

GBOX · PUBLIC TEACHING EDITION

Saudi Arabia Teaching Atlas

Transect extract · N1–N4

Four west-to-east crossings for educators and learners. Terrain, water, living systems, settlement, food and economy remain aligned on one line.

N1

28.00°N

N2

24.70°N

N3

21.40°N

N4

18.25°N

What a transect tells you

A transect is a deliberate line across a landscape. It keeps different systems in the same order, so a reader can compare what changes, what persists and what depends on something

01

Follow the line

Read from the western station to the eastern station. The order never changes.

02

Compare vertically

At one station, scan down: geology, water, ecosystem, settlement, food and economy.

03

Compare horizontally

Within one system, ask what changes as relief, water and distance change.

04

Meet a persona

Composite teaching lives turn the same conditions into a human-scale question.

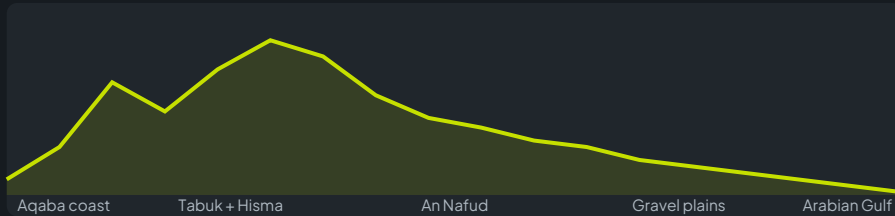
■ The people are composite teaching personas. Places and environmental conditions are real; individuals are invented.

One country, four crossings

West → east · ordered, comparative, teachable

N1 28.00°N

Gulf of Aqaba to the Arabian Gulf

**N2** 24.70°N

Yanbu coast to the Dahna sands

**N3** 21.40°N

Jeddah to the Empty Quarter

**N4** 18.25°N

Farasan reef to the Empty Quarter



Gulf of Aqaba to the Arabian Gulf

System matrix · select a cell and ask what it depends on

	Aqaba coast	Tabuk + Hisma	An Nafud	Gravel plains	Arabian Gulf
GEOLOGY	 Midyan terrane	 Hisma sandstone	 An Nafud sand sea	 Shelf approach	 Shelf carbonates
WATER	 Aqaba coast + desalination	 Saq aquifer outcrop	 No surface water	 No surface water	 Umm er Radhuma springs
ECOSYSTEM	 Acacia wadis	 Rock desert	 Red dunes + ghada shrub	 Gravel plains	 Sabkha shore
SETTLEMENT	 NEOM coast	 Tabuk city	 Oasis rim: Tayma	 Pipeline towns	 Khafji coast
FOOD	 Coastal fisheries	 Tabuk orchards	 Truffle plains	 Camel pastoralism	 Coastal supply
ECONOMY	 Project coast	 Agriculture + garrison	 Grazing + falconry	 Pipeline corridor	 Oil coast

Six composite lives, ordered west to east

Gulf of Aqaba to the Arabian Gulf



P01 · HAQL

Musallam

Inshore fisherman

Deep water and reef conditions shape a coast-linked livelihood.

REAL GEOGRAPHY · INVENTED INDIVIDUAL



P02 · TABUK

Nasser

Orchard farmer

Winter frost and the Saq aquifer make stone-fruit orchards possible.

REAL GEOGRAPHY · INVENTED INDIVIDUAL



P03 · TAYMA

Saleh

Date grower

An old well town now weighs heritage water against pumped agriculture.

REAL GEOGRAPHY · INVENTED INDIVIDUAL



P04 · AN NAFUD

Fahd

Camel herder

Rain news, wells and truffle seasons determine movement across the sand.

REAL GEOGRAPHY · INVENTED INDIVIDUAL



P05 · NORTH-SOUTH LINE

Turki

Rail technician

The corridor moves phosphate through long stretches without towns.

REAL GEOGRAPHY · INVENTED INDIVIDUAL



P06 · ARABIAN GULF

Abdulrahman

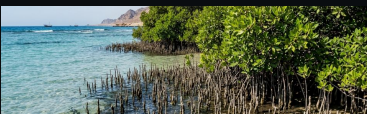
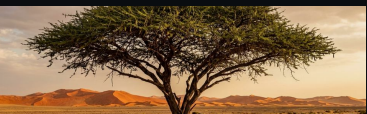
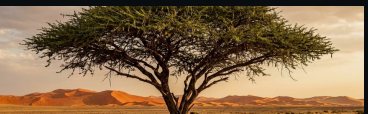
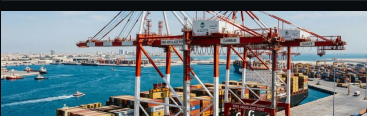
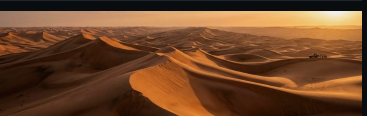
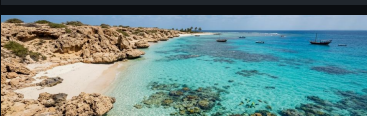
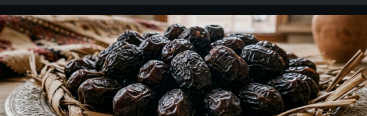
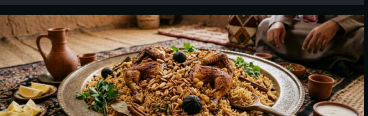
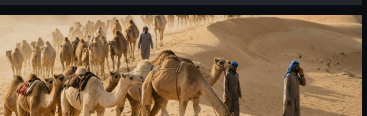
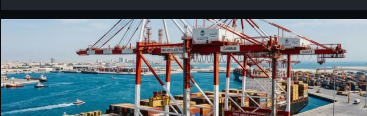
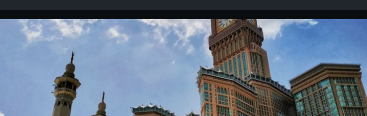
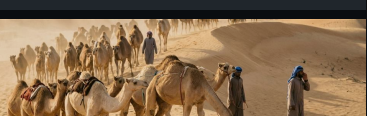
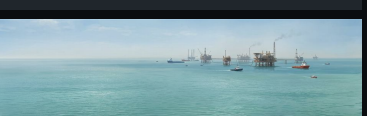
Production engineer

Offshore production, salinity and desalination meet on the eastern coast.

REAL GEOGRAPHY · INVENTED INDIVIDUAL

Yanbu coast to the Dahna sands

System matrix · select a cell and ask what it depends on

	Yanbu coast	Harrat Rahat	Arabian Shield	Riyadh + Tuwaiq	Dahna sands
GEOLGY	 Coastal plain	 Harat Rahat basalt	 Arabian Shield	 Tuwaiq steps	 Dahna + shelf
WATER	 Yanbu desalination	 Wadi recharge on basalt	 Ephemeral wadis	 Fossil Minjur under Riyadh	 No surface water
ECOSYSTEM	 Mangrove patches	 Lava field	 Steppe shrub	 Rawdah meadows	 Red sands
SETTLEMENT	 Yanbu industrial city	 Madinah south rim	 Steppe towns	 Diriyah + Riyadh	 No permanent settlement
FOOD	 Red Sea fisheries	 Ajwa dates	 Wheat + grazing	 Kabsa capital	 Camel lines
ECONOMY	 Petrochemical port	 Pilgrim economy	 Pastoral margin	 Capital services	 Oil shelf beyond

Six composite lives, ordered west to east

Yanbu coast to the Dahna sands



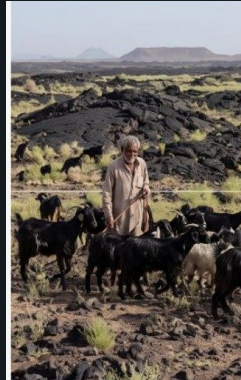
P01 • YANBU

Majed

Harbour pilot

A reef passage and an east-west pipeline converge at the port.

REAL GEOGRAPHY • INVENTED INDIVIDUAL



P02 • HARRAT RAHAT

Hamad

Goat herder

Basalt cracks hold rain where loose sand would lose it.

REAL GEOGRAPHY • INVENTED INDIVIDUAL



P03 • NAJD RAWDAH

Bandar

Spring camper

A clay depression briefly holds one wet winter, then dries again.

REAL GEOGRAPHY • INVENTED INDIVIDUAL



P04 • RIYADH

Ibrahim

Coffee and spice trader

Road, rail and air connections bring distant crops through the capital.

REAL GEOGRAPHY • INVENTED INDIVIDUAL



P05 • AL-KHARJ

Yousef

Dairy technician

Industrial dairy depends on fossil water, cooling and imported feed.

REAL GEOGRAPHY • INVENTED INDIVIDUAL



P06 • AD-DAHNA

Sultan

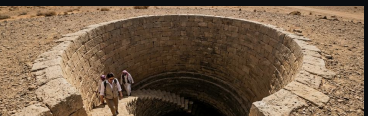
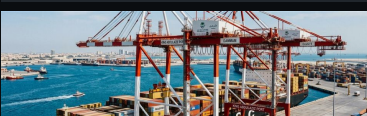
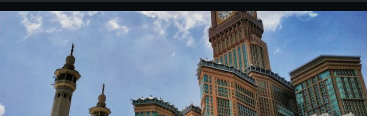
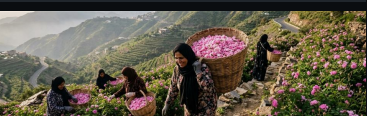
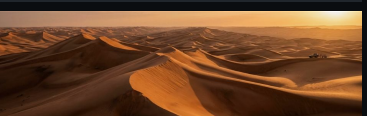
Long-haul driver

A road crosses the red-sand arc, where drifting sand is an everyday hazard.

REAL GEOGRAPHY • INVENTED INDIVIDUAL

Jeddah to the Empty Quarter

System matrix · select a cell and ask what it depends on

	Jeddah coast	Hijaz + Taif	Shield plateau	Najd pediplain	Rub' al-Khali
GEOLOGY	 Coastal Tihama	 Hijaz escarpment	 Shield plateau	 Najd pediplain	 Rub' al-Khali basin
WATER	 Jeddah desalination	 Taif wadis + terrace irrigation	 Ephemeral wadis	 Wadi trains east	 No permanent water
ECOSYSTEM	 Coral coast	 Escarpment woodland	 Acacia steppe	 Gravel plain	 Dune sea
SETTLEMENT	 Jeddah + Al-Balad	 Makkah + Taif	 Steppe villages	 Well clusters	 No permanent settlement
FOOD	 Fish markets	 Taif rose + honey	 Saleeg + grazing	 Camel milk lines	 None
ECONOMY	 Port gateway	 Two Holy Cities economy	 Rose attar + grazing	 Pastoral margin	 Oil basin under sands

Six composite lives, ordered west to east

Jeddah to the Empty Quarter



P01 • AL-BALAD, JEDDAH

Omar

Textile merchant

A coral-stone port quarter links sea air, pilgrimage and heritage repair.

REAL GEOGRAPHY • INVENTED INDIVIDUAL



P02 • MAKKAH

Zaid

Pilgrim guide

A seasonal city depends on desalinated water pumped uphill from the coast.

REAL GEOGRAPHY • INVENTED INDIVIDUAL



P03 • TAIF

Mishaal

Rose grower and distiller

Cold escarpment nights concentrate oil in a short spring harvest.

REAL GEOGRAPHY • INVENTED INDIVIDUAL



P04 • HIJAZ STEPPE

Ali

Beekeeper

Moving hives follow acacia, sidr and the uneven path of rainfall.

REAL GEOGRAPHY • INVENTED INDIVIDUAL



P05 • NAJD PEDIPLAIN

Khalid

Pivot agronomist

Circular fields expose the trade-off around fossil groundwater.

REAL GEOGRAPHY • INVENTED INDIVIDUAL



P06 • EASTERN STEPPE

Rakan

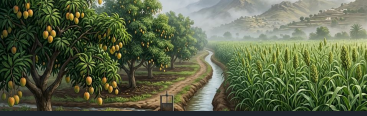
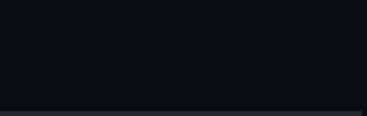
Camel owner

Flat ground supports a shift from transport to sport, pedigree and prize.

REAL GEOGRAPHY • INVENTED INDIVIDUAL

Farasan reef to the Empty Quarter

System matrix · select a cell and ask what it depends on

	The reef	Tihama terraces	Juniper crest	Najd	The sands
GEOLOGY	 Farasan bank + Red Sea rift	 Tihama plain	 Shield + Asir crest	 Wajid sandstone	 Rub' al-Khali basin
WATER	 The Red Sea	 Flash-flood wadis	 Fog + terrace capture	 Wadi ad-Dawasir drains	 No permanent water
ECOSYSTEM	 Coral reef + mangrove	 Acacia savanna	 Juniper forest	 Acacia wadis	 Dune sea
SETTLEMENT	 Farasan Islands	 Jazan towns	 Abha + stone villages	 Well towns	 No permanent settlement
FOOD	 Reef fisheries	 Mango + sorghum	 Khawlani coffee + areeka	 Dates + camel	 None
ECONOMY	 Blue carbon + whale shark coast	 Port + farm economy	 Highland tourism	 Pastoral margin	 Oil basin northeast

Six composite lives, ordered west to east

Farasan reef to the Empty Quarter



P01 • FARASAN

Ahmad

Fisherman

Pearl-bank history, reef fisheries and a biosphere reserve share one coast.

REAL GEOGRAPHY • INVENTED INDIVIDUAL



P02 • JAZAN HIGHLANDS

Hadi

Khawlani coffee farmer

Terraces use fog and a rainy season between 1,400 and 2,000 metres.

REAL GEOGRAPHY • INVENTED INDIVIDUAL



P03 • ASIR

Saeed

Terrace mason

Dry-stone walls slow storm water and keep mountain soil in place.

REAL GEOGRAPHY • INVENTED INDIVIDUAL



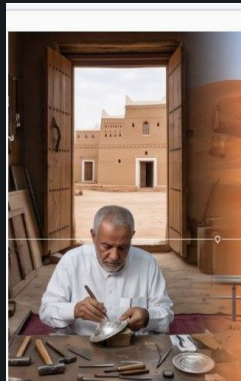
P04 • ASIR

Noura

Al-Qatt Al-Asiri painter

A women-led house craft survives through teaching in Abha.

REAL GEOGRAPHY • INVENTED INDIVIDUAL



P05 • NAJRAN

Mohammed

Silversmith

Metalwork forms trace the incense route and a living chain of teaching.

REAL GEOGRAPHY • INVENTED INDIVIDUAL



P06 • SHAYBAH

Reem

Field engineer

A rotating workforce maintains an energy field inside moving dunes.

REAL GEOGRAPHY • INVENTED INDIVIDUAL