seed madagascar
sustainable environment, education & development

A Final Report for

SEKOLY PROGRAMME: MANDISO

Improving Health and Education in rural Madagascar

October 2022

Summary

Context

Madagascar remains one of the poorest and least developed countries in the world.[1] Children bear the brunt of this burden, with over 70% of Malagasy children living in poverty.[2] Despite 63% of children completing primary school, only 35.5% of children graduate from lower secondary school.[3] These issues are amplified in rural schools across Madagascar's under-resourced Anosy region, where over half (51.5%) of children aged six to ten years have never attended school.[4]

Moreover, **6,900 Malagasy children die annually from water, sanitation, and hygiene (WASH) related diseases**.[5] Insufficient, or even non-existent, WASH infrastructure in schools contributes to the transmission of diseases, and impedes academic achievement.[6] In Madagascar, it is estimated that only 37% of schools have access to basic sanitation services, whilst 63% have no access to drinking water from an improved water source.[7] Female students are further disadvantaged due to a lack of menstrual health and hygiene management (MHM) facilities, which prevents them from safely managing their menstruation in school, contributing to school absenteeism.[8]

Project Sekoly as a Solution

SEED Madagascar's (SEED's) Sekoly Programme aimed to improve health and education in Madagascar's rural Anosy region by providing vital education and WASH facilities for 80 students and 9 teachers annually in Mandiso Lower Secondary School. To complement this infrastructure, SEED has used a train-the-trainer approach to deliver WASH education sessions to teachers, enabling them to promote sustainable hygiene and sanitation practices, such as handwashing and safe MHM.

SEED has constructed three classrooms; this additional space means students no longer need to share classrooms, and they are now able to attend full days of school in a safe learning environment. To reduce teacher absenteeism, housing was built at each school for headteacher and their family.

SEED constructed four latrines, two handwashing stations, and a MHM facility. In partnership with Tatirano Social Enterprise, a 10,000-litre rainwater harvesting system was installed. When full, this system will provide clean drinking water to students, teachers, and the local community for up to two months without needing replenishment. To empower the local community to independently sustain the WASH infrastructure improvements, a WASH management committee has been established and all 9 teachers have been trained to lead WASH education.

Activity Detail

Construction Activity

Classroom Building

During the project period, teachers of Mandiso Lower Secondary School expressed an anticipated increase in student population in September 2022. To accommodate for the increasing student population, the project adapted to provide an additional classroom to the new school building by reducing the overall size of the teachers' housing to be two rooms, converting the third room into a classroom. A consultation with the headteacher revealed that some of the teachers live close to the school, meaning accommodation rooms were not as urgent a priority as the need for additional classroom space.

Construction activities were completed in September 2022, following disruptions and delays to project delivery caused by adverse weather conditions, including several tropical storms and cyclones. As the weather improved through April into May, the construction team managed to rapidly repair damage to infrastructure at Mandiso, and recommence construction activities. In response to these increasingly frequent extreme weather events, SEED has installed its first cyclone-resistant school building, with concrete reinforced external pillars and strengthened

roofing, at Mandiso Lower Secondary School. The three new classrooms have been provided with a total of 50 desk-benches for students, four desks and chairs for teachers, three blackboards, and three lockable cupboards. The provision of education infrastructure at Mandiso Lower Secondary School will enable 80 students to attend full days of lessons in safe and high-quality learning environments, whilst accommodating for expected student population growth.

The completed three-classroom school building in Mandiso, with two additional teacher accommodation rooms, and an updated cyclone-resistant design.

Teacher Accommodation

The two-room teachers' house constructed at Mandiso Lower Secondary School supports the livelihood of the Headteacher, by reducing living expenses, and provides additional workspace for teaching staff. Integrating furnished teacher housing into school projects, improves teacher retention and attracts higher-quality teachers to the school, both enhancing school management and security, and minimising staff absenteeism.

WASH Facilities

The construction of four gender-segregated, ventilated improved pit (VIP)[1] latrines and one MHM facility at Mandiso Lower Secondary School are complete. Two handwashing stations with behavioural 'nudges'[2], and a mural were painted on the latrines encourage healthy hygiene practices amongst students and teachers. In collaboration with Tatirano Social Enterprise, SEED installed a 10,000-litre rainwater harvesting system that provides the school and community with a two-month supply of clean water when full, before needing replenishment. The students and community now have access to clean drinking water, reducing the transmission of WASH-related illnesses. replenishment. The system also provides running water to the MHM facility, empowering female students to manage their menstruation in school with privacy and dignity.

The provision of WASH facilities in Mandiso will help promote safe WASH practices amongst the 80 students and 9 teachers annually, through reliable access to latrines, handwashing stations, MHM facilities, and drinking water.

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[1] Ventilated improved pit latrines are designed to increase air circulation, minimising smell and disease transmitting flies.

[2] Nudges are environmental features that are created to 'nudge' a person's decision-making. In this case, a concrete path with footprints painted leading from the latrines to handwashing stations are being constructed to encourage students to wash their hands.

Newly constructed latrine blocks at Mandiso Lower Secondary School with handwashing stations and MHM facilities.

WASH Education and Capacity-Building

To complement the improved WASH infrastructure, SEED has trained 9 teachers at Mandiso Lower Secondary School to deliver WASH education sessions to a total of 80 students annually. Additionally, a WASH committee, comprising of teachers and parents, has been established to maintain the new infrastructure. SEED delivered WASH education training to WASH committee members and teachers in Mandiso, covering topics such as handwashing, latrine use, latrine maintenance, and water treatment. These activities promote good WASH practices amongst students, and build the capacity of the community to sustainably manage the new WASH facilities.

One of the blackboards at Mandiso Lower Secondary School, ready for use once schools return from summer vacation in late September 2022

Sekoly Maintso

The production and transportation of building materials to school sites produces carbon dioxide emissions that contribute to climate change, disproportionately impacting communities such as Mandiso. Project Sekoly Maintso (Green School in Malagasy) offsets the carbon footprint of the Sekoly Programme through carbon offsetting.

The emissions produced during the construction of Mandiso School are calculated at 62,756 $kgCO_2e$. This figure is higher than communicated in the Interim Report, as calculation methods were updated. In March 2022, SEED planted 350 *Acacia mangium* trees in Mandiso in a carbon offset plantation, which will offset the emissions over a period of 10 years. An additional 350 *Acacia* trees have been planted in a resource use plantation, providing the community with a sustainable wood resource. Given the high demand for wood in the community, the creation of a resource use plantation will ensure that the trees from the offset plantation are protected. Alongside this, 100 fruit trees of five different species – including lychee, mango, and custard apple – have been planted between the plantations and around Mandiso Lower Secondary School. These fruit trees will provide a sustainable source of nutrition for the school students as well as the wider community. Upon continuous monitoring, 100 Acacia seedlings have been replanted to replace those that have died. To protect the plantation sites, signboards have been placed and a 'living' fence using regenerative native species has been planted around the site.

Community Handover

The handover ceremony for Mandiso is scheduled to be held in early October, once students return from the summer holiday. Responsibility for maintaining the school and the equipment will be for mally transferred back to the Mandiso community. The ceremony will involve speeches, a community blessing of the new buildings, and a traditional Zebu sacrifice.

Sustainability and Monitoring

Sustainability

The Sekoly Programme ensures sustainability through complimenting the smart, durable design of our infrastructure with capacity building of the school community, enabling them to enact and sustain positive WASH behaviours. The school buildings and WASH facilities have been designed to withstand extreme weather conditions and require minimal maintenance. SEED empowers students and teachers with the knowledge and tools to sustain new infrastructure and positive WASH practices. A train-the-trainer approach is used to build the capacity of teachers so they can deliver interactive WASH education sessions. Operating independently of SEED, teachers will deliver these education sessions to the students annually.

Monitoring, Evaluation, and Learning (MEAL)

Over the duration of the project, SEED has monitored the progress of activities at the site through regular visits and departmental reviews. A baseline assessment of WASH knowledge and behaviours was carried out before construction began, and an endline survey was conducted upon project completion. The RAG-system (red-amber-green) was used to track activities and the progress of project outputs was regularly updated and reviewed by the management team. Follow-up visits, including observational monitoring by SEED staff, will be carried out within six months of project end. During these visits, SEED staff will assess the ongoing maintenance of WASH infrastructure and the adoption of improved WASH practices among teachers and students.

Finances

98.8% of the amount requested for Programme Sekoly: Mandiso been spent, completing the project according to budget.

The prices for key construction materials such as cement, metal roof sheeting, and wood, have fluctuated since project inception, resulting in overspend and underspend on certain lines. The prices of all types of rebar have increased exponentially during the build, leading to overspend for all rebar material lines. These fluctuations and increases have been attributed to supply-chain bottlenecks as a result of the COVID-19 pandemic, the rise in global demand for construction materials, and the increase of importation costs as a repercussion of the war in Ukraine. To accommodate for these fluctuations, construction materials were purchased in bulk and used across multiple budget lines.

References

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