

International Conference on

# Green Energy & Expo

September 21-23, 2015 Orlando, USA

## Integrating root crops with animal husbandry for providing renewable energy in rural remote regions

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Energy has to be available everywhere in any location including in rural remote areas where communities live. A major figure in developing countries, poor electricity were suffered by inhabitants of rural remote areas, due to wire connection from state is not available. Electrical facility is providing for community who able to buy energy for their daily life. In fact at rural remote areas whereas agriculture is existing, biomass produced as byproduct from existing agriculture can be used as raw material to provide renewable energy with ecologically friendly. At least two of daily basic needs namely food preparation and light or heat have to be available. Cassava, sweet potato and the other root crops are mostly grown by farmers in rural areas. The main economical yield in the form of starchy root and tuber are directly for human consumption, however the abundance of biomass aside as source of feed, it also provide potential renewable energy by mixing with animal dunks. Methane released from this integration system can be burnt to prepare food as well as to provide light. By implementing this method, free methane emission into atmospheric zones is avoided, so indirectly converting methane as renewable energy is a part of the endeavor to reduce global warming. Waste from methane digester can be mixed with organic material for worm rearing as source of protein for fish and chicken as well. Worm dunk is spent for organic fertilizer of agricultural field to attain greener environment.

### Biography

Yudi Widodo has completed his Bachelor's degree of Agronomy from the State University of Surakarta (UNS). In 1984 and 1985, he was trained at International Institute of Tropical Agriculture (IITA) Ibadan Nigeria and Centro Internacional Agricultura Tropical (CIAT) Cali Columbia. He has obtained his Master's degree on Plant Science from Gadjah Mada University (UGM) Yogyakarta in collaboration with Brawijaya University (UB) Malang, by international lecturers from Australia and Netherlands. He has more than 125 articles published domestically and international proceeding. He actively struggle for Proposing Indonesia-Madagascar Partnership in Agricultural Linkages (IMPARTIAL) as a new Alliance for Sustainable Development starting from 2014.

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