunity to align climate action with food systems transformation. It brought together active participation from government and non-government representatives, including UN agencies, development partners, farmer groups, and research institutions.

From this process, the Convergence Action Blueprint (CAB) is one of the main outcomes from the workshop and serves as a practical framework designed to identify synergies between food systems transformation and climate action at the national level. Lao PDR's CAB is a living document and will be updated periodically. It provides a structured approach for conceptualizing and implementing strategic actions in Lao PDR that align with both agendas while promoting sustainable development across multiple and diverse stakeholders and across sectors.

2. FOOD SYSTEMS AND CLIMATE ACTION IN LAO PDR: DUAL FOCUS FOR RESILIENCE AND SUSTAINABILITY

Lao PDR has embarked on a transformative journey to enhance the resilience of its food systems and environment through integrated reforms and targeted initiatives. This commitment is reflected in several national strategies aimed at addressing immediate vulnerabilities, while laying a foundation for long-term sustainability.

2.1 NATIONAL ACTION PLAN FOR SUSTAINABLE FOOD SYSTEMS

The National Action Plan on Transitions Toward Sustainable Food Systems Transformation (2025–2030), developed in 2024 and recently finalized in early 2025, represents a comprehensive framework developed through extensive multi-stakeholder consultations. This inclusive process engaged government bodies, UN agencies, civil society organizations, farmers, youth, and the private sector, ensuring that the plan is well-informed and responsive to the needs of all stakeholders. The recently finalised plan incorporates robust monitoring and evaluation (M&E) and resource mobilization strategies, developed during provincial workshops.

This national action plan has a primary objective of building multi-disciplinary capacities of relevant sectors involved in the food system. The capacity development focuses on four key areas. The first area is to ensure safe and nutritious food for all. This will be achieved by improving food safety standards, reducing malnutrition rates, and promoting nutrition-sensitive agricultural practices. By addressing these critical issues, the plan aims to enhance the overall health and well-being of the population, particularly vulnerable groups such as children and mothers. Furthermore, the initiative emphasizes large-scale food production through the adoption of agroecology, organic farming, diversified cropping, and climate-smart practices. These strategies are designed to boost productivity while ensuring sustainability, thereby meeting the growing food demands of the population and supporting economic growth.

Promoting equitable livelihoods is another crucial focus of the plan, which aims to expand value distribution and market access for smallholder farmers. By generating income for rural populations and establishing social protection mechanisms, the plan seeks to enhance economic opportunities for these communities, reduce poverty, and promote social equity, contributing to a more inclusive economy. Additionally, building resilience is a key area of focus, advocating for holistic risk reduction strategies, climate shock adaptation, and inclusive safety net programs. The plan establishes an explicit link to disaster preparedness and incorporates necessary reforms in institutional frameworks, including the historic merger of relevant ministries. Innovations in rural infrastructure are prioritized to support these resilience-building efforts, ensuring communities are better equipped to withstand and recover from adverse events.

Recognizing the importance of public awareness, the plan includes broad campaigns aimed at building understanding and support for sustainable food systems among citizens. By raising awareness and fostering community engagement, the initiative aspires to create a culture of sustainability that empowers individuals to contribute to its overall goals.

2.2 NUTRITION ACTION PLAN

The **National Nutrition Plan of Action (2021–2025)**, along with the upcoming plan for 2026–2030, aims to rapidly reduce child and maternal malnutrition by aligning its objectives with broader food systems transformation efforts. This alignment ensures a comprehensive approach to addressing nutritional challenges within the context of overall food security and agricultural development. Key measures being implemented include expanding nutrition interventions across various platforms, such as schools, health centers, and community programs. By integrating nutrition education and support into these settings, the plan seeks to promote healthy eating habits from an early age.

Emphasis is placed on encouraging diversified diets that highlight local foods and micronutrient-rich crops. This approach not only improves nutritional intake but also supports local agriculture and economies, fostering a sustainable food system. Integrating nutrition goals with agricultural, food security, and social protection policies is essential for maximizing impact. This holistic approach ensures that nutrition is a central consideration in all relevant sectors, facilitating coordinated efforts to combat malnutrition effectively.

Preliminary results from ongoing initiatives indicate improvements in stunting and wasting rates among children, accompanied by strengthened cross-sector coordination. This coordination is critical for fostering a healthier population and ensuring the nation's future productivity. By addressing malnutrition comprehensively, the Nutrition Action Plan aims to enhance the overall well-being of the population, thereby contributing to the country's long-term development goals.

2.3 NATIONAL BIODIVERSITY ACTION PLAN

The **National Biodiversity Strategy and Action Plan (NBSAP, 2016–2025)**, along with the forthcoming updated plan, emphasizes the critical importance of conserving biodiversity and promoting its wise use. The update aims to align with new green growth policies, focusing on the conservation of forests, watersheds, and unique ecosystems in Lao PDR through various initiatives, including the establishment of protected areas and restoration efforts.

One of the key objectives is the conservation of vital natural resources, particularly forests and watersheds, which are essential for maintaining ecological balance and supporting local livelihoods. Establishing protected areas and implementing restoration initiatives are central to the strategy, ensuring that key habitats and species are preserved for future generations. Furthermore, mainstreaming biodiversity into agricultural, urban, and development policies is crucial for fostering sustainable practices that benefit both the environment and local communities. By integrating biodiversity considerations into various sectors, the plan aims to create synergies that enhance environmental health and promote sustainable development.

Additionally, expanding agro-biodiversity research and linking it with food system resilience objectives will enhance the capacity to adapt to changing environmental conditions and market demands. This focus on agro-biodiversity not only supports food security but also strengthens the resilience of agricultural systems against climate change and other challenges.

2.4 GREEN AND SUSTAINABLE AGRICULTURE FRAMEWORK

Lao PDR has formalized a **Green and Sustainable Agriculture Framework**, which mandates the adoption of environmentally friendly production methods and the establishment of profitable, climate-resilient commodity markets. This comprehensive framework aims to transform agricultural practices in the country to ensure sustainability and resilience in the face of climate change.

Key components of the framework include the support for climate-smart agricultural techniques, such as improved rice systems and drought-tolerant varieties, which are essential for enhancing productivity while minimizing environmental impact. Additionally, the framework promotes integrated pest management practices that reduce reliance on chemical inputs and foster biodiversity, contributing to healthier ecosystems.

Incentives for farmers to engage in environmental stewardship are critical to the framework's success. Key initiatives include payments for ecosystem services, which reward farmers for adopting sustainable practices that enhance carbon sequestration and biodiversity conservation. Furthermore, facilitating access to premium markets for sustainably produced goods provides economic motivation for farmers to implement environmentally friendly practices.

The framework also emphasizes the importance of knowledge-sharing, youth entrepreneurship, and demonstration programs. These initiatives aim to empower local communities by enhancing their capacity to implement sustainable practices effectively. By fostering innovation and supporting the next generation of agricultural leaders, the framework seeks to build a resilient agricultural sector that benefits both the environment and local economies.





2.5 CLIMATE CHANGE STRATEGIES

The **National Strategy on Climate Change (2023)** outlines sectoral adaptation and mitigation goals leading up to 2030, with an ambitious vision of achieving climate neutrality by 2050. This strategy serves as a comprehensive framework for addressing climate challenges and promoting sustainable development in Lao PDR.

Key strategic actions outlined in the strategy include mainstreaming climate considerations into national planning processes, ensuring that all sectors account for climate impacts and incorporate resilience-building measures. Strengthening risk finance and insurance mechanisms is essential for protecting vulnerable communities and sectors from the impacts of climate change. The strategy also emphasizes the transition to renewable energy, reducing dependence on fossil fuels and contributing to greenhouse gas (GHG) reduction targets while building resilience across agriculture, infrastructure, and natural resources.

Lao PDR's **Nationally Determined Contribution (NDC)** reflects an increased commitment to GHG reduction, forest restoration, and climate-resilient development. Integrated approaches are now embedded in all major national development plans, including the **9th and 10th National Socio-Economic Development Plans (NSEDP)**. This integration is further strengthened by the merger of agriculture and environment ministries, facilitating seamless program delivery and monitoring.

International partnerships with organizations such as the UN Joint SDG Fund, ADB, and GIZ play a vital role in providing the technical and financial assistance necessary for these transformative efforts. By engaging with these partners, Lao PDR aims to leverage global expertise and resources to effectively address its unique challenges while fostering sustainable development.

3. KEY CHALLENGES AND DRIVERS FOR LAO PDR'S CLIMATE RESILIENT FOOD SYSTEMS TRANSFORMATION

As identified by the participants, seven key challenges and drivers have been prioritized

- **Climate Hazards and Environmental Vulnerability:** Lao PDR faces increasingly severe climate-related challenges that fundamentally threaten its agricultural productivity and food security. The country has experienced a marked increase in the frequency and intensity of floods, droughts, and extreme weather events, which have had devastating effects on agricultural communities. Recent data indicates a concerning 10% reduction in crop production due to climate change impacts, with rain-fed and upland farming communities being particularly vulnerable. The changing patterns of monsoon rains, which have historically been the backbone of agricultural timing, have disrupted traditional farming calendars and created unprecedented uncertainty for farmers. For instance, **over the past decade, the number of extreme weather events has increased by 20%**, disrupting traditional farming calendars and creating unprecedented uncertainty for farmers.
- **Agricultural Productivity Constraints:** The agricultural sector in Lao PDR continues to grapple with systemic productivity challenges that limit its resilience to climate change. A complex web of factors contributes to this situation, including limited access to quality inputs such as improved seeds and fertilizers, outdated farming techniques, and inadequate irrigation infrastructure. Approximately **40% of farmers** report having insufficient access to modern agricultural inputs, particularly in remote areas where farmers struggle to adopt practices that could help them adapt to changing climatic conditions. This combination of factors creates a cycle of low productivity, making it increasingly difficult for farming communities to build resilience against climate shocks.
- **Environmental Degradation and Deforestation:** Environmental degradation presents a critical challenge to sustainable food systems in Lao PDR. The expansion of agricultural land through shifting cultivation and the rapid growth of commercial crops like cassava have accelerated deforestation rates, which are estimated at **1.2 million hectares annually**. This environmental deterioration creates a dangerous feedback loop: as forests are cleared and soils degrade, the land becomes less productive, leading to further expansion into new areas. The resulting increase in GHG emissions—estimated at **3.2 million tons of CO2 equivalent per year**—and loss of biodiversity undermines both local and national efforts to build climate-resilient food systems.

- **Financial and Technological Barriers:** Access to finance and modern technology remains a significant obstacle for many farmers in Lao PDR, particularly vulnerable groups such as smallholders, Indigenous Peoples, women farmers, and youth. Only **25% of smallholder farmers** have access to credit facilities, limiting their ability to invest in climate-smart technologies and practices. The limited availability of insurance products specifically designed for agricultural needs prevents farmers from recovering from climate-related losses or investing in long-term resilience measures. This financial exclusion is particularly problematic as it disproportionately affects the most vulnerable farming communities, who are already at greatest risk from climate impacts.
- **Infrastructure and Market Access Challenges:** The inadequacy of rural infrastructure poses substantial challenges to agricultural development and food security in Lao PDR. According to recent assessments, **over 60% of rural roads** are in poor condition, creating significant barriers to agricultural commercialization and efficiency. Poor road networks, limited storage facilities, and inadequate market infrastructure result in high post-harvest losses, estimated at **30% of total production**, and restrict farmers' ability to access markets effectively. This situation creates a disincentive for farmers to increase production or invest in resilience measures, as they cannot be confident in their ability to store or sell surplus produce profitably.
- **Nutrition Security and Poverty:** Malnutrition remains a persistent challenge in Lao PDR, with **33% of children under five** suffering from stunting, which has particularly concerning impacts on child development. This nutritional insecurity is closely linked to poverty and limited dietary diversity, with **over 20% of the population living below the national poverty line**. When climate-related disruptions occur, vulnerable populations face significant challenges in accessing nutritious food, which exacerbates existing health and development issues. Nutrition insecurity stems not only from immediate food shortages but also from systemic factors that hinder access to healthy options. Many rural communities rely on local markets that often lack a diverse range of nutritious foods, making them susceptible to climate-induced events such as floods and droughts that disrupt local agriculture. This disruption reduces the availability of fresh produce, forcing reliance on less nutritious, processed foods. Additionally, climate events can damage critical infrastructure, including roads and storage facilities, which are essential for transporting food from producers to consumers. For instance, flooding can block market access, preventing farmers from selling their crops and leading to food waste, while consumers may face shortages that drive up prices and limit access to essential nutrients. Furthermore, climate change leads to fluctuations in food supply, impacting market prices; adverse weather conditions can reduce crop yields, resulting in scarcity and soaring prices. Vulnerable populations, who typically spend a larger portion of their income on food, may struggle to afford nutritious options during these price spikes, often prioritizing quantity over quality, which further exacerbates malnutrition. Together, these interconnected factors create a vicious cycle: climate disruptions diminish access to healthy food, disrupt value chains, and increase price volatility, leaving vulnerable communities struggling to secure adequate nutrition. Thus, addressing these challenges is crucial for enhancing nutrition security and building resilience against future climate impacts.

- **Institutional and Policy Coordination:** The effectiveness of climate resilience initiatives in Lao PDR's food systems is hampered by institutional fragmentation and coordination challenges. Despite recent reforms, including the merger of key ministries, there remain significant gaps in policy coordination and implementation. Public investment in low-carbon, climate-resilient agriculture is currently less than **5% of total agricultural spending**, which has slowed the adoption of transformative solutions. The complex nature of food systems requires coordinated action across multiple sectors and levels of government, but achieving this coordination remains a significant challenge.

These interconnected challenges require a comprehensive and integrated approach to build truly resilient food systems in Lao PDR. Success in addressing these challenges demands not only technical solutions but also institutional reforms, increased investment, and stronger coordination among all stakeholders. The government's recent initiatives to strengthen institutional frameworks and increase investment in climate-resilient agriculture represent important steps forward, but sustained effort and resources will be needed to overcome these fundamental challenges.

Key Drivers of Food Systems Transformation in Lao PDR

- **Climate-Smart Agriculture Integration:** Climate-smart agriculture has emerged as a fundamental driver of transformation in Lao PDR's food systems. This approach combines traditional knowledge with modern techniques to create farming systems that are both productive and resilient. For instance, the **Lao National Adaptation Programme of Action (NAPA)** emphasizes the adoption of climate-resilient crop varieties, such as drought-resistant rice and flood-tolerant maize, which have shown promising results in areas prone to extreme weather conditions. Additionally, the **Ministry of Agriculture and Environment** has implemented the **Irrigation Development Strategy**, which focuses on improving irrigation systems across the country. Projects like the **Nam Ngum Irrigation Project** have helped farmers manage water resources more effectively, enabling them to maintain crop yields during dry spells. Sustainable land management practices are also being promoted through initiatives such as the **Integrated Sustainable Agriculture and Natural Resource Management Project**, which supports techniques like terracing and soil conservation. For example, farmers in the **Xieng Khouang Province** have successfully implemented terracing methods that significantly reduce soil erosion and enhance soil fertility, thereby improving agricultural productivity. Furthermore, the **Lao Government's Climate Change Adaptation Strategy** encourages practices that contribute to GHG emission reduction, such as agroforestry and organic farming. These integrated approaches not only increase agricultural productivity but also create a win-win situation for farmers and the environment. By fostering collaboration between government agencies, local communities, and international organizations, Lao PDR is making strides toward a more resilient and sustainable food system.

- **Nature-Based Solutions Implementation:** The implementation of nature-based solutions represents a powerful driver for building resilient food systems in Lao PDR. Agroforestry systems, which integrate trees with crops and/or livestock, have proven particularly effective in upland areas, providing multiple benefits such as soil protection, biodiversity conservation, and additional income streams for local communities. For instance, the **Lao Upland Rural Advisory Service (LURAS)**, in partnership with the Department for Agricultural Extension and Cooperatives, supports ethnic minority and youth farmers in adopting agroforestry techniques. Since 2015, communities have successfully grown Arabica coffee under natural forest canopies at high elevations. This approach not only maintains biodiversity and curbs soil erosion but also delivers high-value income, demonstrating a model of “forest-friendly farming” that enhances both climate adaptation and financial sustainability. In addition to coffee cultivation, the Lao government offers incentives for teak-based agroforestry systems in northern upland districts. By integrating timber trees with annual crops, these initiatives diversify smallholder incomes and facilitate sustainable land use transitions away from shifting cultivation. This strategy not only helps restore forest cover but also improves family livelihoods through both timber and food sales, aligning economic benefits with environmental sustainability. Ecosystem restoration initiatives further support the resilience of food systems in Lao PDR. The **Transformative Land Investment Project (TLI)**, launched in 2024 by the Department of Forestry in collaboration with RECOFTC and the Swiss Agency for Development and Cooperation (SDC), aims to restore over 600,000 hectares of degraded forests in Khammouane and Luang Prabang. Utilizing agroecology principles, this initiative strengthens tenure rights and promotes community-led management, thereby rebuilding natural buffers against climate extremes and enhancing vital ecosystem services. Moreover, the **National Biodiversity Strategy and Action Plan (NBSAP)** is currently being revised to integrate ecosystem restoration more explicitly with the protection of endangered species, such as Eld’s deer and the Siamese crocodile in Savannakhet. This plan emphasizes forest landscape conservation in Champassak and includes financing mechanisms to support biodiversity, reflecting a comprehensive approach to environmental management in Laos. Integrated pest management (IPM) approaches are also gaining traction as part of the government’s strategy to enhance agricultural sustainability. The **Regulation on Control of Pesticides (No. 2860/MAF)** and the **Law on Chemicals Management** mandate that farmers and pesticide businesses prioritize pest control through natural predators and IPM strategies. Policy guidance encourages the use of biological control methods, minimizing reliance on synthetic inputs. Training extension officers and farmers to deploy beneficial insects and native solutions is a key component of this initiative. Community-based learning activities facilitated by LURAS promote IPM practices on demonstration farms, fostering peer-to-peer knowledge sharing through digital platforms and social media. This collaborative approach not only empowers farmers but also enhances the overall effectiveness of pest management strategies. In urban areas, flood management is increasingly shifting toward ecosystem-based adaptation, emphasizing the restoration of green spaces, wetlands, and natural floodplains. Initiatives led by **UN Habitat** aim to protect urban populations using nature-based buffers rather than relying solely on hard infrastructure. Similarly, projects in northern Laos, promoted by **UNDP** and partners, focus on ecosystem restoration to enhance watershed resilience, support water regulation, and stabilize landscapes against climate extremes. These efforts directly benefit rural food production systems and local livelihoods, illustrating a holistic approach to environmental and food system resilience

- **Value Chain and Market Development:** The strengthening of agricultural value chains has emerged as a crucial driver of food system transformation in Lao PDR. Improvements in rural infrastructure, particularly road networks and storage facilities, are enabling farmers to access markets more effectively and reduce post-harvest losses. For example, the **Lao Road Improvement Project**, funded by the Asian Development Bank, has focused on upgrading rural roads in key agricultural areas, significantly enhancing farmers' access to markets. This initiative has reduced travel times and transportation costs, allowing farmers to sell their products more efficiently. In addition to infrastructure improvements, the development of sophisticated market linkages is playing a vital role in enhancing farmers' economic prospects. Initiatives such as **contract farming arrangements** have been introduced, allowing farmers to secure agreements with buyers before harvest. This not only provides farmers with guaranteed markets but also encourages them to adopt climate-resilient practices, knowing they have a buyer for their improved products. For instance, the **Lao Coffee Farmers' Cooperative** has established contracts with international buyers, ensuring that farmers receive fair prices for their high-quality coffee while incentivizing sustainable agricultural practices. Digital marketing platforms are also gaining traction in Lao PDR, facilitating direct sales between farmers and consumers. The **Lao Farmers' Digital Marketplace**, launched in collaboration with local NGOs and tech companies, enables farmers to list their products online, reaching a broader customer base. This platform helps farmers secure better prices for their goods by eliminating intermediaries, thereby increasing their profit margins. Moreover, the establishment of more robust value chains contributes to distributing risk more evenly among different actors in the agricultural sector. The **National Agricultural Policy**, which emphasizes the importance of value chain development, supports initiatives that strengthen collaboration among farmers, processors, and retailers. By fostering partnerships and enhancing communication within the value chain, this policy helps build resilience in the food system, allowing stakeholders to share knowledge, resources, and risks associated with market fluctuations. These market improvements not only provide stronger incentives for farmers to invest in climate-resilient practices but also enhance the overall resilience of the food system. By integrating infrastructure development, market linkages, and supportive policies, Lao PDR is positioning itself to create a more sustainable and equitable agricultural landscape that benefits both farmers and consumers.





- Financial Innovation and Access:** Innovation in agricultural finance has emerged as a key catalyst for transforming the agricultural landscape in Lao PDR. By facilitating access to capital and risk management tools, financial innovations are enabling smallholder farmers to transition to climate-resilient farming practices. A range of programs and policy frameworks tailored to the realities of smallholder farming and climate resilience is driving this transformation. One significant development in agricultural finance is the **Sustainable Agrifood Systems Project**, approved by the Asian Development Bank (ADB) in July 2025. This project employs blended finance, combining public and private capital through mechanisms such as the **ASEAN Catalytic Green Finance Facility (ACGF)**, the **Green Climate Fund**, and co-financing from the **European Union**. With a total investment of \$65.8 million, the project focuses on upgrading rural infrastructure, promoting climate-smart agricultural practices, and enhancing the export value of key Lao commodities, including bamboo, cassava, durian, coffee, and tea. This innovative financing approach not only supports immediate agricultural needs but also fosters long-term sustainability and resilience in the sector. Additionally, the **Green Finance Policy Framework**, adopted by the Bank of Lao PDR, provides guidelines for green lending specifically targeting the agri-food sector. Collaborative efforts with the **International Finance Corporation (IFC)** and the introduction of green thematic bonds have enabled local banks to channel capital into certified climate-resilient agricultural projects. This framework establishes new pathways for farmers and agribusinesses to access sustainable financing, thereby enhancing their capacity to invest in environmentally friendly practices. Microfinance institutions (MFIs) play a crucial role in providing access to financial services for smallholder farmers. **Nayoby Bank (NBB)**, a state-owned policy bank, offers highly flexible loan products tailored to the needs of farmers in poor districts. By not requiring hard collateral for group loans and providing low-interest rates, NBB has enabled thousands of smallholders to purchase inputs and invest in improvements aligned with local agricultural cycles. In total, more than 500,000 clients are served by MFIs and **Savings & Credit Unions (SCUs)** across the country. These institutions offer small and group loans with flexible terms designed for smallholders who often lack formal collateral.

By matching loan repayment schedules to seasonal income flows, these financial products mitigate risk and support the transition to more resilient farming systems. Community-based savings and credit groups are another vital component of the financial landscape in rural Lao PDR. These groups provide easily accessible credit to farmers who may not have access to formal banking services. Supported by the **Lao Farmers Network**, **IFAD**, and various NGO partners, these groups enable members to collectively save, access small loans, and invest in improved seeds, tools, and technology. Many of these initiatives are integrated into targeted food security and adaptation projects in upland districts, linking financial services directly to agricultural extension and technology access. Moreover, the **Business Assistance Facility (BAF)** offers matching grants and mentoring to startups and agricultural micro, small, and medium enterprises (MSMEs). This support empowers these businesses to hire technical advisors, upgrade practices, and reach new markets. As of 2022, BAF has enabled over 250 grants, primarily benefiting clients in the agriculture and food sectors. To further enhance access to finance, the **Lao Credit Guarantee Facility (CGF)** was developed with a \$50 million investment from the government and the World Bank. This facility specifically targets small agri-enterprises and MSMEs that lack collateral, enabling them to access loans with reduced risk. The implementation manuals and regulations for the CGF are currently being finalized for rollout in early 2025, promising to create a more supportive borrowing environment for smallholders. Additionally, financial literacy and inclusion programs have become a priority for the Bank of Lao PDR. These programs focus on underserved rural populations through initiatives such as mobile banking, digital finance partnerships, and enhanced consumer protection measures. By improving financial literacy, these efforts empower farmers to make informed decisions about their finances and investments.

- **Community Empowerment and Capacity Development:** Community engagement and capacity building are essential drivers of sustainable change in Lao PDR's food systems. By prioritizing local empowerment and knowledge transfer, the country is fostering an environment where innovations are not only technically sound but also socially acceptable and culturally relevant. This approach is critical for achieving long-term sustainability and resilience in agriculture, particularly in the face of climate change. A cornerstone of this empowerment strategy is the implementation of farmer training programs that utilize participatory approaches and practical demonstrations. For instance, the **Department of Livestock and Fisheries (DLF)**, with support from the **Food and Agriculture Organization (FAO)**, has successfully scaled Integrated Aquaculture-Agriculture (IAA) practices through participatory farmer promotion trials across various provinces, including **Luang Namtha**, **Oudomxay**, **Xieng Khouang**, **Savannakhet**, and **Salavan**. Over 500 farming households have engaged in these practical demonstrations, leading to rapid adoption of improved practices and measurable enhancements in food production and nutrition within rural communities. Additionally, the national **Farmer Field School (FFS)** approach, supported by the FAO, the **Lao Farmer Network**, and the **National Agriculture and Forestry Research Institute (NAFRI)**, provides hands-on learning experiences through demonstration plots and peer-to-peer sharing. Tens of thousands of farmers have benefited from this initiative, gaining knowledge about climate-resilient rice systems, diversified cropping, and agroecology tailored to Laos' diverse agro-ecological contexts. This method not only enhances farmers' technical skills but also fosters a sense of community and collaboration. The integration of indigenous knowledge with modern agricultural science is another key element driving community empowerment. Projects

managed by the **Lao Farmer Network (LFN)** and the **aGREEN initiative** actively blend local farming wisdom—such as traditional cropping cycles, integrated livestock-fish systems, and forest-based foods—with contemporary scientific methods. This hybrid approach respects existing practices and leverages the expertise of village leaders and local ethnic groups, resulting in high rates of adoption. For example, ecosystem-based aquaculture and local cropping systems are rejuvenated through entry-level rural development initiatives that build on indigenous knowledge. These initiatives have proven effective in ensuring year-round food availability for vulnerable groups, thereby enhancing food security and resilience within communities. The **Lao Farmer Network** serves as the largest community-based farmer organization in the country, linking over 5,200 members across various commodity and provincial networks. Through organized farmer-to-farmer visits, expert “lead farmers,” and digital platforms, successful innovations—such as drought-tolerant vegetables, climate-smart agroforestry, and improved storage techniques—are disseminated rapidly among rural producers. This peer-to-peer learning model not only accelerates the spread of effective practices but also strengthens social capital within communities. The **aGREEN project** (2023–2027) emphasizes circular learning, where farmer experts regularly train others in sub-groups. This initiative has documented increases in food security and income for 2,800 rural households in the three most food-insecure provinces, illustrating the tangible benefits of community-driven capacity development. Furthermore, farmer associations actively connect members with public and private sector resources, including technical assistance, business planning, market access, and financial literacy, through collaborative efforts with organizations such as the **World Food Programme (WFP)** and **IFAD**. The commitment to community empowerment is further reflected in the intensive extension services provided by the **Ministry of Agriculture and Forestry**, which are embedded in the current **Agriculture Development Strategy to 2025**. This strategy institutionalizes participatory methodologies across provinces, encouraging the integration of local knowledge alongside modern agricultural practices. Moreover, the professionalization and organizational capacity of farmer cooperatives are systematically supported through capacity indices, graduation processes, and targeted mentorship programs funded by both donor agencies and the government. This structured support enhances the effectiveness of cooperatives, enabling them to better serve their members and contribute to the overall resilience of the agricultural sector.

- **Policy and Institutional Transformation:** Recent policy innovations and institutional reforms in Lao PDR are beginning to create momentum for the transformation of food systems, although the full impact of these changes is still unfolding. The merger of the ministries of agriculture and environment represents a significant shift towards more integrated approaches to climate resilience and agricultural development. This structural change aims to facilitate collaboration between sectors, but its effectiveness will depend on the implementation of cohesive strategies and the alignment of objectives across both ministries.

- **Integrated Approaches to Climate Resilience:** The newly merged ministry has the potential to enhance the coherence of policies related to agricultural practices and environmental sustainability. For instance, integrated land-use planning could lead to better resource management and more effective responses to climate challenges. However, careful monitoring and evaluation are essential to ensure that these integrated approaches yield tangible benefits for farmers and communities. Evidence from similar initiatives in other countries suggests that without clear guidelines and adequate training for local officials, the intended outcomes may not materialize. The launch of the **Convergence Initiative** marks a step towards coordinated action across various sectors and levels of government. This initiative aims to break down silos and promote collaboration among different stakeholders, including government agencies, NGOs, and private sector actors. While this framework holds promise for enhancing synergies and improving resource allocation, its success will hinge on effective communication and cooperation among all parties involved. Recent reports indicate that similar convergence efforts in other regions have faced challenges due to a lack of clarity in roles and responsibilities, highlighting the need for careful planning and stakeholder engagement in Lao PDR. The recent institutional changes have improved access to international support, creating new opportunities for public-private partnerships (PPPs). For example, the government's commitment to attracting foreign investment in sustainable agriculture could lead to increased funding for climate-resilient projects. However, it is crucial to ensure that these partnerships are equitable and prioritize the needs of local communities. Evidence from past PPPs in the region indicates that without proper safeguards, local farmers may not fully benefit from such arrangements. Moreover, the evolving policy environment in Lao PDR is becoming more conducive to systemic change and long-term planning for climate resilience. The establishment of frameworks for monitoring and evaluating the impacts of these policies will be essential for ensuring accountability and making necessary adjustments over time. The experience of other countries that have implemented similar reforms underscores the importance of establishing robust mechanisms for tracking progress and incorporating feedback from stakeholders.



- **Research and Technological Innovation:** Investment in agricultural research and technological innovation is critical for developing climate-resilient food systems in Lao PDR. Given the country's diverse agro-ecological conditions, tailored approaches to crop varieties and farming techniques are essential. Ongoing efforts by research institutions are yielding significant advancements, fostering innovations that are not only effective but also relevant to local contexts. These innovations are vital for ensuring food security and enhancing the livelihoods of rural communities, particularly in the face of climate change. The **Ministry of Agriculture and Forestry**, in collaboration with research centers such as the **Naphok Rice Research Center** and international partners like the **International Rice Research Institute (IRRI)** and the **World Vegetable Center**, has made substantial strides in developing climate-resilient crop varieties. Notable examples include "Hom-Xebangfai 4," a sticky rice variety resilient to both floods and droughts, and "Thadokkham 15," which is resistant to multiple diseases. The introduction of PKH426, a high-yield pumpkin variety resistant to viruses, has also been embraced by farmers in Oudomxay and Savannakhet. These advancements illustrate a proactive approach to addressing climate change challenges, with rapid adoption among local farmers serving as evidence of their relevance and effectiveness. Furthermore, cross-border trials with Vietnamese partners in 2025 have facilitated the introduction of hybrid pumpkin lines that enhance yield, nutritional value, and viral resistance, specifically designed for upland farmers in Laos. This collaborative effort underscores the importance of regional partnerships in enhancing agricultural resilience. In conjunction with crop research, the **Convergence Initiative**, supported by the **Food and Agriculture Organization (FAO)** and national partners, has launched real-time agricultural advisory services that significantly enhance farmers' decision-making capabilities. These services include mobile weather forecasting, climate risk assessment apps, pest and disease alerts, and cropping recommendations, widely utilized in extension services. By providing timely and accessible information, these digital solutions empower farmers to adapt their practices to changing conditions. Additionally, market information apps and SMS services developed under the **Agriculture Development Strategy** connect farmers with daily price data, crop management tips, and seasonal outlooks. This access to information is vital for improving market access and ensuring that farmers can make informed decisions about their production and sales strategies. The **Naphok Research Center** has pioneered direct seeding techniques and integrated crop variety systems, such as rice-mung bean-sun hemp rotations. These practices have been broadly implemented across the country, reducing labor requirements and enhancing resilience to erratic rainfall patterns. Furthermore, the **Lao Farmer Network** has introduced innovative models, including cooperative-based coffee production for export and the utilization of coffee waste for saffron production. These initiatives showcase the potential for creative adaptations that promote rural development and market access, demonstrating that local innovations can lead to significant economic benefits for farmers. Institutional partnerships are vital for advancing agricultural research and technology in Lao PDR. The **National Agriculture and Forestry Research Institute (NAFRI)** oversees 13 specialized centers dedicated to research in crops, livestock, soils, and aquatic resources, all with a focus on climate resilience and participatory farmer testing. These centers are essential for ensuring that research outputs meet the needs of local farmers and contribute to sustainable agricultural practices. Moreover, public-private partnerships have attracted significant investments from countries such as China and Vietnam, as well as international donors. These investments have facilitated the introduction of modern technologies, including greenhouse systems, drip irrigation, and digital extension

services, particularly in provinces like Luang Namtha and Vientiane. Such collaborations enhance the technological capacity of the agricultural sector and promote knowledge transfer and capacity building among local stakeholders. To further advance research and technological innovation for climate-resilient food systems in Lao PDR, several critical actions are necessary. First, strengthening research collaboration is essential. By fostering deeper collaboration between local research institutions and international agricultural research organizations, Lao PDR can facilitate knowledge exchange and access to advanced technologies. Establishing joint research programs that focus on local challenges will leverage global expertise while addressing specific agricultural needs within the country. Enhancing capacity building is another crucial step. Implementing training programs for farmers and extension workers will improve their understanding of new technologies and sustainable practices. Additionally, promoting educational initiatives in schools and communities will raise awareness about climate resilience and sustainable agriculture, ensuring that future generations are equipped to tackle these challenges. Expanding digital infrastructure is vital for ensuring that all farmers have access to digital tools and information. Investments in rural digital infrastructure will enable more farmers to benefit from innovations in agricultural technology. Developing user-friendly applications and platforms tailored to the needs of Lao farmers, including local languages and cultural contexts, will further enhance accessibility and usability. Promoting sustainable practices through research into environmentally friendly agricultural methods is essential for long-term resilience. Encouraging practices such as organic farming and agroecology can minimize environmental impact while enhancing productivity. Supporting initiatives that promote biodiversity and soil health is critical, as these factors are crucial for sustaining agricultural productivity in the face of climate variability. Diversifying funding sources will also play a significant role in advancing agricultural research and innovation. By seeking diverse funding avenues, including government grants, international aid, and private sector investment, Lao PDR can support innovative agricultural projects. Creating incentives for private sector involvement in agricultural research and technology development will further stimulate growth in this sector. Finally, establishing robust monitoring and evaluation frameworks is necessary to assess the impact of research and technological innovations on agricultural productivity and climate resilience. Utilizing data-driven approaches to inform policy decisions will improve the effectiveness of agricultural programs, ensuring that they are responsive to the needs of farmers and the challenges posed by climate change. By implementing these strategies, Lao PDR can enhance its research and technological innovation landscape, ultimately leading to more resilient food systems that can withstand the challenges posed by climate change. Through a concerted effort to integrate research, technology, and local adaptation, Lao PDR can secure a sustainable agricultural future that benefits both its farmers and its economy.

These key drivers are interconnected and mutually reinforcing, creating a strong foundation for transforming Lao PDR's food systems. Their effectiveness lies not only in their individual impacts but also in how they work together to create comprehensive change. Success in leveraging these drivers requires continued commitment to coordination among stakeholders, sustained investment in key areas, and flexibility to adapt approaches based on learning and experience. As these drivers continue to evolve and strengthen, they will play an increasingly important role in building climate-resilient food systems that can support both current and future generations in Lao PDR.

4. VISION AND OBJECTIVES OF THE CONVERGENCE FOR GREATER LINKAGES BETWEEN FOOD SYSTEMS AND CLIMATE ACTION

"By 2035, Lao PDR envisions a resilient, self-reliant, and technology-enabled agrifood system, where domestic production meets national food demand first, stabilizes food prices, and reduces import dependency. With increased investment and funding, natural resources are sustainably managed, and evolving consumption patterns, especially among the youth and urban populations, are supported through improved nutrition, diversified diets, and inclusive food policies."

5. KEY CONVERGENCE PRIORITY AREAS AND GAME CHANGERS

5.1 PRIORITY AREAS FOR CLIMATE-RESILIENT FOOD SYSTEMS IN LAO PDR

Lao PDR has established four key priority areas for building climate-resilient food systems, each shaped through participatory processes involving diverse stakeholders. These priorities are complemented by transformative "game changer" initiatives designed to accelerate progress and ensure long-term sustainability.

Priority Area 1 - Climate-Smart Agriculture Implementation Program

- **Stakeholder Engagement:** Agricultural extension officers, farmer group leaders, and local leaders contributed practical insights, highlighting the need for solutions that farmers can adopt sustainably.
- **Successful Pilots:** Pilot projects demonstrated that climate-smart irrigation techniques can significantly boost crop yields.
- **Indigenous Knowledge Integration:** Combining traditional farming methods with modern climate-smart approaches has enhanced resilience in agricultural systems, as evidenced by local success stories.

Priority Area 2 - Nature-Based Solutions in Agriculture

- **Agroforestry Systems:** Environmental specialists presented evidence that agroforestry supports both carbon sequestration and income generation for farmers.
- **Ecosystem Restoration:** Restored wetlands within the Mekong River Systems have served as natural buffers against climate extremes, maintaining agricultural productivity.
- **Integrated Pest Management:** Enhancing biodiversity has reduced the need for chemical inputs and improved crop health, as reported by participating farmers.

Priority Area 3 - Health-Climate-Food Systems Integration

- **Nutrition and Resilience:** Public health experts emphasized the link between climate-resilient agriculture and improved community nutrition.
- **Adoption Through Education:** Health workers found that pairing nutrition education with climate-smart farming increases adoption rates and health outcomes.
- **Food Safety:** The group underscored the importance of food safety in the face of changing climate conditions, calling for integrated approaches to these interconnected challenges.

Priority Area 4 - Mobilization of Funding and Inclusive Investment

- **Blended Finance Mechanisms:** Financial sector representatives advocated for mechanisms that attract both public and private investment.
- **Microfinance and Savings Groups:** Community-based savings groups and microfinance models have proven effective in supporting climate-smart agriculture.
- **Access to Climate Finance:** Simplifying climate finance access for smallholder farmers was recognized as essential for widespread adoption of climate-smart practices.

5.2 GAME CHANGERS: TRANSFORMATIVE INITIATIVES

Lao PDR has identified several transformative "game changer" initiatives to accelerate progress toward climate-resilient food systems. These initiatives are designed to address systemic challenges, foster innovation, and ensure long-term sustainability by integrating traditional knowledge with modern science and promoting cross-sector collaboration.

Game Changer 1 - Education and Capacity Building Initiative

- **Comprehensive Approach:** Targets all levels of society, from primary schools to policymakers.
- **Curriculum Development:** Integrates traditional and scientific knowledge in locally relevant materials.
- **Training and Outreach:** Specialized training for agricultural extension workers and use of digital platforms to reach remote communities and younger generations.

Game Changer 2 - Sustainable Agriculture Transformation

- **Demonstration and Peer Learning:** Uses demonstration farms, field schools, and peer-to-peer networks to promote climate-smart practices.
- **Support for Transition:** Provides comprehensive support for soil conservation, water management, and integrated pest management.
- **Market Linkages:** Strengthens value chains and economic viability for farmers to get access to market and at the same time adopting sustainable practices.

Game Changer 3 - One Health Approach Integration

- **Holistic Solutions:** Addresses the interconnectedness of human, animal, and environmental health.
- **Surveillance and Research:** Establishes coordinated systems for early detection of zoonotic and environmental health threats.
- **Community Monitoring:** Promotes participatory disease surveillance networks.

Game Changer 4 - Climate-Smart Agriculture Implementation

- **Technical Frameworks:** Offers detailed guidelines for climate-resilient crop varieties, irrigation technologies, and soil management tailored to local conditions.
- **Monitoring and Scaling:** Tracks intervention effectiveness and enables the scaling of successful practices through farmer networks and extension services.

Game Changer 5 - Water, Sanitation, and Food Safety Integration

- **Infrastructure Improvements:** Focuses on efficient irrigation, water quality monitoring, and integrated watershed management.
- **Post-Harvest and Storage:** Enhances facilities to reduce losses and maintain food safety.
- **Food Safety Standards:** Develops and implements standards suitable for both local and international requirements.

Game Changer 6 - Multi-Sector Convergence for Nutrition Security

- **Cross-Sector Collaboration:** Coordinates agriculture, health, education, and social protection sectors to improve nutrition outcomes.
- **Dietary Diversity:** Acknowledge and promote local and indigenous food systems and promote agricultural diversification and market development for nutritious foods.
- **Behavior Change Communication:** Incorporates strategies to promote healthy eating habits and improved food choices.

Summary Table: Game Changers for Climate-Resilient Food Systems

Game Changer	Key Focus Areas
Education and Capacity Building	Curriculum, training, digital outreach
Sustainable Agriculture Transformation	Demonstration, support, market linkages
One Health Approach Integration	Human-animal-environment health, surveillance, research
Climate-Smart Agriculture Implementation	Technical guidance, monitoring, scaling
Water, Sanitation, and Food Safety	Infrastructure, standards, post-harvest improvements
Multi-Sector Convergence for Nutrition	Collaboration, dietary diversity, behavior change

5.3 HOW TO ENSURE CLIMATE-RESILIENT FOOD SYSTEMS IN LAO PDR

Alignment of Game Changers with Priority Areas for Climate-Resilient Food Systems in Lao PDR.

Lao PDR's approach to climate-resilient food systems is structured around four key priority areas, each supported and accelerated by specific "game changer" initiatives. The table below aligns each game changer with the priority areas it most directly advances, illustrating how these transformative actions reinforce and operationalize national priorities.

Alignment Table

Priority Area	Aligned Game Changers (most direct linkage only)	Explanation
1. Climate-Smart Agriculture Implementation	1. Education and Capacity Building 2. Sustainable Agriculture Transformation 4. Climate-Smart Agriculture Implementation	• <i>Climate-Smart Agriculture Implementation</i> provides technical guidance and scalable frameworks for resilient farming. • <i>Education and Capacity Building</i> ensures farmers and extension workers are equipped to adopt new practices. • <i>Sustainable Agriculture Transformation</i> supports practical adoption through demonstration farms and peer learning.
2. Nature-Based Solutions in Agriculture	2. Sustainable Agriculture Transformation 3. One Health Approach Integration 5. Water, Sanitation, and Food Safety Integration	• <i>Sustainable Agriculture Transformation</i> promotes agroforestry, soil conservation, and biodiversity. • <i>Water, Sanitation, and Food Safety Integration</i> enhances ecosystem services through efficient water management and watershed approaches. • <i>One Health Approach Integration</i> addresses ecosystem health, linking environmental restoration with food system resilience.

Priority Area	Aligned Game Changers (most direct linkage only)	Explanation
3. Health-Climate-Food Systems Integration	3. One Health Approach Integration 6. Multi-Sector Convergence for Nutrition Security 1. Education and Capacity Building	• <i>One Health Approach Integration</i> bridges human, animal, and environmental health for holistic resilience. • <i>Multi-Sector Convergence for Nutrition Security</i> fosters collaboration across health, agriculture, and education to improve nutrition outcomes. • <i>Education and Capacity Building</i> provides nutrition education and supports behavior change.
4. Mobilization of Funding and Investment	4. Sustainable Agriculture Transformation 6. Multi-Sector Convergence for Nutrition Security 1. Education and Capacity Building	• <i>Sustainable Agriculture Transformation</i> strengthens value chains and market linkages, attracting investment. • <i>Multi-Sector Convergence for Nutrition Security</i> leverages cross-sector resources for greater impact. • <i>Education and Capacity Building</i> empowers communities to access and utilize financial mechanisms for resilience.

6. CONVERGENCE MILESTONES

Building climate-resilient food systems in Lao PDR requires a comprehensive, multi-level approach that addresses both immediate vulnerabilities and long-term sustainability. The following strategies, based on national priorities and participatory policy processes, are essential for ensuring resilience:

1. Implement Climate-Smart Agriculture

- **Adopt Proven Practices:** Scale up climate-smart irrigation, drought-resistant crop varieties, and sustainable soil management to improve yields and buffer against climate shocks.
- **Leverage Indigenous Knowledge:** Integrate traditional farming methods with modern innovations to enhance system resilience and community ownership.
- **Farmer Training:** Expand agricultural extension services and peer-to-peer learning networks to ensure farmers can adopt new practices effectively.

Timeline with Key Milestones:

- **Short-Term (0-2 years):**
 - **Milestone 1:** Initiate pilot programs for climate-smart irrigation and drought-resistant crops in select communities by Year 2.
 - **Milestone 2:** Scale successful pilot programs across regions, integrating indigenous knowledge into training modules by Year 2.
 - **Milestone 3:** Establish a network of agricultural extension services and peer-to-peer learning groups by Year 2.
- **Medium-Term (3-5 years):**
 - **Milestone 4:** Achieve widespread adoption of climate-smart practices among smallholder farmers, youth and other groups living the marginalized situations leading to improved resilience and yields by Year 5.

2. Promote Nature-Based Solutions

- **Agroforestry Expansion:** Encourage integration of trees and crops to support carbon sequestration, biodiversity, and diversified farmer incomes.
- **Ecosystem Restoration:** Restore wetlands and degraded lands to act as natural buffers against floods and droughts while maintaining productivity.
- **Integrated Pest Management:** Foster biodiversity to reduce reliance on chemical inputs and improve crop health.

Timeline with Key Milestones:

- **Short-Term (0-2 years):**
 - **Milestone 1:** Identify and map potential agroforestry sites and degraded ecosystems for restoration by the end of Year 1.
- **Medium-Term (3-5 years):**
 - **Milestone 2:** Implement agroforestry projects and initiate ecosystem restoration efforts, including community engagement, by Year 4.
- **Long-Term (6-10 years):**
 - **Milestone 3:** Establish a network of restored ecosystems and agroforestry systems that contribute to enhanced biodiversity and farmer incomes by Year 10.

3. Integrate Health, Climate, and Food Systems

- **Nutrition-Sensitive Agriculture:** Align agricultural production with nutrition goals to improve dietary diversity and community health.
- **Food Safety Systems:** Develop and enforce food safety standards that address risks heightened by climate change.
- **Health-Education Linkages:** Combine nutrition education with climate-smart farming outreach to maximize adoption and health outcomes.

Timeline with Key Milestones:

- **Short-Term (0-2 years):**
 - **Milestone 1:** Conduct baseline assessments of current nutrition and food safety standards by Year 1.
- **Medium-Term (3-5 years):**
 - **Milestone 2:** Develop and implement nutrition-sensitive agriculture programs and food safety regulations by Year 3.
- **Long-Term (6-10 years):**
 - **Milestone 3:** Achieve measurable improvements in community health and dietary diversity linked to agricultural practices by Year 10.

4. Mobilize Funding and Investment

- **Blended Finance Mechanisms:** Establish public-private partnerships and blended finance models to attract investment in climate-resilient agriculture.
- **Microfinance and Savings Groups:** Support community-based financial services to empower smallholder farmers to invest in adaptation.
- **Simplify Access to Climate Finance:** Streamline processes so smallholders can access grants, loans, and insurance for climate adaptation.

Timeline with Key Milestones:

- **Short-Term (0-2 years):**
 - **Milestone 1:** Create frameworks for public-private partnerships and identify potential funding sources by Year 1.
- **Medium-Term (3-5 years):**
 - **Milestone 2:** Launch microfinance initiatives and simplify access to climate finance for smallholders by Year 4.
- **Long-Term (6-10 years):**
 - **Milestone 3:** Establish a sustainable funding ecosystem that consistently supports climate-resilient agricultural practices by Year 10.

5. Strengthen Infrastructure and Market Access

- **Rural Infrastructure:** Invest in roads, storage, and irrigation to reduce post-harvest losses and improve market connectivity.
- **Value Chain Development:** Strengthen agricultural value chains to incentivize resilient practices and ensure economic viability for farmers.

Timeline with Key Milestones:

- **Short-Term (0-2 years):**
 - **Milestone 1:** Assess current infrastructure needs and prioritize investments in key areas by Year 1.
- **Medium-Term (3-5 years):**
 - **Milestone 2:** Implement infrastructure projects, focusing on roads and storage facilities by Year 4.
- **Long-Term (6-10 years):**
 - **Milestone 3:** Achieve improved market access and reduced post-harvest losses through a well-developed rural infrastructure network by Year 10.

6. Foster Multi-Sector Collaboration

- **Policy Coordination:** Maintain strong coordination between agriculture, environment, health, and education ministries to ensure integrated solutions.
- **Community Engagement:** Involve local stakeholders in planning and implementation to ensure that solutions are context-specific and widely adopted.

Timeline with Key Milestones:

- **Short-Term (0-2 years):**
 - **Milestone 1:** Establish inter-ministerial committees to facilitate coordination and stakeholder engagement by Year 1.
- **Medium-Term (3-5 years):**
 - **Milestone 2:** Implement joint programs and policies that reflect multi-sector collaboration with clear roles, responsibilities and resource commitments by Year 3.
- **Long-Term (6-10 years):**
 - **Milestone 3:** Achieve cohesive policy frameworks that integrate agriculture, health, and environmental goals by Year 10.

7. Invest in Education and Capacity Building

- **Curriculum Development:** Integrate climate resilience and food systems into school curricula and vocational training.
- **Digital Tools:** Utilize mobile platforms and digital learning to reach remote communities and younger generations with up-to-date knowledge.

Timeline with Key Milestones:

- **Short-Term (0-2 years):**
 - **Milestone 1:** Review and revise educational curricula to include climate resilience and food systems by Year 1.
- **Medium-Term (3-5 years):**
 - **Milestone 2:** Implement training programs and digital learning platforms in schools and communities by Year 4.
- **Long-Term (6-10 years):**
 - **Milestone 3:** Establish a robust educational framework that continually updates knowledge on climate resilience and sustainable agriculture by Year 10.

8. Advance Research and Innovation

- **Local Research:** Support research on climate-resilient crops, farming systems, and digital solutions tailored to Lao PDR's diverse agro-ecological zones.
- **Monitoring and Evaluation:** Establish robust systems to track the effectiveness of interventions and enable adaptive management.

Timeline with Key Milestones:

- **Short-Term (0-2 years):**
 - **Milestone 1:** Identify research priorities and establish partnerships with local and international research institutions by Year 1.
- **Medium-Term (3-5 years):**
 - **Milestone 2:** Conduct research projects and begin implementing findings in agricultural practices by Year 4.
- **Long-Term (6-10 years):**
 - **Milestone 3:** Create a sustainable research ecosystem that continually informs and adapts agricultural practices based on evidence by Year 10.

9. Embrace the One Health Approach

- **Integrated Surveillance:** Develop coordinated systems for monitoring human, animal, and environmental health to detect and respond to emerging threats.
- **Collaborative Research:** Foster partnerships among public health, veterinary, and environmental scientists for holistic solutions.

Timeline with Key Milestones:

- **Short-Term (0-2 years):**
 - **Milestone 1:** Establish baseline health data and identify key areas for integrated surveillance by Year 1.
- **Medium-Term (3-5 years):**
 - **Milestone 2:** Implement coordinated monitoring systems and collaborative research initiatives by Year 4.
- **Long-Term (6-10 years):**
 - **Milestone 3:** Achieve a comprehensive One Health framework that enhances resilience against health threats by Year 10.

10. Ensure Water, Sanitation, and Food Safety Integration

- **Water Management:** Invest in efficient irrigation and watershed management to secure water for agriculture and communities.
- **Post-Harvest Improvements:** Upgrade storage and handling to reduce food losses and maintain safety standards.

Timeline with Key Milestones:

- **Short-Term (0-2 years):**
 - **Milestone 1:** Assess current water management practices and identify improvement areas by Year 1.
- **Medium-Term (3-5 years):**
 - **Milestone 2:** Implement efficient irrigation systems and post-harvest handling upgrades by Year 4.
- **Long-Term (6-10 years):**
 - **Milestone 3:** Establish sustainable water management practices that secure resources for agriculture and enhance food safety by Year 10.



© FAO/Manan Vatsyayana

7. MONITORING AND EVALUATION

Lao PDR has developed a suite of national systems that collectively support the monitoring and evaluation (M&E) of food system and climate resilience milestones. Each of these systems captures different aspects essential for tracking progress under the National Socio-Economic Development Plan (NSEDP) and its integrated objectives.

Existing National Systems and Their Use for M&E Milestones

System/Framework	How It Is Used to Track Key Milestones
NSEDP National M&E Framework	Forms the overarching results and indicator platform for all government sectors, providing regular reporting on poverty, growth, climate resilience, and SDGs. The framework ensures strategic alignment among ministries and supports aggregated tracking of cross-cutting goals.
National Statistical System (NSS)	Standardizes national indicators and conducts regular sectoral surveys and censuses. Provides core data on agricultural productivity, health, environment, and finances—enabling baseline creation, ongoing milestone assessment, and SDG/LDC reporting.
MRV System for NDC and Climate Resilience	Tracks climate-related commitments in the NDC, including adaptation, GHG reduction, and resilience activities. Can be directly used to monitor climate-specific progress (such as % of farmers using climate-smart techniques, hectares of restored land, resilience index scores).
National Agricultural Innovation System (AIS)	Monitors agricultural productivity (yields, cropping patterns, technology adoption) and food security indicators. Useful for disaggregating productivity gains, extension coverage, and resilience-building among vulnerable farmer groups.
Health and Nutrition M&E (Nutrition Info System, Health Sector Reform Framework)	Records health and nutrition outcomes such as stunting, wasting, household dietary diversity, maternal/child health, and links them with agricultural and climate exposure. Facilitates milestone tracking for improved nutrition and health under food systems transformation.
National Forest Monitoring System (NFMS)	Measures environmental outcomes—forest cover, biodiversity, ecosystem restoration, REDD+ implementation—which are critical for NSEDP environmental milestones and resilience tracking.
Finance, Green Growth, and SDG Investment Monitoring	Managed by Ministry of Planning & Investment and Bank of Lao PDR, this system tracks resource allocation, blended finance, SDG/green investment, and cost-effectiveness of key programs. Supports milestone assessments for finance mobilization and program sustainability.

Application to Specific Milestones

- **Climate Resilience Indicators:** Use MRV and NFMS data to track hectares of climate-adapted crops, percentage of climate-resilient infrastructure, and reductions in climate-related losses.
- **Agricultural Productivity:** NSS and AIS provide annual and seasonal crop yields, adoption of improved practices, and track high-productivity value chains among target populations.
- **Health and Nutrition Outcomes:** Health/nutrition M&E systems monitor reductions in undernutrition, improvements in dietary diversity, and climate-health adaptation milestones in rural and urban communities.
- **Environmental Impact:** NFMS, sectoral statistics, and climate reporting capture progress in wetland and forest restoration, biodiversity, and decreased pollution or land degradation.
- **Financial Sustainability Indicators:** National finance tracking systems and NSEDP expenditure reviews monitor the flow and effectiveness of public, donor, and private investments in food and climate programs, ensuring milestones for SDG and resilience financing are met.

8. CONCLUSION AND NEXT STEPS FOR CAB

This CAB serves as a living document to be updated periodically. Further consultations will take place to ensure additional inputs and views are incorporated. The merged Ministry of Agriculture and Environment will circulate this document amongst divisions to assess policy availability and gaps, ensuring alignment with national development goals and climate commitments.

The success of this blueprint depends on continued stakeholder engagement, effective coordination, and adaptive management. Through this integrated approach, Lao PDR is positioning itself to achieve significant progress in creating sustainable, resilient, and nutrition-sensitive food systems that effectively respond to climate challenges.

