

1. TITLE – Twinning Exchange (American Samoa) – Piggery Waste Management**2. PROJECT TITLE – *Piggery Waste Management in Kiribati*****3. PROJECT DESCRIPTION**

The project objectives is testing the integration of Water, Land, Forest & Coastal Management to preserve Ecosystem Services, store carbon, improve climate Resilience and Sustain Livelihoods.

The following are the expected outcomes of the project:

Component 1: *Voluntary piggery waste management*

Component 2: *Piggery best management practices (Rapid Coastal Assessment)*

Component 3: 1. *Access to information on dry litter pig pens is enhanced*

2. *Communications, media, knowledge management*

3. *Diagnostic & state of coast report*

4. *National R2R Strategic Action Plan*

4. BACKGROUND TO THE LESSONS LEARNED

Currently in Kiribati, there are couple of problems associated with piggery management which greatly have an impact both on the environment and human health. Listed below are emerging issues experienced:

1. Pig waste polluting coastal land and contamination to groundwater
2. Pigpen with concrete floor require lot of water for cleaning
3. Discomforting odor during dry seasons to concrete base pig pens
4. Discomforting odor during rainy seasons to pig pens on bare ground
5. People raising pigs near homes poses threat to spread of diseases to human
6. Pig escaped from owners cause environmental damage to gardens, plants and attack other pigs
7. Pig leashed near the coast contribute to coastal vulnerability to coastal erosion

Ministry of Environment, Lands and Agricultural Development through Environment Inspectors responded to complaint related to discomfort from pigsty odor and sanitary as part of their core responsibility. Therefore, it is expected from implementing the Dry Litter Technology once the Ridge to Reef project commenced the issues encountered above would be minimized or resolved.

5. LEARNING EXPERIENCE**5.1 Summarize your learnings from the exchange.**

- Which institutions, legal and regulatory frameworks, rights, ownership, informal agreements have management mandates for pig waste management (PWM)?
Land Use Permit (LUP) is a legal requirement in American Samoa for those who wants to run piggery farm. The LUP is reviewed by an established committee known as Project Notification Review System (PNRS) which comprises of 11 representative from different agencies.
- Are those management mandates in conflict with each other and are they supportive of achieving the desired PWM outcomes?
The is only one approved documentation known as LUP that incorporate or consider all areas of concern in related to piggery farming.

- Are there other actors, e.g., private sector or non-governmental organizations that may influence the PWM?
Land grants is one of the non-government organization that influence PWM through a Dry Litter Program. As learned during a site visit to this farm, there are other PWM programs including portable pen and wash down system implemented by the organization but came to halt for some issues which needs to be fixed in order for the programs to be sustainable and environment friendly in the long run.
- What is the relative power and impact of government, the private sector and civil society in affecting the condition of the PWM system?
PNRS comprises of different agencies with different roles in the review process.
 1. American Samoa Environmental Protection Agency – based on impacts on land, air, and water quality. Projects involving hazardous materials, chemicals, and pesticides must be approved by ASEPA
 2. Department of Health reviews projects for the impacts on public health, these include new facilities such as restaurants or food distribution centers, and pollution from sources that will impact the public.
- Are the practices being used by the targeted stakeholders in line with the institutional mandates or is there a failure in enforcement?
From the environment perspective the targeted stakeholders' role are well scrutinized however socially those who has the authority to approve for land use should consider approaching or consulting neighboring land-owners to avoid piggery farm being shut down when new residents arrive.
- Are there mechanisms for stakeholders (identify the stakeholders) to be involved in decision making, are there procedures in place for resolving conflicts that may arise between stakeholders and are they being effectively applied?
There are appointed stakeholder to sit in the LUP reviewing committee but I am not aware of any conflicts or procedures to fix conflicts among the stakeholders.
- What kind of outreach strategy and tools have worked in American Samoa?
A house to house consultation all over the island
- How has the AS maintained a sustainable model of operation and compliance?
This has been successfully maintained through enforcement and court cases

5.2 What was your most significant learning?

From the knowledge exchange between participants and AS.EPA highlighted below are some of the important lessons on PWM.

1. To persuade people to change to a proper PWM an awareness approach from public health effect has to be undertaken.
2. Spend time preparing awareness materials and messages for the awareness not go in vain.
3. In order for the PWM to be well on the island it would need piggery compliance officers who focused only on the piggery farming operation
4. It took commitment, passion and team work for the program to be sustainably successful

6. REPLICATION

6.1 Identify what learnings you can *replicate* in your project/country?

A few of the practice that can be replicated in Kiribati involves

- awareness approach
- enforcement procedure
- usage of cardboard as alternative to wood chip
- developing MOU similar to LUP MOU to soon to be establish DLT piggery farmers

6.2 Highlight specific factors or conditions needed for effective replication. What support will you need from the Experts/PCU to ensure effective replication?

- DLT structure design that fits Kiribati context
- Research on carbon rich leaves/tree in Kiribati to be used instead of wood chip
- Water quality monitoring equipment and skill

7. LEARNING EXCHANGE IMPROVEMENT – The arrangement of the learning exchange is well organized. However, knowing from the presentation and exchange of discussion that enforcement is lacking or missing in most countries I recommend if a chance to join Enforcement officers is arranged. This would be a better chance to observe how the approach undertaken to set as a leading example to participants.