

MANANYA SAENSAIOR : A FEASIBILITY STUDY ON APPROPRIATE
CASSAVA RHIZOME TRANSPORTATION ROUTES FOR BIOMASS
POWER PLANTS IN THE EASTERN REGION OF THAILAND. THESIS
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The feasibility study on appropriate cassava rhizomes transportation routes forms the biomass with in the eastern region to biomass power plant. In the eastern region there are seven biomass power plant with in studied have capacity of 118 MW. In order to design cassava rhizomes biomass transport shortest route by the network analysis method form the Geographic information systems (GIS) was used. The network analysis was done by considering two case which are case one the district transportation distance from the main sub-district cassava rhizomes form storage to biomass power plant and the second case lay calculating the distance from the district cassava rhizomes storage to biomass power plant. The result showed that 113.01 GJ of energy which is equivalent to 26.58 ktoe crude oil of energy, will generate 61.8 GWh of electricity which can be used feed into power plants of 8.8 MW. The obtained result wear evaluated from cassava cultivation area 1,529,576 rai (604,575.49 hectare) with crop residual ratio (CRR) of 0.112 with average yield of 3.62 tons per rai (1.3 ton per hectare) which adiates signifies 636,003 ton of cassava rhizomes biomass or ready of processed cassava of 89,040 tons. In case one the result showed that the shotes route was found 340,612 km that gives average transportation cost of 76 bath per ton in moreover second case the shortest distance was found to be 385,576 km that cost 86 bath per ton.

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