



# Lesson Learned from Woody Biomass Implementation in Shimokawa and Hita of Government and Private-sponsored 'Woody Biomass' Project – Case Study of Shimokawa and Hita

Eky Yenita Ristanti

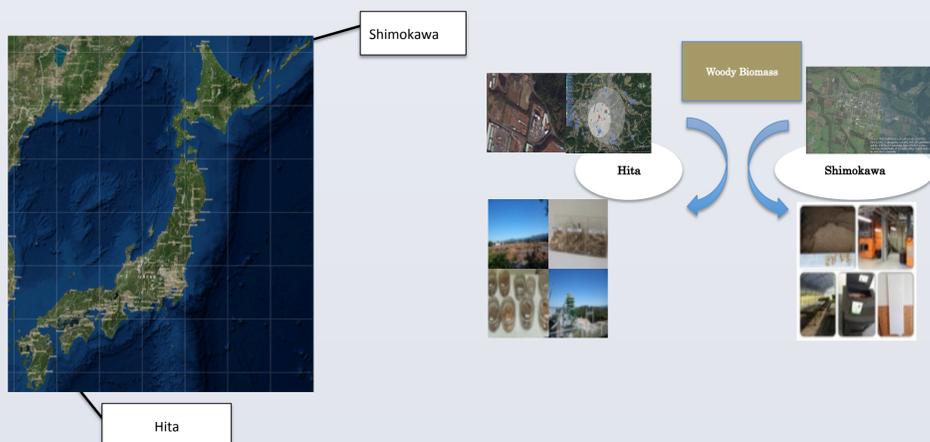
eky23138@sfc.keio.ac.jp

Graduate School of Media and Governance, Keio University

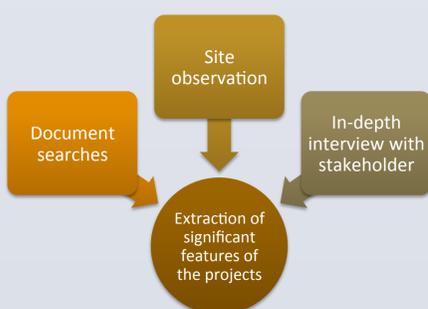
## INTRODUCTION

The implementation of the government-sponsored 'woody biomass' project in Shimokawa will not be profitable after the government support ends whereas the privately-invested biomass power plants in Hita will continue to give profit for about two decades. Shimokawa and Hita are two areas with abundant forest resources. Shimokawa economy relies on agriculture, forestry and mining, but after the closure of mining activity, the population decreased and aged resulting in labour shortage. Shimokawa has developed 'Forest Future City' initiative approach to resolve the twin problems. The forest has become the main resource for wood and energy especially in the use of woody biomass for heating (Nakano, 2012). But the community's use of renewable energy cannot be economically profitable as this activity is supported by local and central government budget and no energy can be sold from this activity to get revenue. The community benefits directly in the supply of heating to community facilities and the opportunity to take a role in the project (Rogers *et al.*, 2008; 2012). In contrast, Hita in Kyushu has separated woody biomass from municipal waste biomass management and uses private investment with no benefit accruing to the community in this project. Both utilize woody biomass to the maximum--99% in the case of Shimokawa and 96% in case of Hita (Yamamoto *et al.*, 2013). This study is aimed to analyse woody biomass energy development model of Shimokawa and Hita. The result will be useful as reference for other area experiences similar problems. In Japan itself, some areas with woody biomass potency, such as Fujiyoshida city in Yamanashi prefecture, considers to develop forest-based energy.

## RESEARCH SITE



## RESEARCH METHODOLOGY



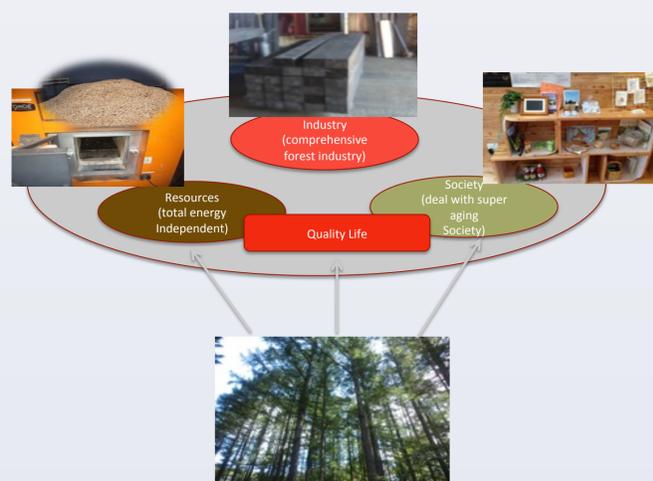
- Literature searches on administrative documents.
  - Shimokawa Forest Future City Initiative
  - Shimokawa Biomass Town Plan
  - Hita Biomass Town Plan
- Field survey on project site.
  - Ichinohashi district bio-village, Shimokawa
  - Hita Wood Power
- In-depth interview with stakeholders involve: department/section responsible in the local governments, person in charge of the project, community representative

## RESULT

Comparison between Shimokawa and Hita Model Woody Biomass Project

Subjects	Shimokawa	Hita
Total Volume of wood waste can be utilized (est. per year in ton)	130,011	116,078
Woody Biomass Utilization	<ul style="list-style-type: none"> <li>• Heating</li> <li>• Bio charcoal</li> </ul>	<ul style="list-style-type: none"> <li>• Power plant</li> <li>• Pellet production</li> </ul>
Type of budget to utilize woody biomass	Government support (MOEJ and local government)	Private investment
Impact to community	Direct	Indirect
Community participation	Necessary	Not necessary
FIT on renewable energy	Not implied	Implied
Energy logging	Will be applied (growing willow tree)	Not Apply

Shimokawa Model in Forest Future City Initiative



Hita Model in Private Investment Woody Biomass Power Plant



## CONCLUSION

- Shimokawa model for woody biomass project emphasizes on sustainability of the community.
- Hita separates the management of woody biomass from other biomass resource available. Private investment in Oita Wood Power optimizes wood waste utilization.

## REFERENCES

- [1] Hita City biomass town plan. Hita City office, Oita Prefecture. 2005
- [2] MAFF. The guidebook for promoting biomass town concept. w.maff.go.jp/e/biomass.html, accessed on June 26, 2014
- [3] Nakano K. *Forest Future City Shimokawa*. FutureCity Initiative Division. Shimokawa Town Office; 2012.
- [4] Rogers JC, Simmons EA, Convery I, Weatherall A. Public perceptions of opportunities for community-based renewable energy projects. *Energy Policy*. 2008; (36) 4217-4226
- [5] Rogers JC, Simmons EA, Convery I, Weatherall A. Social impacts of community renewable energy projects: finding from a woodfuel case study. *Energy Policy*. 2012; (42) 239-247
- [6] Shimokawa Town biomass town plan. Shimokawa Town Office, Hokkaido. 2008
- [7] Yamamoto K, Izumi J, Zhang S. Comparative Study on Woody Biomass Use and Application in Japanese Biomass Towns. *J. of Environmental Science and Engineering*. 2013; (B2) 82-94