

## CHAPTER 13

### RANGELANDS OF PAKISTAN - IV

#### — Balochistan —

There are five extensive range areas which are as follow:

- |    |                                       |                   |              |
|----|---------------------------------------|-------------------|--------------|
| A. | Northern mountaneous (Zhob, Lora Lai) | = 8.0 mh approx.  | 200 - 270 mm |
| B. | Pats plains of northeast. (Sibbi)     | = 1.6 mh approx.  | 130          |
| C. | Chaghi - Kharan deserts.              | = 8.4 mh approx.  | 120          |
| D. | Central plateau (Kallat)              | = 11.4 mh approx. | 50 - 150     |
| E. | Lasbela - Mekran coast                | = 3.3 mh approx.  | 160 - 200    |

Balochistan province has total geographic area of 34.73 million ha. Although about 93 percent of the area is generally classified as rangelands, about 10 million ha are unproductive, 12 million ha produce little grazing, and about 1.6 million ha are undergrazed due to the inaccessibility of the hills and lack of drinking water. Fair to good ranges are limited to about 30% of total area (9 to 10 million ha). North western, pats, Mekran and Lasbela range areas constitute medium potential areas, whereas Chaghi-Kharan are the most poor areas. Central range areas are very variable in their potentials. The above areas will now be described one by one.

#### A. Northern mountaneous Range Areas(Sulaiman mountain).

These comprize of the entire areas indicated by Quetta-Pishin, Loralai, Zhob, Ziarat, Mustung, Qamar ur Din Karez, Shinghar, Qila Saif ullah, Muslim Bagh. etc. Sulaiman mountain ranges cover about 1.5 million ha. The elongated area extends along Afghanistan border. The elevation of the Sulaiman Range is between 1540 and 3,400 m above sea level. Steep ridges of exposed bedrock with a relief of more than 150 m contain little soil material. The climate of the tract is arid mountaneous, sub-tropical continental and dry temperate. May, June and July are the hottest months (mean maximum temperature of about 40°C) while January is the coldest month (mean minimum temperature of about 3°C). The average annual precipitation is from 200 to 270 mm. About 50% of the total rainfall is received during July and August.

Livestock rearing is the major occupation of the tribal residents. Zhob and Loralai ranges have a high potential for range development. These are grass-dominated areas. The influence of Afghan "pawindas" is, however, very influential here. The protected areas support *Chrysopogon* grass communities. The area also has adequate watering points. The estimated grazing capacity is about 7 ha per animal unit per annum. The drier range areas are, however, producing much less than protected areas and the carrying capacity is 40-60 ha per animal unit per annum. The graziers are keeping 10 time more animals than the existing capacity. Dryland farming is done in the piedmont plain and valleys of Sulaiman mountains whose water from flash floods is conserved and utilized in the form of 'Raud-kohi' system of irrigation.

The following grass species are commonly found in these areas:

- |                                |                              |
|--------------------------------|------------------------------|
| <i>Aristida funiculata</i>     | <i>Dicanthium spp.</i>       |
| <i>Chrysopogon mountanus</i>   | <i>Pennisetum orientale.</i> |
| <i>Cymbopogon schoenanthus</i> | <i>Stipa arabica</i>         |
| <i>Desmostachya bipinnata</i>  |                              |

Following browse species are also common:

*Acacia modesta*  
*Artemisia.*  
*Berberis lycium*  
*Daphne oleoides*

*Olea ferruginea*  
*Prunus eburnea.*  
*Rosa spp.*  
*Zygodphyllum atriplicoides*



### Major Recommended Operations

1. Soil and water conservation measures on selected favourable sites.
2. Grazing according to carrying capacity.
3. Planned grazing.
4. Reseeding of grasses and planting of forage shrubs and trees coupled with water spreading.
5. Integration with Farming and Forestry and development of range groves.
6. Judicious water development.
7. Mixed livestock use.
8. Livestock Management operations (supplementary feed, shelter, culling, hygiene and preventive medicine).
9. Organization of marketing for livestock and livestock products.

### B. Pat Range Area

It comprizes of plains of districts of Sibbi, Niseerabad, Kachchi and Dera Bughti. Average annual precipitation is about 130 mm which is mostly received in summer. Summers are long and extremely hot. Winters are short and mild. In dune and sandy areas where livestock grazing has been excluded by the Forestry Department, there is a 1-5 percent plant cover. The extensive saline plains have vast areas of sparse plant cover, interspersed with plant communities, which comprize of *Suaeda fructicosa*, *Salsola spp.*, *Panicum antidotale*, *Aeluropus repens* and *A. macrostachyus*. Carrying capacity is estimated to be about 20 ha per animal unit per annum.

The following grass species are common in this area:

*Aristida sp.*  
*Eleusine flagellifera.*

*Panicum antidotale.*  
*Pennisetum orientale.*

The following browse species are also common.

*Prosopis cineraria.*  
*Salsola sp.*  
*Salvadora oleoides.*

*Stiper plumosa*  
*Suaeda fruiticosa.*  
*Tamarix aphylla*



### Major Recommended Operations

1. Artificial reseedling of grasses and planting of forage shrubs and trees on selected favourable sites.

2. Providing limited irrigation wherever possible.
3. Grazing according to carrying capacity.
4. Planned Grazing.
5. Stock water development.
6. Livestock management.
7. Marketing of livestock.

### C. Chaghi - Kharan Range Areas

These comprise of districts of Noshki, Chaghi, Sandak, Nokundi, Sohrab and Kharan. Winters are long and severe. Summers are mild. Average annual precipitation is about 120 mm. Rainfall is erratic and scanty. As a whole, the tract has low potential to sustain economical pastoring. In the Rakhshan Valley of Kharan District, sheep rearing is dominant. Here, the Afghan "pawindas" have less influence. Estimated grazing capacity is about 40-60 ha per animal unit per annum.

Following browse species are dominant.



*Alhagi camelorum*  
*Haloxylon griffithii.*  
*Cousinia alepidea*  
*Saccharum ravannae*

*Stipa plumosa*  
*Tamarix spp.*  
*Zygochloa atriplicoides*



### Major Recommended Operations

1. Soil and water conservation measures on selected favourable sites.
2. Artificial planting of forage shrubs on selected favourable sites.
3. Grazing according to carrying capacity.
4. Planned Grazing.
5. Stock water Development.
6. Livestock Management operations.
7. Mixed livestock.
8. Communication Development leading to vigorous marketing.

### D. Central Range Area

It comprises of Makran, Lasbela, Kallat, Sorab, Khuzdar, Punjgur, Rustam shahar, Shahbaz, Qila Lalu gasht, Wadh, Naag, Washik and Mohmad Khan areas. Average annual precipitation is 50 to 150 mm with mediterranean climate, most of which is received during winter or early spring. Altitude ranges from 1000 - over 3000 m. The famous Maslakh Range Project, which was the first scientifically managed Range Project in Pakistan during 1954, is situated in this region. Most of the area contains mountains and is interspersed with flat valleys. Wheat and orchards are cultivated wherever irrigation facilities are available. The "karez" system of irrigation is prominent in the valleys. Range in the area is depleted due to heavy influx of livestock of Afghan refugees and "pawindas". A shortage of winter feed and watering points are main problems. Average carrying capacity is expected to be about 30-40-50 ha. per animal unit per annum.

The following grass species are common:

*Agropyron squarrasum.*  
*Aristida spp.*  
*Bromus spp.*

*Chrysopogon aucheri.*  
*Cymbopogon schoenanthus.*  
*Poa sinaica.*



The following browse species are also common:

*Artemisia scoparia.*  
*Calotropis procera.*  
*Capparis aphyulla.*  
*Haloxylon griffithii.*

*Peganum harmala.*  
*Prunus eburnea.*  
*Zizyphus spp.*



### Major Recommended Operations

1. Soil and water conservation measures on selected favourable sites.
2. Artificial reseeding of grasses planting of forage shrubs and trees on selected favourable sites.
3. Grazing at suitable stocking rate.
4. Planned Grazing.
5. Integration of farming and Forestry with planting of forage trees.
6. Stock water Development.
7. Kinds of livestock i.e., sheep and goat mixed herds.
8. Livestock Management operations.
9. Organization of livestock marketing.

### E. Mekran-Lasbela coastal Range Area

These comprize of coastal areas of districts of Mekran, Lasbela, Dhabeji, Uthal Bela, Hoshab, Turbat, Chumburi Qallat, Jewani, Gawadar, Pasni, Oramara and Somiani. Summers are long and humid, whereas winters are short and mild. Climate is semi-arid/sub-humid tropical. Average annual precipitation is from 160 mm to 200 mm. Higher relative humidity compensates for low precipitation. One important introduction to the Lasbela District is *Prosopis juliflora* (Mesquite), which has successfully colonized arid terrain, but has the potential of spreading into cultivated areas. Grazing capacity of the area is expected to be about 10-15 ha per animal unit per annum.

The following grass species are commonly found in this area:

*Chrysopogon spp.*  
*Cymbopogon schoenanthus.*

*Desmostachyar bipinnata.*  
*Lasirus hirsutus.*

### Major Recommended Operations.

1. Soil and water conservation measures on selected favourable sites.

2. Artificial planting of forage shrubs on selected favourable sites.
3. Grazing according to carrying capacity.
4. Planned Grazing.
5. Artificial Reseeding of forage shrubs on selected favourable sites.
6. Increased fodder production on farmland, such as sorghum, millet.
7. Water spreading.
8. Forest lands be opened to browse for a limited extent.
9. Stock water development.
10. Kinds of livestock. Cattle and sheep in piedmont plains or inter-valley plains, goat and even camel on hilly areas.
11. Improved livestock management operations.
12. Organization of livestock marketing.

### TEST QUESTIONS

1. Enlist major rangelands of Balochistan alongwith their areas. Indicate high potential areas.
2. Briefly describe major characteristics of Balochistan's rangelands.
3. Compare Northern Mountaneous Range Areas of Balochistan with Sub-tropical South Eastern Range Areas of NWFP.
4. How will one improve Central Plateau (Kallat) Range Areas ? How do these areas differ from Dry Temperate Range Areas of NWFP ?
5. Briefly describe Lasbela - Mekran Coast Range Areas and compare them with Thar Range Areas of Sindh.