PUSAN
Climate and Development Organization



COMMUNITY-BASED CLIMATE RISK ASSESSMENT

WHEN THE SAND MOVES IN

Sand dune expansion, soil erosion and drought in Garacad, Kulub and Dinowdo, Jariiban District, Mudug Region, Somalia

Fieldwork: 23–24 February 2026 · Revised edition: November 2026

2026

FOREWORD



Men's focus group with pastoralists and community members, Jariiban District, February 2026.

Jariiban is one of Somalia's oldest districts, and its people have lived with drought for generations. What they described to our team in February 2026 is something new: sand that buries a school over a weekend, wells that fill overnight, and water that now costs ten times what it did. These are not distant forecasts. They are happening now, to families who did almost nothing to cause them.

This assessment is the first written record of these risks from the communities of Garacad, Kulub and Dinowdo. It does not replace their own knowledge; it puts that knowledge on paper so that district authorities, the Federal and state governments and our partners can act on it. The communities scored their own resilience, named the native plants that once held their dunes, and set out what they need first.

PUSAN Climate and Development Organization has made Jariiban the first district under its Strategic Plan 2027–2031. We will return in 2027 to turn this assessment into a community-approved district adaptation plan, start dune restoration with native species, and verify the findings through a household survey. We invite government, United Nations agencies and donors to join us.

On behalf of the Board, I thank the communities, elders, women's and youth groups and district officials who gave their time during a severe drought and the month of Ramadan.

Abdullahi Mohamud Abdullahi
Chair, Board of Directors
PUSAN Climate and Development Organization

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Acronyms

ARCD	Community-based resilience assessment toolkit used in this study
CBDRA	Community-Based Disaster Risk Assessment
CNRMC	Community Natural Resource Management Committee
DRR	Disaster Risk Reduction
FGD	Focus Group Discussion
IPC	Integrated Food Security Phase Classification
NAP	National Adaptation Plan (2026–2030)
NCCAP	National Climate Change Action Plan (2025–2030)
NDC	Nationally Determined Contribution
NTP	National Transformation Plan (2025–2029)
PRM	Participatory Resource Mapping
PUSAN	PUSAN Climate and Development Organization
UNCCD	United Nations Convention to Combat Desertification
VSLA	Village Savings and Loan Association
WASH	Water, Sanitation and Hygiene

EXECUTIVE SUMMARY

Jariiban District, on the Mudug coast of Somalia, is facing a fast and accelerating environmental crisis. Sand dunes, driven by strong coastal winds and loosened by decades of vegetation loss and repeated drought, are moving into homes, water points, schools, health posts and roads. On **23–24 February 2026**, PUSAN Climate and Development Organization carried out a community-based disaster risk assessment in three coastal and near-coastal communities, **Garacad, Kulub and Dinowdo**, using the ARCD toolkit and participatory resource mapping. Women and men met in separate focus groups, alongside elders, youth, pastoralists, community social workers and district officials.

10×
rise in the cost of one water truck, from about USD 15 to USD 150

39.7%
of households report sand blocking the way to school

USD 114
average monthly cost of keeping a child at school in town

1 / 4
score on all four ARCD resilience areas, the lowest rating

Water is the first crisis. Prolonged drought has lowered the water table below the reach of hand-dug wells, and moving sand refills shallow wells, often overnight. Traditional berkads are buried, the boreholes still in use are overcrowded with people and livestock, and the water is frequently saline. Households now rely on distant boreholes or trucked water, at a cost that has risen roughly tenfold.

Livelihoods are shrinking. Pastoralism is the main source of income, but pasture is scarce, livestock are dying and buyers are few. There are no village savings and loan groups, almost no remittances, no insurance and no safety nets for the most vulnerable households.

Children are losing school. Nearly four in ten households report that sand has blocked the route to school. In Dinowdo, a school was buried between a Thursday and the following Monday. Families who send children to relatives in town spend about USD 114 a month, and girls living away from home face higher protection risks.

Homes, roads and health posts are being lost. Light metal and timber houses offer little protection; some households have been displaced from sand-filled homes. Blocked roads cut communities off from markets, clinics and humanitarian assistance.

There are no plans in place. The communities have no risk assessment, hazard map, disaster risk reduction plan, contingency plan or land use plan. All four ARCD resilience areas, from understanding risk to preparedness, scored 1 out of 4. Earlier sand removal by KAALO Aid and Development and a climate impact assessment by the state Ministry of Environment were acknowledged, but communities said these did not match the scale of the problem.

Communities are not passive. Students and youth groups water seedlings, plant trees and clear sand from roads on their own initiative. Elders identified nine native plant species, including *Cenchrus ciliaris*, *Acacia tortilis* and *Salvadora persica*, that once held the dunes in place. This knowledge is the foundation for any restoration effort.

Priority actions

- **Immediate (0–6 months):** emergency water trucking to the worst-hit villages; de-silting and protection of wells and berkads; livestock feed and veterinary outreach; cash-for-work to clear sand from roads and public spaces.
- **Medium term (6–24 months):** dune stabilisation with native species, windbreaks and vegetation belts; school de-silting and temporary learning spaces; repair of homes and health posts; community natural resource management committees and by-laws.
- **Longer term (1–3 years):** a district contingency plan and DRR plan; early warning linked to pre-agreed early action; climate-resilient housing; new income options for women and youth.

These priorities match Somalia's own commitments. The National Adaptation Plan 2026–2030 and NDC 3.0 put water security, resilient livestock systems and ecosystem restoration at the centre of the country's adaptation agenda, and Jariiban is a clear case where those commitments need to reach the ground.

1. INTRODUCTION

1.1 Background

The coastal belt of Jariiban District has historically been made up of sandy soils held in place by a dense cover of grasses, shrubs and indigenous trees. These plants anchored the soil, slowed the wind and supported the pastoral economy and small-scale trade on which most families depend. Over the past five decades this protective cover has been lost through resettlement and tree cutting, drought, overgrazing and the disturbance caused by vehicles moving off-road. As the plants disappeared, the dunes began to move.

Today the advancing sand is burying grazing land, blocking transport routes and damaging water points, schools, health facilities and homes. Livestock productivity has fallen as pasture has disappeared, lowering household incomes and deepening food insecurity. Roads that become impassable cut people off from markets and health services, and in some settlements whole households have had to leave homes that filled with sand. The combination of recurrent drought and land degradation has turned a slow environmental change into an emergency.

Until this assessment, there was no community-level record of these risks. District stakeholders mentioned an earlier climate change impact assessment by the state Ministry of Environment, and KAALO Aid and Development had carried out a baseline and removed sand from public areas and water points. But the communities had no risk map, no hazard analysis and no plan of their own. This report fills part of that gap.

1.2 Purpose and objectives

The assessment set out to generate evidence on the effects of climate-driven sand dune expansion and soil erosion in Jariiban District, with a focus on the coastal and near-coastal communities of Garacad, Kulub and Dinowdo. Its findings are meant to guide practical, climate-resilient action by communities, local authorities, government and partners. The specific objectives were to:

- determine district-level vulnerability to sand dune encroachment and soil erosion, especially in coastal settlements;
- identify the main drivers of dune formation and land degradation, and document existing coping and recovery mechanisms;
- analyse the environmental, social, economic and infrastructural effects of dune expansion; and
- propose sustainable dune stabilisation and land restoration options consistent with climate adaptation and good land management.

The report is organised as follows. Chapter 2 sets out the national and district context and the history of land degradation. Chapter 3 describes the methodology and its limits. Chapter 4 presents the findings by sector, and Chapter 5 the community's resilience scores. Chapter 6 discusses how the risks reinforce each other. Chapter 7 sets out recommendations, Chapter 8 links them to national and global frameworks, and Chapter 9 concludes with next steps.

2. CONTEXT

2.1 Somalia's climate situation in 2026

Somalia contributes a tiny share of global greenhouse gas emissions, about 0.019 per cent, yet it is among the countries most exposed to climate change.[1] Recurrent drought, erratic rainfall, flash floods and rising temperatures have become more frequent and more severe. The failure of the 2025 Deyr rains pushed large parts of the country into drought in early 2026: an estimated **6.5 million people** faced crisis-level food insecurity or worse (IPC Phase 3+) in February–March 2026, almost double the figure a year earlier.[2] Seasonal outlooks expected the main risk to shift from drought in the Gu season to flooding in the October–December Deyr.[3]

The Government's response is set out in the National Adaptation Plan 2026–2030, which identifies water and WASH, agriculture and livestock, ecosystems, health, infrastructure and coastal management as priority sectors, and calls for community-based natural resource governance, sustainable grazing, water harvesting and early warning.[4] Somalia's NDC 3.0 makes adaptation its core focus and estimates adaptation needs at about USD 6.33 billion for 2025–2035. Jariiban shows, at local scale, almost every hazard these national plans describe.

1. Federal Republic of Somalia, *Nationally Determined Contribution 3.0*, submitted to the UNFCCC, 2025.
2. IPC, *Somalia: Acute Food Insecurity and Malnutrition Snapshot, January–June 2026*. reliefweb.int/report/somalia/somalia-ipc-acute-food-insecurity-and-malnutrition-snapshot-january-june-2026
3. FEWS NET, *Somalia Food Security Outlook*, June 2026. fews.net/east-africa/somalia/food-security-outlook/june-2026
4. Federal Republic of Somalia, Ministry of Environment and Climate Change, *National Adaptation Plan of Somalia (2026–2030)*.

2.2 Jariiban District profile

Jariiban town lies about 180 kilometres north-east of Galkayo in Mudug Region and is regarded as one of the oldest districts in the country. It serves as a centre for the surrounding rural settlements. The district has a semi-arid climate with two short rainy seasons, the Gu (April–May) and the Deyr (October–November), and is hit by drought almost every year.

Table 1. Jariiban District profile

Feature	Description
Location	About 180 km north-east of Galkayo, Mudug Region; borders Hobyo District to the south and Nugaal Region to the north
Settlements	59 sub-villages, including Gara'ad, Sallax, Ballibusle, Buubi and Seemade
Population	About 39,207 people, of whom about 6,341 urban and 32,866 rural[5]
Climate	Semi-arid; Gu rains (April–May) and Deyr rains (October–November); recurrent drought and strong coastal winds
Livelihoods	Mainly pastoralism; myrrh gum collection; small-scale trade
Water	Shallow wells, berkads and a small number of boreholes, many buried, dry or saline
Education	One primary school and some secondary schooling; high illiteracy, especially among older people
Planning documents	None at community level: no risk assessment, hazard map, DRR, contingency or land use plan

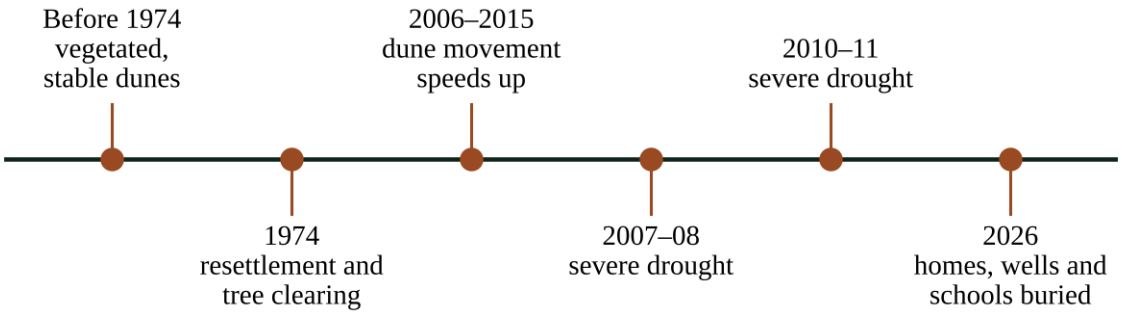
2.3 How the dunes advanced

Elders described a landscape that was once fully vegetated, with sand bound beneath fertile topsoil. In 1974, the Government resettled drought-affected families in parts of the district. Trees were cleared for housing, building materials and fuelwood, and the protective cover began to thin. Participants said dune movement sped up sharply between 2006 and 2015, driven by two forces: severe droughts in 2007–08 and 2010–11 that killed much of the remaining vegetation, and off-road vehicle movement during years of coastal insecurity, which broke up surface plants and loosened the sand.

The first signs were grasses and shrubs slowly disappearing under sand, followed by blocked movement corridors. Over time the dunes advanced into homes, roads, water points and public buildings. By February 2026, communities described entire neighbourhoods partly buried, health posts covered and a school lost within a single weekend.

5. UNDP population estimate for Jariiban District, 2005, as cited by district stakeholders. No more recent official figure is available.

Figure 1. Timeline of land degradation in Jariiban District



Source: focus group discussions with elders and community members, Jariiban District, February 2026.

2.4 Native vegetation that once held the dunes

Participants named nine native species that historically bound the soil, reduced wind erosion and kept rangelands productive. They are the natural starting point for any stabilisation work, since they are adapted to local soils and rainfall and are known to the communities who would manage them.

Table 2. Native plant species named by participants

Scientific name	Plant type	Role described by participants
Cenchrus ciliaris	Perennial grass	Covered and bound the sand surface; grazing for livestock
Echinochloa pyramidalis	Perennial grass	
Odyssea mucronata	Dune grass	
Acacia tortilis	Tree	Deep roots held soil in place; shade, windbreak, fodder and other uses
Acacia edgeworthii	Shrub or small tree	
Salvadora persica	Shrub or small tree	
Commiphora ellenbeckii	Shrub	
Euphorbia cuneata	Shrub	
Sterculia stigera	Tree	

Source: focus group discussions, February 2026. Scientific names as recorded during the assessment; local Somali names to be added in the 2027 field visit.

3. METHODOLOGY

3.1 Approach

The assessment applied the ARCD Community-Based Disaster Risk Assessment (CBDRA) toolkit, complemented by Participatory Resource Mapping (PRM). The approach puts community participation, inclusion and local knowledge first: residents describe their own hazards, vulnerabilities

and coping strategies, and score their own resilience. It was designed to identify hazard exposure, patterns of vulnerability, coping capacity and institutional preparedness related to sand dunes and soil erosion.

The toolkit was applied in two parts. **Part A** covered the general context: location, the characteristics of soil erosion and dune degradation, the population, community organisations, existing plans and documents, and vulnerable groups. **Part B** assessed the community's resilience to a specific disaster scenario against 30 key components, grouped into four thematic areas, through guided discussions with a group representing all sectors and key stakeholders.

3.2 Data collection

Fieldwork took place over two days, 23–24 February 2026. It combined consultative meetings with district authorities and local representatives, to understand policy, coordination and past institutional responses, with community-level consultations. Data were collected through four methods:

- **Key consultations** with district officials on coordination mechanisms and responses to sand dune expansion and soil erosion.
- **Focus group discussions**, held separately for women and for men, covering historical trends, perceived drivers, effects on livelihoods, infrastructure, water, health and education, coping strategies and institutional gaps.
- **Participatory resource mapping**, in which community members mapped the areas most affected by dunes, degraded rangeland, blocked infrastructure, working and non-working water sources, and zones at high risk of displacement.
- **Resilience scoring** using ARCD Part B, together with direct technical observation of damaged infrastructure.

Discussions also captured traditional forecasting knowledge, seasonal coping practices and community-defined resilience strategies. Qualitative data were analysed by theme, and findings were organised under the sector headings used in Chapter 4.

3.3 Participation and inclusion

Participants were selected purposively to represent different social groups, with particular attention to marginalised households, women-headed families and youth. Separate sessions for women and men made it possible to discuss sensitive issues openly and in a culturally appropriate way. Participants included:

- district local government officials and community leaders;
- traditional elders;
- women's groups, including marginalised women and women heading households;
- youth representatives, both girls and boys;
- pastoralists and agro-pastoralists; and
- community social workers and members of minority groups.



Mixed focus group with community leaders, elders and district officials.



Women's focus group discussion.

3.4 Limitations and field challenges

The findings should be read with the following limitations in mind.

- **Limited coverage.** Because of time and access constraints, the assessment focused on selected villages and did not cover the whole district. Findings may not represent all 59 sub-villages.
- **Access.** Sand dunes blocking the main roads slowed travel between settlements and kept the team from some of the worst-affected areas.
- **An ongoing crisis.** Severe drought after several failed rainy seasons meant many participants had to leave early to fetch water or tend livestock.
- **Ramadan.** Fasting changed daily routines and shortened the time available for discussions.
- **Short timeframe and no household survey.** Two days allowed little time for quantitative data collection or household-level checks. Percentages in this report were reported during community discussions and mapping and should be verified through a household survey, which PUSAN plans for 2027.
- **Literacy.** Some participants could not write their names, which made attendance records and written feedback harder to collect.

4. FINDINGS

4.1 Hazards and exposure

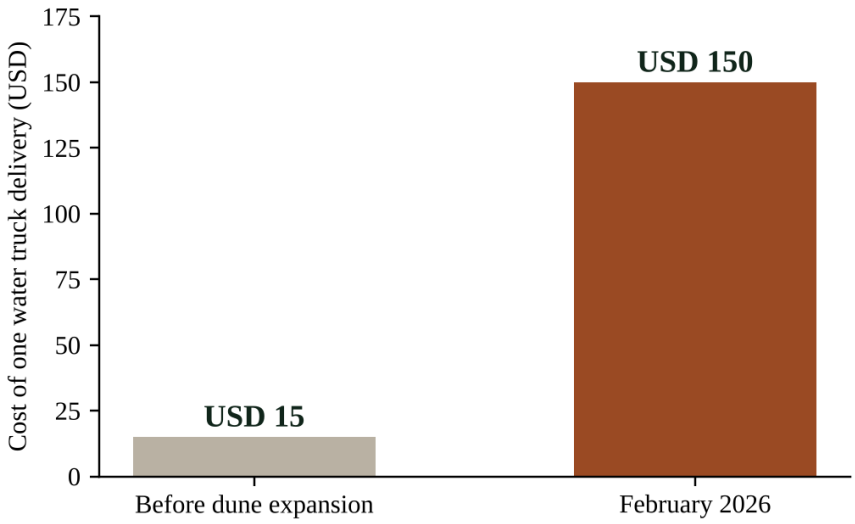
Communities identified **drought** as the first risk scenario and **sand dune encroachment and soil erosion** as the hazard that turns each drought into a lasting loss. Low and erratic rainfall reduces water and forage for livestock, which leads to lower productivity, malnutrition and deaths among animals, and in turn to income losses and food insecurity. Strong coastal winds then move sand into the spaces left by dying vegetation. Participants also noted that weak housing makes homes vulnerable to floods and heavy rain when they do come. The coastal and near-coastal settlements are the most exposed, because they face the strongest winds and have the least plant cover left.

4.2 Water

Water scarcity is the most critical challenge in the district. Prolonged dry periods have lowered groundwater levels, and in several places the water table has fallen beyond the reach of traditional hand-dug wells. Participants consistently reported that moving sand blocks or buries water points. Shallow wells are refilled by sand again and again, and in many coastal settlements they have been abandoned after repeated attempts at rehabilitation. Traditional berkads have also been buried, reducing storage in the rainy season.

The boreholes still in use serve both people and large numbers of livestock and are now overcrowded. Where water can still be reached, it is often described as saline and hard, affecting both human health and livestock productivity. Sand-covered routes make daily collection slow and physically demanding. Children, who often carry this burden, may haul water across loose sand only to find that a well dug the day before has dried up by morning. Many households now depend on boreholes several kilometres away or on trucked water, at a cost that has risen about tenfold.

Figure 2. Cost of one water truck delivery, before and after dune expansion



Source: focus group discussions, Jariiban District, February 2026. Values as reported by participants.

4.3 Livelihoods and markets

Pastoralism is the main livelihood. Shrinking pasture has weakened herds and caused livestock deaths, lowering household income from milk and animal sales and eroding families' ability to cope with the next shock. Some households in the wider area also collect and sell myrrh gum, but this cannot replace lost livestock income. Market access is poor: participants said there are too few buyers for their animals, and blocked roads make it harder to reach markets in other towns. There are no village savings and loan associations, and participants reported little support from government, local NGOs or international organisations to open market links. Without alternative income sources, households have few options during prolonged droughts.

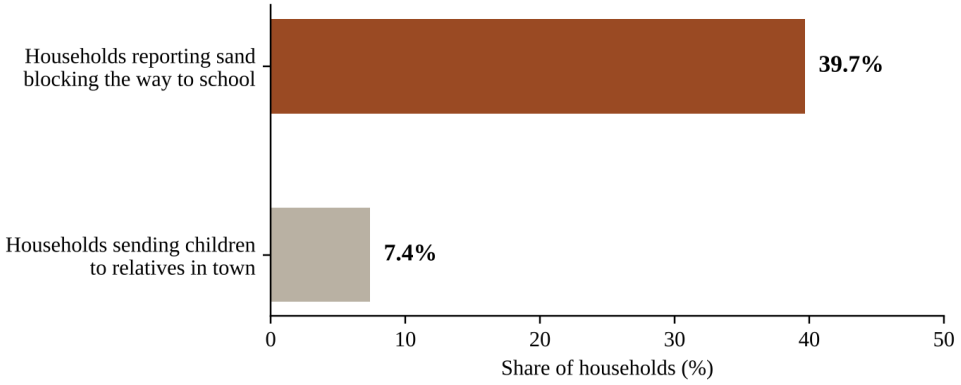
4.4 Education

Expanding dunes have severely disrupted education. About **39.7 per cent** of households reported that sand has blocked the routes their children use to reach school. In several coastal villages, **7.4 per cent** of households said they had sent children to stay with relatives in urban centres so they could continue their education, because local schools were buried, inaccessible or overcrowded. These families spend on average **USD 114.31 a month** on fees, accommodation and living costs for each child living away from home.

> *"Students left the school on Thursday and came back on Monday to find it completely covered by sand."* *Community members, Dinowdo village*

School infrastructure has been badly damaged. Some buildings are completely buried, with classrooms filled with sand and access roads closed. Others still function but under harsh conditions: high temperatures, persistent dust and poor ventilation when windows must stay shut during sandstorms. Separation from families exposes children, particularly girls, to higher risks of exploitation and gender-based violence. At the same time, students and youth groups have shown real commitment, volunteering to water seedlings, join tree-planting campaigns and clear sand from main roads.

Figure 3. Effects of sand dune expansion on access to education



Source: community discussions and participatory mapping, February 2026. Figures to be verified through a household survey.

4.5 Health, housing and infrastructure

Community health centres have been buried or cut off by sand in some areas, reducing access to basic care when it is most needed. Housing is weak: most households live in structures made of thin metal roofing and light timber, which offer little resistance to sand burial, floods or heavy rain. Some families have been temporarily displaced from homes filled with sand. The main roads are frequently blocked by dunes, which limits access to markets, health services and humanitarian assistance and raises the cost of everything that has to be brought in by truck, including water.



Buildings partly buried by moving sand, Jariiban District.



Community members and the assessment team on the dunes.

4.6 Financial services and asset protection

The communities have almost no access to financial services. Savings mechanisms are virtually absent, most households do not receive remittances, and no organisation provides financial services or partnerships. No household reported insurance against drought, livestock disease, theft or market shocks, and few can set money aside for emergencies. There are no training or capacity-building opportunities to strengthen income and asset protection. As a result, each new shock is met by selling assets or cutting consumption, which weakens households further.

4.7 Social protection, cohesion and gender

There are no accessible social assistance programmes aimed at vulnerable groups such as older people, women-headed households or orphaned children, and no education or child protection initiatives. Traditional leaders resolve disputes using customary methods, and no major conflicts were reported at the time of the assessment. However, government structures do not adequately include women and marginalised communities in decision-making or conflict prevention.

The women’s focus group brought out burdens that are less visible in mixed settings: the daily time spent collecting water, the disruption of displacement from sand-filled homes, and the risks faced by girls sent away to school. These findings argue for women’s and girls’ needs to be built into every response, not added later.

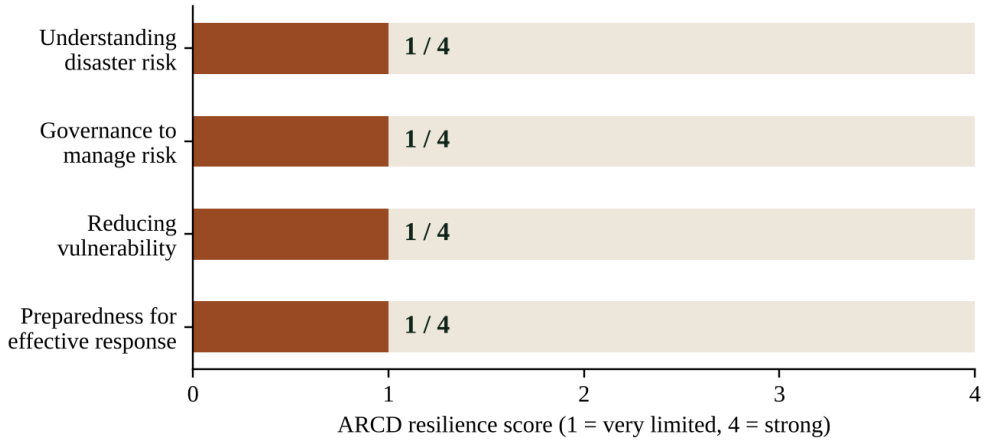
4.8 Community capacities and past support

Despite low resilience scores, the communities have real strengths. They hold detailed knowledge of the local environment, including the plant species that once stabilised the dunes and traditional ways of reading the seasons. Youth groups and students already volunteer for restoration and road clearing. Participants acknowledged earlier support: a climate change impact assessment by the state Ministry of Environment, and a baseline assessment and sand removal from public spaces and water points by KAALO Aid and Development. They were clear, however, that these efforts fell short of the scale and speed of the degradation they face.

5. RESILIENCE ASSESSMENT

Using ARCD Part B, participants and the assessment team scored the communities' resilience across four thematic areas on a scale from 1 (very limited) to 4. Every area scored **1**, the lowest rating. This indicates critical vulnerability across the board and the need for a coordinated, multi-sector response rather than isolated projects.

Figure 4. ARCD resilience scores for the assessed communities



Source: ARCD Part B scoring with focus group participants, February 2026.

Table 3. Resilience scorecard

Resilience area	Score	Main gaps identified
Understanding disaster risk	1 / 4	Limited knowledge of hazards, vulnerabilities and likely impacts, which hinders informed decisions and preventive action.
Strengthening governance to manage disaster risk	1 / 4	Weak structures and mechanisms for disaster risk management; poor coordination and limited capacity and resources among authorities and stakeholders.
Reducing vulnerability	1 / 4	Critical infrastructure, essential services and livelihoods exposed without safeguards; physical, social and economic vulnerabilities need urgent attention.
Enhancing preparedness for effective response	1 / 4	Few preparedness measures; little awareness, training or resources to handle emergencies.

The absence of basic planning documents explains much of these scores. Participants confirmed that none of the following existed at community level: a risk assessment report, hazard map, vulnerability and capacity assessment, loss analysis, local development plan, disaster risk reduction plan, land use plan, contingency plan, recovery plan, emergency health plan, or school safety and continuity plan. This report is intended as the first of these.

6. DISCUSSION: A CHAIN OF COMPOUNDING RISKS

The findings show that the crisis in Jariiban is not a set of separate problems but a chain, in which each loss makes the next one more likely. Drought kills vegetation; without plant cover, wind moves the sand; the sand buries wells, pasture, roads and schools; the loss of water and pasture weakens livestock and income; lower income and higher costs, such as a tenfold rise in water prices, push families to sell assets, move or send children away; and those coping choices leave households less able to withstand the next drought. Weak housing, absent financial services and the lack of any risk plan mean there is nothing to break the chain.

Two implications follow. First, emergency relief alone, such as water trucking or one-off sand removal, will be swallowed by the next drought unless it is combined with measures that tackle the cause: restoring plant cover on and around the dunes. The communities' own experience of earlier sand clearance makes this point. Second, the response has to be planned and governed locally. Communities already hold the knowledge of which plants to use and where the sand comes from; what they lack are the plans, committees, by-laws, resources and links to district and state institutions to act at scale.

The gender and education findings add urgency. When schools are buried and children are sent away, the effects last a generation, and girls carry a higher share of the risk. Any response that does not protect children's schooling will deepen the long-term cost of the crisis.

7. RECOMMENDATIONS

The recommendations below reflect the priorities set by communities, organised by sector and urgency. Suggested lead actors are proposals for coordination, not commitments. The national plan links show how each action supports Somalia's own adaptation priorities.

Table 4. Recommendations matrix

Sector	Recommended actions	Timeframe	Suggested lead	National link
Water (WASH)	Emergency water trucking to the most affected villages; de-silting and rehabilitation of shallow wells; protection of existing boreholes; solar-powered boreholes where groundwater allows; raised, sand-protected water points; water storage for vulnerable households; vegetation barriers and fencing around water sources; berkads rebuilt with sand protection.	Immediate	District authority; WASH partners; communities	NAP: water and WASH
Food security and livelihoods	Food assistance for the most vulnerable households; livestock feed and veterinary outreach; cash-for-work for sand removal and road clearance; rangeland restoration and reseeding; climate-smart fodder production; new income options for women and youth.	Immediate	Food security and livestock partners; PUSAN	NAP: agriculture and livestock; NDC 3.0

Sector	Recommended actions	Timeframe	Suggested lead	National link
Shelter and infrastructure	Clearing sand from main roads; rehabilitation of sand-buried homes for displaced households; climate-resilient building techniques; rehabilitation of health centres and public buildings.	Immediate	District authority; shelter partners	NAP: infrastructure
Education and child protection	Sand removal from school compounds and routes; temporary learning spaces; teaching and learning materials; school feeding; support for children living away from home; awareness of child protection risks.	6–24 months	Education authorities; child protection partners	NTP: human capital
Environment and land	Large-scale dune stabilisation with the native species in Table 2; windbreaks and protective vegetation belts; stronger community natural resource management committees; participatory land use planning; community by-laws on overgrazing and tree cutting.	6–24 months	Communities; PUSAN; Ministry of Environment	NAP: ecosystems; UNCCD
DRR and governance	Community training on disaster risk reduction and adaptation; early warning linked to pre-agreed early action; a district contingency plan; stronger coordination between local authorities and humanitarian actors.	1–3 years	District authority; disaster management agency; PUSAN	NCCAP; Early Warnings for All

Three principles should guide how these actions are delivered. **Combine relief with restoration:** every water or sand-clearing intervention should be paired with planting and protection, so gains are not lost in the next season. **Let communities lead:** committees with at least 40 per cent women and seats for youth should choose sites and species and oversee work. **Measure what lasts:** restoration should be tracked by plant survival and ground cover, and water work by cost and access, not by the number of seedlings planted or trucks delivered.

8. ALIGNMENT WITH NATIONAL AND GLOBAL FRAMEWORKS

The needs identified in Jariiban fall squarely within Somalia's national climate and development priorities. Acting on them would help the Federal Government and Federal Member States deliver their own commitments, and gives partners a clear basis for support.

Table 5. Alignment with national and global frameworks

Framework	Relevant priorities	Related findings
National Adaptation Plan 2026–2030	Water and WASH; agriculture and livestock; ecosystem restoration; community natural resource governance; sustainable grazing; water harvesting; early warning	4.2, 4.3, 2.4, 5
NDC 3.0 (2025–2035)	Adaptation as core focus; climate-resilient agriculture and water; inclusion of women and youth	4.2–4.4, 4.7

Framework	Relevant priorities	Related findings
National Climate Change Action Plan 2025–2030	Costed adaptation actions; monitoring, evaluation and learning; access to climate finance	5, 7
National Transformation Plan 2025–2029	Pillar on environmental and climate resilience; social and human capital	4.4, 4.5
UNCCD and land degradation neutrality	Halting and reversing land degradation; restoring degraded land	2.3, 2.4, 7
Sustainable Development Goals	SDG 2 (hunger), 4 (education), 5 (gender), 6 (water), 13 (climate action), 15 (life on land)	Throughout

9. CONCLUSION AND NEXT STEPS

Jariiban's coastal communities are living through the combined effects of drought and land degradation, and the moving sand is now taking their water, their pasture, their schools and their homes. Their resilience scores are the lowest possible, and they have no plans or systems to manage the risk. Yet they also hold the knowledge to start restoring their land and a clear sense of what they need first. With the right support, the chain of losses described in this report can be broken.

PUSAN has made Jariiban the first district under its Strategic Plan 2027–2031. In 2027 we will:

- work with the district authority and communities to turn this assessment into a community-approved district adaptation plan;
- begin dune stabilisation with native species and water harvesting at the most affected sites, with youth groups and community committees;
- design early-warning triggers with herders, linked to actions agreed in advance;
- run a household survey to verify the figures in this report and set a full baseline; and
- share this report with government, UN agencies and donors and seek partners for the priority actions in Table 4.

We invite all partners to use these findings, to coordinate with the district and the communities, and to contact PUSAN at info@punsan.org.

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ANNEXES

Annex 1. Topics covered in focus group discussions

- Historical trends in sand dune expansion and land degradation
- Perceived drivers of land degradation
- Effects on livelihoods, infrastructure, water, health and education
- Existing coping strategies and traditional land management practices
- Institutional support mechanisms and gaps
- Traditional forecasting knowledge and seasonal coping

Annex 2. Photographs from the assessment



Aerial view of a coastal village partly buried by sand dunes.



Homes and buildings buried by moving sand.



Focus group with community leaders, elders and district officials.



Men's focus group: pastoralists and community members.



Women's focus group discussion.



Women's focus group: perspectives on risk, displacement and livelihoods.



Community mobilisation and the field team on the dunes.

All photographs: PUSAN, Jariiban District, February 2026.

About PUSAN Climate and Development Organization

PUSAN Climate and Development Organization is a youth-led non-profit founded in 2023, with offices in Garowe and Mogadishu. We help pastoral and farming communities in Somalia plan, fund and act on climate risk before disaster hits, and we bring young people into the decisions that shape their future. Our work covers locally led adaptation and district climate finance, early warning and early action for pastoral communities, land restoration and climate-smart livelihoods, youth leadership in climate governance, and research and climate finance accountability.

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