

ເອກພັດທະນາ

EMI  
EKPHATTHANA  
MICROFINANCE  
INSTITUTION



ສະຖາບັນການເງິນຈຸລະພາກ ທີ່ຮັບເງິນຝາກ ເອກພັດທະນາ  
Ekphatthana Deposit-Taking Microfinance Institution  
ລາງວັນພິເສດ-ສາຂາລາງວັນທຸລະກິດເພື່ອສັງຄົມແບບຍືນຍົງ ດີເດັ້ນ  
(Special Award) - Sustainable Social Enterprise Excellence Award

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# GLOBAL MICRO FINANCE CASE COMPETITION 2022

Loan products impacting the environment positively for Lao People's Democratic Republic



MELBOURNE  
MICROFINANCE  
INITIATIVE

Team Medusa

Agnik Chakraborty  
Shreerup Ghosh  
Abhishek Banerjee  
Rishi Santosh

2022

SEP



# Context of Lao PDR

For green financing



Landlocked Lao PDR is one of the world's few remaining communist states and one of South East Asia's poorest. Most Laotians live in rural areas, with around **80% working in agriculture/Agro/Pisciculture**



Lao PDR Gross Domestic Product (GDP) per Capita reached **2,595.000 USD in Dec 2021, compared with 2,642.000 USD** in Dec 2020. The agriculture contribution to **GDP is declining at a substantial rate (around 16% currently) but 60% population depend on it**



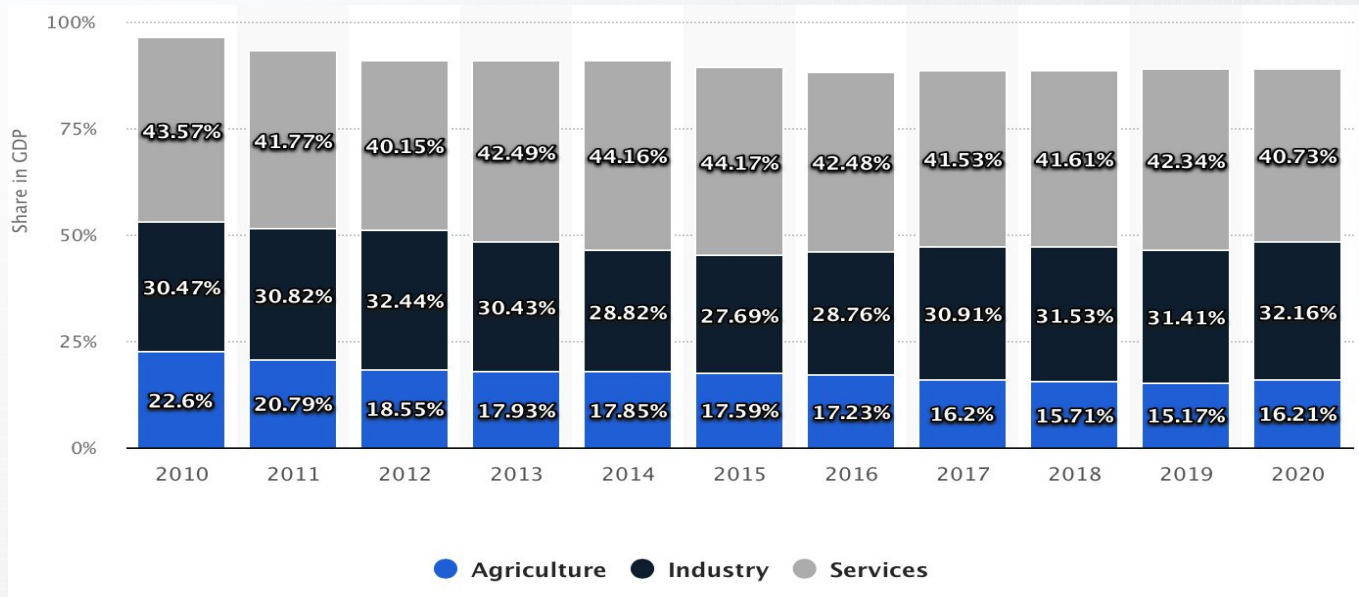
Lao PDR is highly vulnerable to impacts of **climate change with longer dry periods and intense wet periods** being experienced. Climate change is already affecting livelihoods, food security, water supply and health among much of the country's population. In order to address these, **the Department of Climate Change (DCC) applied to the Green Climate Fund (GCF) for these readiness and preparatory funds, using UNDP** as the delivery partner.



There are 15 Deposit Taking MFIs (DTMFIs) a 10.27% increase in active clients served by them from 2019 to 2020 . **EMI is clearly the largest group with a share of 51.1 % of the clients.** There will be threat posed by the CSR activities from MNCs having offices in Lao PDR even though they don't involve in lending money (they provide technical and financial support to communities which virtually make them rivals)



# Share of Economic Factors - GDP

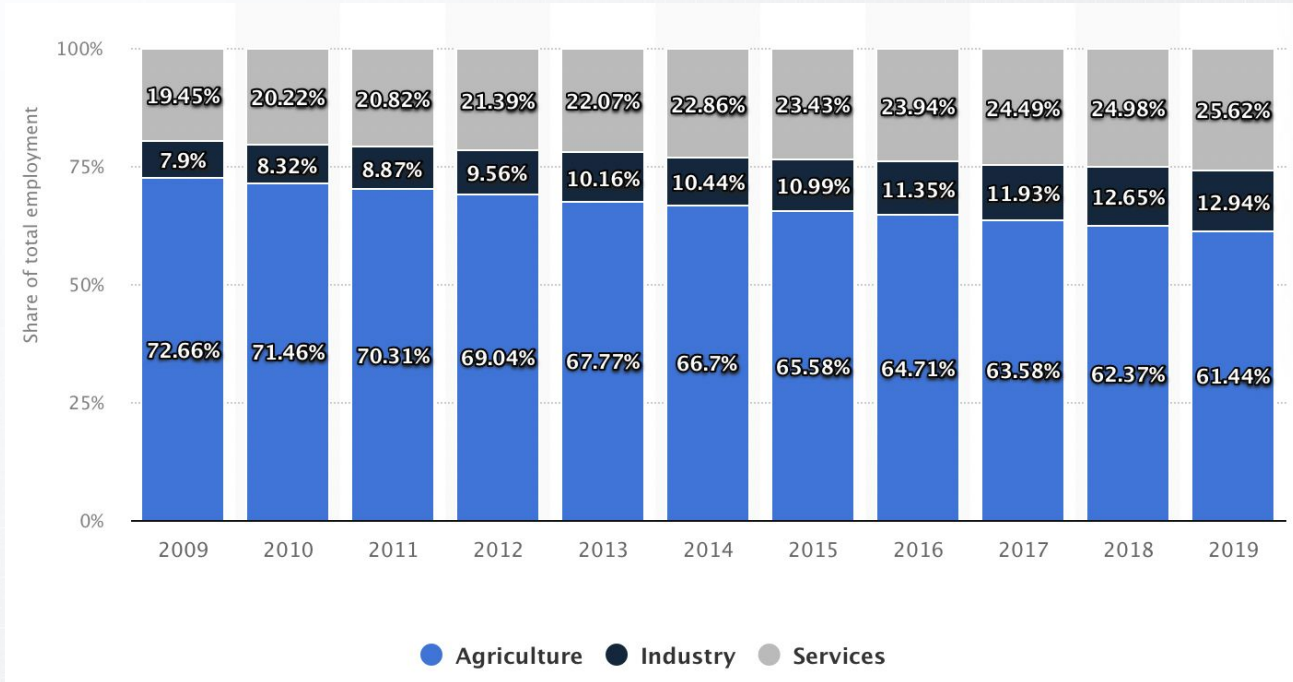


The agriculture contribution to the GDP has actually fallen significantly without corresponding equivalent growth in either Services or Industry sectors





# Share of Employment

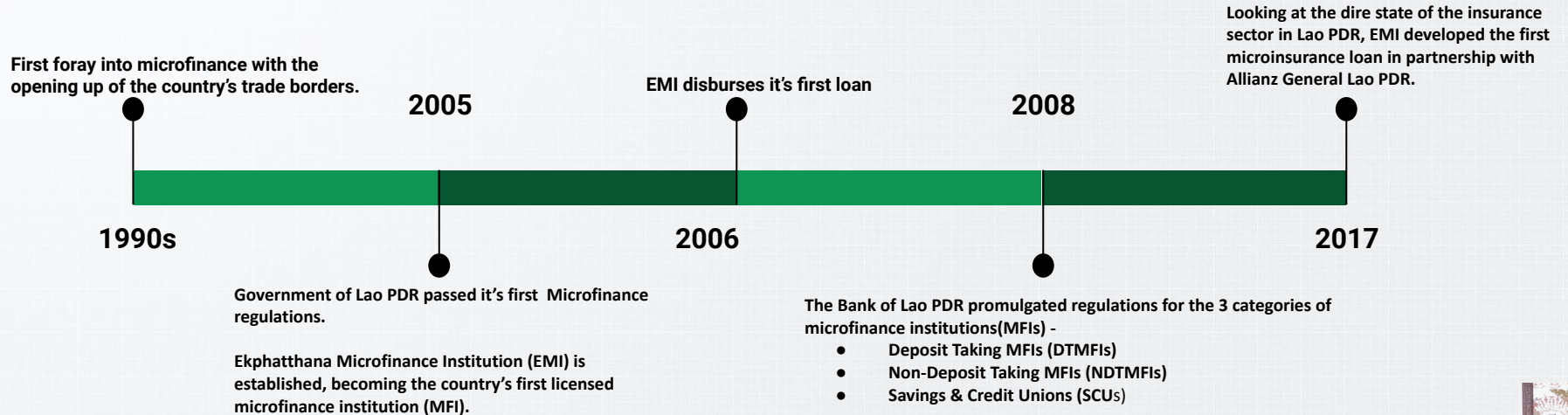


Agriculture still continues employ more people than the Industry and Service sectors put together





# History of MFIs in Lao PDR





# The Opportunity/Proposition

Critical decision for EMI at Lao PDR

## OBJECTIVE



The objective is to **prioritize the 'green finance' options for loan products through microfinancing** for the development and implementation of sustainable business models, investments, trade, and economic projects. **Green financing expands the accessibility of environmentally friendly goods and services** for individuals and businesses, particularly to vulnerable and marginalised groups, generating more socially inclusive growth.

'Green finance' is a broad umbrella term for capital flows intended to improve environmental outcomes by mitigating greenhouse gas (GHG) emissions, helping communities adapt to any negative effects caused by climate change (e.g. rising sea levels submerging urban and rural areas, erratic and intensifying weather events damaging infrastructure, weakening food production, impacted freshwater supplies, etc.), and/or resulting in a positive impact on the environment (i.e. restoring, rehabilitating, protecting, and preserving the land, water, air, flora, and fauna).





# Key Considerations

For proposing green financing loan products

## Existing Trends

Current work, successful experiments in the area of green financing in similar demographics

External/Internal

## Potential Investments

Options for investments like energy, water harvesting, sanitation, alternate cooking, biofuel, transportation, agriculture

In-line with values

## Implementation Steps

Types of loans, go-to-market strategy, risks, mitigation etc

Long-term goals

## Drivers of Revenue & Cost

Market potential, feasibility, accessibility, adoption, ease of implementation, constraints etc

Sustainability



# Investment Areas - Part 1

A

## Alternative Cooking

EMI can finance procurement of efficient and certified **cookstoves which utilize cleaner fuel like solar or biogas**. EMI can also promote alternative cooking equipment like solar cookers which prove to be cost efficient in the long run for ultra low income households.

*Firewood and Charcoal are the major sources of cooking fuel in Lao PDR. The availability of LPG in the country is also very limited , being primarily available along the borders of Thailand and Vietnam. Not only are these harmful to the environment, they also cause tremendous harm to the health of the person cooking using these fuel sources. Crop waste can be used for biogas or encourage the village to take a loan and build a biogas digester repurposing most waste products.*

B

## Sanitation

EMI can finance loans to the local entrepreneurs and consumers for **creating and or improving sanitation facilities by implementing and constructing bio-toilets, water treatment and composting toilets.**

*These don't need to be connected to septic tanks and the compost generated can be sold to the agricultural industry improving yield while also combating the problem of open defecation in rural areas (37% in rural areas as of 2016) which in the long run reduces risk of disease*

C

## Clean Water Deficit

EMI can provide loans to *Small-scale independent providers (SSIPs)* to build **water harvesting, storage structures and water transport structures.**

*SSIPs are for-profit entrepreneurs who supply water to areas where municipal or community-managed sources do not fully meet local demand. This enables households to have access to safe water while letting low income households pay on a daily or weekly basis*







# Investment Areas - Part 2



## Energy Augmentation

**Solar energy** is also a potential business that can be explored as an alternate energy supply for domestic consumption. **Hydro electricity** is another potential option with high focus from the government.

*Not only this reduces the dependence on fossil fuels but also provides ultra low cost energy which can be used for various purposes. The development of electricity in Lao PDR and export to neighbouring countries are essential for government revenues to reduce poverty. The Government is keen to make Lao PDR the 'Battery of SouthEast Asia' and has constructed many hydroelectric projects which left most water sources extremely contaminated and unfit for domestic usage.*



## E-Vehicles

EMI can provide loans for commercial **EVs** which not only strengthen the Supply Chain but also provide a source of extra income to the people involved.

*Under a new policy, annual road taxes for electric vehicles will be 30% lower than those of petrol vehicles of equal engine power, and electric vehicles will enjoy priority parking at charging stations and other public parking areas. Electricite du Lao PDR (EDL) not to impose metre fees on homes or businesses that utilise charging stations.*



## Agriculture

EMI can finance the procurement of climate resilient native seeds and organic **environment friendly fertilizers, farming equipments and pesticides** which increases crop productivity and hence the income of the farmers.

*The agricultural methods which are used currently are primitive and result in low yield, not to mention that 61% of the workforce is engaged in agriculture but only contributes to 16.2% of the GDP.*



# Comparative Score Card

	Alternate Cooking	Sanitation	Commercial EVs	Clean Water Deficit	Energy Augmentation	Agriculture
Ease of Knowledge Transition	Difficult 1	Moderate 2	Difficult 1	Easier 3	Difficult 1	Moderate 2
Market Opportunity (amplified weight)	Moderate 3	High 9	Low 1	High 9	Low 1	High 9
Capital Involvement	Low 3	Moderate 2	High 1	Moderate 2	High 1	Moderate 2
Economic Impact	Low 1	Low 1	Moderate 2	Low 1	Moderate 2	High 3
Social Impact	High 3	High 3	Low 1	High 3	Low 1	Moderate 2
Environmental Impact	High 3	Low 1	Moderate 2	Low 1	Moderate 2	Moderate 2
Final Score	<b>81</b>	<b>108</b>	<b>4</b>	<b>162</b>	<b>4</b>	<b>432</b>





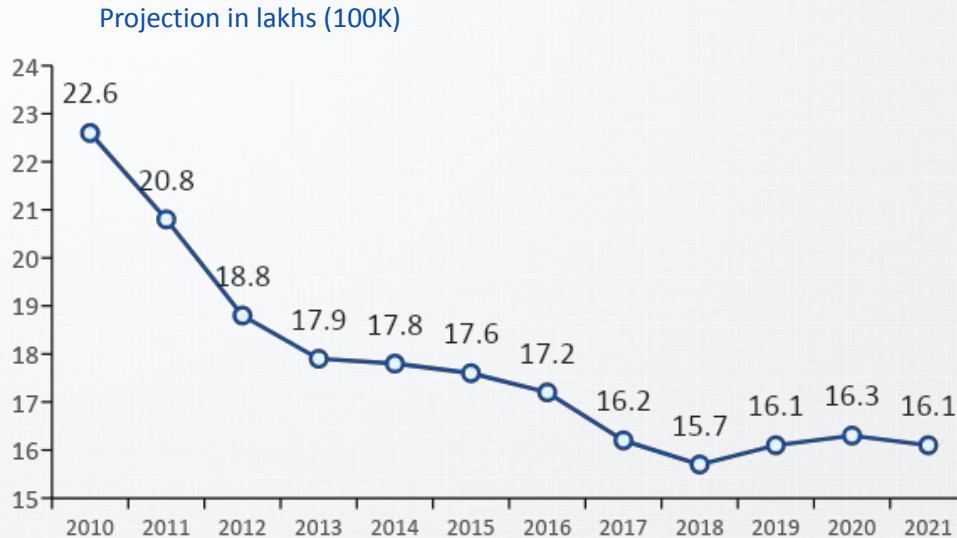
# Comparative Score Card Ratings - Explained

	RATINGS		
Ease of Knowledge Transition	Difficult 1	Moderate 2	Easy 3
Market Opportunity (amplified weight)	Low [1]	Moderate [3]	High [9]
Economic Impact	Low 1	Moderate 2	High 3
Capital Involvement	Low 3	Moderate 2	High 1
Social Impact	Low 1	Moderate 2	High 3
Impact on environment	Low 1	Moderate 2	High 3



## Agriculture, Forestry & Fishing % - GDP

What the numbers are saying



The aggregate percentage contribution in GDP has significantly fallen in last decade

Written by Laurel Colless 31.01.2022

## Sanitation & Water Treatment

### Public water programme in Laos had ripple effects into private sector

The two installed DEWATS can be seen as prototypes for the kinds of innovative waste-water treatment systems that could eventually be replicated at scale commercially in other parts of Laos.

One was set up in a hospital, benefiting 250 patients and staff daily, and the other in a boarding school for the benefit of 50 teachers and 638 students.

In addition to managing and treating waste-water runoff, the project also included a climate mitigation piece, installing two biodigesters that would capture waste from toilet sludge and kitchen scraps to convert to biogas for cooking.

Besides the direct eco-benefits from reduced greenhouse gas and less polluted wastewater going into rivers and streams, the two DEWATS are bringing tangible economic benefits through the energy costs savings that go with converting from fossil fuel to biogas.

The programme also installed 23 water-supply systems, using innovative underground rainwater harvesting systems, gravity fed systems, solar pumps and other technical advances, which are now bringing huge benefits to around 30,000 people in remote areas.

The programme, a partnership among the Nordic Development Fund (NDF), the Stockholm International Water Institute, UN-Habitat and two provincial public water utilities, delivered Decentralised Wastewater Treatment Systems (DEWATS) to two public institutions, as well as small-scale water supply infrastructure to 23 remote communities.



# Feasible Opportunities



## Agriculture

There is a clear opportunity to improve agriculture yield and produce with green finance. The GDP contribution has fallen significantly without the contribution of the Services and Industry sector rising up. There can be loan products for seeds, pesticides, water harvesting and farm equipments



## Sanitation

Recent successful experiments where the Nordic Development Fund in partnership with others have proved that small scale water treatment, bio-compost and bio-toilets brings with it a positive change to communities, which can be rolled out commercially.



## Clean Water

Water harvesting, storage and supply can be commercially viable because of irregular water availability and lack of potable water in large part of the country.



These opportunities are in line with the Lao PDR government policies on food security, water resource management and agricultural development plans and programs.





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# Essential References

The following reference materials were utilised for making the project -  
Clean water Deficit

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<https://www.lboro.ac.uk/media/www/lboroacuk/external/content/research/wedc/well/pdf/factsheets/Microfinance%20for%20water%20supply%20services.pdf>

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Agriculture, forestry, and fishing, value added (% of GDP) - Lao PDR

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Research Gate - Land Policy and Farming Practices in Laos

[\[https://www.researchgate.net/publication/227786338\\_Land\\_Policy\\_and\\_Farming\\_Practices\\_in\\_Laos\]](https://www.researchgate.net/publication/227786338_Land_Policy_and_Farming_Practices_in_Laos)

Electric vehicles for supply chains

[\[\[https://laotiantimes.com/2022/06/10/laos-to-update-transportation-system-with-electric-vehicles/\]](https://laotiantimes.com/2022/06/10/laos-to-update-transportation-system-with-electric-vehicles/)

Subsidies for EVs

[\[https://laotiantimes.com/2021/10/07/laos-shifts-gears-on-electric-vehicle-promotion/\]](https://laotiantimes.com/2021/10/07/laos-shifts-gears-on-electric-vehicle-promotion/)

Crop waste for Biogas

[\[https://www.tandfonline.com/doi/abs/10.1080/15567036.2018.1488017?journalCode=ueso20#abstract\]](https://www.tandfonline.com/doi/abs/10.1080/15567036.2018.1488017?journalCode=ueso20#abstract)

Water quality Conditions in Laos

- [https://www.jstage.jst.go.jp/article/agrmet/73/1/73\\_D-16-00001/\\_pdf/-char/ja](https://www.jstage.jst.go.jp/article/agrmet/73/1/73_D-16-00001/_pdf/-char/ja)
- <https://www.taylorfrancis.com/chapters/edit/10.1201/9781003024101-19/assessment-options-small-scale-groundwater-irrigation-lao-pdr-pavelic-suhardiman-keovilnavong-clément-vinckevleugel-bohsung-xiong-valee-viossanges-douangsavanh-sotoukee-villholth-shivakoti-vongsathiane>

