BRIEF

Health Impact Assessment of the West China Cement (WIH-ZIM) Plant in Hurungwe District, Zimbabwe[1]

October 2026

Key Messages

Health Impact Assessment (HIA) is a tool using internationally recognised methods to assess health impacts and recommend improvements to economic activities and policies for sustainable development. This HIA, implemented during the 2026 Regional HIA training, assessed the West China Cement Company Zimbabwe (WIH-ZIM) cement plant, under construction in Hurungwe District, Mashonaland West Province. Most of the health harm expected from the plant can be prevented, but only if safeguards become binding conditions of approval before the plant starts production, expected in 2027.The HIA focused on four elements:

1. Site location, site clearing and construction.
2. Raw materials extraction and cement production.
3. Waste management, and
4. Displacements, movements and livelihoods.



Excavated pit with discarded waste material at the WIH-ZIM site. Source: EMA Inspection, 2026

The HIA identified prioritised health impacts:

a. Dust is the largest risk. No ambient air monitoring exists, and up to 33 355 residents of Magunje and nearby communities and 2 000 workers and the children at Katenhe schools are projected to face dust exposure.
b. Kemureza Dam is already under strain. About 20,000 people depend on it, and a single pre-operation reading on 30/1-10/2 2026 found a turbidity over four times the Zimbabwe Water Supply Authority (ZINWA) limit. While not due to the plant alone, it shows the limited margin in the dam.
c. Haulage will add to road-injuries: Hurungwe recorded 986 road traffic injuries in 2025 (21.3/ 10 000 people). Worker influx raises HIV and STI risk, mainly for adolescent girls and young women, where national HIV prevalence is 9.78%.

Those most exposed have the least say, so duty-bearers must act for them.

The HIA recommends three priority actions for decision-makers, noted in this brief,

- Make its recommendations enforceable conditions of the plant's environmental and operating approvals, with all controls in place before commissioning;
- Establish independent air and water monitoring for a baseline before production begins; and
- Set up a joint oversight team, led by the District Development Coordinator with meaningful community involvement, to review indicators and act on triggers.

The policy context

The privately owned WIH-ZIM plant is under construction, about 1.5 km from Kemureza Dam, the water source for Magunje Growth Point and local irrigators, with villages and schools within 5 km. Limestone quarried at Chidamoyo, 30 km away, will be hauled to the plant by truck. The plant holds an Environmental Impact Assessment (EIA) certificate, but construction was halted in 2025 for not complying with its recommendations. Communities have raised concerns about relocation, compensation and loss of farming and grazing land. Because production is expected only in 2027, there is a window to build health safeguards into approvals and licensing conditions before operations begin, motivating this HIA mandated under the Public Health Act (15:17).

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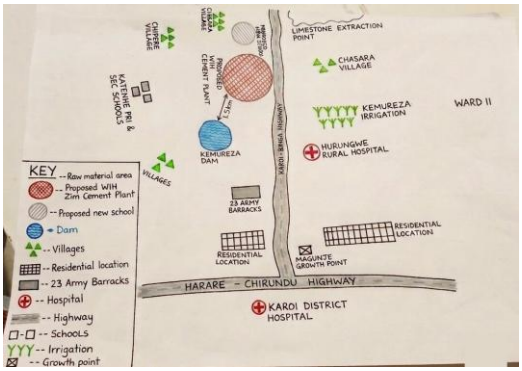
[1] This policy brief was produced by Komborero Gotosa (Ministry of Health and Child Care (MoHCC), Hurungwe District), Prudence Maruta (MoHCC, Guruve District), Ruvimbo Mhungu (MoHCC, Parirenyatwa Hospital), Elma Kasambarare (MoHCC, Chinhoyi Hospital) and Tanaka Mapfumo (MoHCC, Seke District), with mentor review from Dr Rene Loewenson, TARSC in EQUINET, Dr Carlos Dora, Universidad Federal Rio Grande do Sul and Mr Nathan Banda: SATUCC.

The Health Impact Assessment

With construction commenced but halted, this HIA, partially concurrent and prospective, was implemented between July and October 2026 during the 2026 EQUINET regional training programme on HIA. It used an internationally recognised five-stage method: screening to identify feasibility, the causal pathways and focus of the HIA; scoping to identify the sources and forms of evidence; a profiling and assessment stage to identify the direction, magnitude, severity, likelihood and on this basis the significance of the health impacts assessed; and the setting of recommendations for significant impacts; and steps to report and communicate the HIA and propose areas for monitoring impacts and of implementation of the recommendations. From the screening and scoping stages, the HIA focused on four key elements:

1. Site location, site clearing and construction.
2. Raw materials extraction and cement production.
3. Waste management.
4. Displacements, movements and livelihoods.



Location of the WIH-ZIM cement plant and surrounding features (not to scale). Source: project team2026

A causal pathway shown in the figure adjacent was developed from background information and used as a framework for data collection. The assessment drew evidence from routine health data (MoHCC, DHIS2); data from WIH-ZIM, NSSA, Environment Management Agency (EMA) and Zimbabwe National Water Authority (ZINWA); a January 2026 site inspection; and two key informant interviews. As an impact assessment, the findings used projections and may be read as upper estimates. Where there were local data gaps, evidence was obtained from studies from comparable cement plants in Nigeria, Ethiopia and Zambia, adding to local data and giving reasonable confidence in the findings. It was also notable that the two key informants did not come from displaced families, dam users, schools, workers or women, suggesting that future monitoring include these groups.

The causal pathway linking the key elements to health impacts in the HIA

Key element	Key SDH	Exposure / risk pathways	Health outcomes	Who is affected
Site location, site clearing and construction	Air quality: silica and cement dust; soil erosion and land clearing	Inhalation of dust and particulate matter (PM2.5, PM10, silica); sedimentation of Kemureza Dam, reducing water quality and availability	Respiratory and cardiovascular disease, silicosis; diarrhoeal diseases and malnutrition	Construction workers; community within 5 km; school children; Kemureza Dam dependants
Raw materials extraction and cement production	Kiln and cement dust emissions; heavy machinery and limited OSH enforcement; haulage truck traffic; water abstraction; hygiene and PPE use	Gaseous emissions (SO_2, NOx); machinery accidents and chronic noise; road traffic collisions; depletion of surface and groundwater; skin contact with and ingestion of dust	Lung disease, silicosis, diabetes, hypertension; injuries, deaths, hearing loss; skin and gut disease, malnutrition	Production, milling and packaging workers; drivers; school children; community within 5 km
Waste management	Poor waste management practices	Heavy-metal leaching into groundwater; surface runoff and wastewater disposal	Skin conditions, gastrointestinal disease, chronic kidney disease; lead exposure in children	Downstream communities, children; about 20,000 Kemureza Dam dependants
Displacements, movements and livelihoods	Displacement; employment creation; in-migration of plant workers	Loss of land and community cohesion; local recruitment and income; population influx, family separation and sex work	Malnutrition and mental ill-health; better food security and health-care access (positive); HIV and STIs	Displaced communities; local households; adolescent girls and young women

Findings of the HIA on health impacts

The HIA pointed to health impacts for the pathways in each of the four areas assessed, prioritising impacts based on their positive or negative impact on health, magnitude (numbers affected), and severity and likelihood of the impacts to judge their significance. Six areas of impact were prioritised for the population at risk. This includes the estimates of the Hurungwe population (462 169); Magunje and nearby communities (33 355); 20 000 people who depend on Kemureza Dam (fishers, irrigators, domestic users, women and children); and at least 2 000 construction and plant workers.

Firstly, **dust and fine particles (including silica)** were rated as of high significance. This affects the nearby residents (33 355), workers (2 000+) and children at the Katenhe schools all within reach of dust pollution, and the plant is about 10m from the yard of a proposed school. Comparator studies project rises in acute respiratory infections (ARIs) in under-5s from 31% to 41% for the 2 045 children affected, and chronic lung disease, including silicosis, in workers.

Secondly, **occupational hazards** (machinery, noise, dust) were also rated as of high significance. Minimal protective equipment is reported, with workers given inadequate masks to meet needs for a month. Comparator data projects injury rates of 49% of production workers annually, so that up to 978 injuries could occur annually among the 2 000+ workers.

Thirdly, due to **haulage traffic**: road injuries are already 21.3 / 10 000 people in Hurungwe, against about 5.5 nationally in 2023. This may be expected to rise as heavy trucks use the route from the Chidamoyo quarry, with schoolchildren most at risk.

Fourthly, **water and waste impacts on health** are rated highly significant, applying also the precautionary principle and with a recommendation for repeated sampling. About 20 000 dam-dependent people, including about 2 045 under-5s, face diarrhoeal, skin and kidney disease risks and children face lead exposure, which can lower intelligence and cause cognitive disorders.



Eroded and disturbed ground with debris at the WIH-ZIM site. Source: EMA Inspection, January 2026

Fifthly, the **influx of workers** for the plant is expected to raise STI prevalence by 5%, noting a current prevalence of 1.3% annually. This will mainly affect adolescent girls and young women and commercial sex workers in Magunje.

Finally, **local employment** is identified in the findings as a potential positive impact, albeit of medium significance. It can improve food security and health-care access. However, experience from a Gweru cement plant in the country found that it employed only 3% of locals permanently, so the benefit is not automatic. Displacement and mental health, identified as potential health outcomes, need future monitoring as there is no local data.

Overall, the new landfill proposal was noted to have the potential to improve health by replacing open dumping, controlling leachate and emissions, organizing safer work and increasing material recovery. Those benefits are conditional. Without effective design, inclusive implementation and monitoring, the project could maintain environmental exposure, create machinery and traffic hazards, or shift costs onto informal collectors and their households. The highest negative impacts are therefore rated high or medium–high where controls are absent or fail.

The challenges identified did not affect all the residents evenly. Some groups are disproportionately affected. These include: under-5 year olds and school children (dust, diarrhoea, traffic injuries); adolescent girls and young women and sex workers (HIV and STIs); displaced families (income, food and mental health); communities downstream of or dependent on the dam without alternative water sources; and the plant's workers.

Recommendations from the HIA

Based on the findings, various actions are recommended for the impacts identified as most significant due to their direction, magnitude, severity and likelihood, and with a preference for controlling hazards at source. This means that protecting people after they have been exposed: or implementing tree belts and sealed classrooms complement but do not substitute action to prevent exposures. As actions, the HIA recommends that:

As high priority, immediate actions now, and before commissioning and recruitment:

- WIH-ZIM installs dust suppression and capture (water sprays, enclosed conveyors, covered trucks, paved haul roads, fabric filters); treats wastewater with closed-loop water use; adopts an occupational safety and health policy with an injury and disease register; and supplies protective equipment to every worker.
- EMA attaches the HIA actions to the plant's approvals, requires stack testing and dispersion modelling, enforces compliance, and with ZINWA sets discharge permits. ZINWA samples turbidity, heavy metals and pH at least monthly through a full rainy season and identifies other pollution sources.

- MoHCC (Hurungwe District Health Team (DHT)) runs surveillance of respiratory, diarrhoeal and injury trends, provides baseline and annual worker checks (audiometry, spirometry), and strengthens HIV and STI services (staff, test kits, medicines) before the main influx.
- The District Development Coordinator (DDC), with political and traditional leaders, convenes the oversight team now and gives communities a seat.

Before further construction, recruitment and haulage:

- Hurungwe RDC and Ministry of Local Government with school sites, create a buffer zone and set up a grievance mechanism, with named focal points, accessible to women, displaced families, dam users and schools; and for WIH-ZIM to agree compensation and resettlement, publish an employment policy and fund safe water for dam-dependent households.
- NSSA registers all workers and tracks occupational injuries and disease. The Ministry of Transport, Traffic Safety Council and Zimbabwe Republic Police (ZRP) assess the quarry-to-plant route and set speed limits, signs and pedestrian crossings near schools and Magunje.
- The Ministry of Primary and Secondary Education takes part in air monitoring at schools, delivers road-safety awareness, and seals/filters classrooms if monitoring exceeds safe levels.

Overall, the HIA recommends that before commissioning the recommendations be conditions of the plant's approvals and an oversight team meet, led by the DDC with the Hurungwe DHT and EMA as technical leads, and with Hurungwe RDC, ZINWA, NSSA and community and WIH-ZIM representatives. This team oversees implementation of the recommendations and reports compliance, including against indicators, with trigger levels for action, for dust suppression, effluent treatment, safety policy, injury register, road-safety measures, alternative water controls; for air quality and respiratory health; for water and diarrhoeal disease; for worker injuries, deaths, audiometry and spirometry; for road traffic injuries and deaths and for HIV and STI incidence, the share of jobs held by locals, household income and food security. Through monitoring, evidence gaps should be closed, including by consulting displaced families, dam users, schools, workers and women, including for the Chidamoyo quarry communities. Implementing these recommendations would protect all involved, bringing in controls at design and licensing, when they are most effective and least costly.

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