Ketpalin Comproh 2010: Feasibility Study on Rice Husk and Cassava Rhizome Biomass Power Plant Investment in Si Sa Ket Province. Master of Science (Agricultural Economics), Major Field: Agricultural Economics, Department of Agricultural and Resource Economics. Thesis Advisor: Associate Professor Napaporn Phromchana., M.S. 100 pages.

The objectives of this study were to conduct the technology and management system of the rice husk and cassava rhizome biomass power plants. The feasibility in Financial analysis, the switching value test analysis and problems and obstructions on the project of the rice husk and cassava rhizome biomass power plant in Sisaket province were in the analysis.

The study showed that for the very small power producer (VSPP) Non-firm Contract, the most beneficial project for an investment was cassava rhizome biomass power plant. It was found that net present value (NPV) of the project was 1,005 million baht. The internal rate of return (IRR) was 20 percent with the benefit-cost ratio (BCR) of 1.96 In the case of small power producer (SPP) with Firm Contract, the most beneficial project for an investment was cassava rhizome biomass power plant as well. Net present value of the project was 737 million baht. The internal rate of return (IRR) was 14 percent and the benefit-cost ratio (BCR) of 1.50 The switching value test analysis showed that the less risk case was cassava rhizome biomass power plant with VSPP Non-firm Contract. The switching value test analysis also revealed that, the expenditure might be increased up to 69.83 percent of the whole expenditures or the benefit might be decreased down to 40.94 of There were 3 mains problems and obstructions for the project administration, the investment capital, biomass sources and the purchased price.

However, the only cassava rhizome might not be sufficient as the energy source through out the year round. It was suggested that, cassava rhizome must be purchased from the nearby provinces. The mixture of rice husk with cassava rhizome in the ratio of 1:2 would minimize the raise of biomass shortage while maintaining a reasonable return on investment.

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