AGROBIODIVERSITY, LAND AND PEOPLE

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AGROBIODIVERSITY

Abolhassani tribes are transhumant pastoralists. Mixed flocks of goats and sheep move through the landscape following a carefully planned route between summer and winter pastures. There are two goat breeds (Mahali and Pakistani) and two sheep breeds (Baluchi and Afshari). Mahali goat and Baluchi sheep are local and adapted to the conditions of drought, cold and limited availability of forage and feed. In home gardens and fruit orchards, several different varieties of fig, grape, pomegranate and watermelon are cultivated. Wild plants such as wild pistachio are collected in the rangelands. About 50 wild plant species are commonly used for food and medicine by the local communities.

LAND-USE CHANGE

Coexisting with the desert is possible because of ingenious water management in combination with transhumance. However, an increasing frequency and intensity of droughts has had a negative impact on livestock, water availability and pasture. The communities have developed “Coping with the Drought Cycle” management plan through which they have diversified their production system by integrating crop production with animal herding. During droughts, instead of letting their flocks graze in the rangelands, barley is cultivated and used as animal forage and feed. In addition, pistachio leaves and watermelon skins are used to feed the animals. Also, during droughts, the animals are sold as an adaptive method.

RESILIENCE

Traditional techniques are continuously improved to increase the efficiency of resource use and to cope with and recover from droughts. The grazing plans are re-evaluated by elders every year to determine the number of livestock that can enter each pasture. “Weak” pastures are left to recover and are not grazed for a period of time. This is an example of an adaptive rangeland management. The collective engagement in this strategic action, diversification and equitable share of resources are some of the key elements of the resilience of the Abolhassani tribes.

Communities’ perception of ecosystem services provided by different land uses

Rangelands

Rangelands cover a significant part of the Abolhassani territory and provide forage, wild vegetable and medicinal plants. Some of the plant species are Pistacia atlantica (wild pistachio), Borago officinalis, Dihorium intus, L. Euclium sp., Forus ahsa-foeota, Fumaria officinalis, Nigella sativa, Matricaria chamomilla, Peperum harmala, Platanus major, Tanacetum parthenium and Phlomis russelliana.

Pastures

Different parts of rangelands are used for summer and winter pastures. The movement between summer and winter pastures follow routes that are revised yearly to prevent overgrazing.

Villages, khil and kalateh

Khil and kalateh are temporary houses, close to summer and winter pastures, inhabited 2-3 months a year. They are always located close to water sources. A kalateh is surrounded by crop fields. During droughts, the fields are used for barley cultivation. A khil is located close to shallow wells, where there is not enough water for crop production.

Home gardens, fruit orchards and crop fields

In addition to animal herding, the production of cereals, fruits, herbs and vegetables is a source of livelihood. Wheat and barley are increasingly important. Other common crops are cotton, onion, sunflower, sesame, eggplants, tomato, cucumber, watermelon, melon, cumin, mint, basil and parsley. Pistachio, pomegranate, grapeswine, quince, almond, apple, fig, walnut, jujube, apricot, pear and plum are cultivated in home gardens and orchards.

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Legend

Legend

Villages

Weir Gates

Watering Ditches

Summer Pasture

Winter Pasture

Abolhassani Territory

Crops

Khil

Kalateh

Reservoir River

Water for human consumption

Water for agriculture

Water for animals

Soil fertility

Cultural importance

Pollination

Wildlife habitat

Soil erosion reduction

Past and disease regulation

Drought mitigation

Flood mitigation