



## Beneficial use of Piggery Waste with a Focus on Energy Production



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In the Federated States of Micronesia (FSM), pig farming is a common practice. Households may have one to three animals for personal use and sometimes up to as many as ten. In addition, on Pohnpei there are several pig farms with up to a hundred or more animals in each. Due to a lack of oversight, the actual density of the livestock is unknown and the impact on the environment is difficult to quantify, though it is known that runoff from all sizes of such operations does have a detrimental effect on coastal water quality. The greater the density of livestock, the greater the excess of manure becomes beyond that which can be usefully incorporated into the local environment. With proper management, though, manure can be used as a fertilizer or soil conditioner for enhanced crop production or remediation of badlands. This has the added benefit of abating air and water pollution, leading to improved human and animal health. Another value that can be drawn from the manure is that of energy production. This activity has often been written off as being too difficult for remote locations lacking technical support, or for small-scale operations where the capital investment would be inhibitive. However, under various scenarios advancements

have been made in extending this technology to effectively cover both relatively large-scale and smaller scale applications. The project proposed here consists of gathering, categorizing, and summarizing information pertaining to pig farming in the FSM; assessing the environmental impacts of these farming operations; developing solutions for converting waste to energy; and reporting viable, holistic methodologies of a practicable nature. The objective of the proposed project is to encourage and empower the local populations to further enhance their independence from petroleum based fuels for energy production, protect their water environment, enhance agricultural productivity, and improve their overall standard of living. The project timeline will include fieldwork distributed over several months, consisting of visits to two of the four states. Upon completion of the fieldwork portion of the project, all information will be processed and conclusion formulated. A technical workshop will be conducted near the end of the project to present the preliminary results to stakeholders. In addition, a WERI Technical Report will be produced and made available to all pertinent stakeholders.



**Free range pig in Pohnpei, FSM.**