



Natural Landscape, Population and Economy

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Topography and Climate

Baluchistan is a large region that stretches from southeast Iran to western Pakistan and southern Afghanistan. This part of Pakistan covers an area of 347,188 km² and forms the largest of Pakistan's provinces (43.6 %, **Map 1**). It can be divided topographically into three basic land forms, each with further subdivisions¹, which differ considerably in climate and vegetation and offer distinctly different living conditions:

- densely folded mountain chains that cover almost 60 % of the surface and extend from the Hindukush to the coast. Sharply projecting, barren mountains rise up to 3,000 m in the north and 1,400 m farther south. In eastern Baluchistan they are north-south oriented, forming a watershed and a barrier to the Indus valley with only a few passes that connect this area with lowland Sindh, for example the Kirthar-, Mor- and Pab-Ranges (**Fig. 3.1**). Still marked by orogenetic movement today, the surface relief displays drainage systems that differ from zone to zone. East of the Central Makran Range and the Hingol-, Mashkai- and Nal Rivers these systems drain from north to south, primarily through the Porali and Hab Rivers, and towards Sindh from the easterly mountains (**Fig. 3.2**),
- in the south, the way to the sea is blocked by the Siahian and Central Makran Ranges, which stretch from the Hingol River for 750 km along the coast towards the west. The main river valleys, such as Rakhshan, Kechh and Dasht

(see **Fig. 11.17**), run therefore from northeast to southwest,

- the enclosed dry interior basins of Chaman, Chagai and Kharan, including the Kharan desert and its salt lakes (**title image**),
- the river valleys with extensive drainage systems and oasis cultures, such as the Dasht Valley (**Fig. 3.4**), and, behind the central Makran Range, the Hingol, Mashkai, Nal, Porali and Hub River systems that drain from north to south (**Fig. 3.5**),
- the alluvial lowland niches in the Kachhi Plain and Las Bela that belong physically to Sindh (**Fig. 3.6**)²,
- the coastal belt that runs all along Pakistan, from India to Iran (**Fig. 3.7**).

The mountains are traversed by river beds that cut deeply into masses of Pleistocene gravel beds and flow either perennially or, mostly, seasonally (**Fig. 3.8**). Agriculture can be practiced on the alluvial terraces, although often they are very narrow or too steep to cultivate (**Fig. 3.9**). The inland basins in the north (for example Loralai and Quetta), in contrast, and those in the south (for example Kalat, Kolwa, and Dasht) encompass flat depressions or broad plains. While they differ morphologically, most are constrained by alluvial fans. In years with high precipitation rain-fed crop cultivation is possible in the gallery zones³; otherwise they are used as pastures. The central part of these basins is covered by thick, fertile layers of silt, most of which are irrigated by means of surface channels. The most

¹ Scholz 1983.

² Scholz 1983, 13.

³ Scholz 1983, 14.



Fig. 3.1
Mountains near Bela
(Mai Pir)



Fig. 3.2
Nai Gaj, near
Rohel-jo Kund



Fig. 3.3
Awaran area in the
Kolwa Plain



Fig. 3.4
Dam and protohistoric
site in the Dasht Plain



Fig. 3.5
Hub River after rains
Fig. 3.6
Las Bela, near Uthal,
after rains



Fig. 3.7
Makran coast near
Jiwani

intensively used agricultural areas in Baluchistan, apart from the river oases and irrigated basin areas, are located in the north, particularly around Quetta.

The main causal factor for the enormous folds and faults in Pakistan is the northward drift of the Arabian Plate, which is shoved under the Eurasian continental mass. This tectonic activity has also resulted in the elevation of the Holocene coastline of Makran, rising as much as 10 m to 25 m.⁴

4 Besenval/Sanlaville 1990, 85.

Deposits of fluvial sediments and bioclastic sands have led progressively to land formation. The dating of marine sediments near Pasni and Gwardar has shown that since c. 12,000 BCE the coastline of Pakistan has shifted some 10 km to 25 km towards the south and that this movement is still ongoing today (see Fig. 11.26).⁵ It is particularly strong in western Baluchistan and decreases towards the

5 Sanlaville et al. 1991.



Fig. 3.8
Kanrach Valley, river
section and flood plain



Fig. 3.9
Pass into Kanrach
Valley, near Windar



Fig. 3.10
Stone desert between
Quetta and Taftan



Fig. 3.11
Rakhia Kot, Kanrach,
early 3rd mill. BCE

east.⁶ The entire coastal region is not suited for agriculture, although occasional sources of fresh water are present in a dune belt farther inland.⁷ There, evidence was found for the exploitation of marine resources during the Harappan Period.⁸ Travelling from north to south or east to west, the landscape, and therewith also the habitat, changes. While the interior regions are dominated by deserts (Fig. 3.10), the northern and southwestern parts are characterised by wide and shallow valleys, where water erosion is less strong and soils had the opportunity to accumulate. Large-scale cultivation is only feasible in the wider basins (10 km to 60 km) with alluvial fans, deeply cut river beds and fertile soil deposits. The valleys are narrower and steeper in the east, but altogether the valley basins constitute most of the agricultural land available in Baluchistan. The northern areas, in particular Quetta and Ziyarat, receive much more precipitation, and rain-cropping (*kushkaba*) is possible to a limited extent. The climate also permits the cultivation of almond, nut, apple and cherry trees, where water is available.

Southeastern Baluchistan

In southeastern Baluchistan the topography changes, southeast of Khuzdar, the valleys become narrower, the mountains, in particular the Pab Range, are steep and barren. They are deeply

dissected by perennial rivers and their tributaries: the Saruna, Hab, Kharari/Windar, and Porali. Due to the high gradient and the enormous force of the water even coarse sediments and boulders have been carried far into the valley bottoms. The fine sediments are blown away by the winds, leaving behind gravel and boulders which form a carpet of stone. The *meza*-like, flat mountains that are hallmarks of the Kanrach Valley also reveal the force of the floods: They are the surviving remnants of now eroded old valley surfaces into which the perennial Kanrach River and its tributaries have cut their beds (Figs. 3.11; 12). The location of archaeological sites and dams shows that these changes of the hydrological system, and thus of the whole topographic relief, took place rather recently. In prehistory, the environment must have been quite different and the landscape less fissured.

This dual process of accumulation and erosion through the natural agents wind and water can be studied well in the 60 km long and only up to 8 km wide Kanrach Valley, which is steeper and narrower than the other valleys, but in the valley bottoms soils and sediments have accumulated in places. In the Saruna and central Hab Valleys huge sediment banks have deposited which turn into slippery mud surfaces after rains, making transportation difficult, if not impossible at times. Wherever water is available, these strips are cultivated (Fig. 3.13). The Las Bela Plain, or the Porali Trough, constitutes yet another ecological zone. Physically, it is part of the lowland embankment of Sindh. The 130 km long and 170 km wide triangular plain is bordered

6 Snead 1966, 557.

7 Besenval/Sanlaville 1990, 86.

8 Desse/Desse-Berset 2001.



Fig. 3.12
Kanrach, Pab Range



Fig. 3.13
Village near Parharko,
northwest of Khuzdar