Development Impact Bonds for Faecal Sludge Management: Opportunities for Innovation and Scale?

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DOES TRADITIONAL NETWORKED FSM MAXIMISE HEALTH OUTCOMES?

• Traditional networked sanitation is high cost – both to maintain current systems and to expand into the ‘new urban margin’
• Focus on conventional sewage and sanitation tends to benefit those in existing urban centers
• A solution is needed for areas outside networked sanitation – to address abandoned pits or illegal dumping which has detrimental health impacts
• A 5m$^3$ truck load of FS dumped into the environment is the equivalent of 5000 people practicing open defecation

SAFELY COLLECTING AND TREATING FS IS AN IMPORTANT PUBLIC HEALTH OBJECTIVE
WHAT IS THE CHALLENGE?

(1) **Financing Problem**
Fecal Sludge Treatment plants are expensive (**high capex** investment needed)

- Current networked sanitation is expensive and slow to extend
- Conventional FSM plants are operating at full capacity

NON NETWORKED SANITATION PROVIDES A SOLUTION BUT A SUSTAINBLE MODEL THAT IS PROFIT GENERATING IS NEEDED
ADDRESSING THIS CHALLENGE?

- Fund FS treatments that use *fecal sludge* to generate revenues
- Allows the operator to make a profit by safely treating sludge
- Technologies exist that turn FS into the following:
  - **ELECTRICITY**
  - **DISTILLED WATER**
  - **ASH**

*For the first time fecal sludge is a source of profit, not just a cost*
EXAMPLE: OMNI-PROCESSOR
BUT WE HAVE AN INCENTIVES PROBLEM THAT UNDERMINES HEALTH OUTCOMES

(2) Incentives Problem

- Poorer households cannot afford collection and tipping fees
- Currently only ‘commercial’ sludge (i.e. those households who can pay for collection) is safely treated
- Incentives are needed to collect ‘social’ sludge from poorer household (lower WTP) – health impact

WE NEED TO FIND A WAY TO BALANCE COMMERCIAL OPERATIONS OF AN ENTERPRISE AND SOCIAL VALUE FROM SOCIAL SLUDGE COLLECTION
HOW CAN WE COLLECT MORE ‘SOCIAL’ SLUDGE?

SUBSIDISING FS COLLECTION ALIGNS INCENTIVES.
MORE FS IS BROUGHT TO THE PLANT AND TREATED, SO THE OP DOES NOT HAVE TO USE OTHER BIOMASS TO REACH CAPACITY (PROFITABILITY)
AN IMPACT BOND CAN BALANCE PROFITS AND SOCIAL IMPACT

An impact bond can be used to close the **financing gap** in poorer households' willingness to pay for collection and treatment of FS:

(1) Social investors fund collection social sludge collection on an outcomes basis

(2) The social enterprise treats more FS from HH that were previously dumping (leading to better plant utilization)

(3) Investors make a return if outcomes i.e. amount of FS collected meet pre-agreed targets

AN IMPACT BOND CAN ACCELERATE THE MARKET SCALE-UP OF FSM SOLUTIONS TO NEW LOCATIONS BY MINIMISING THE NEED FOR ON-GOING GRANT FINANCING
KEY TAKEAWAYS

• Future for the ‘new urban margin’ = Non-networked Urban Sanitation
• Technology exists that turns the economics of FSM on its head
• BUT we have to find a way to deal with social sludge
• Impact Bonds are one way to structure project. They:
  – Integrate infrastructure project finance and a conventional aid program
  – Allow a balance between profitable operations for a social enterprise and high impact social sludge collection
• Social Finance is a pioneering non-profit organisation that designed and launched the first Social Impact Bond (SIB), in which risk capital is used to provide the working capital for outcomes-based contracts

• We have launched 11 SIBs in the United Kingdom and are helping to develop Impact Bonds in a range of countries in Africa and the Middle East

• We established a Working Group with the Centre for Global Development in 2012 to explore the potential of Development Impact Bonds (DIBs) that apply the Impact Bond model in developing countries