



Asia Clean Energy Forum 2022

Cross sectoral Applications for Inclusive Energy Transition
Green Jobs, Gender, and Development

Bridging agricultural livelihoods and energy access in Myanmar: Reflections on power, poverty and vulnerability

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Bridging agricultural livelihoods and energy access

Barriers and opportunities for rice and rice husk value chains in Labutta, Myanmar



Reflection #1

When looking at energy access, it is [almost] impossible to delink energy to poverty, power, and climate vulnerability



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Renewable Energy Association Myanmar

**Biomass Energy Association
of Myanmar**

Case study:
Rice husk bioenergy
in Myanmar



Agriculture is driven by rice production



- 6th largest rice producing country in the world
- **50%** of Myanmar's population are **employed in agriculture**

but with challenges in infrastructure, facilities & manual farming practices

IRRI, 2013

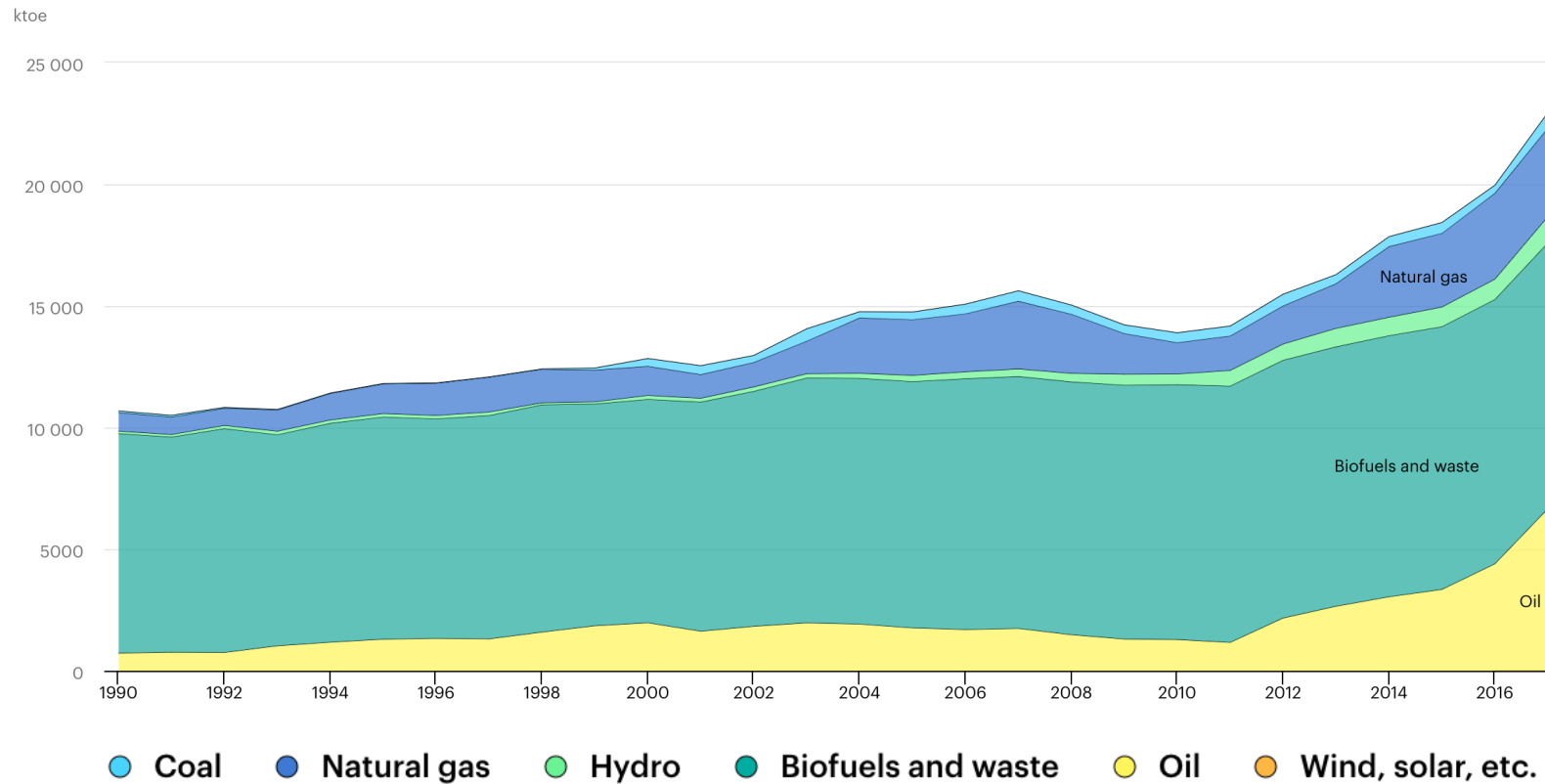
access to energy could open opportunities to optimise production & increase efficiency

- agricultural mechanisation
- high-quality drying and milling
- value-added processing of rice-based products

Energy use is mostly from biomass sources

Total primary energy supply (TPES) by source, Myanmar 1990-2017

IEA 2018



- Only 60% of rural areas have access to electricity
- **More than 60%** of energy consumption is from **biofuels and waste**
- Majority of this (82%) comes from the use of **traditional biomass**

Myanmar has **abundant biomass resources** that can be used for energy generation

Myanmar produces more than 3 million tonnes of rice husk every year



In 2018, Myanmar produced around **13 million tonnes of milled rice**, resulting to 3.6 million tonnes of rice husk that can be used for energy generation

IRRI Rice Statistics; USDA, 2018

How can value added activities – such as generating energy from rice husk – benefit agricultural production and improve rural livelihoods?



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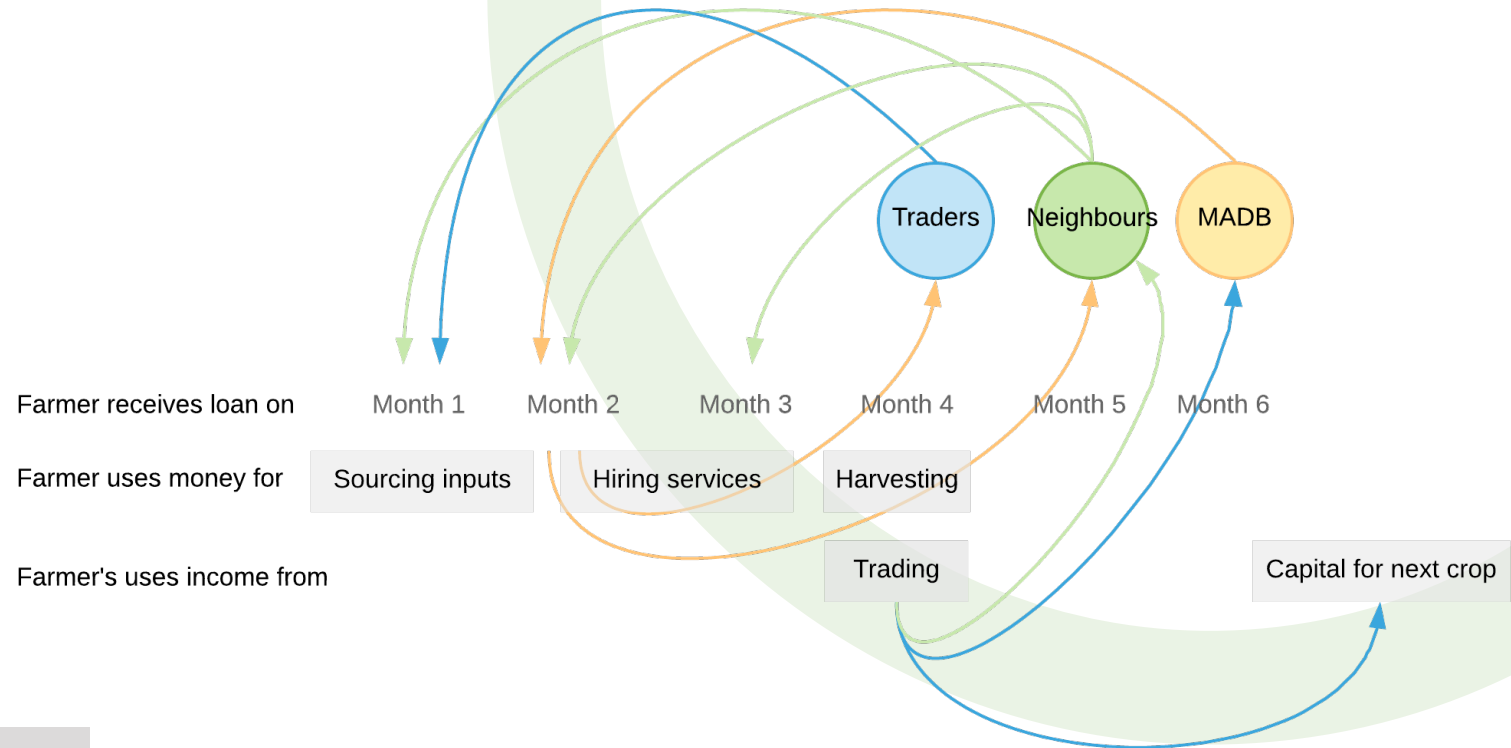
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Group discussions & mapping activity
with farmers & millers

Lessons from the field: Challenges

- **Access to credit and financing** is one of the most urgent need of smallholder farmers and millers
- **Small-scale millers** in off-grid areas are important in livelihood activities of smallholder farmers and **need financial and technical support to upgrade facilities**



Reflection #2

Planning for energy access is made more complex by [financial] challenges that need to be addressed first or in parallel.



Lessons from the field: **Challenges**

- **Rice husk market exists** but mostly for traditional biomass use



Source	Form of rice husk sold	Price per bag (30 lbs)
Small-scale milling facilities	Loose rice husk (for husk compatible stoves)	100 MMK
Medium-scale milling facilities	Compacted rice husk (charcoal briquettes)	1,800 MMK for households 1,700 MMK for factories (wholesale price)

🏠 In Bi Tut, farmers use 6 bags of husk per month for cooking.

- **Medium-scale millers** are willing to participate in *new/more* rice husk value added activities if other actors or businesses can manage rice husk collection and transportation

Reflection #3

Potential solutions that involve changes in [market] structures will need to consider alteration of power & empowerment.

Lessons from the field: Opportunities

- Building or **strengthening connection** between medium-scale millers and local businesses that use rice husk
- Supporting market development for **rice husk use in energy generation**
- Empowering **local partnerships within communities** to manage husk-to-energy business models
- Linking groups of farmers to service providers in order to **lower cost of production**



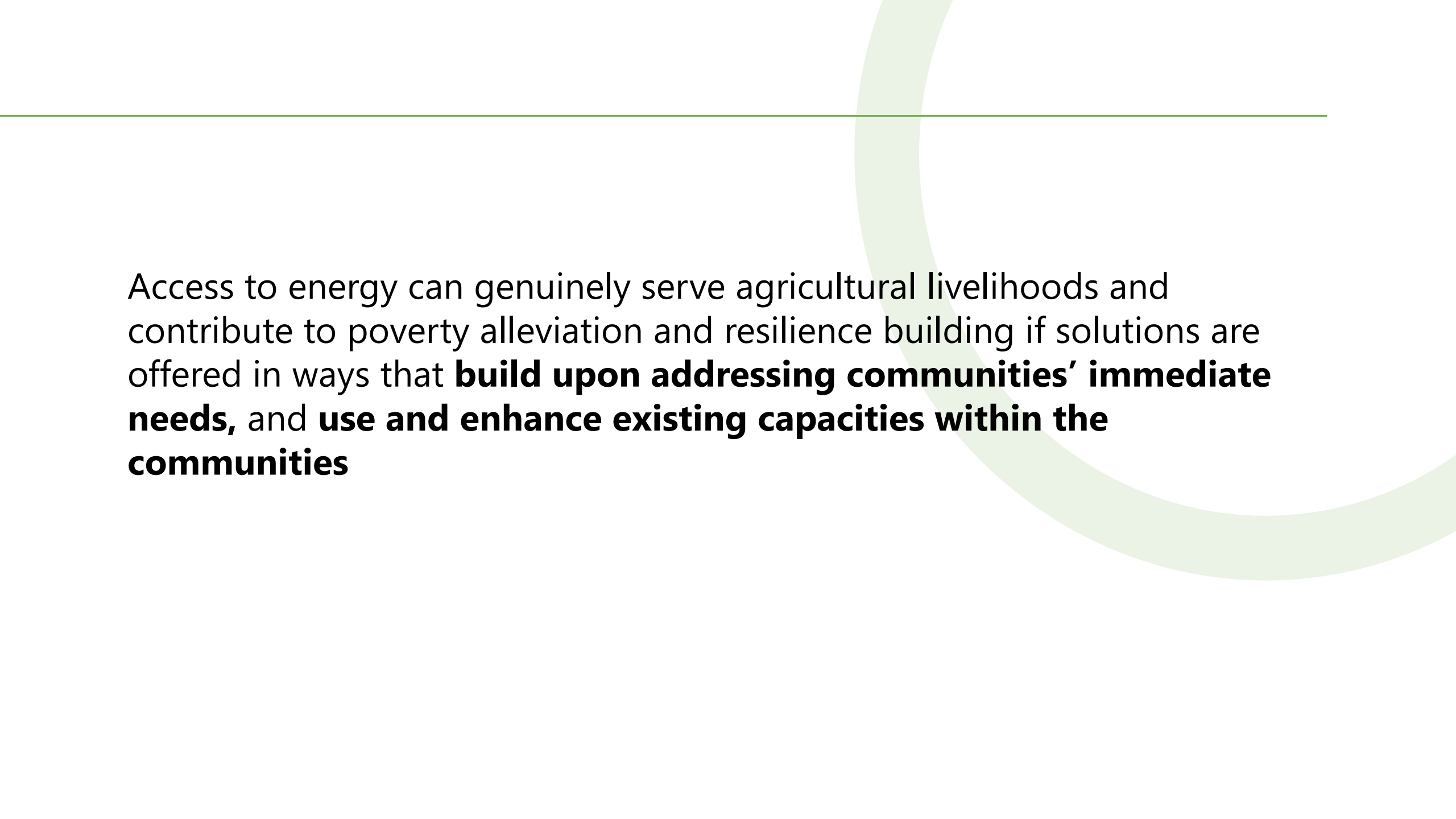
To bridge agri-livelihoods and energy access...



- Farmers and millers need access to credit under fair financing schemes
- Investments and support are needed towards facilities and activities that add value to rice husk, especially by using it for modern bioenergy
- Support community partnerships via capacity building
- More policy focus on rice husk bioenergy

Reflection #4

Where should support come from? Reliance on NGOs is not sustainable for the long term; policies and institutions are essential, but locals also have agency and capacity that need to be acknowledged.



Access to energy can genuinely serve agricultural livelihoods and contribute to poverty alleviation and resilience building if solutions are offered in ways that **build upon addressing communities' immediate needs, and use and enhance existing capacities within the communities**

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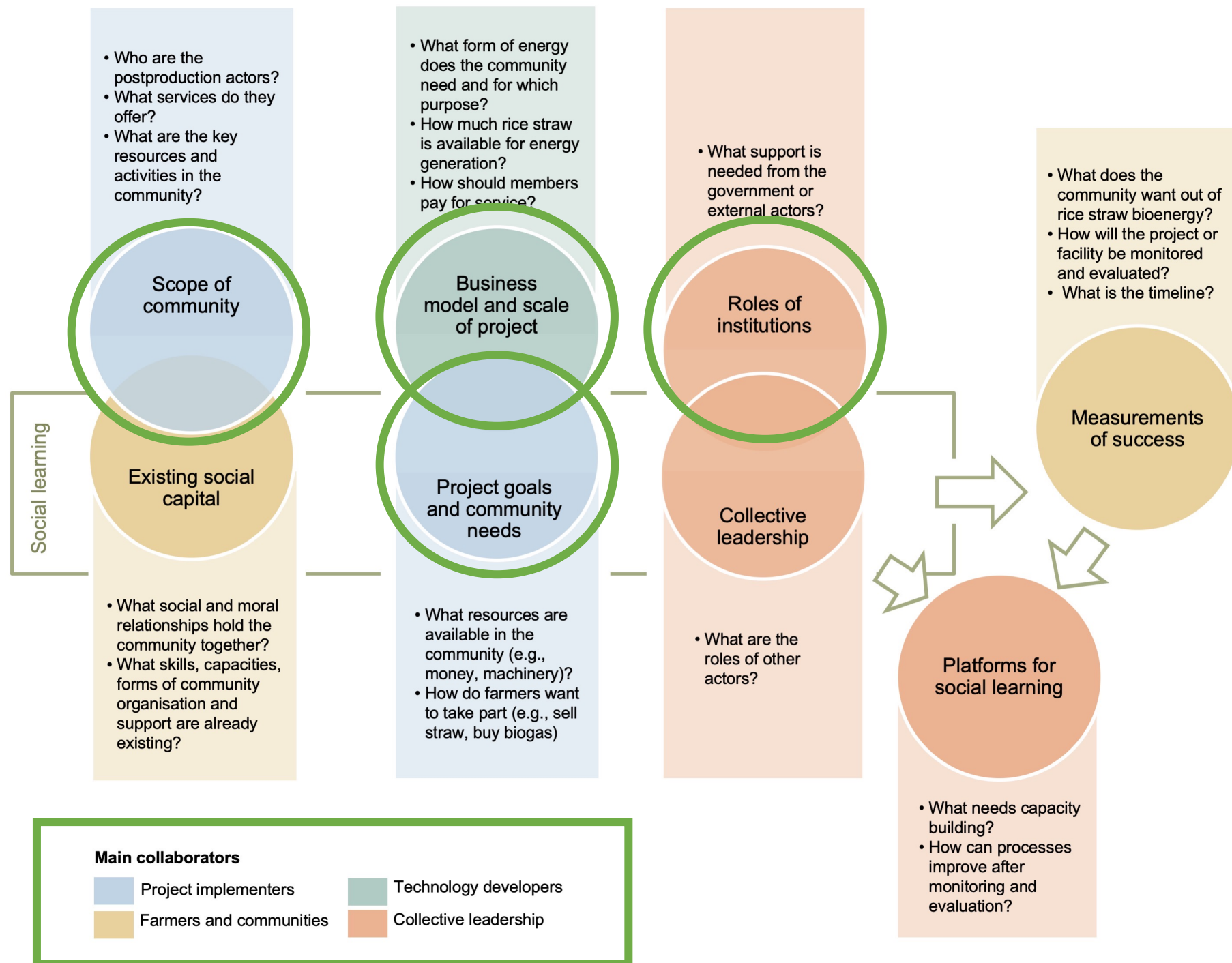
Thank you!



Involving farmers in bioenergy development



Social innovation pathway for rice straw bioenergy



Philippines

- Social enterprise model
- Biogas (electricity) for farm and household needs
- Locals can pay fee for service but need micro-financing schemes
- New income stream for farmers, by selling rice straw
- Public-private partnerships between local agricultural businesses and government actors to share investment costs with farmers
 - Agricultural machine owners – collect and transport rice straw
 - Government agencies – offer training and capacity building for farmers
 - Trusted community members can serve as *Project Champions*

Vietnam

- Energy cooperative model
- Biogas (electricity) for farm irrigation needs, i.e., water pump
- Payment for services can be done via existing schemes in the cooperative
- Farmers are willing to invest if income is greater than straw mushroom growing
- Agricultural businesses can partner with cooperatives
 - Straw traders – collect and transport rice straw
 - Local authority – supervise the project
 - Leaders of farmers' association as Project Champions

How can we engage farmers in bioenergy development? Building a social innovation strategy for rice straw bioenergy in the Philippines and Vietnam

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Highlights

- Rice straw burning can be reduced through socially innovative bioenergy solutions.
- Social networks in farming communities can be channels for social innovation.
- Collaborative social networks can enable co-design of energy solutions.
- Central actors in social networks can link farmers to resource providers.
- Enhanced resource sharing can help farmers gain income from bioenergy.

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