Reuse of faecal sludge as organic fertiliser in context of Bangladesh: BRAC WASH Initiative

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BRAC WASH INITIATIVE

- BRAC WASH programme has provided more than 1 million double pit latrine as grant to ultra poor people.
- They need to be emptied to keep them usable.
- What to do with the faecal sludge after emptying?
THE RESEARCH AIMS TO

• Meet the nutrient content at national organic fertilizer standard
• Contribute to the agricultural system of Bangladesh through FS based organic fertilizer
ANAEROBIC DIGESTION

Two Pit Latrine

• Sludge remains in the pit for more than one year in closed environment
• Anaerobic condition exists during that period and sludge become digested
• Digested pit excreta collected from 7 climatic zones of Bangladesh
• 10 samples collected from each zone
• Physical and chemical parameters of these 70 samples were analysed.
DEFICIENCIES IN NUTRIENT

- High moisture
- Low pH
- Low Potassium

- Co-composting with saw dust and sun drying
Pathogen Reduction

- Removal of E. coli after 7 days of drying
- Removal of C. perfringens after 15 days of drying
- Complete inactivation of helminths ova after 60 days of drying
CURRENT PHASE

On Rice

Faecal Sludge → Nutrient Development → Field Trial

Pathogen removal → Marketing & Supply Chain Development

On Vegetable

FSM3
ONGOING RESEARCH

- Co-composting of faecal sludge with kitchen and market waste
- Biogas generation from the mix of faecal sludge, corn stovers and chicken manure
- Introduction of mechanical pit emptying through vacutug
THANKS FOR LISTENING. Q?