

Beyond the Crisis

Part Two — Solutions & Beyond the Crisis

How nations recovered from their disasters —
and what it means for Jordan and the region

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Quick Refresher — What Did Part One Say?



For anyone who missed Part One, or needs a reminder: five facts in one minute

8

Conflict Theatres

active in our region simultaneously
— all reaching Jordan directly or indirectly

72

Hours Only

of backup fuel in our hospital
generators — against weeks of
potential disruption

1

Single Port

Aqaba handles 100% of our
seaborne imports — one point of
failure

6

Exposure Points

in critical infrastructure, without
redundancy: water, power, health,
telecoms, banking, ports

The core takeaway: compound risk — cyber, physical and logistical at once — is no longer the exception. It is the rule. So: what do we do about it?

Why Look at the World's Experience?

We are not the first to face catastrophe. What separates those who rise from those who fall is what we learn today.

A crisis reveals, but it does not teach on its own. The nations that emerged stronger from their disasters were not less exposed — they were better prepared, faster to learn, and bolder in rebuilding. In this section we look at three global models that faced the worst, then compare them honestly to our Arab and Jordanian reality.

Japan

2011 Earthquake & Tsunami

Rebuild to reduce future risk — not to restore what was

Singapore

Existential water scarcity

Structural diversification over single-source dependency — independence, not backup

Finland

Persistent geopolitical threat

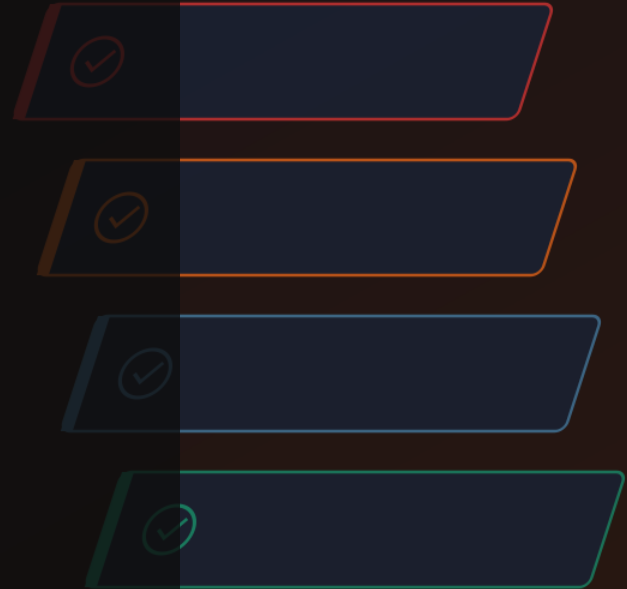
Comprehensive security: the private sector is a mandated partner, not a bystander

Each model's lesson maps onto a Jordanian gap we documented in Part One — and the comparison will be put to you plainly.

Section One

Global Models in Facing Disaster

Three nations that faced the worst — what they did, and where we stand



Japan — Great East Japan Earthquake & Tsunami, 2011



The disaster: magnitude 9.0, 16,000 dead, 383,000 buildings damaged, and a nuclear meltdown at Fukushima

What Japan Did

- Allocated ¥25 trillion (~\$230 billion) for a reconstruction concentrated over 5 years
- Fundamentally shifted its coastal-protection philosophy: from restoration to reducing future risk
- Relocated entire residential areas to higher, inland ground
- Created a unified regional coordination body (Tohoku Regional Bureau) that finished faster than in normal conditions

The Lesson

"Build Back Better" is not a slogan.

Japan did not rebuild what was; it built what withstands the next disaster. Every dinar spent on reconstruction was an investment in reducing risk — not in restoring the old fragility.

The unified coordination body mattered more than the money: clear leadership delivered faster than ordinary bureaucracy.

1.2 The Honest Comparison — Japan vs. Our Reality



The Japanese lesson: unified coordination and preventive rebuilding. Where do we stand?

Dimension	Our Arab / Jordanian Reality	Japan
Coordination in crisis	Multiple bodies, conflicting authority (Beirut 2020)	Unified regional body, clear authority
Rebuilding philosophy	Mostly restore what was, same weak points	Build better to reduce risk
Speed of delivery	Bureaucratic delay even outside crises	Faster than normal conditions
Reconstruction funding	Relies on grants and after-the-fact response	Pre-allocated, time-concentrated

The gap is not money or technology — it is clarity of leadership and rebuilding philosophy. And that is fixable by decision, not budget.

The crisis: a nation with almost no natural water resources, historically dependent on imports from Malaysia

The "Four National Taps" Strategy

Local catchment water

A reservoir network covering two-thirds of the country

Imported water

Contracts with Malaysia — being phased out gradually

Recycled water (NEWater)

Meets 30% now, targeting 55% by 2060

Desalinated seawater

A limitless source, entirely weather-independent

The Lesson

Structural diversification, not mere backup.

Most institutions have a "plan B." Singapore built an entirely independent architecture: if one source collapses — by drought or political dispute — the others compensate instantly.

The goal: 85% of water from climate-independent, nationally-owned sources by 2061 — a sovereign decision, not a technical project.

1.4 The Honest Comparison — Singapore vs. Jordan



Both among the world's most water-scarce nations. The difference is strategy, not circumstance.

Dimension	Jordan	Singapore
Starting point	2nd most water-poor nation on earth	Virtually no natural water resources
Strategy	One large desalination project underway	Four independent, integrated sources
External dependency	Heavy reliance on a single source (Aqaba/energy)	Planned, gradual phase-out of imports
Time horizon	Aqaba—Amman desalination by 2029	2061 target, declared & non-negotiable

Jordan took the right first step with desalination — but Singapore teaches us one source is never enough. We need four taps, not one bigger tap.

1.5 Finland — The "Comprehensive Security" Model



The threat: a large neighbour and a long border. The response: a whole society prepared, since the 1940s

How Finland Builds Resilience

- National strategic reserves: 9 months of grain, 5 months of oil products
- Private companies are legally required to hold reserves of critical materials
- Shelters for 85% of the population (4.8 million people)
- The 72-hour rule: every citizen must be self-sufficient for 72 hours — compliance is high
- 82% of Finns trust the state to protect them in emergencies

The Lesson

Resilience is everyone's job, not the defence ministry's alone.

The genius is not the framework, but the execution: Finland integrates the private sector and the citizen into national planning through "sector pools" of officials and business leaders together.

When the state asks citizens to prepare for 72 hours, they comply — because trust was built over decades.

1.6 The Honest Comparison — Finland vs. Our Reality



The Finnish lesson: preparedness is a mandated societal culture. Where do we stand?

Dimension	Our Arab / Jordanian Reality	Finland
Private-sector role	Voluntary, left to each institution	Legally mandated reserves
Strategic reserves	Our hospitals: 72 hours of fuel only	9 months grain, 5 months fuel
Citizen readiness	No culture of individual preparedness	72-hour rule, high compliance
Institutional trust	A genuine challenge to build	82% trust the state in a crisis

The starkest gap: 72 hours at our hospitals vs. 5 months in Finland. This is not a resource gap — it is a gap of policy and mandate.

Three Models, One Unifying Principle



Despite different disasters, the three models converge on a single rule

Japan

Unified leadership and preventive rebuilding

Singapore

Structural diversification over single-source dependency

Finland

Mandated preparedness for all parties, not the state alone

The Unifying Principle

Resilience is not built during a crisis — but years before it, through a sovereign decision to break single-source dependency, to mandate preparedness across all parties, and to rebuild in a way that reduces the next risk rather than restoring the old fragility.

So where does Jordan stand on this principle? The answer is in the next section — real cases already underway.

Section Two

Jordan Is Moving: Documented Cases

Six sectors already underway — by name, date and figure, compared to the global models

2.1 Aviation & Airspace Closure → Investing in Rail



Following Japan's lesson: build a structural alternative, don't restore single-source dependency

What Happened	In June 2025, Jordan fully closed its airspace amid the US-Israeli escalation against Iran and missiles/drones crossing its skies. Royal Jordanian suspended flights to six countries at once, and three citizens in Irbid were injured by shrapnel. The scenario had already recurred in October 2024.
	↓
Why Connected	Royal Jordanian's CEO stated plainly: any country's airspace closure halts flights there immediately. Any regional escalation disrupts air cargo and passengers together — a direct burden on supply chains that cannot tolerate delay.
	↓
The Lesson	As Japan did, the solution is not to restore reliance on a single corridor, but to build a structural alternative that withstands the next crisis.
	↓
Documented Solution	A \$2.3 billion railway project in partnership with the UAE, linking the Shidiya and Ghor Al-Safi mines to Aqaba port over 360 km, with a capacity of 16 million tonnes/year by 2030 — plus cross-border studies with Saudi Arabia and Syria.

Hospitals → Solar Power Systems



Following Finland's lesson: break single-source dependency and raise self-sufficiency

What Happened	The Ministry of Health oversees 30 hospitals and spends ~JOD 25.5 million/year on energy. At Al-Bashir Hospital, the country's largest, diesel water-heating alone exceeded JOD 1 million a year. In Mafrqa, hot water was cut in summer due to fuel cost.
Why Connected	Rising imported-fuel cost via Aqaba presses directly on hospital budgets. When cost rises, backup power is sacrificed first — as happened in Mafrqa, Ramtha and Jerash, where patient-registration systems went down during outages.
The Lesson	Al-Bashir's solar system paid for itself in just 4 years and 5 months — energy independence is a fast-payback decision, not a burden. Exactly the Finnish reserve logic.
Documented Solution	In 2025 the Ministry of Energy opened an official tender to install solar systems in public hospitals, after raising the solar-project ceiling to 1 MW. Jordan's cumulative solar capacity reached 2.08 GW by end-2024 (IRENA).

2.3 Water → The Aqaba–Amman Desalination Project



Directly following Singapore: structural diversification of water sources

What Happened	Jordan is the world's 2nd most water-poor country. Large parts of the population receive water intermittently, and the situation is expected to worsen with climate change and population growth — as documented in Part One.
	↓
Why Connected	The water network depends on electricity for pumping, and electricity depends partly on imported fuel via Aqaba. Any shock to the energy chain hits water-pumping directly — and northern water plants hold only four days of diesel.
	↓
The Lesson	As Singapore taught us, solving the water crisis is incomplete without breaking its dependency on imported fossil energy — which is why embedding a solar plant inside the project was strategic, not a detail.
	↓
Documented Solution	A \$6 billion project led by an international consortium (30-year concession, Jan 2025). It will convey 300 million m ³ /year over a 438 km line, powered by a 281 MW solar plant covering 27% of its energy need. Full operation by 2029 — the largest infrastructure project in Jordan's history.

2.4 Electricity → Battery Storage & Regional Interconnection



Following Singapore and Finland: multiple sources, not one

What Happened	Distributed solar generated ~2,240 GWh in 2024 — 9% of total electricity sales. But growing reliance on intermittent sources (sun, wind) creates a grid-stability challenge at peak times.
	↓
Why Connected	An unstable grid weakens exactly the sectors we documented: hospitals, water plants, operations centres. Storage is the missing link between renewable generation and grid reliability during a crisis.
	↓
The Lesson	Generation alone does not build resilience — you need three elements together: generation, storage, and regional interconnection. Not one. Exactly Singapore's "four taps" logic, applied to power.
	↓
Documented Solution	The Cabinet approved a grid-scale battery storage system (BESS). In parallel, feasibility studies for the Saudi interconnection were completed (commercial operation expected end-2025), alongside existing links with Egypt and Iraq — a real network of alternatives.

2.5 Banking → Mandatory Cyber Resilience



Following Finland's lesson: regulatory mandate over voluntary preparedness

What Happened	As documented in Part One, cyberattacks on critical infrastructure in our region are not random — they are deliberately timed to coincide with physical disruptions. Banking, the backbone of any economic crisis response, is a direct target of this pattern.
	↓
Why Connected	Banking continuity depends on both communications (Red Sea cables) and power (the Aqaba chain). Failure of either paralyses banks precisely when the state needs them most.
	↓
The Lesson	As Finland mandated its companies' reserves, the Central Bank turned cyber resilience from an optional recommendation into a regulatory mandate — because it is part of business continuity, not an isolated technical matter.
	↓
Documented Solution	The Central Bank issued mandatory cyber-resilience instructions for all banks, and launched an annual bootcamp — in the 2025 edition alone, 311 sector staff earned 1,040 internationally-accredited certifications — backed by an MoU with the National Cyber Security Centre.

Education → Double-Shift System & Institutional Crisis Management



Following Finland's lesson: institutionalise crisis management within the sector itself

What Happened	Jordan absorbed over 108,000 Syrian students into public schools in a single academic year (2012–2013), and total enrolment exceeded 1.5 million. Then COVID-19 added 18 months of school closures — a double shock to an already-strained system.
Why Connected	Education is never isolated from the crisis: the refugee burden documented in Part One falls directly on school seats. And today's educational disruption means a weaker workforce in ten years — an impact that spans a whole generation.
The Lesson	Educational continuity in a crisis needs institutionalisation, not improvisation. As Finland mandated its sectors' preparedness, Jordan recognised that crisis management must be a permanent structure inside the ministry itself.
Documented Solution	A "double-shift" system in over 200 public schools to absorb students without exclusion, remedial-education programmes, and an e-learning platform launched rapidly during the pandemic. Most importantly: a dedicated, permanent Crisis & Risk Management unit within the Ministry of Education.

The Unifying Pattern — Jordan Applies the World's Lessons



Each Jordanian sector reflects a principle from the three global models

Sector	Jordanian Solution	Global Model
Aviation	Aqaba rail — structural alternative	Japan: Build Back Better
Health	Solar power — independence	Finland: break dependency
Water	Desalination + embedded solar	Singapore: diversification
Electricity	Storage + regional interconnection	Singapore: multiple sources
Banking	Mandatory cyber instructions	Finland: mandate not option
Education	Double-shift + crisis unit	Finland: permanent structure

Jordan is not reinventing the wheel — it is applying principles proven worldwide. The single pattern: break single-source dependency with a funded alternative.

The Big Idea — From Scattered Initiatives to a Binding Standard



Finland's most important lesson: preparedness is only effective when it is mandatory and distributed

If we set a minimum level of self-sufficiency for every critical entity —

every hospital, bank, factory, and government body — as Finland mandated its companies — the state's single massive exposure transforms into thousands of distributed points of resilience. Each entity becomes a self-standing island of resilience; when the national chain fails, the system does not collapse all at once.

Health

Solar tender for hospitals

Transport

Hybrid & EV incentives

Energy

Storage + interconnection

Banking

Mandatory cyber instructions

Jordan already has precedents in five sectors. The missing step — as in Finland — is unification: one binding standard, not initiatives that remain exceptions.

Section Three

After the Crisis: Recovery & Rebuilding

The actions, the decision matrix, the recommendations, and the roadmap

The Full Recovery Cycle — Four Phases



Finland's framework: anticipate, withstand, recover, build back better



Most of our institutions focus on "during" only. The global models master all four — especially "before" and "learn."

3.2 Corrective Actions — Executable Immediately



Six actions, ranked by impact vs. effort. Start from the top.

Urgent

Add one compound scenario

combining cyber + physical + logistical failure at once — and test it within 90 days

Urgent

Raise energy independence to 30 days

from 72 hours via solar — as with Al-Bashir and Finland

High

Adopt the authority matrix by name

who declares the crisis, authorises spend, speaks to media — Japan's unified model

High

Diversify supply routes

an alternate land route and a second supplier — Singapore's multi-source logic

High

Choose a recovery site by conflict logic

outside the northern corridor, with 30-day self-sufficiency

Medium

Activate the EOC within 30 minutes

not 6 hours. A false activation costs nothing; a late one costs everything

3.3 Applied Model — Decisions in the First 60 Minutes



Japan's lesson: unified command delivers faster. Who decides what, and when?

Minutes	Decision-Maker	Required Action
0–15	Duty Officer	Detect the event, trigger the first emergency-matrix contact, timestamp the incident
15–30	Crisis Team Lead	Formally confirm EOC activation, set the initial severity level
30–45	Executive Management	Approve the first operational decision: evacuate, reroute, activate alternate site
45–60	Communications Lead	First internal & external statement, notify regulators if required

This table — with real names instead of roles — is the first document your board should sign after this session.

My Candid View — An Expert's Recommendations After 18 Years



Not from the standard, but from the field, and from comparing our reality to those who succeeded

1

Apply Singapore's "four taps" principle to every critical resource

Don't settle for one backup. For each vital input — power, water, connectivity, supply — build multiple independent sources, not a single reserve.

2

Make self-sufficiency a binding internal standard, as in Finland

Jordan has precedents in five sectors. The missing step is unification: a binding minimum for every critical entity, not optional initiatives.

3

Unify command before the crisis, as Japan did

Beirut 2020 fell to fragmented authority. An approved, tested authority matrix rescues the decisive first hours.

4

Test a 30-day Aqaba closure — for real

This one scenario exposes every gap at once. If you haven't tested it, your plan is unproven paper.

5

Treat recovery as four phases, not one

Don't focus on "during" only. The real investment, and biggest return, is in "before" (readiness) and "learn" (build back better).

3.5 How to Measure Progress — Six Resilience Metrics



You cannot manage what you do not measure. Reviewed quarterly.

Actual Recovery Time

4 hours or less

proven in the last test, not planned on paper

Energy Independence

30 days

days the site runs without external supply

EOC Activation Time

30 minutes

from detection to full activation

Compound-Scenario Coverage

1+ per year

exercises simulating multi-dimensional failure

Alternate-Supplier Ratio

2 per critical input

is there a contracted alternative in place?

Plan Update

every 12 months

or immediately after any incident or exercise

90-Day Roadmap — From Session to Action



Three phases. Start them next Monday.

Days 1–30	Days 31–60	Days 61–90
Foundation — Adopt the authority matrix by name — Define one compound scenario — Calculate your current energy-independence gap	Build — Contract an alternate supply route — Begin the solar study — Review the alternate recovery site	Prove — Run an Aqaba-closure simulation — Test activation within 30 minutes — Fully update the plan

In ninety days you move from a paper plan to a tested one — the difference between false confidence and real resilience.

Seven Questions the Board Should Ask This Week



Don't wait for the annual report. Raise them at the next meeting.

1 How many days do our critical operations run with no external power supply?

2 Who has the authority to formally declare a crisis — by name, not title?

3 When did we last test a compound scenario for real?

4 Do we have a contracted alternate supplier or route for every critical input?

5 Where is the alternate recovery site, and does it share a physical path with the primary?

6 How long did the last real or drill EOC activation take?

7 When did we last review the full plan, not just one section?

Sources — Global Models & Jordanian Cases

For verification and use in official reporting



Global Models

- Japan 2011: Royal Society (2015), Harvard Business School, Forrester Research, IRP
- Singapore: PUB Singapore, ASCE, Frost & Sullivan Institute (2026)
- Finland: NESI, EUobserver (2026), Nordic Labour Journal, OECD Trust Survey (2023)

Jordanian Cases

- Aviation & rail: Arab News, The New Arab, Global Railway Review, ENR
- Hospitals: Chatham House (2023), pv magazine, IRENA (2024)
- Water: Fanack Water (2026), IFC, EIB
- Electricity: NEPCO, Global Transmission Report, ecoMENA (2025)
- Banking: Central Bank of Jordan, National Cyber Security Centre

The Takeaway

The world showed the way. Jordan has begun walking it.

Japan taught us to build back better. Singapore taught us to diversify. Finland taught us distributed mandate. And Jordan has already begun, in six sectors — what remains is to unify and generalise, not to wait.

*We don't wait for legislation. We don't wait for the next crisis.
We start with one decision — starting today.*

Sharif Barakat — Risk Management Professionals Forum

Six Takeaways

1. Japan: build better, not restore fragility
2. Singapore: diversify sources, not one backup
3. Finland: distributed mandate, not voluntary
4. Jordan has begun in six sectors
5. Pattern: break single-source dependency
6. Test a 30-day Aqaba closure

Thank You

And now — your questions