Primary Outcome:
1. Reduce diarrhea in children <3 years (xii)
2. Improvements in early child development in children <3 (xiii)
Secondary Outcome (vii):
3. Change in SES/livelihoods conditions.
4. Change of knowledge/attitude practices
5. Change in indoor air quality exposure (e.g. CO & PM2.5)
6. Change in Nutritional Status
7. Quality of delivered intervention

Study Partners: SENCICO / CUNA MAS / MoH

Community and authority support (i)
**Assumptions**

A. Community families are willing to participate during the duration study and have not plans of moving  
B. Study families will comply with all the study requirements (incl. using the improved cook stove exclusively, playing with the child, being available during the weekly for the visits).  
C. Sufficient MF available within the communities with the necessary skills, will and time to be trainers.  
D. MF are engaged with the study and visit the households weekly for the training with the community mothers. They act proactively and do not criticize the mother or their households.  
E. HCW collect the data of the study children when they come for treatment or regular consultations.  
F. FS constantly supervise the FW and MF.

**Rationale**

a. Systematic reviews and meta-analysis evidence show that environmental health interventions that improved access to drinking-water, provided hygiene education or reduced indoor air pollution reduced disease and lead to many other beneficial health and non-health outcomes  
b. The Lancet series on ECD mentioned that ECD is crucial for sustainable development and is one of the main social determinants of health i.e. opportunities that are crucial in shaping their lifelong health and development status

**Interventions**

1. Training of FW and HCW  
2. Intervention FS conducts regular supervision of FW and HCW  
3. FS and FW recruit MF and conduct training and regular supervision  
4. Implementation of interventions: 160 kitchen sink, 160 improved cook stove  
5. Implementation of ECD interventions: 160 set of toys (6 deliveries during follow up)  
6. Monthly visits for intervention messages reinforcement  
7. Weekly household visits for MF training at community houses  
8. Monthly group meeting organized by MF and FW at community for group session training  

**Indicators**

i. 100% of the selected communities authorities are aware of the study.  
ii. 6 FW trained in data collection tools & identification of signs & symptoms of diarrhea & respiratory illness  
iii. 2 Technical assistants (TA) trained in CUNA MAS intervention  
iv. 20 MF trained in CUNA MAS interventions  
v. 18 HCW are selected to collect morbidity data of study children that go for treatment due to illness, they will be HCW trained in data collection tools & identification of signs & symptoms of diarrhea & respiratory illness  
vi. 320 households are enrolled & randomized into 4 study arms  
vii. Baseline & End of study data collection: 100% HH with SES, 100% with water samples collected, 100% HH ECD assessments, 100% anthropometric measurements; subsample of IAQ.  
viii. 80% of HH are visited weekly and have complete morbidity surveillance data during follow-up  
ix. 80% of HH visits and training session complete during the follow-up period.  

x. 90% of morbidity data must be collected at HC from children that went to seek treatment  
xii. 20% reduction of diarrhea and 20% reduction of ALRI  
xiii. 50% improvement of main ECD indicators (cognitive, language & communication, motor skills)