CHAPTER VII

SOCIO-ECONOMICS OF GRASSLANDS

Grassland studies have one of the essential components in terms of livestock and as to assess the carrying capacity (Kamini, 1996), hence the fodder requirement was assessed by discussions with local people.

FINDINGS OF THE FIELD STUDY

Socio-economic aspects

Presented below are the results based on analysis of primary data collected from 23 villages of ten talukas of seven districts of Kachchh and Saurashtra. These results are presented under three sections viz.

(A) Perception of villagers
   (i) about Panchayat pasture land
   (ii) about govt. grassland/wastelands

(B) Perception of govt. officials/non-officials.

(C) Opportunities for institution building.

(A) *Perception of villagers:*

(i) About panchayat pasture land:

   *Category of respondents:* It was observed that in Kachchh region 37% respondents were farmers and rest 67% were maldharis, while in Saurashtra corresponding percentages were 56 and 44 respectively.

(ii) *Necessity of Gaucher land for the village* Almost all respondents from Kachchh and Saurashtra expressed that their villages do need Gaucher land for grazing their livestock.
(iii) **Adequacy of Gaucher land.** In Kachchh 43% of respondents felt that existing gaucher land of their village was adequate while 57% expressed it to be inadequate. In Saurashtra region, percentage of respondents expressing adequacy of Gaucher land of the village was 52%. Rest 48% expressed inadequacy of pasture land of their village.

(iv) **Status of pasture land:** Of those who responded to the question on status of pasture land in Kachchh region, majority i.e. 60% informed that pasture land was degraded and rest 35% did not feel so while 5 per cent did not respond to the questions. Although majority of the respondents in Bhuj district expressed that land was degraded, only 37% could spell out form of degradation. Percentage distribution by form of degradation was as follows:
(a) stony land (43%), (b) undulating (8.2%), (c) land status dependent on monsoon (25%); (d) saline land (10.2%) and (e) pasture land taken over by Forest Department (10.2%), "others" (3.4%)

In Saurashtra region 62.4% of the respondents reported pasture land status as "degraded" while 21.2 per cent felt it to be okay. Remaining 16.4% did not respond to this question. While reporting on form of degradation only 38 percent respondents described form of degradation.

**Symptoms of degraded land:**

From the discussion with farmers and maldharis from Kachchh to find out symptoms of degradation, it was revealed by 53.3% respondents (i) spread of growth of *Prosopis juliflora*; (ii) 19.4% indicated presence of black and red stones in the land while 9.4% reported it to be unfit due to ingression of Rann of Kachchh and salinity. Around 3% respondents reported 'soil erosion' by heavy rains.
In Saurashtra region only 51.3% respondents replied (51.3% of total 189 respondents) to the question on symptom of degradation. Around 26% reported soil erosion on account of heavy rains, 38% informed of ingress of salinity. Balance 36% included other symptoms like reduced productivity etc.

**Difficulties in improving status of pasture land**

During discussions it was pointed out that difficulties in improving status of pasture land in Kachchh district, according to a majority, are lack/insufficient resource followed by spread of *Prosopis juliflora* – 13.3%. Other difficulties included stony land, ignorance among public, no governmental assistance etc.

In Saurashtra region, lack or insufficient resources constituted 43%, inadequacy of governmental assistance 25% and spread of *Prosopis juliflora* 16%. Thus these three difficulties together accounted for 84% while rest 16% included 'people's ignorance', stony land, taking over of pasture land by Forest Department, ingress of Rann of Kachchh and salinity.

**Agency to undertake improvement of pasture land**

The people or respondents replied differently. They were of the opinion that Gram Panchayat, Village folk, NGOs, maldhars themselves shall actually participate in improving pastures.

**Reasons for undertaking improvement of pasture land:**

Analysis of responses in Bhuj district to the question, "what has prompted above agencies to undertake improvement of pasture lands" brought out mainly two reasons, i.e. (a) to ensure production of good grass for grazing the village livestock (30%) and (b) for undertaking cultivation (22). Nearly 48% of respondents could not respond properly to this question in Bhuj district. Unlike Bhuj, in Saurashtra an
overwhelming percentage i.e. 78% mentioned that improvement of pasture land would lead to production of good grass for feeding their livestock. Only a small percentage i.e. 7% quoted the reason of allocation of land by government for cultivation. Around 15 per cent of respondents did not respond.

**Discussions held locally for improvement of pasture land:**

Before any new idea is put to practice, usually, it is discussed thread bare by all concerned. When enquiries were made with respondents about the discussions held for improvement of pasture land, majority in Bhuj and Saurashtra regions, i.e. 71% and 82% respectively replied in the negative reflecting apathetic public attitude. This very trend was reflected in taluka and district level.

**Alternatives available to improve production of pasture land:**

Nearly 34% in Bhuj and 19% in Saurashtra expressed that no alternative for improving productivity of pasture land were available. For improving productivity of pasture land measures or strategies suggested are (a) land be levelled and land should be made cultivable, (b) that *Prosopis juliflora* should be eradicated completely, (c) the need to step up irrigation facilities through construction of check-dams and ponds with joint participation with Panchayats, Forest department on the line of JFM, NGO

**Efforts made so far for improving Gaucher land and outcome thereof:**

According to majority of the respondents while no efforts to improve Gaucher land were made in Kachchh, 12% informed that some efforts were made. 60% each reported that voluntary agencies and forest departments made some efforts in this direction. In Saurashtra region all six districts unanimously informed that no efforts were made to carry out improvement in Gaucher lands either by the concerned government department or by any voluntary organization active in this field.
Method adopted to save livestock during drought period

During drought and scarcity migration to areas where fodder is easily available was a common practice. Other methods include grazing livestock in open veedis (forest department maintained grazing lands), handing over cattles to Dhorwada or Panjarapole.

Following three methods to save their cattleheads were adopted by some other respondents:

1. with the help of agricultural waste — 7%
2. Govt. voluntary agencies/forest dept. conduct subsidised sale of fodder — 16%
3. Landlord/influential people offer help — 3%

Awareness of management plan of vidis/rakhals. By and large the local population was unaware of any management of vidis/rakhals.

Percentage distribution of respondents by symptoms of degradation in Saurashtra region

1. Growth of Prosopis juliflora 50 7%
2. Stony and undulating land 10 7%
3. Soil erosion from heavy rains 18 0%
4. Increased salinity 15 0%
5. Less productivity due to less rains and cracks in land 0.56%

100%

Reasons for degradation of Govt. grassland:

Discussions with the villagers residing around the vidies/rakhals have brought following reasons for degradation:

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1. Inadequate financial resources of forest department
2. Ingress of salinity and desert
3. Grass because of hot sun gets affected.
4. Spread of particles on land from industrial as well as quarries and mines
5. Soil erosion resulting from heavy rains.
6. Growth of *Prosopis juliflora*.

**Difficulties in improvement of govt. grass lands:**

Majority i.e. 71% from Kachchh and 46% from Saurashtra districts felt that forest department does not have adequate finance to carry out improvements in grasslands. Other difficulties enumerated included stony lands, increased salinity, spread and growth of *Prosopis juliflora*, lack of irrigation facilities and lastly government as well as Panchayat do not pay adequate attention to lands of forest department.

**Technology for improvement of govt. grasslands:**

Efforts were made to find out whether for carrying out improvement in govt. grassland any technology was adopted. To this question replies given by the respondents from Kachchh and Saurashtra region are analysed and presented below.

<table>
<thead>
<tr>
<th>Responses</th>
<th>Percentage distribution</th>
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<tbody>
<tr>
<td></td>
<td>Kachchh</td>
</tr>
<tr>
<td>1. Land should be levelled by taking suitable measures</td>
<td>08.7</td>
</tr>
<tr>
<td>2. Construction of ponds, check-dams, soil and moisture conservation works, bunding etc</td>
<td>86.0</td>
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<tr>
<td>3. Land should be made cultivable</td>
<td>0.18</td>
</tr>
<tr>
<td>4. Complete eradication of <em>Prosopis juliflora</em></td>
<td>0.5</td>
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<tr>
<td>Total</td>
<td>100.0</td>
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PRINCIPLES OF RANGE MANAGEMENT

Principles of range management are essentially aimed at ensuring sustained supply of palatable fodder to grazing cattle in optimum quantities. They are mainly based on following eco-physiological considerations:

1. Palatability of grass:

   It is mainly based upon the frequency of grasses that are grazed by the cattle in the pasture lands. The grasses are classified into good, fair, poor and worthless according to the forage preferences of grazing cattle.

   In case of Panchayat pasture lands of Kachchh and Saurashtra which are open for grazing, species of Cenchrus, Sehima, Dicanthium, Chrysopogon, Chlons, Themeda, Digitana are considered to be palatable and can be included under good category while species of Heteropogon, Anstida as fair.

   Palatable grasses have mostly soft stems and leaves while unpalatable ones are stiff and rough.

   Palatability also varies according to the growth stages of the grasses. Generally younger stems and pre-flowering foliages are more palatable than foliage at post-flowering stage.