

# **Bamboo investments in Bokeo Province**

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# Project Objective

Improve target communities' livelihood through:

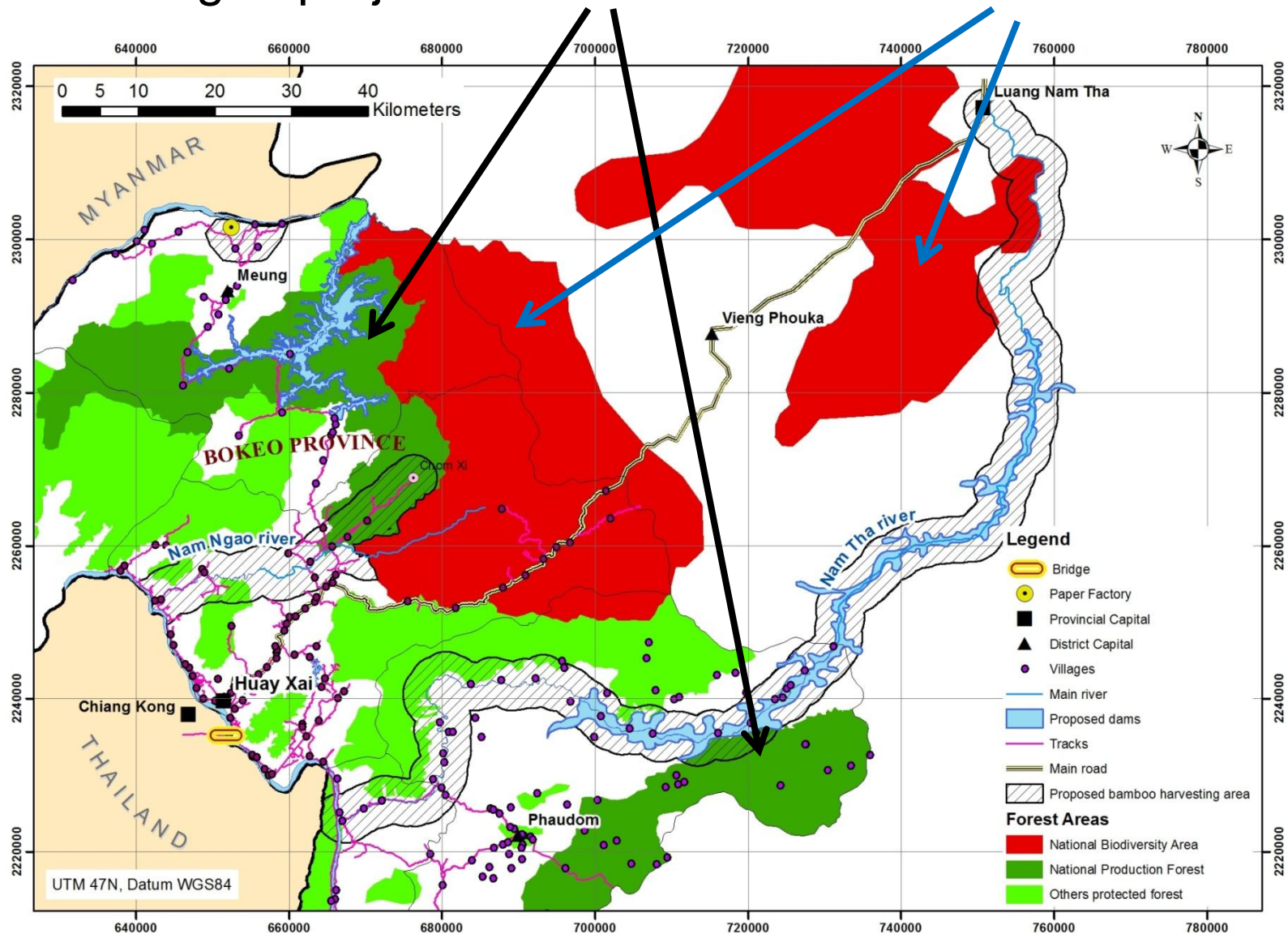
- improved information and data system
- appropriate harvesting technical (cost effectiveness)
- value chain
- access to market
- appropriate processing technique
- village forest mgt plan
- teak certificate issuing



# Target areas

Tested-Namyon area, Huaysai district,  
Bokeo

# ForInfo and EEP Pilot sites and attempted embedding of project in SUFORD-SU and KFW ICBF





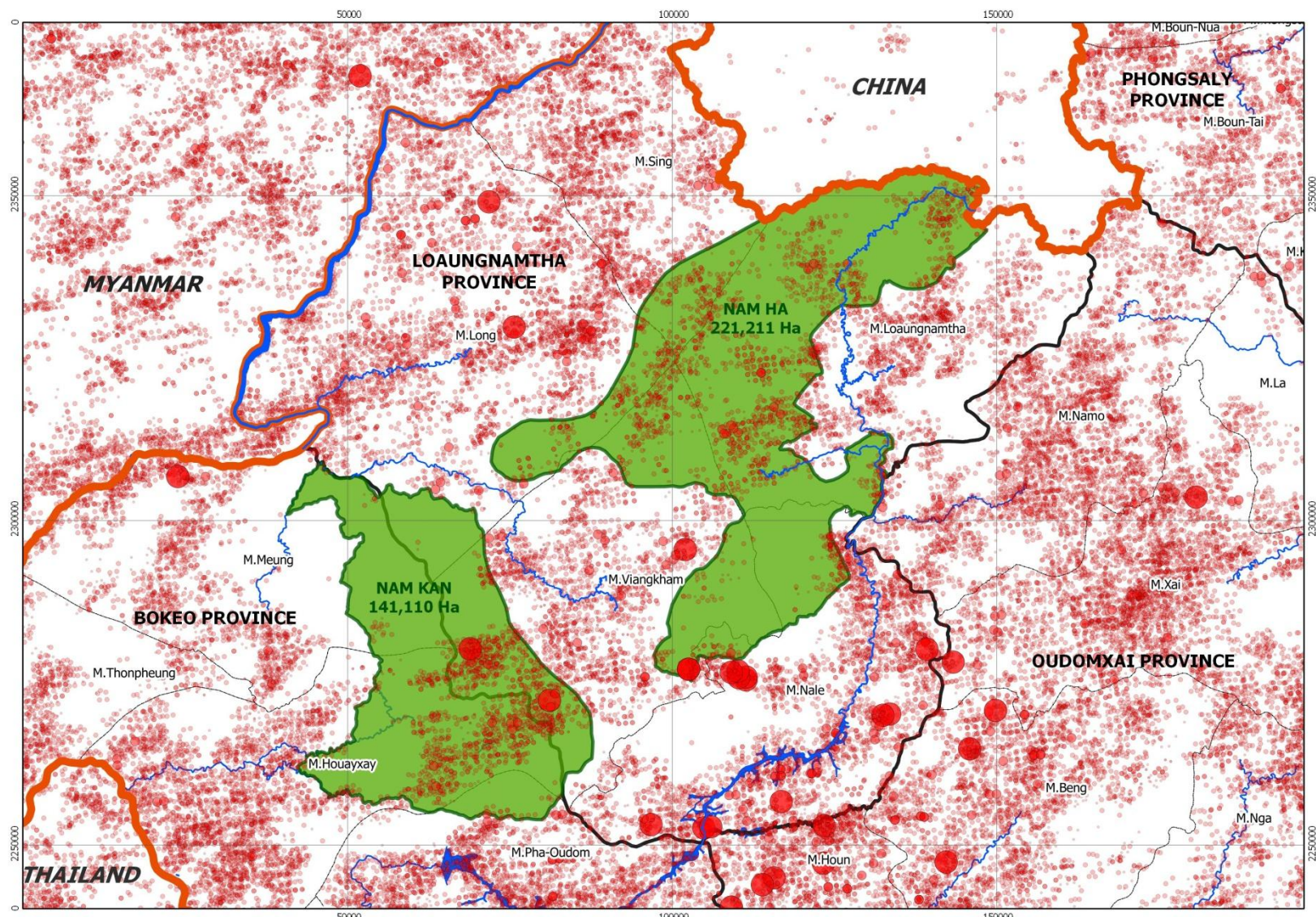
# Value chains based on Bamboo in secondary forests (major land use under village forestry)





# Fire Data for NPA Nam Ha & Nam Kan (2005-2012)

Luangnamtha and Bokeo Province, LAO PDR





Value chain 1 : Banana Props: Demand: 2500 props /ha/yr  
= Total 20 -30 000 t/yr ??



## **Activities:**

Support communities in **improved extraction efficiency** :

- Currently 50 to 100 props/pers/day
- Improve productivity with sulky, crawler, tractor trailer to 200 to 300 props/pers /day



# Banana plantation and bamboo resource accessibility in Bokeo, LAO PDR

Location map



Bamboo	Total area (ha)	%
Tonheung	10814	10,1
Meung	25873	24,1
Houaixay	7439	6,9
Paktha	12472	11,6
Pha Oudom	50765	47,3
Bokeo	107264	100,0

Banana	Total area (ha)	%
Tonheung	7820	48,6
Meung	0	0,0
Houaixay	6585	40,9
Paktha	602	3,7
Pha Oudom	1074	6,7
Bokeo	16080	100,0

Legend

Roads	Rivers	Other elements
National	Main rivers	Production forest
Provincial	Secondary rivers	District boundaries
District	All rivers	
Local		



0 10 20 30 40 km

WGS 84 UTM Zone 47N



**Value chain 2 : Industrial scale bamboo (pulp)**  
**Meung Bokeo Demand: 5000 t/year**



## **Activities:**

- Factory was operational in 2010 but is currently not in operation
- Factory borders Meung PFA



## Value chain 3 : Bamboo fuel chips for Power Plants in Chiang Rai Province (Northern GMS Corridor)



# Chipper leased under EEP





## Value chain 4: Bamboo Pellets for Export (EEP)

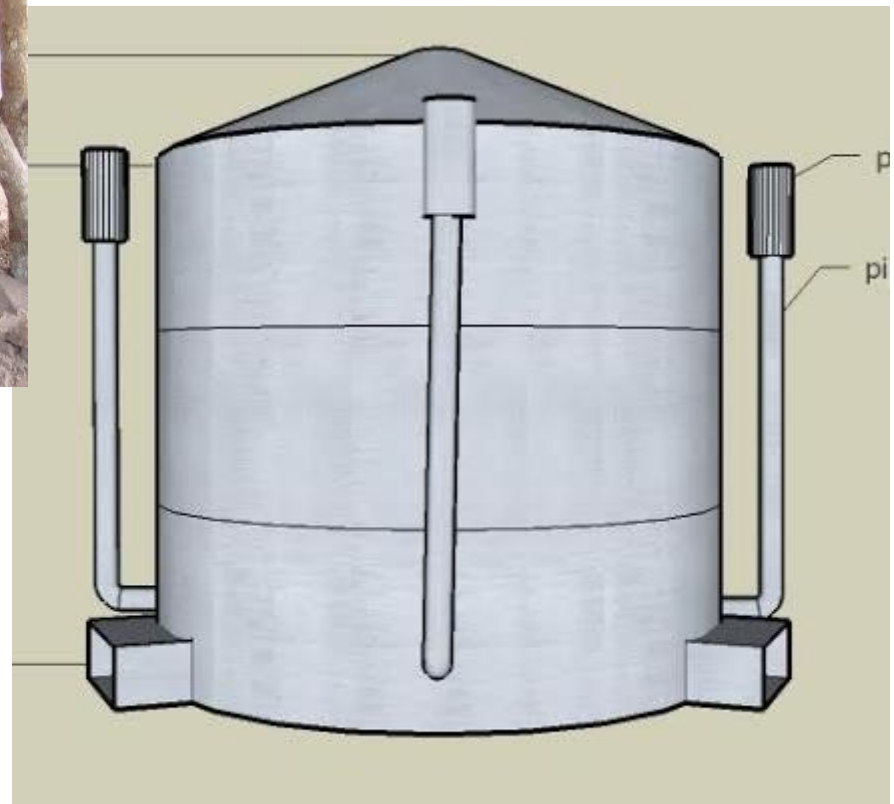
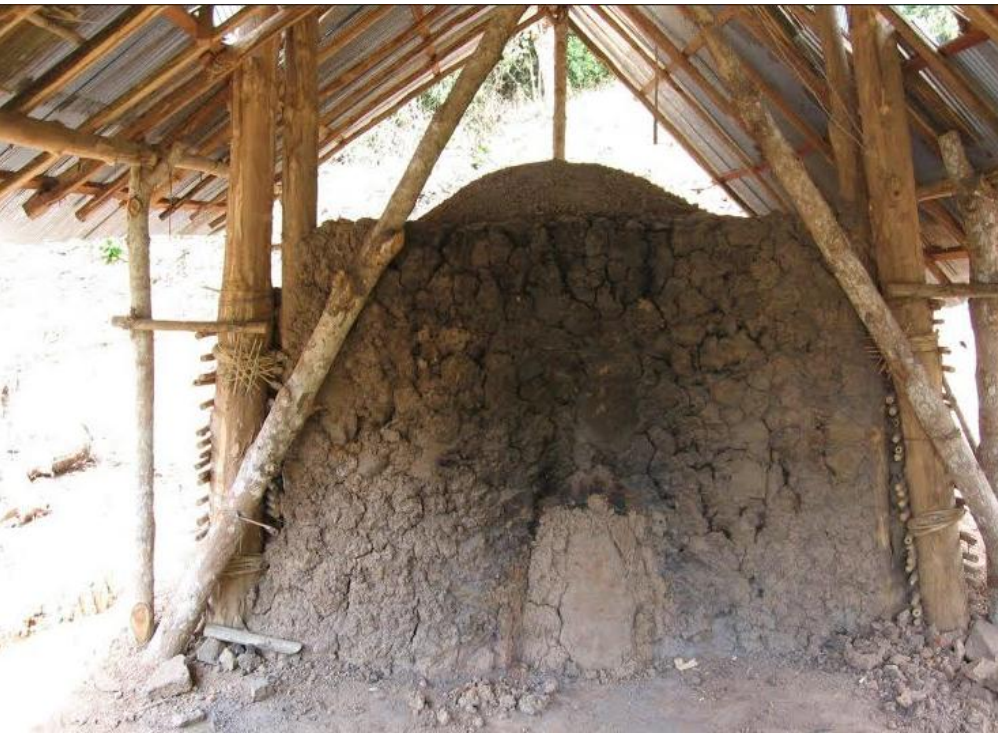
Bamboo and wood chips  
1200 to 1500 Baht/ton  
Chiang Rai

Pellets for export  
4200 Baht /ton  
FOB BKK


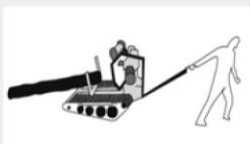
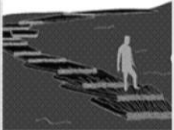







## Value chain 5: Bamboo and wood charcoal



Main focus of both projects :Support efficiency improvement in primary steps in value chains

Stationary chipping station						
Location	Forest	Skidding trail	River	Chipping station	Motorable road	Biomass Power plant/yard
Activity						
Felling						
Skidding						
Rafting						
Chipping						
Road transport						
Storage/drying/burning						

# **First harvesting Pilot site under EEP**







# Harvesting with horses



**Extraction of bamboo and logs with locally bred horses. ( own photo)**

Note : maximum loads of this system will be around 250 kg for level or down hill situations .

The locally manufactured skidding shoe reduces friction when dragging the log on the ground.



## 1960 Vineyard winch with 100 m extraction distance





Prototype bamboo sulky following ideas of Finland APPRODEV project 1990 (Africa) modified with break and clams





## Sulky skidding trials in Bokeo (February 2013)



## Extraction with imported Scandinavian Iron Horse





## Locally converted Mini crawler (February 2013)





## Extraction with tractor winch





# Bamboo rafting on Longai river N. E. India



**Web search**



# Bamboo Value Chain Barred

- High **costs** raw material supply -> processing location (infrastructure, < semi-processing, < scale, disorganized collection)
- Unclear land **tenure** and commercial rights leading to unsustainable use of resources
- Business **skills** of communities unattractive for business partners
- No access to **finance** to invest in equipment
- Inter-country differences in **rules** and **procedures** (non-tariff, royalties, biomass subsidies)
- Unclear on bamboo policy and law

# Conclusion

- If communities are to benefit from Green Value Chain opportunities, need to:
  - Improve both efficiency in and outside the value chain needs to be able to compete with other countries & other products
  - Parallel **capacity building** (business, organization) efforts and developing a **supportive business environment** (tenure, trade regulations, investment provision of support services)
  - Government support and effort