جمعية شباب الريف التعاونية للتنمية الزراعية
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RYCAD

Report National Preparatory Workshop of Désertif'actions 2026

Yemen – From 29 to 30 September 2025

2026 Désertif'actions

For drought-resilient communities and !territories let's act right now

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GARI

Nations Unies Convention sur la lutte contre la désertification

Observatoire du Sahara et du Sahel

D'a Désertif' actions 2026 6ème édition

Desertif'actions 2026

For drought-resilient communities and territories let's act right now!


كل موسم جفاف يعلّمنا أن
الوقاية أرخص من العلاج
Each drought season teaches that
prevention is cheaper than cure

Yemen: One of the World's Most Vulnerable Countries to Drought and Land Degradation

Yemen is among the most climate-vulnerable countries globally, facing severe challenges of drought, desertification, and land degradation. With over 90% of its territory classified as arid or semi-arid, and the majority of its population depending directly on agriculture for their livelihoods, the country is highly exposed to the impacts of water scarcity, soil erosion, and declining agricultural productivity. These challenges are further compounded by conflict, rapid population growth, and limited resources for sustainable land management.

Addressing drought and land degradation in Yemen is therefore not only an environmental necessity but also a critical component of ensuring food security, rural resilience, and long-term sustainable development.

Yemen is considered an arid to semi-arid country with limited natural resources. It experiences a dry climate and diverse, rugged terrain—mountainous, plain, and desert—where water is scarce; together, these factors give rise to a harsh and highly variable environment.

Workshop content

Context of droughts in Yemen

Background on droughts (occurrence of crises, impact on territories and their resources, on communities and their activities)

Nature of the Phenomenon

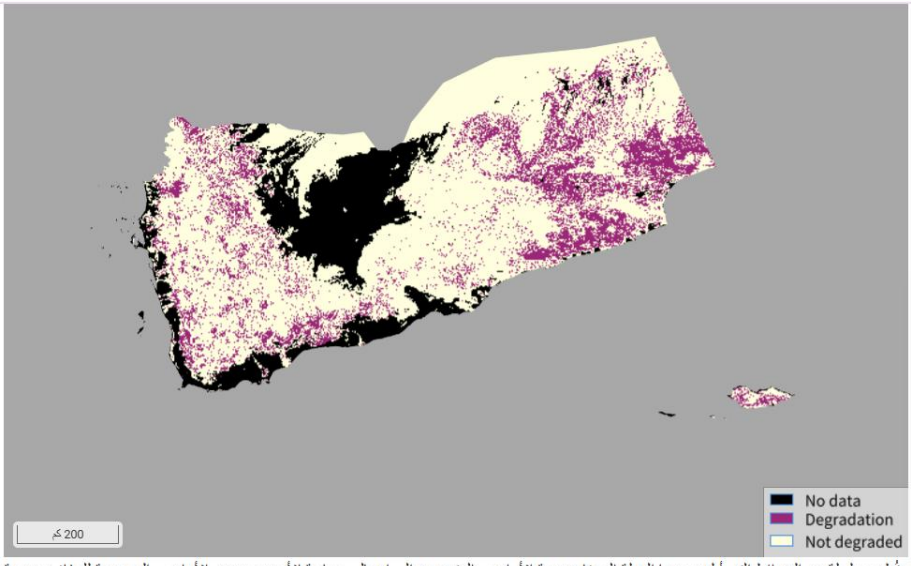
Drought in Yemen is not an occasional anomaly, but a recurring climatic pattern fueled by seasonal rainfall variability, rising temperatures, and weakened vegetative cover. Its severity is exacerbated by climate change, land degradation, and chronic groundwater depletion, making drought periods longer, more frequent, and geographically more extensive.

Biophysical and Social Drivers

- Rainfall variability and increased evaporation widen the water-balance deficit, especially in interior basins and arid coastal zones.
- Land degradation: erosion, salinization, soil compaction, declining organic matter, and the collapse of ancient terraces in some areas.
- Over-abstraction of groundwater and the spread of pumping powered by low-cost energy without adequate regulation, alongside insufficient natural recharge.
- Population pressure on resources, fragmented landholdings, and weak agricultural extension and climate information services.

Impacts on Land and Natural Resources

- Reduced surface flows in wadis and small dams, and the drying of springs and seepages.
- Contraction of green cover and expansion of desertified patches, with losses in biodiversity and rangelands.
- Disruption of traditional irrigation systems (floods, canals, caravans), and damage to the earthen infrastructure.



تُظهر سلسلة من الخرائط التي أبلغت عنها الدولة المختارة نسبة الأراضي المتدهورة إلى إجمالي مساحة الأرض، ومدى الأراضي المعرضة للجفاف، ونسبة السكان المعرضين لتدهور الأراضي والجفاف. وتُظهر خريطة إضافية نطاق أهداف تحييد تدهور الأراضي الطوعية، وغيرها من الأهداف ذات الصلة بالهدف الاستراتيجي 1، مُطبّقةً على مساحات الأراضي المتدهورة والمُحسّنة، إذا أبلغت عنها الدولة المختارة.

What proportion of the population is exposed to land degradation and drought?

The figures below reflect the reported number of people and the proportion of the population exposed to land degradation and drought for the selected country.

6 million
people exposed to land degradation
Reporting year: 2019
Display map

20.75%
of the population exposed to land degradation

12 million
people exposed to drought
Reporting year: 2019
Display map

41.63%
of the population exposed to drought

National progress towards achieving land degradation neutrality targets

The total number of reported voluntary targets that contribute to land degradation neutrality and/or strategic objective 1 is displayed for the selected country. The number of reported targets considered as ongoing or achieved is also listed. For more information on the targets reported by each country download the national report.

0	0	0
total	achieved	ongoing

How much of the land area is under drought?

The total land area under drought is calculated as the sum of the reported area under all drought intensity classes (mild, moderate, severe and extreme and it is also expressed as a proportion of the total land area of the country.

34.64 million ha
76.36% of land area
Reporting year: 2019
Display map

Impacts on Livelihoods and Communities

- Declining productivity of both rainfed and irrigated crops, with more erratic harvest seasons.
- Livestock mortality or deteriorating herd condition, shifts in grazing routes, and increased land- and water-use conflicts.
- Heightened risks to food security and rural incomes, seasonal or permanent migration, and increased vulnerability among women, smallholders, and mobile pastoralists.
- Indirect effects on health, education, and road infrastructure, as well as rising costs of basic services.

Spatial and Temporal Differentiation to Be Considered in the Workshop

Different geographic regions—Tihama coastal plain, western highlands, eastern basins, and deserts—experience distinct patterns and degrees of impact, in addition to the alternation of drought waves and rapid-onset floods (flash floods) necessitates integrated, cross-sectoral risk management rather than siloed approaches.

Indicators and Records Referenced

Water scarcity indicators (SPI/SPEI), groundwater level records, vegetation-cover maps, crop productivity, livestock mortality, land-use maps, food security data (IPC), and water, sanitation, and hygiene service records (WASH).

Policy responses to droughts (national commitments, existing mechanisms, positions taken by the country at international level)

Policy Responses to Drought

National and Framework Commitments

- Desertification control and national climate adaptation plans (NAPs), alongside pledges under the Nationally Determined Contributions (NDCs), including targets to reduce vulnerability and strengthen resilience.
- Integrated Water Resources Management (IWRM) frameworks, groundwater legislation and well-licensing regulations, and basin protection plans.
- Sustainable and agroecological agriculture programmes: terrace rehabilitation, rainwater harvesting, reforestation, rangeland management and regulated grazing, and measures to improve soil fertility and organic matter (humus).
- Drought Early Warning Systems (EWS) linked to decision-making mechanisms (phased response, cash transfers, input support, and veterinary vaccination campaigns).
- Targeted social protection instruments for farmers and pastoralists (cash-for-work, emergency support for fodder and vaccines, and concessional recovery loans).

Existing Coordination and Implementation Mechanisms

- National and sub-national disaster risk management (DRM) rooms/committees, aligned with the Sendai Framework for Disaster Risk Reduction.
- Humanitarian–development coordination through sector/cluster groups (food security, WASH, shelter, veterinary/public animal health).

- Local governance bodies such as Water User Associations, rangeland committees, basin management councils, and producer organizations.
- Partnerships with universities, research centres, and agricultural extension services to generate applied knowledge and transfer it to the field.
- Climate and hydrological data platforms (monitoring stations, satellite products, GIS) to support spatial planning.

International and Regional Positions

- Treaty participation: Yemen signed the Convention on Biological Diversity (CBD) on 12 June 1992 and ratified it on 21 February 1996; it ratified the Cartagena Protocol on Biosafety (CPB) on 1 December 2005; and it ratified the United Nations Convention to Combat Desertification (UNCCD) on 14 January 1997.
- Engagement with UN conventions and agendas: UNCCD, the UN Framework Convention on Climate Change (UNFCCC), the CBD, and Sustainable Development Goals (SDGs) 2, 6, 13, and 15.
- Participation in Conferences of the Parties (COPs), regional water-security programmes, and initiatives to restore degraded lands.
- Access to climate finance for adaptation and resilience building, including the Green Climate Fund (GCF) and the Global Environment Facility (GEF).

Agenda

National Preparatory Workshop on Combating Desertification

Dates: 29–30 September
Organizer/Implementer: Rural Youth Cooperative for Agricultural Development -RYCAD
Format: Day 1 (online) · Day 2 (in-person, Taiz)
Participants: 31 total across both days (Day 2 in-person: 12 participants)
Tracks/Themes:

1. **Transforming settled agriculture and livestock systems**
2. **Regional management of water resources**
3. **Land management**

Day 1 — Online (16:00–20:00)

Time	Session	Expected Output
16:00–16:10	Opening and introductions	Agenda and participation norms confirmed
16:10–16:40	Overview of desertification in Yemen (status, drivers, trends, examples of interventions)	Shared baseline; key indicators; linkage to the three tracks
16:40–17:00	Workshop objectives & methodology (team structure and facilitation plan)	Assignment of participants to 3 groups; facilitator & rapporteur per group
17:00–17:20	Short primers for each track (~7 minutes per track)	Common conceptual frame per track
17:20–18:15	Parallel group work — Session #1 (diagnosis)	Initial problem/opportunity/stakeholder lists per track
18:15–18:25	Short break	—
18:25–19:25	Group readouts (10–12 min/group) + plenary discussion	Refined challenges and opportunities per track
19:25–19:50	Tasks for Day 2 + distribution of templates	Templates for: problem statement, interventions, roles/partners, advocacy messages, indicators
19:50–20:00	Day 1 wrap-up	Agreed roadmap for Day 2

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Agenda

National Preparatory Workshop on Combating Desertification

Day 2 — In-Person (Taiz, 10:00–16:00)

Room setup: Three worktables. Each table = one track with **4 participants** (total in-person = 12).

Time	Session	Expected Output
10:00–10:20	Registration and welcome	Teams seated; materials distributed
10:20–10:40	Recap of Day 1	Common understanding; confirm plan
10:40–12:00	Parallel group work — Session #2 (design)	Practical intervention package per track (short/medium term)
12:00–12:10	Short break	—
12:10–13:15	Parallel group work — Session #3 (drafting)	Drafts: problem statement; intervention plan; partners/roles; monitoring indicators; priority advocacy messages
13:15–14:00	Lunch break	—
14:00–15:00	**Gallery walk** (cross-review among groups)	Improved drafts via peer feedback
15:00–15:35	Final synthesis session	Consolidated outputs + initial roadmap
15:35–15:50	Next steps & responsibilities	Owners, timelines, deliverables
15:50–16:00	Closing & group photo	Endorsement of the workshop's preliminary outputs

Two-Day Outputs (to be formatted post-workshop)

- For each track: problem statement; feasibility × impact priority matrix; intervention package; roles & partners; priority advocacy messages; early monitoring indicators; risks & mitigation.
- A concise national consolidation brief for combating desertification to share with stakeholders.

Operational Notes

- Facilitation: One facilitator + one rapporteur per group.
- Materials: Word/Excel templates; sticky notes/cards; reference maps as needed.
- Communication: Share attendance links/records and a short proceedings note after each day.

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TRANSFORMING SETTLED AGRICULTURE AND LIVESTOCK SYSTEMS TOWARD GREATER DROUGHT RESILIENCE

جمعية شباب الريف
للتعاون في الصحة الزراعية
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Question posed and description of the specific problem in Yemen.

Guiding question

How can we help farmers and livestock keepers make a practical transition to practices and technologies that increase their ability to withstand more frequent and longer drought seasons, while reducing risks to production, incomes, and groundwater?

Sub-themes to address during the discussion

On-farm and community-level water management; rainwater harvesting and efficient irrigation; alternative feeds and rangeland management; early warning and climate services; finance and risk-transfer tools; and local water-governance arrangements.

Problem statement (rapid diagnosis)

- Water challenges. Yemen faces structural water scarcity that droughts intensify. Annual renewable water per capita is ≈83 m^3/year, far below the absolute scarcity threshold of 500 m^3. Agriculture accounts for around 90% of national water withdrawals. UN estimates indicate that a large share—about 30%—goes to qat (khat), a highly water-consuming crop that competes with domestic supply and irrigation for food crops and accelerates groundwater depletion. In key basins such as Sana'a, annual abstraction rose from ~25 million m^3 (1970) to ~330 million m^3 (2020), while natural recharge in 2020 was ~80 million m^3—a substantial water deficit that threatens the viability of settled agriculture and irrigation. Public water infrastructure is also degraded: millions lack reliable access to safe water due to network damage and energy costs, complicating agricultural drought management at village and smallholder levels.
- Rangeland degradation and livestock risk. Recent agro-climatic early-warning bulletins show declining rainfall and rangeland cover in dry seasons, driving up feed costs and depressing the productivity of smallholder herds.
- Humanitarian and security pressures heighten value-chain fragility. Widespread food insecurity persists (IPC analysis, 2025), with compounding impacts of conflict, price volatility, and climate variability on farmers, pastoralists, and already limited services.

Why now?

The increasing frequency of drought, combined with groundwater drawdown and rising input costs, threatens the sustainability of settled agriculture and livestock systems. This calls for practical, low-cost, rapid-impact solutions that can be scaled through communities.

1. Water, Irrigation, and Water Resources Management

Solarization of water supply systems: In 2024, UNICEF converted 109 water-supply schemes nationwide to solar power, improving the reliability of safe water, lowering operating costs, and expanding benefits for children and households—an important buffer against drought and rising fuel prices that threaten service continuity.

WASH service improvements with World Bank financing: The Emergency Human Capital Project (EHCP) received additional funding through UNOPS to scale up water and public-health improvements. An extra US$28.4 million was approved in June 2025 (bringing the total to US$112 million) to strengthen essential services—including water and sanitation—so communities are more resilient to climate shocks.

Rehabilitation of rural irrigation and flood-protection works: The FAO is restoring agricultural water infrastructure (irrigation canals, protective structures, rainwater harvesting) using cash-for-work labor under its irrigation and agriculture resilience program. By 2025, activities engaged 11,499 household heads and rehabilitated 262 irrigation sites.

2. Agriculture and On-Farm Production (better practices, reduced drought impacts)

Agricultural assistance and resilience-building: The FAO's emergency/recovery/resilience program targets 1.34 million households (≈9.38 million people) with a budget of US$260.2 million, providing input packages and training on climate-smart practices, water harvesting, and soil management.

Food Security and Resilience Project (FSRRP): Led by UNDP/FAO/WFP with Yemeni implementing bodies (Social Fund for Development and Public Works Project), the project boosts productivity and builds climate-resilient assets through cash-for-work, terrace rehabilitation, rainwater tanks, and canal works; it also promotes women's economic participation (target: 10,000 women among 60,000 participants).

Seasonal context indicators: FAO GIEWS bulletins indicate that 2025 cereal output is about 15% below average due to drought and above-normal temperatures—underscoring the need for rapid agricultural adaptation packages.

3. Livestock (health, feed, services)

Animal health and community-based services: Gaps in veterinary coverage are being bridged through Community-based Animal Health Workers (CAHWs), vaccination campaigns, and early warning for transboundary diseases. FAO (2024) documents highlight the role of these networks in curbing outbreaks and improving husbandry practices.

Vaccination campaigns and capacity building: FSRRP documents note partnerships with the ICRC to reach hundreds of thousands of herders under 2024 vaccination plans, alongside training for 74 CAHWs in Sana'a and Aden to extend veterinary coverage.

Feed and fodder banks: Field resilience packages (via FAO/partners) include forage seed supply, silage storage, and community fodder banks to reduce herders' vulnerability to erratic rainfall and price spikes.

4. Early Warning, Climate and Environmental Services

Regular agrometeorological bulletins: FAO issues bilingual early-warning briefs that inform farmers and local actors about rainfall forecasts and hazards (floods/drought/dust storms), coupled with actionable guidance on irrigation and cropping calendars.

Food security and risk landscape: IPC updates and WFP/ACAPS summaries show expanding needs and heightened food-security risks during 2025–2026, calling for tighter links between early warning and rapid-response financing at household and community levels.

5. Social Protection / Community Resilience Linked to Assets

Food/Cash-for-Assets (FFA): The WFP is implementing asset-creation programs that strengthen livelihoods (earthen bunds, canals, land reclamation, public facilities), alongside direct food/cash transfers—enhancing households' ability to cope with drought. Emergency food distributions continue where access permits.

Labor-intensive public works networks: Through YECRP (UNDP/World Bank), intensive labor schemes rehabilitate micro-infrastructure and community assets, creating temporary incomes and restoring basic services across 300+ districts.

6. Early Lessons from Implementation

Solar water systems improve operational sustainability, reduce seasonal service disruptions, and strengthen the resilience of villages, schools, and health centers to drought and fuel shocks.

Combining cash-for-work with irrigation/harvesting asset rehabilitation delivers a double dividend: immediate household income plus durable community assets that mitigate dry spells.

Strengthening community veterinary service chains reduces herd losses during water stress and rangeland decline—especially where public services are hard to reach.

There is a critical need to link early warning with rapid financing options (small transfers/index insurance) so alerts translate into timely household/community decisions before losses escalate.

7. Remaining Gaps to Address

Basin-level water governance and groundwater abstraction control amid widespread solar pumping and high agricultural demand (agriculture ≈90% of withdrawals; per-capita renewable water ≈83 m^3/year): stronger local regulation, data, and monitoring are needed.

Scaling feed coverage and routine veterinary vaccination in the most fragile rangeland areas, and building lower-cost feed supply chains.

Sustained humanitarian and development financing to avoid program stop-and-go and protect cumulative impact—especially in light of deteriorating IPC indicators.

Collective Work Results

The breakout sessions drew on peer-to-peer exchange, a rapid mapping exercise of risks and opportunities, then a prioritization matrix based on feasibility and expected impact. The following is a consolidated summary of what participants observed and proposed.

I. Observed drought impacts on the ground and on livelihoods

Participants reported that droughts are becoming longer and more frequent, often coinciding with heat waves and dust-laden winds. Key observed effects include:

- Reduced productivity of staple crops and erratic terrace-cropping seasons, with higher post-harvest losses due to water stress.
- Rangeland degradation and rising feed costs, leading to herd stress, lower productivity (milk/offtake), and partial liquidation of livestock assets among the most vulnerable households.
- Greater reliance on groundwater and deeper wells in some areas, with increasingly difficult access to irrigation and drinking water at peak times.
- Volatile rural incomes and food security, expanding short-term debt, and a growing need for cash/food-for-assets opportunities.
- Spatial variation: Highlands prioritize terrace maintenance and rainwater harvesting; coasts/plains need irrigation solutions and sand stabilization; the eastern drylands focus on watering points, herd and feed management.

II. Tried-and-tested local practices (lessons learned)

Participants agreed that simpler, community-fit solutions proved most sustainable:

- Low-cost rainwater harvesting (small catch pits, earthen check dams, diversion channels) with periodic terrace maintenance.
- Soil moisture management (mulching, reduced tillage) and scheduled drip/regulated deficit irrigation.
- Diversifying drought-tolerant crops/varieties and flexible rotations to reduce risk.
- Rotational grazing and regulated access to common rangelands.

- Community-based veterinary services (mobile CAHWs) that reduce herd losses during stress episodes.
- Local water governance via water user associations and fair allocation agreements between domestic and agricultural uses.
- Lightweight digital solutions (localized SMS advisories for weather/agronomy) with youth engaged in data collection.

III. Priority interventions

Participants recommend a rapid-impact, scalable package across four tracks:

1) Water & Irrigation

- Deploy small, efficient irrigation kits (low-pressure drip/sprinkler) with local training and O&M.
- Scale household/community rainwater harvesting; rehabilitate small canals and protective structures.
- Establish simple community monitoring points for well abstraction and irrigation timing.

2) Livestock

- Establish/expand fodder banks and cultivate drought-tolerant forage.
- Upgrade livestock watering points (shade structures, troughs, windbreaks) and provide mobile preventive veterinary services.

3) Digital services & early warning

- Activate drought/seasonal SMS advisories for crop and herd management, aligned to local calendars.
- Engage youth and cooperatives in field/weather data collection to improve advisory accuracy.

4) Finance & social protection

- Expand cash/food-for-assets linked to water/irrigation infrastructure.
- Pilot micro-finance and simplified index insurance against drought for the most vulnerable households.

IV. Structural measures and policy actions

- Basin-level water governance, groundwater abstraction control, and O&M standards for solar pumping.
- Local rangeland plans (rotational grazing zones, seasonal closures, rangeland seed reserves/exclosures).
- Strengthen animal health networks, routine vaccination, and veterinary supply chains.
- Community seed systems for drought-tolerant varieties and quality standards for local seed.
- A rural data platform linking early warning to local decision-making and rapid financing (transfers or small loans).

V. Partnership map and proposed roles

- Local leadership: cooperatives/water committees/village councils to drive day-to-day execution and community mobilization.
- Government: establish regulatory frameworks for water, rangelands, and animal health; coordinate programs.
- National programs (e.g., labor-intensive schemes): execute small-scale works and generate temporary jobs.
- UN/international/local organizations: provide technical and financial support, knowledge transfer, and quality assurance.
- Private sector: suppliers of irrigation systems, solar solutions, feed inputs, and veterinary supplies.

- Universities/volunteer youth: training, data collection, rapid analysis, and innovation support.

VI. Key risks and mitigation measures

- O&M sustainability: mitigate via local service contracts, a small community O&M fund, and training of local supervisors.
- Excessive groundwater abstraction amid solar pumping: address through local quotas, irrigation schedules, and routine monitoring of well levels.
- Supply chain/access disruptions: early procurement, alternative vendors, and decentralized asset distribution.
- Social/gender exclusion: transparent selection criteria, quota-based participation for women and youth, and local grievance mechanisms.
- Flash-flood exposure: design assets with drainage/flood-protection standards and support for smallholder farm insurance.

VII. Lean monitoring indicators

- Adoption of efficient irrigation technologies (percentage of target holdings).
- Quantity of feed conserved/produced (tons) and reduction in feed cost per hectare.
- Number of functional watering points post-rehabilitation and service level.
- Early-warning subscriptions and number of field actions implemented based on advisories.
- Improvement in the perceived resilience index among beneficiary households versus baseline.

VIII. Geographic prioritization (guidance)

- Highlands/terraces: prioritize terrace maintenance, rainwater harvesting, and efficient irrigation.
- Coastal plains/Tehama: prioritize irrigation canals, sand stabilization/windbreaks, and intensified flashflood harvesting.
- Eastern hyper-arid zones: prioritize fodder banks, watering points, and mobile veterinary services.

IX. Actionable, time-bound commitments

The groups concluded with a set of practical commitments, notably:

1. Launch three community efficient-irrigation pilots as demonstration models.
2. Establish/strengthen at least one fodder bank in each intervention area.
3. Activate early-warning SMS linked to village irrigation and feeding schedules in target communities.
4. Develop local water charters (quotas, scheduling, monitoring) with stakeholder participation.
5. Prepare a simple M&E plan using the indicators above, with quarterly updates.

Barriers and levers to change in response to the problem

Action Levers & Enabling Conditions (technical/organizational) to Overcome Them	Barriers/Constraints to Implementation or Scale-up
1. Managed—not free-for-all—solar pumping **Lever:** Link solar pumps to smart meters and **local pumping schedules** (quotas/days). **Expected outcome:** Reduced water deficit.	**1. Water scarcity and unregulated groundwater depletion** **Description:** Growing dependence on groundwater with widespread solar pumping and insufficient basin-level governance. **Impact:** Falling well levels; competition between domestic and irrigation uses.
2. Low-cost water harvesting + community O&M **Lever:** Small **earthen check dams**, household/community tanks, canal re-lining, backed by a **community O&M fund**. **Expected outcome:** Greater peak-time availability and lower floodwater losses.	**2. Fragile water infrastructure & limited maintenance** **Description:** Irrigation canals, protective structures, and rainwater harvesting works require rehabilitation and routine O&M. **Impact:** High water losses and volatile farm supply at peak times.
3. Local fodder banks & silage **Lever:** Scale drought-tolerant forage cultivation and storage. **Expected outcome:** Reduced feed costs and improved herd indicators.	**3. High feed costs & rangeland degradation** **Description:** Feed price volatility with longer drought seasons; degraded rangelands and unstable supply chains. **Impact:** Lower herd productivity, partial liquidation of livestock assets, household income stress.

4. Seasonal microfinance + simplified index insurance **Lever:** Small seasonal loans tied to drip/seed/feed; pilot simplified drought index insurance. **Expected outcome:** Lower household risk and faster adoption.	**4. Financing gaps & limited farmer/herder liquidity** **Description:** Constrained access to seasonal microfinance or risk-transfer tools (e.g., insurance). **Impact:** Slower uptake of efficient irrigation, improved feed, and water-harvesting systems.
5. Mobile extension & veterinary services **Lever:** Networks of extension agents and **community-based animal health workers (CAHWs)**, supported by concise job aids and visit plans. **Expected outcome:** Better field practices and reduced herd losses.	**5. Weak agricultural extension & veterinary services** **Description:** Insufficient advisory coverage, field training, vaccination, and preventive care. **Impact:** Knowledge gaps and field practices not well adapted to drought.
6. Light-touch digitization of early warning **Lever:** Short **SMS** linking forecasts to irrigation and feeding decisions (weekly, actionable tips). **Expected outcome:** Improved timing and reduced waste.	**6. Under-utilized climate/agro information** **Description:** Early-warning bulletins/data not translated into farm/herd decisions. **Impact:** Sub-optimal timing; wasted water and feed.
7. Written, transparent local water governance **Lever:** **Quotas/schedules/sanctions** with monitoring committees that include women and youth. **Expected outcome:** Higher local compliance and fewer disputes.	**7. Insufficiently codified local governance** **Description:** Variable effectiveness of water committees/village councils. **Impact:** Local water disputes; weak compliance with quotas and schedules.

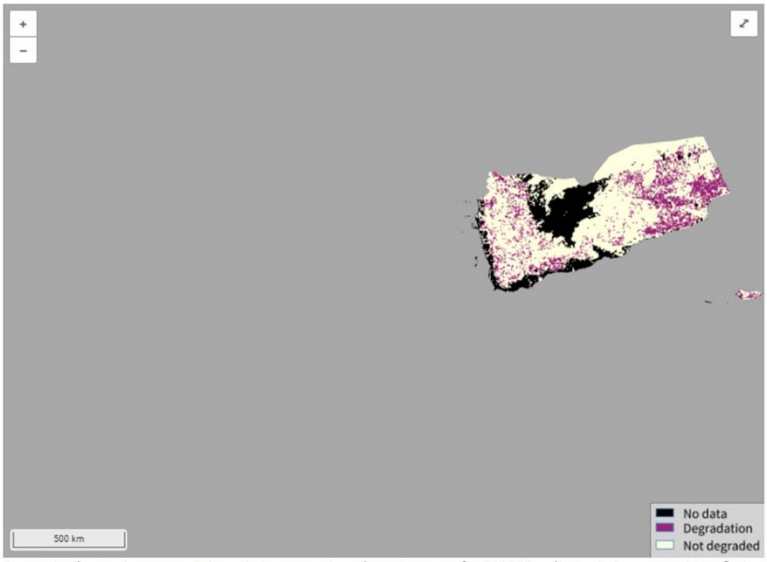
Priority advocacy messages

Advocacy Goals	Messages to the Target Audience
Establish Water User Associations (WUAs)	To local authorities: Facilitate the establishment of WUAs to organize and allocate water resources efficiently. To line ministries/competent authorities: Issue a simple procedural guide for pumping schedules and for linking smart meters to solar pumps. To donors/agencies: Fund smart meters and community-based basin management pilots. To the private sector/suppliers: Offer "supply + installation + maintenance" bundles with training for local operators.
Scale up rainwater harvesting and rehabilitate small canals	To local authorities: Include small earthen check dams and household/community tanks in annual plans. To ministries: Adopt low-cost standard specifications for canal lining and flood-protection works. To donors: Link financing to labor-intensive public works (cash/food for assets). To contractors/suppliers: Commit to fast delivery and standardized, maintainable materials.
Deploy low-pressure drip irrigation for smallholders	To the Ministry of Agriculture/cooperatives: Approve standardized drip-irrigation kits with simple installation and O&M manuals. To donors: Provide small grants to cover 50–70% of first-kit costs for households. To the private sector: Offer group discounts, after-sales service, and ensure local availability of spare parts. To banks/microfinance: Short-term loans with grace periods aligned to harvest.

Establish fodder banks	To local authorities/cooperatives: Allocate sites and lead fair access/management committees. To the Ministry of Agriculture: Provide drought-tolerant forage seeds. To donors: Finance essential equipment (choppers/storage). To the private sector: Conclude pooled-procurement supply contracts for discounted feed.
Strengthen mobile veterinary services and routine vaccination	To veterinary offices: Set quarterly visit schedules and integrate Community-based Animal Health Workers (CAHWs). To donors: Fund mobile cold chains and essential veterinary drugs. To ministries: Adopt incentives for servicing remote areas. To communities/herders: Participate in early disease-reporting campaigns.
Activate agri/pastoral early-warning SMS services	To meteorology/agriculture: Align forecasts with local calendars and prepare concise, actionable messages. To telecom operators: Provide exemptions/reduced tariffs for agricultural messaging bundles. To donors/local initiatives: Support messaging platforms and connect them to youth-led data collection.
Launch a seasonal microfinance line + pilot index insurance	To MFIs/banks: Offer small, seasonal products for drip/seed/feed with post-harvest repayment. To regulators: Facilitate fees/interest relief in drought-affected areas. To donors: Provide revolving capital and portfolio guarantees for the first pilot, plus support for simplified drought index insurance.
Ensure fair representation of women and youth	To local councils/cooperatives: Reserve seats and set mandatory participation quotas in committees and charters. To ministries: Embed inclusion

in water governance and value chains	requirements in project manuals. To donors: Link disbursements to compliance with gender/youth inclusion standards.
Set up a community O&M program for water/irrigation assets	To cooperatives/village councils: Create a nominal O&M fund and publish a maintenance schedule. To donors: Finance annual “maintenance packages” conditional on performance metrics. To suppliers: Offer multi-year service contracts at fixed prices.
Develop a rural data platform linking early warning to local decision-making	To government entities/universities: Host a simplified database (wells/rainfall/abstraction/messages). To donors/tech sector: Fund a user-friendly Arabic interface integrated with SMS/USSD. To communities: Appoint “community reporters” to feed the data network.

Sustainable Development Goal (SDG) Indicator 15.3.1



A map displaying the reported degraded areas in the selected country for 2019. Purple shaded areas are identified as degraded areas whereas the yellow shaded areas at the non-degraded parts of the selected country. The progress indicator metrics for land degradation are (a) land cover change, (b) land productivity dynamics (LPD), and (c) soil organic carbon (SOC) stock. Degradation is considered to have occurred if negative or declining changes are reported in any one of the indicators for a given pixel or land unit.

7.94 million ha
of reported land is degraded

17.54%
of the reported land area is degraded

Area Comparison Tool

2019
reporting year

Yemen

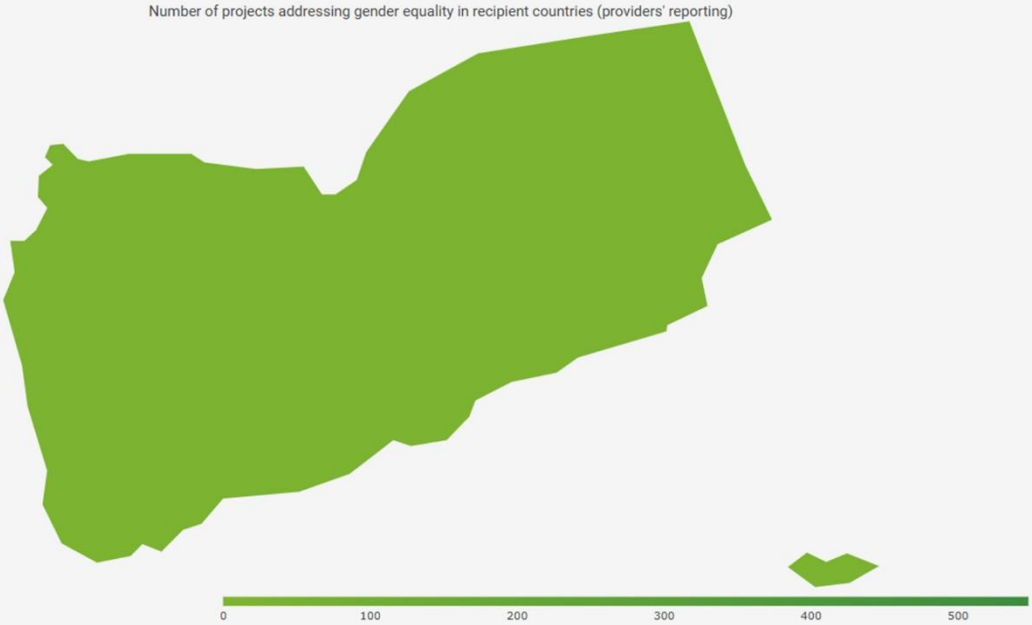
UNCCD National Reports

SDG Indicator 15.3.1

Gender equality in DLDD projects

6,980 projects address gender equality, 99% are funded by grants, and 1,989 include a capacity-building component

Number of projects addressing gender equality in recipient countries (providers' reporting)



الإدارة الإقليميـة للمـوارد المائيـة

REGIONAL WATER RESOURCES MANAGEMENT

Guiding question: How can we balance competing water uses to anticipate and manage drought while reducing the risk of conflict?

Problem Description

1. **Structural water scarcity, exacerbated by drought:** Natural water resources are inherently limited and are experiencing longer, more frequent, and more variable droughts. This results in high variability in surface and groundwater supplies, shifts in planting and grazing calendars, and rising social and economic costs of water.
2. **Multiple uses and competing priorities:** Water is consumed across interdependent systems: drinking water and sanitation (WASH), agricultural irrigation, livestock watering, and environmental flows. During periods of scarcity, competition among sectors, especially between domestic supply and irrigation—intensifies, triggering local tensions around wells, watering points, and canals.
3. **Groundwater depletion and weak regulation amid the spread of solar pumping:** Lower operating costs from solar energy have improved service sustainability; however, in the absence of metering and locally agreed schedules, solar pumping can increase groundwater abstraction, deepen deficits in critical aquifers, and undermine the reliability of both municipal and agricultural supplies.
4. **Aging infrastructure and high-water losses:** Canals, water networks, and flood-protection works require routine maintenance. Losses—through leaks, evaporation, and low irrigation efficiency—waste scarce resources that could be redirected to priority uses.
5. **Institutional fragmentation and weak intersectoral coordination:** Overlapping mandates across municipal/WASH, agriculture and irrigation, and environmental authorities—combined with uneven capacities between local and central levels—undermine basin-

/regional-level planning, data sharing, and joint decision-making during drought.

6. **Demographic and social pressures:**
   Internal displacement and the concentration of settlements near sensitive resources increase peak demand for water and services, heightening communities' vulnerability to disputes over access and allocation.

Why is this fundamentally a "regional" issue?

- The hydrological cycle (surface runoff and groundwater recharge) operates at the basin/watershed (wadi) scale, not within narrow administrative boundaries.
- Decisions by one user—e.g., upstream farmers—directly affect downstream users.
- Effective solutions require a shared seasonal water budget, agreed allocation priorities, and coordination/enforcement mechanisms at the basin/region level.

What is required to reconcile competing uses?

- Participatory basin/wadi-level governance: A council including WASH/municipal water, agriculture and irrigation, environment, cooperatives, and pastoralists—with representation of women and youth.
- Seasonal water budget and drought allocation hierarchy: Prioritize drinking water and public health, followed by livestock watering, a minimum for staple food crops, then lower-priority uses.
- Drought Standard Operating Procedure (SOP) with clear thresholds: Define actions for transitions from Alert to Warning to Emergency (e.g., rationing, scheduling, and temporary suspension of non-essential uses).
- Regulation of solar pumping: Metering/abstraction logs, seasonal caps, and locally agreed pumping schedules.

- Loss reduction and efficiency gains: Line critical canals, adopt low-cost floodwater harvesting, expand drip/low-pressure sprinkler irrigation, and ensure routine maintenance.
- Data transparency and grievance mechanisms: Publish monthly well levels and scheduling decisions, alongside accessible local mediation to rapidly de-escalate disputes.

Key actions undertaken by the Government and its partners (UN agencies, international actors, and organizations) to address the challenge of regional water-resources management in Yemen in recent years, with recent, documented examples:

First: Governmental/Institutional Measures

- Legal framework and groundwater regulation: The sector is anchored in the Water Law (and its amendments), assigning the regulatory role to the National Water Resources Authority (NWRA), including the documentation of water rights and the establishment of basin-/local-level committees to manage water use. However, enforcement faces institutional constraints.
- Inter-sectoral coordination (WASH Cluster): Since 2010, the Water, Sanitation and Hygiene Cluster has continued to coordinate Yemen's humanitarian and technical response at national and local levels.

Second: Investments and Services (through Government and Partners)

- Solar-powered drinking-water systems: In 2024, an additional 109 solar systems were installed; by mid-2025, the total number of solar systems implemented by UNICEF since 2018 exceeded 330, providing safe water to about 2.5 million people (including one million children).
- World Bank financing via UNOPS for water and sanitation: In June 2025, the Emergency Human Capital Project (EHCP) received an

additional US$28.4 million (bringing the total to US$112 million) to improve essential water and sanitation services.

- Rehabilitating local infrastructure with authorities: For example, the reactivation of a major pumping station in Al-Burayqah/Aden was led by local authorities with support from UNDP.

Third: Irrigation, Water Harvesting, and Risk Reduction

- Rehabilitating irrigation canals and flood protection through "cash-for-work": FAO resilience programs included restoring water infrastructure, constructing flood-protection works, and providing temporary income—engaging 11,499 household heads to rehabilitate 262 irrigation sites up to 2025, alongside similar works at other locations.
- Food security and resilience projects (FSRRP): Support to restore community water infrastructure, improve access to irrigation water, and enable agricultural livelihoods in coordination with government entities.

Fourth: Complementary Humanitarian Responses

- International NGOs: Recent examples include International Medical Corps (drilling a new well and installing a solar pumping system producing 138,600 liters/day for nine villages), as well as IOM and the Qatar Red Crescent for well and solar-system projects across several governorates.
- Emergency planning for epidemics/drought: Integration of cholera preparedness and climate-risk measures into UNICEF's 2025 appeal, and into response plans under the broader humanitarian framework.

Fifth: Knowledge and Policy

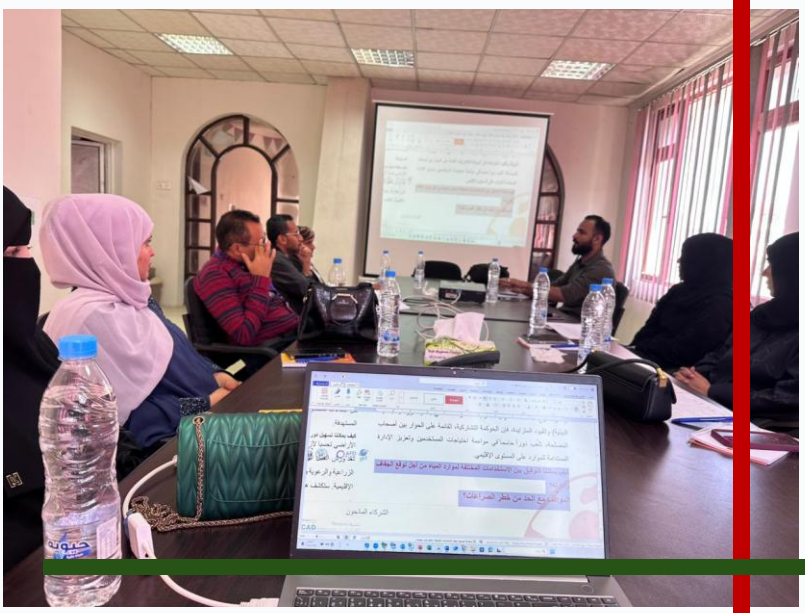
Water-policy studies and assessments: Recent analyses (2025) document Yemen's water-management challenges and integrated, basin-level governance solutions, informing reform and coordination decisions.

What do these actions mean in practice?

- More stable drinking-water supplies through solarization and infrastructure rehabilitation.
- Reduced drought and flood risks for agriculture via financed, locally executed water-harvesting and flood-protection measures.
- Stronger coordination between humanitarian and governmental actors through national and local platforms.

Where do gaps remain?

Groundwater abstraction governance (metering, quotas, and basin-level scheduling), sustainable operation and maintenance of infrastructure, and district-level data transparency—all highlighted as reform priorities in the most recent technical literature.



Resources mobilized to combat desertification, land degradation and drought

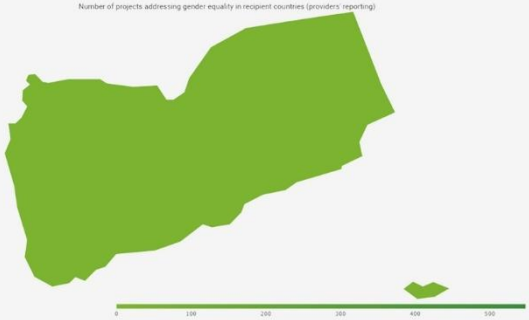
Trends in international funds provided

$21.33 million
received from
5 countries

2019
reporting year

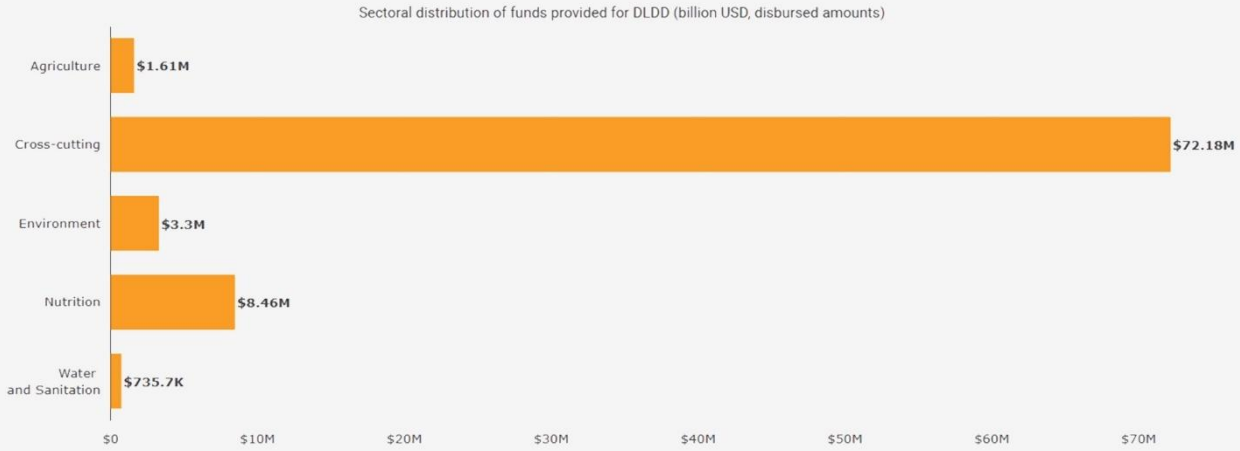
Bilateral and multilateral funds, billion USD, 2016-19

6,980 projects address gender equality, 99% are funded by grants, and 1,989 include a capacity-building component



DLDD funds by sector

18 provider countries reported 10,966 projects, half of which are in agriculture or cross-cutting sectors. For environment sector, 509.8 million USD are disbursed across 809 projects.



Collective Action Methodology

- Participants were divided into groups by basins/wadis and conducted Participatory GIS (PGIS) mapping exercises to identify pressure points and opportunities.
- A priority matrix plotting feasibility × impact.
- A final synthesis/convergence session to extract outputs and implementation commitments.

Joint Situation Assessment

- Structural scarcity with longer drought cycles and sharp competition among domestic supply/irrigation/livestock watering.
- Rising groundwater depletion with unregulated solar pumping, and high losses in canals and distribution networks.
- Institutional fragmentation, weak data/decision coordination, and susceptibility to local disputes over wells and watering points.
- Internal displacement pressure on sensitive locations and the absence of clear siting standards.

Operating Models Agreed by Participants

1. Participatory basin/wadi water council including municipal/WASH, agriculture & irrigation, environment, cooperatives, pastoralists, and representatives of women and youth.
2. Seasonal water budget, updated quarterly and publicly posted, with a drought allocation hierarchy (drinking & public health → livestock watering → minimum for staple crops → environmental flows → lower-priority uses).
3. Drought Standard Operating Procedure (SOP) with three thresholds (Alert/Warning/Emergency) specifying quotas, scheduling, and temporary restrictions.

4. Governance of solar pumping: metering/abstraction logs, seasonal caps, and locally agreed pumping schedules.
5. Grievance and mediation mechanism linked to the council, with a code of conduct and published minutes.

Consensus Implementation Priorities

- Water & irrigation: line the highest-loss sections, maintain small canals, and build earthen check dams and low-cost rainwater-harvesting tanks.
- Monitoring & data: install measurement points for well levels and abstractions; maintain an open monthly dashboard.
- Services for herders/livestock keepers: upgrade watering points (shade structures, troughs, windbreaks) and schedule their use.
- Digitization & early warning: weekly SMS/USSD messages linking forecasts to irrigation and livestock-watering schedules.
- Social protection & finance: cash/food-for-assets for water projects; pilot microfinance and simplified index-based drought insurance.
- Water-linked land management: designate protection buffers for wadi banks and flood corridors, tied to permitting.

Structural Measures

- Binding local groundwater regulations (licensing, quotas, scheduling, and moratoria on new drilling in critical groundwater basins).
- Managed Aquifer Recharge (MAR) program in selected wadi beds.
- Scale up basin councils and integrate them with urban planning and land management.
- Multi-year service and O&M agreements with local providers for water and irrigation infrastructure.

Ready-to-Use Deliverables from the Sessions

- Draft local “Water Charter” (quotas, pumping days, grievance mechanism, sanctions).
- Template for a seasonal water budget (inputs, assumptions, allocation decisions).

- Preliminary map of loss hotspots and priority sites for lining and water harvesting.
- Pre-scripted SMS texts (irrigation/fodder/watering/heat alerts) ready for dissemination.

Commitments

6. Establish three pilot basin councils and adopt the initial charter.
7. Install meters/abstraction logs at 10 model wells and link them to the pumping schedule.
8. Line five critical canal sections and build 10 community rainwater-harvesting tanks.
9. Launch a monthly monitoring dashboard (well levels/scheduling decisions/complaints) and publish it openly.
10. Activate the messaging service in two districts and link it to the drought SOP.

Agreed Monitoring Indicators

- Number of active subscribers to the messaging service and rate of uptake of recommendations.
- Improved stability of domestic water supply (hours of pumping/days/neighborhoods covered).
- Number of improved watering points and rate of orderly utilization.
- Data transparency: monthly dashboard updates and public access rate.

This summary captures the participants' consensus and translates it into a measurable implementation package that addresses drought, reduces conflict, and consolidates basin-level water governance in Yemen.

Barriers/Challenges vs. Enablers and Enabling Conditions for Overcoming Them

Barriers, Challenges, and Obstacles	Levers of Action & Enabling Conditions (Technical/Institutional)
Groundwater depletion amid the spread of unregulated solar pumping	Smart meters and abstraction logs; local quotas and pumping schedules; seasonal abstraction caps; temporary moratoria on new well drilling in critical basins; and basin councils empowered with enforcement authority.
High losses in canals and distribution networks	Lining of critical sections; leak detection and pressure management; community-based preventive maintenance; and multi-year service contracts with local providers.
Institutional fragmentation and weak inter-sectoral coordination	Participatory basin/wadi water council; a harmonized drought SOP; and quarterly coordination cells formally established by local decrees.
Funding gaps and sustainability of operations/maintenance	Cash/food-for-assets modalities for water works; community O&M funds with nominal contributions; framework agreements for financing and maintenance; and seasonal, concessional microfinance.
Data gaps and inoperative early warning	Monitoring points for well levels and abstractions; a monthly transparency dashboard; operational SMS/USSD

	messaging; and training village youth in data collection.
Local disputes over wells and watering points	Written water charters (quotas/schedules/sanctions); mediation committees and a public grievance mechanism; and publication of decisions and meeting minutes.
Limited technical/extension capacity	Concise implementation guides; local trainers and water extension officers; twinning with universities/institutes; and quarterly training budgets.
Rangeland degradation and rising feed costs	Community fodder banks and silage; drought-tolerant fodder crops; and improved watering points (shade structures/troughs/windbreaks).
Displacement pressure on resources and sensitive sites	Siting standards outside flood corridors and steep slopes; temporary usufruct agreements; and shared basic-services packages.
Flash-flood risks alongside drought	Flow-retarding barriers and sediment traps; flood-protection works and expanded drainage; and pre-/post-rainy-season maintenance.
Weak compliance and oversight	Link licensing and pumping to approved sensitivity maps; proportionate fines; compliance incentives (reduced fees/prioritized support); and delegated local enforcement powers.

Supply-chain volatility and rising costs	Framework procurement agreements with local suppliers; quarterly safety stocks; and splitting procurements into lots to reduce delays.
Power-supply variability and costs	Managed solar systems (linked to quotas and meters); hybrid systems where needed; and routine maintenance of inverters.
Exclusion of women and youth from decision-making	Mandatory representation quotas in councils and committees; youth/women leadership programs; and accountability through publication of attendance and decisions.
Environmental needs and minimum flows not accounted for	Agreed environmental minimum flow in the water budget; monitoring of wadi banks; and vegetation-restoration measures.
Low public awareness of conservation	Evidence-based behavior-change campaigns; community ambassadors and water-smart schools; and SMS timed to the agricultural calendar.
Urban planning conflicting with water management	Integrate zoning (flood corridors/steep slopes) into district bylaws and link it to permitting; and establish a joint land–water committee.
Absence of an M&E framework and performance indicators	A streamlined M&E framework with a small set of critical indicators (schedule compliance/loss reduction/disputes/transparency) and quarterly reviews.

Priority Advocacy Messages

Advocacy Objective	Advocacy Messages to This Target Audience
1) Establish a participatory basin/wadi water council	Local government: Adopt a resolution establishing the council with clear authorities for scheduling and enforcement. Line ministries: Appoint technical focal points. Donors: Fund the secretariat and first-year operations.
2) Adopt a written "Water Charter" (quotas/schedules/sanctions)	Village councils/cooperatives: Co-draft the charter with meaningful participation of women and youth. Authorities: Ratify and publish it. Judiciary/legal affairs: Approve a fast-track grievance mechanism.
3) Regulate solar pumping with meters and seasonal abstraction caps	Ministries/agencies: Link licensing to metering. Private sector/suppliers: Provide bundled supply + installation + O&M packages. Local government: Post pumping schedules publicly and monitor compliance.

4) Line highest-loss sections and rehabilitate small canals	Donors/public works programs: Finance cash-for-assets schemes. Public works/irrigation: Use simple, low-cost specifications. Cooperatives: Prepare annual O&M plans.
5) Floodwater harvesting (earthen check dams; household/community tanks)	Authorities: Include harvesting in district plans. Donors: Fund standardized models. Community: Form O&M and quality-control committees.
6) Scale up drip/low-pressure sprinkler irrigation for smallholders	Ministry of Agriculture: Issue standard packages and a simple O&M manual. Suppliers: Offer group discounts and ensure local spare parts. Microfinance: Provide seasonal loans repayable after harvest.
7) Monthly transparency dashboard (well levels/abstractions/decisions)	Local government: Publish data monthly. Universities/youth: Collect and verify data. Community: Commit to public accountability and open feedback.

8) Actionable early-warning messaging (SMS/USSD)	Meteorology/Agriculture: Issue precise weekly recommendations. Telecom operators: Offer discounted tariffs/exemptions. Community: Enroll and provide feedback to improve content.
9) Upgrade livestock watering points and shade/protection facilities	Authorities/irrigation: Select appropriate sites. Donors: Finance essential fixtures/equipment. Pastoral cooperatives: Operate facilities and organize scheduled use.
10) Temporary moratorium on new well drilling in critical basins	Water authority: Issue a time-bound decision grounded in the basin water budget. Authorities: Enforce with proportionate fines. Community: Report violations.
11) Multi-year framework agreements for supply and maintenance	Municipalities/donors: Sign service contracts with local providers. Private sector: Guarantee parts availability within ≤30 days. Cooperatives: Monitor performance.

12) Integrate IDPs with safe water-siting standards	Relief/water authorities: Site facilities outside flood corridors and steep slopes. Authorities: Provide expedited, conditional permits. Community: Agree on temporary usufruct arrangements.
13) Seasonal microfinance and simplified index-based drought insurance	MFIs/banks: Offer products linked to irrigation and seed inputs. Donors: Provide portfolio guarantees and revolving capital. Community: Commit to sharing measurement data.
14) Mandatory representation of women and youth in water decisions	Councils/authorities: Set binding seats and participation quotas. Donors: Link disbursements to inclusion criteria. Community: Support youth and women leaders.
15) Rapid mediation and grievance mechanism for water disputes	Judiciary/legal affairs: Approve a simplified protocol. Local councils: Establish mediation committees with a code of conduct. Community: Commit to public, transparent decisions.

L A N D
MANAGEMENT

ادارة
الأراضي

Guiding question: How can we enable local authorities to anticipate and sustainably manage land-related challenges ahead of drought crises, while reducing conflict risks and enhancing regional resilience?

Problem Description

- Rising tensions over natural resources (land and water) driven by recurrent drought cycles and overlapping land-use patterns (agriculture, grazing, housing, energy, roads), with impacts on food security, livelihoods, and essential services such as health and education.
- Expansion of informal settlements and land-use change at the expense of agricultural and environmentally fragile areas (alluvial fans, wadis, rangelands), alongside weak maintenance of protective works (terraces, flood defenses, windbreaks).
- Heightened social fragility due to the influx of internally displaced persons (IDPs), increasing pressure on land, water, livestock-watering services, and road access—raising the likelihood of local conflicts.
- Devolution without adequate resources: mandates have been delegated to local authorities without commensurate capacity and financing, leaving planning and implementation below expectations.
- Information and tenure gaps: outdated land-ownership records, undefined grazing corridors, and undocumented customary frameworks, complicating arbitration and the prevention of encroachment.

Actions Taken

1) Spatial Planning and Regulation

- Participatory drought, flood, and erosion sensitivity mapping (PGIS): compile layers on slope, soils, vegetation cover, flood/stream channels, current land use, and conflict hotspots, and adopt the product as an official local reference.
- Binding land-use zoning at the district/wadi level: declare protection zones (wadi flood corridors, slopes >15%, wellhead protection areas) and conditional-use zones (agriculture/grazing/settlement).
- Temporary protection orders for flood corridors and sensitive banks until bylaws are finalized; link any building permit to stormwater-drainage requirements and soil-appropriate design.

2) Protection/Restoration of Land Assets (Natural and Built)

- Maintain agricultural terraces: repair terrace walls, seal fissures, and re-grade marginal fields.
- Flow-slowing check structures and sediment traps in small wadis to curb scour and soil loss.
- Riparian buffer strips along wadi banks to prevent erosion and enhance infiltration.
- Windbreaks and green belts in wind-erodible areas, together with improved on-farm drainage lines.

3) Grazing Regulation and Herd Corridors

- Demarcate grazing corridors and shared watering points, and declare seasonal closures for degraded rangelands.
- Upgrade service infrastructure for herders (shade structures, watering troughs, refill points) to reduce pressure on fragile sites.

4) Integrating IDPs into Land Planning

- Siting guidelines: outside flood corridors and steep slopes, near services and roads, with safe water access.
- Temporary usufruct agreements with host communities, linked to basic-service packages and cash-for-assets to improve sites.

5) Financing and Field Implementation

- Cash/food-for-assets for terrace maintenance, check structures, windbreaks, and protective strips.
- Multi-year service and maintenance agreements with local suppliers to ensure sustainability.
- Matched small grants for cooperatives and farming households for SLWM (Sustainable Land & Water Management) and efficient on-farm irrigation.

Implementation Modality

Day-to-day leadership is vested in local authorities and cooperatives (with the participation of traditional leaders). Technical agencies set specifications and provide technical support. Financing is secured via small grants, cash-for-assets, and O&M contracts with local vendors. This blend delivers rapid and durable gains in land resilience to drought.

Outcomes of Collective Action

Rapid PGIS and Prioritization

The groups conducted rapid participatory mapping (PGIS) to identify areas sensitive to drought and at risk of flooding/erosion, and to review current land uses (agriculture, grazing, settlements, flood corridors). Proposals were then ranked by **feasibility × impact**.

Shared Picture of the Situation on the Ground

- Uncontrolled urban expansion on the outskirts of towns and villages and within flood channels, with weak stormwater requirements.
- Degradation of terraces and fragile agricultural areas, with rising rates of erosion and soil loss.
- Pressure on rangelands and herd corridors, with mutual encroachments between farming and grazing.
- Increasing local disputes over tenure boundaries, usufruct rights, flood corridors, and watering points.
- Siting of IDPs near water resources or on sensitive lands without siting standards.
- Data and tenure/usufruct gaps that complicate permitting, oversight, and mediation.

What Works Locally (Lessons Learned)

- Low-cost maintenance: terrace rehabilitation, flow-slowing check structures, sediment traps, and windbreaks.
- Simplified sensitivity maps posted publicly and linked to permitting.

- Customary–administrative mediation committees that reduce disputes and accelerate resolutions.
- Guided siting of IDPs based on standards (outside flood corridors/steep slopes, near services, with safe water access).

Consensus Implementation Priorities

A. Planning & Regulation

- Prepare a drought/flood/erosion sensitivity map for each priority district, publish it, and link it to permitting.
- Issue temporary protection orders for flood channels, steep slopes (>15%), and wellhead protection zones.
- Adopt building-permit requirements: stormwater drainage, setbacks from flood channels, and soil-appropriate design.

B. Land Protection/Restoration

- Rehabilitate terraces and retaining structures (cash-for-assets) and build flow-slowing check structures in small wadis.
- Establish riparian buffer strips along wadi banks to prevent scouring and soil loss.
- Demarcate grazing corridors and shared watering points, and define temporary closure periods.

C. Integrating IDPs

- Identify reception sites outside sensitive areas, with temporary usufruct agreements and basic-service packages.
- Involve IDP representatives in land and water management committees.

Partnerships and Roles

- Local authorities: regulatory leadership, permitting, and enforcement.
- Traditional/religious leaders: mediation and social commitment to charters.
- Cooperatives: community mobilization, maintenance works, management of community funds.
- Line ministries/agencies: technical specifications, surveying and mapping, policy integration of outputs.
- Private sector: local construction materials, seedlings and windbreaks, service and maintenance contracts.
- Universities/youth: mapping, data collection, and community monitoring.

Risks and Mitigation

- Irregular expansion / permit evasion → public posting of maps/decisions + proportionate fines + community oversight.
- Elite capture of public land/water → transparent allocation, periodic social audits, and publication of committee minutes.
- Weak maintenance → community O&M fund + annual service contracts.
- Social tensions (residents/IDPs/herders) → mediation committees, binding charters, and representation of youth and women.

Early Monitoring Indicators

- Issuance and public posting of the sensitivity map and its use in permitting.

- Lengths of terraces/retaining works/check structures rehabilitated (km/linear meters).
- Hectares of riparian buffer strips established/restored.
- Number of reported disputes and time to resolution (downward trend).
- Share of building permits meeting flood/slope requirements.
- Demarcated herd corridors and functional watering points.
- Percentage of IDP sites meeting safe siting standards.

Barriers and Enablers of Change

Introduction

The effectiveness of land management under drought pressure does not rely solely on technical measures (terraces, windbreaks, and check structures); it also depends on land-use governance, controls on urban development, the settlement of use-rights/usufruct arrangements, institutional capacity, financing, and maintenance.

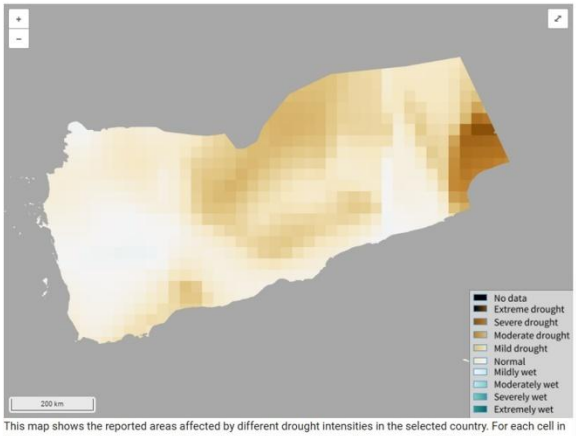
Barriers/Challenges to Implementation or Scale-up	Levers of Action & Enabling Conditions (Technical/Organizational)
1. Unregulated urban expansion within flood corridors and on steep slopes, and weak linkage between permitting and risk/sensitivity maps.	A binding ordinance that ties permitting to the drought/flood/slope sensitivity map.
2. Degradation of land assets (terraces, wadi banks, windbreaks) and lack of routine maintenance.	Written local charters at village/wadi level (quotas, flood-corridor setbacks, grazing routes, grievance mechanism).
3. Tenure/usufruct disputes and undocumented customary frameworks for grazing corridors and watering points.	Participatory GIS (PGIS) maps posted publicly, updated quarterly, and feeding permitting and oversight decisions.

4. Pressure from hosting IDPs at sensitive sites (flood corridors/fragile areas) and lack of siting standards.	IDP siting standards, temporary usufruct agreements, and basic service plans.
5. Spatial data gaps (sensitivity to drought/flood/erosion) and limited capacity for regular updates.	Digital registries for tenure/usufruct, permits, and disputes, with a public monitoring dashboard.
6. Weak local regulatory framework.	District/wadi-level land management councils to unify planning and enforcement decisions.
7. Limited implementation and enforcement capacity.	Incentives and controls (reduced permit fees for compliance; proportionate fines for violations/encroachments).
8. Fragmented, short-term financing that undermines sustainability and annual O&M.	Cash/food-for-assets to fund annual maintenance of terraces, check structures, and protective buffer strips.
9. Volatile supply chains for local construction materials, seedlings, and maintenance parts.	Multi-year framework agreements for supply and maintenance with local providers.
10. Relative exclusion of women and youth from land and water committees, weakening compliance and transparency.	Customary–administrative mediation committees with women and youth representation, and published minutes.

Priority Advocacy Messages

Advocacy Objective	Advocacy Messages to This Target Audience
Adopt a **binding statute** that links permitting to **drought/flood risk**	Local authorities: (Linking permits to sensitivity maps reduces losses and prevents construction in hazardous locations.)
Publish and regularly update **participatory sensitivity maps (PGIS)**	Line ministries / universities: (Public maps build trust, accelerate decision-making, and reduce disputes.)
Protect and maintain land assets (terraces / check structures / riparian buffer strips)	Donors / public-works programs / cooperatives: (Low-cost annual maintenance protects soil and increases water infiltration.)
Regulate grazing, herd corridors, and watering points	Agriculture / local authorities / cooperatives: (Demarcating corridors reduces friction and protects rangelands.)
Align the **local building code** with **flood/slope risks**	Urban planning / public works / engineers: (A realistic building code reduces losses and improves stormwater drainage.)

Proportion of total land area under drought



This map shows the reported areas affected by different drought intensities in the selected country. For each cell in the image, the most extreme drought intensity class is displayed for the four-year period (2016–2019). For the purpose of UNCCD reporting, drought is defined as an SPI less than -1.0 (a lag 12 SPI is the default used). The brown shaded areas indicate areas affected by drought while blue shaded areas remained relatively wet over the reporting period.

34.64 million ha
of the reported land area is affected by drought between 2016 and 2019

76.36%
of the reported land area is affected by drought between 2016 and 2019

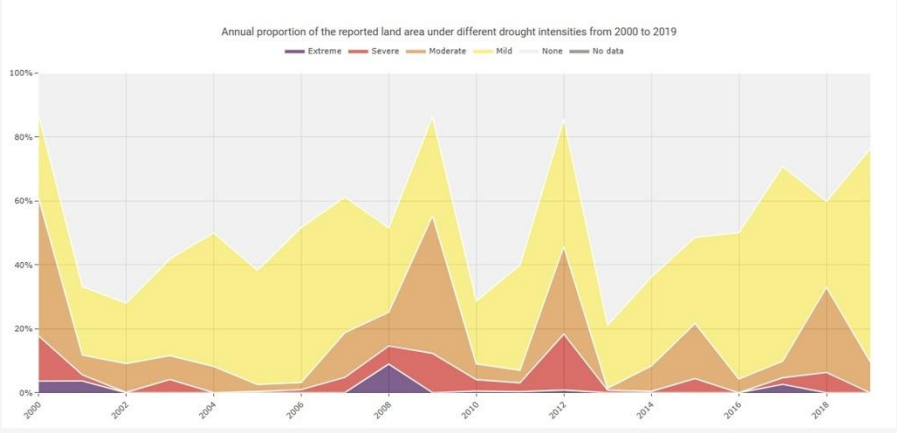
Area Comparison Tool

2019
reporting year

Yemen

How does the intensity of drought hazard vary over time?

Globally, drought intensity fluctuates on an annual basis as a function of changes in the temporal and spatial distribution of global and regional precipitation patterns. The year 2002 was particularly extreme with 56 per cent of the global reported land area under drought. However, the maximum proportion of land under severe or extreme drought was reported in 2019 for 14.64 per cent of the global reported land area. Due to natural climate variability it is inadvisable to infer trends from any observed changes in the proportion of land under drought.




Audio
Video
Participants
Chat
Share
Pause
Layout
Annotate
Remote control
Hide meeting
More
You are screen sharing
Stop share
الورشة الوطنية – اليمن
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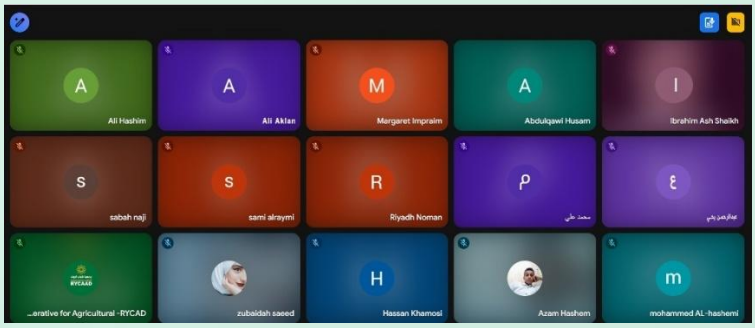
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