

# Animal Inclusive-CLTS in Mali



Community-led Total Sanitation (CLTS) has shown to be effective in Mali<sup>1</sup> for impacting Water, Sanitation, And Hygiene (WASH)-related behavior change through a process of community prioritization and planning to achieve Open Defecation Free (ODF) certification, as part of a national strategy. An estimated 12% of Mali’s rural population practices open defecation<sup>2</sup> and human fecal contamination contributes directly to childhood illness through diseases like soil-transmitted helminths and diarrhea. However, CLTS and other WASH initiatives have largely ignored management of livestock and domestic animals- which the FAO estimates generate 85% of the world’s fecal waste.<sup>3</sup> Livestock are important household assets and contributors to improved nutrition through income generation and direct access to animal-source foods<sup>4</sup> in Mali and other countries of the Sahel region of Africa. Children’s risk of infection increases when their exposure to animal feces is high, usually due to unmanaged animal waste.<sup>5</sup> There is also growing evidence that reduced incidence of illness, particularly sub-clinical environmental enteropathy, may be at least as effective in improving children’s nutritional status as changes in children’s diets.<sup>6</sup>

## ANIMAL-INCLUSIVE COMMUNITY-LED TOTAL SANITATION (A- CLTS) PILOT PROJECT

IMA World Health (IMA)’s Osprey Foundation-supported *Animal-Inclusive CLTS (A-CLTS)* in Mali project is piloting an innovative WASH model which integrates animal waste management strategies tailored to the realities of rural Malian households into CLTS. With partners USCET<sup>7</sup> and International Livestock Research Institute’s (ILRI) One Health Center,<sup>8</sup> along with leading academic research partners in the WASH sector, the project is implementing a three-armed randomized controlled trial (RCT) comprised of:

- Five (5) “comparison” villages with existing CLTS interventions and no animal intervention,
- 10 “add-on” villages with existing CLTS interventions where an animal management component was added, and
- 10 “A-CLTS” villages where livestock and animal waste management interventions were integrated.

The project aims to provide research findings to elucidate the most impactful A-CLTS behavior change approaches that will improve child and household health outcomes in central Mali’s Segou Region. Design of A-CLTS interventions tailored for Ségou (see table) is grounded in project formative research which documented current practices around management of animals and animal waste including gender- and age-based divisions of animal management-related roles and labor. The study team also conducted a series of workshops with community members and other key stakeholders to assess the acceptability, feasibility and likely adoption and maintenance of critical human and animal waste management behavior changes.

## RESEARCH PROGRESS

A-CLTS activities in 20 study villages include establishing CLTS committees, community mapping and transect walks, work with local government to integrate animal waste criteria into A-CLTS, and social and behavior change (SBC) activities.

### A-CLTS Integrated Livestock and Animal Waste Management Interventions

<b>Confinement</b>	Promote, develop, and maintain animal containment sites. Construct isolation sites for sick animals and comply with standards for management of sick animals.
<b>Composting</b>	Improve existing composting practices. Training on safer manure application (other than composting) and when to safely harvest vegetables
<b>Bio-Security</b>	Promote more hygienic milking practices (cows, sheep, and goats). Promote good hygiene practices during birthing of animals.
<b>Zoonoses and Health</b>	Community training on knowledge and management of zoonotic diseases including use of para-veterinarians, animal deworming, and vaccination. Community awareness and SBC centered on human health risks from animal waste.

1 Save the Children, “Learning Brief: Strengthening WASH Approaches to Improve Nutritional Status Among Women and Children in Sikasso, Mali,” June 2019.

2 <https://data.worldbank.org/indicator/SH.STA.ODFC.ZS>

3 <https://www.fao.org/3/a0701e/a0701e.pdf>

4 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5392649/>

5 Dearden KA, Schott W, Crookston BT et al. (2017). Children with access to improved sanitation but not improved water are at lower risk of stunting compared to children without access: a cohort study in Ethiopia, India, Peru, and Vietnam. BMC Public Health. 17(110).

6 Dewey KG, Adu-Afarwua S. Systematic review of the efficacy and effectiveness of complementary feeding interventions in developing countries. Matern Child Nutr 2008 Apr 4 Suppl 1:24-85.

7 Union des Sociétés Coopérative des Eleveurs des Communes de Tamani, Boidié, Dougoufoué et Somo (USCET)

8 <https://www.ilri.org/research/facilities/one-health-centre>

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*“Today we are in a dynamic of total sanitation... fewer people are going to the health center at the start of the rainy season because of improved sanitation...”*

*Before, flies and pests swarmed dirty, poorly maintained latrines, encouraging open defecation. Now, old latrines are rehabilitated or new latrines are dug into the households and well cleaned, closed and equipped with water and soap or ash. Sumps are dug and tightly closed to prevent sewage from flowing.*

*Animal carcasses and placentas from births are no longer thrown away as before but buried in holes because we have understood that they are also vectors of disease.”*

- BASSIRABOU DIARRA, DIONI VILLAGE CLTS COMMITTEE MEMBER

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Informed by the project formative research, SBC activities include children’s development of a “plea to adults” about improved hygiene and animal management, poop fairs with a focus on animal waste, and community discussions on how animals can contaminate the environment and contribute to human illness. CLTS committee members also receive regular support from veterinary technicians. Delivery of interventions in the community is standardized using a One Health training manual intended to support human health workers, para-veterinarians, and CLTS committee members. Based on formative research findings, the manual addresses animal species of primary concern to human health in the study area, including poultry, small ruminants, and cattle, and focuses on changing behaviors to adopt feasible biosecurity and animal waste management practices at the household level. A specific training was given to community members on how to compost animal and other household waste to produce fertilizer for home gardens and farm crops. To varying degrees, the study team has already observed adoption of recommended practices such as:

- Construction, or improvement and use of small ruminant confinement areas, including low walls to limit scattering of animal droppings,
- Fewer stray animals wandering into households,
- Constructions of compost pits,
- Use of *dispositif de lavage des mains* (handwashing stations) and defecation pots for young children, and
- Construction, improvement, and use of latrines.



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## NEXT STEPS

The pilot project outcomes will provide development practitioners with insight into improved WASH and CLTS approaches in Mali, including the acceptability by communities of changed practices around animal waste and the A-CLTS SBC strategies with the greatest potential to improve household and child health outcomes. Additionally, results from villages with A-CLTS as an “add-on” to existing CLTS programs will be relevant to the many areas of Mali and other countries in the region where UNICEF and/or the Ministry of Health are already implementing CLTS. IMA and its partners will continue to validate learning from the project through the project endline assessment planned in December 2023 and will make the research findings available through briefs and peer reviewed publications.

Additional investments are needed to increase the responsiveness of policies and programs to integrate learnings that address human and animal health, and to include extension of the study to assess impact on human health indicators, such as child anthropometry, as well as impacts on livestock productivity and health indicators over time. Research in coordination with local Malian partners will also assess the durability of behavior changes and community ODF status. The A-CLTS in Mali project is being implemented by IMA World Health in close collaboration with its Corus International affiliate organization, Lutheran World Relief (LWR) and the International Livestock Research Institute (ILRI). These organizations are seeking opportunities to replicate this One Health study in other settings where livestock are key to household food security, animals live close to humans, and research indicates that exposure to animal waste is an important risk factor for poor child nutrition.



## The Corus Effect

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