

## **iDE Cambodia Alternating Dual Pit Efficacy Study**

iDE is seeking a professional firm or researcher to support with the implementation of a research project focused on rural sanitation in Cambodia. This research is expected to be conducted between mid-2021 until mid-2022.

### **Background**

Having achieved a marked expansion of basic sanitation coverage over the past decade, Cambodia is now faced with the urgent challenge of achieving *safe* fecal sludge management (FSM) in rural areas. In 2017, iDE introduced a new FSM product-service combination to the rural Cambodian sanitation market: the Alternating Dual Pit (ADP). See diagram below and refer to [the technical guidelines on ADP](#) for more information on product design, construction and maintenance. As of mid-2020, iDE has facilitated the sale, delivery, and safe installation of over 10,000 ADPs in rural areas of five provinces in Cambodia and will continue to do so at least until the program's end date of December 2022.

Globally, there is little evidence of effective implementation and household use of alternating dual/twin pit sanitation technologies. Questions remain around the contextual appropriateness of the technology and the likelihood that pathogens within sludge in an unused pit will safely decompose within the WHO-advised two years (2018 WHO Sanitation and Health Guidelines). There is also uncertainty around if and how households actually alternate pits back and forth when they fill.

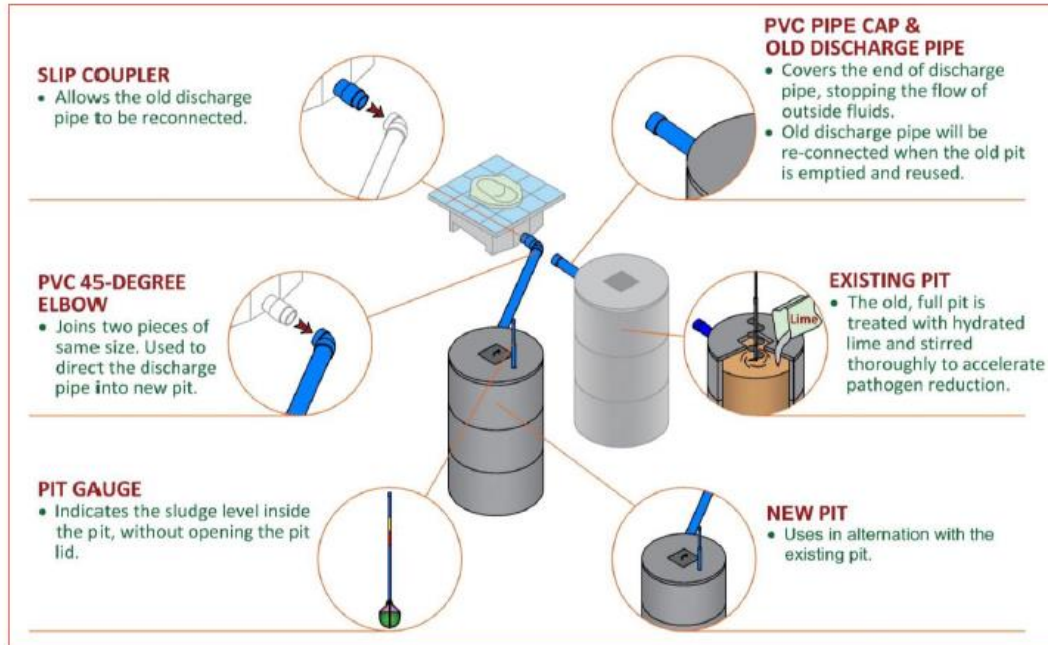
### **Research Goal**

We aim to quantify the effectiveness of the ADP product to make waste safe for manual emptying and potential value extraction, thereby reducing household risk of exposure to pathogens in rural Cambodia. Specifically, we plan to assess if a) iDE's ADP product can effectively reduce the presence of pathogens in pit latrines, and b) is appropriately used at the household level by alternating and emptying pits at recommended time intervals.

### **Existing Database & Field Research Opportunities**

Each ADP product sold is documented in iDE Cambodia's order database with customer contact information including location, household name, and phone number. On a continual basis, iDE also collects customer satisfaction data and product quality assurance data a few months after the sale is completed. It would be possible to use iDE's databases and existing relationships with rural households to define a sample to research alternating pit efficacy and household use, stratified by customer characteristics, geography, time of product delivery, or other variables included in order records.

This study would build on experience and learning accumulated through previous research completed by iDE regarding pathogen reduction for sanitation technologies and systems in Cambodia. Additionally, this research would be grounded in iDE's contextual knowledge and experience conducting qualitative and quantitative behavioral research on topics including household toilet usage, knowledge, preferences, and intentions for fecal sludge management and re-use.



*iDE's Alternating Dual Pit Product*

## Contractor Scope of Work

Research specialist will be responsible for

1. Study design and prep
  - Developing and finalizing study design and preparatory work including IRB approval
  - Develop data collection methods and tools including surveys and sampling protocols
2. Research implementation
  - Recruitment of researchers or contracting research firm
  - Providing implementation support as needed, including researcher training, iterating on surveys or sampling protocols if necessary.
3. Analysis and dissemination of learning
  - Conducting analysis on results
  - Producing a final internal report
  - Drafting and submitting article for publication in a peer reviewed journal

## Final Deliverables

- Research report on a) biological effectiveness of ADP systems and b) safe FSM behaviors of ADP owners
- At least one article drafted and submitted for publication in peer reviewed academic journal

## Qualifications

- Experience designing and implementing research in laboratory and field settings, including in developing country contexts

- Deep knowledge of sanitation and wastewater sciences
- Experience conducting research at a professional level, including securing necessary ethical clearances and submitting articles for peer-reviewed publication.
- Excellent written and spoken communication skills with fluent level of English proficiency
- Ability to communicate and coordinate with an intercultural team across multiple time-zones

*Interested candidates or firms are encouraged to send brief expressions of interest and overview of qualifications to iDE Cambodia at [cam-recruitment@ideglobal.org](mailto:cam-recruitment@ideglobal.org).*