

## PEOPLE'S PARTICIPATION - A VITAL COMPONENT IN MANAGEMENT OF GIR PROTECTED AREA

ASEEM SRIVASTAVA\*

### The Physical Environment

The Gir Wildlife Sanctuary and National Park is the only large forested area in the whole of Saurashtra peninsula. This precious green patch which now measures 1412.13 km<sup>2</sup> used to be over 5000 km<sup>2</sup> not in very distant past. Geomorphologically the area constitutes a vast zone of dissection of lava flows resulting in striking landscapes with flat topped hills, conical hills, plateaus, valleys, valley fills etc. It has tropical savanna climate with hot summer, humid warm monsoon and cool dry season.

One of the major reasons for the rich biodiversity of Gir is the comparatively favourable climate and edaphic factors. Since the slopes are moderate with a general tilt towards the south, most of the rivers flow southwards. The entire area is divided into the catchment of rivers Hiran, Shinghoda, Shetrunji, Macchundari, Raval, Malan, Datardi and Popatdi. On account of uneven topography and structural variations streams in the hilly terrain are flowing in all directions forming a radial drainage pattern resulting in the formation of riverine forest.

Dry deciduous forest of Gir has been divided into 13 sub-types ranging from riverine forest to scrub forest. Apart from being the only home of the last surviving natural "gene pool" of Asiatic Lion, *Panthera leo persica*, it constitutes the catchment

area of seven major rivers and provides ecological security and environmental amelioration for the drought prone region of Saurashtra. The grasslands within and outside the protected area provide valuable fodder to be panjrapoles, goshalas, village panchayats and individuals. Water stored in four dams (gross storage capacity = 116 MCM) meet irrigational requirements of adjoining revenue villages and those of industrial units too. Its conservation assumes paramount significance in the wake of threats it faces from different quarters. Important conservation measures like launching of Gir Lion Sanctuary Project in early seventies, resettlement of maldharis families and shifting of their livestock, declaring core area as National Park, suspending tree felling operation, payment of compensation in case of livestock killing and human death by carnivores, establishing check posts to control movement of people and livestock in the Protected Area (PA) and strengthening of protection measures by introducing wireless communication network, vehicles and weapons, organizing nature education camps, eco-development works etc. are beginning to have positive impact on the ecosystem. Presently, there are 54 maldhari nesses in the Sanctuary having about 361 families. On the fringes of the Sanctuary, there are 14 in forest settlement villages with local human population of about 4,500 and that of livestock about 4,250. There are 97 villages located within a periphery of 6 km all around the Gir sanctuary with human

---

\* Conservator of Forests, Wildlife Circle, Junagadh (Gujarat).

population of 1,36,000 and that of domestic livestock 1,00,000.

People in and around Gir PA exert tremendous biotic pressure for grass, fuelwood and small timber in particular. Since these are prime necessities of people and livestock, and in the absence of acceptable alternatives, people especially the poorest are compelled to adopt illegal ways for obtaining them.

The 917 households of the maldharis and settlers are wholly dependent on Gir forests for their requirements, whereas the 97 adjoining villagers are partially dependent on PA. Attempts have been made to meet this demand by raising fuelwood plantations along the coastal border. Due to strict measures adopted by the Sanctuary, illegal removal of fuelwood has been drastically curtailed yet the pressure remains. Revenue villagers now depend heavily on the surrounding wastelands, unclassed forest, protected and reserve forest for meeting their requirements. Guesstimates suggest that the annual requirements of primary stakeholders is to the tune of 56,000 MT.

The ecosystem provides grass and leaf fodder for the survival of more than 1.25 lakh cattle per year. The Sanctuary area, because of protection measures, produces large quantity of grass during monsoon. Degradation of the peripheral areas compels the people to send their cattle inside leading to frequent conflicts. In addition nearly 25 lakh kg of grass is harvested and stored for scarcity prone areas of Saurashtra and Kutch. Not only grass and wood, but NTFP collected from the PA is an important source of livelihood for the poor. Products such as *Embllica officinalis*, *Ficus benghalensis*, *Carissa carandus*, *Spindus mukorossi* and

*Feronia limonia* leaves, Honey and Wax, Gum etc. are collected on large scale affecting the Sanctuary adversely. A list of benefits derived from Gir PA is depicted in Fig 1.

The Gir PA has a network of roads and railway being used by tourists, pilgrims, daily commuters, industries (for goods transportation) etc. Total road length in Gir is approximately 600 km and railway covers 15 km tracks. Continuous vehicular movement causes disturbance to the wildlife but provides pleasure to the passengers. A number of accidental deaths of wild animals are reported every year due to fast moving heavy vehicles. More than 2 lakh vehicles pass through the Gir every year causing sound and gaseous pollution on one hand and adversely affecting the management on the other.

Soil and moisture conservation works have improved the moisture regime in the surrounding areas. As a result many land owners have dug open wells for irrigating their farm crop. These wells have become dangerous for the wildlife that venture outside Gir PA for food etc.

In the past, religious places were the entity for spiritual and cultural heritage, having natural surroundings. But the changing trend for the establishment of trusts and managements is slowly diverting the theme of these places from spiritual to pleasure, and other material gains. This is also leading to the ecosystem, deterioration.

Encroachment and destruction of natural surroundings of PA and increasing disturbance to wild animals inside the PA has forced the wild animals to move towards peripheral areas and to cause crop damage and killing of livestock. Also the cases of human injuries and deaths show increasing

trend specially by leopard. The man-animal conflict cases are increasing.

*Secondary :*

### Stakeholders in Gir

*Primary :*

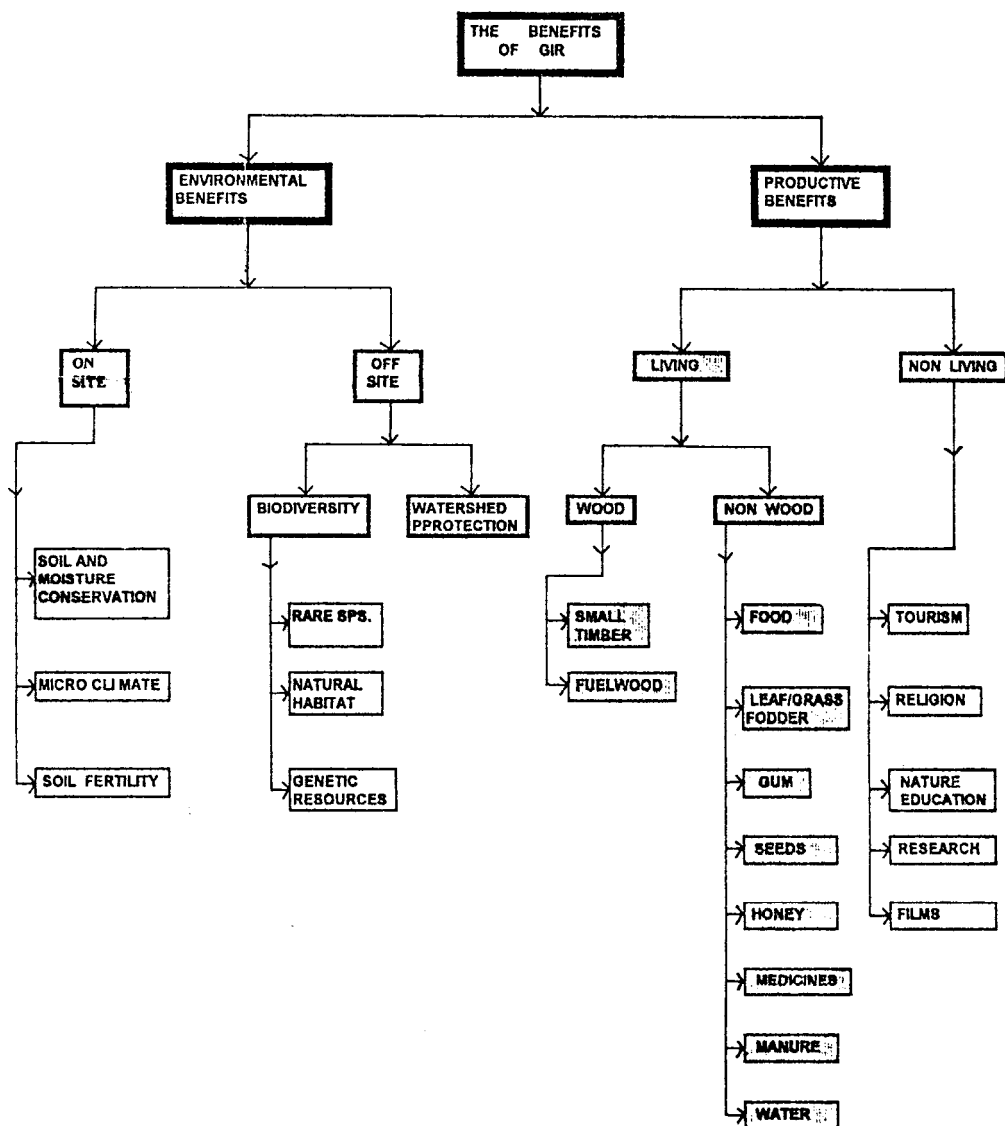
- (1) Wild animals and birds
- (2) Human population
  - \* People living in the revenue villages around Gir.
  - \* People living in forest settlement villages.
  - \* Maldharis living in nesses in Gir.
- (3) Livestock population
  - \* Of the revenue villages around Gir
  - \* Of the forest settlement villagers.
  - \* Of maldharis.

- (1) Forest Department.
- (2) Irrigation Department.
- (3) P.W.D.
- (4) Tourists.
- (5) Pilgrims.
- (6) Politicians.
- (7) Poachers.
- (8) Hoteliers.
- (9) Shopkeepers.
- (10) Film makers.
- (11) Researchers and research institutions.
- (12) NGOs
- (13) International Organizations.
- (14) Future generations.
- (15) Railways.

**Table 1**  
*Typeology of Gir Stakeholders*

Continuum Level	Example of Stakeholders	Interest
International Organisations and Society.	I.D.A., O.E.C.F., G.E.F. Research institutions, Tourists; Film-makers etc.	Biodiversity conservation Economic gains. Research; Consultancy.
National	G.O.I.; Pressure Groups, NGOs; Film makers, Tourists; Research org.	Biodiversity conservation; Socio-economic welfare; Cultural heritage, Protection Education and Extension.
Regional	Forest Deptt.; Other Deptts. of State Govt.; NGOs; Politicians; Press; Photographers; Tourists; Students; Pilgrims; Railways etc.	Biodiversity conservation; Soil and moisture cons; Environmental amelioration Education; Awareness; Publicity; Pleasure; Income; Religion.
Local	Peripheral villagers; Forest settlers; Maldharis; Poachers Press; Politicians; Pilgrims etc.	Sustained supply of wood and non-wood produce; Religion; Income; Publicity; Environment etc.

Fig. 1



### Benefits derived from Gir Protected Area

#### ~~Stakeholders and Conflicts~~

Each stakeholder has a definite, rational but divergent interest in the use and management of resources and these

differences may be fundamental. The resources in Gir and environmental issues are governed by a web of interests, conflicts and trade-offs between different sets of local people, government departments and local

planners. Some of these conflicts can be listed as follows :

(a) *Divergent interests competing over the same resource* : e.g. water stored in the four reservoirs of Gir PA is valuable for animals, maldharis, local villagers, industries, Forest Department and local politicians. Conflicts start during summer months when water supply is restricted.

(b) *Religious fervour overpowering conservation* : Large number of pilgrims and tourists (in the guise of pilgrims) resist any measure to regulate their entry or their stay in the temples inside Gir PA.

(c) *Restriction on use of roads passing through PA* : For local people and industries continuance of these roads means saving money and enjoying wildlife tourism unhindered. For PA managers it means more work load, increase in the rate of wild animals death and other illegal activities.

(d) *NTFP collection* : Individuals collect Jamun (*Syzygium cumini*), Amla (*Embellica officinalis*), Timru (*Zanthoxylum alatum*), grass, fuelwood etc, temple authorities collect bel leaves and forest corporation collects honey, timru, amla etc. Frequent conflicts become inevitable.

(e) *Agriculture vs Forestry interest* : A more or less common feature all over the country due to plough gaining victory and forcing the angels of woodland to flee.

(f) *Damage by Wildlife* : Slow but steady reduction in forest cover, intrusion of livestock and disturbance by vehicles force these animals especially Chinkara, Wild Boar, Black Bucks and Blue Bulls to rely on the farm crops for their survival. Conflicts

occur when poaching takes place.

(g) *Tourists' Expectations* : Most or rather all who visit Gir expect to see a lion preferably a male in the shortest possible span. Frequent management problems are faced due to this.

(h) *Local Press and Wildlife* : Gir and its wildlife is a major source of livelihood for the local press. Any special event in Gir e.g. fire, poaching, injury to wild animals, rescue of wild animals, visit of dignitaries, conflict with temple management etc. are transformed into sensational headlines giving distorted version at times.

### **Eco-development - Beginning of a new phase**

Eco-development is an approach for sustainable development that meets the need of present without compromising the ability of the future generation to meet their own needs (Brundtland Commission, WCED, 1987).

The VIII Five Year Plan launched a Centrally sponsored scheme called Eco-development around National Parks and Sanctuaries. Thereafter, a unique project called India Eco-development Project assisted by IDA and GEF has been recently launched covering seven PAs in the country, Gir being one amongst them.

The whole strategy of ecodevelopment in Gir Protected Area aims at conserving biodiversity by addressing both, the impact of local people on the protected areas and the impact of protected area management on the local people. The concept of eco-development attempts to achieve its objectives by :

(a) Identifying, establishing and developing

alternatives to the biomass resources.

(b) Increasingly involving people living in and around PA into conservation planning and management of the area.

(c) Raising the level of awareness among local community for the value and conservation needs of the protected area and patterns of economic growth and development which are locally appropriate and environmentally compatible.

### **Implications of eco-development**

The issues of biodiversity conservation in Gir PA are a complex web of ecological, economic, institutional and political factors that are inseparable. Execution of eco-development works that began in 1992-93 with the objective of reducing man-animal conflicts by improving the surroundings of PA and reducing PA resource utilization consisted of water harvesting structures, fodder development on periphery, construction of Gobar gas plants, tree planting on farmlands, cattle immunization, construction of parapet wall around open wells, land leveling, check dams etc (Table 2).

Eco-development committees have been formed in many villages. These committees have prepared village microplans with the active participation of women folk and landless poor. One of the essential features of this, the contribution either physical or financial, of the beneficiary in the creation and maintenance of the resource. Contributions of the individual generates the sense of belongingness and the results so far have been encouraging. As a part of reciprocal commitment people have to a large extent stopped sending their cattle in the Sanctuary and instead cut and

carry grass from fireline areas or plantation sites. Installation of gobar gas plants has reduced fuelwood consumption. Poor and landless people will be given soft loan by the committee to start income generating activities like shops, papad making, sewing, leaf cups and plates etc.

The whole effort of eco-development is being supported by local voluntary organizations, research institutions, community leaders and politicians. Initial success of the concept has encouraged many neighbouring villages and small co-operatives to participate in the programme and to convince those who, because of their past experiences, are still skeptical about the bonafide intentions of the Forest Department.

### **Implication for local people**

(a) People have started acquiring new skills and technology e.g. sewing, embroidery, making leaf cups and plates, gobar gas etc.

(b) Evolving new patterns of resource management e.g. stall feeding, rotational grazing, cut and carry etc.

(c) Developing conflict resolution mechanism.

(d) Developing equitable benefit sharing mechanism.

(e) Above all there is a gradual realization that they have to minimize their dependence on the protected area and to develop their own means of survival and growth.

### **Lessons Learnt**

For the Park Management it has been a peculiar experience. The hard-line

**Table 2***Eco-development works in Gir from 1992-93 to 1996-97*

Activity	1992-93	1993-94	1994-95	1995-96	1996-97	Total
(a) Soil and moisture conservation						
(i) Check Dams	2	1	0	13	14	30
(ii) Van Talavadi	0	0	0	5	141	146
(iii) Gully Plugs (cmt)	6230	13000	0	0	1202	20432
(b) Alternative Sources of Energy						
(i) Gobar Gas	54	20	69	65	71	279
(ii) Solar Lights	0	0	0	5	0	5
(c) Animal Husbandry Activities						
(i) Cattle Immunisation	13750	0	0	14000	17015	44765
(ii) Cattle Camps	3/1775	2/875	6/14000	0	11/1733	22/18383
(iii) Cattle Troughs	4	8	0	0	9	21
(d) Habitat Improvement						
(i) Pasture Development	10	0	0	0	75	85
(ii) Weed Eradication	178 Ha	20 Ha	0	0	655	853
(iii) Parapet Wall around Wells	0	0	0	5	38	43
(iv) Repair of Water Tanks	0	0	0	3	0	3
(v) Construction of Wells	0	0	0	1	0	1
(vi) Repairs of old Wells	0	0	0	2	10	12
(e) Community Welfare Works						
(i) Drinking Water Facility	0	0	0	1		1
(ii) Deepening of Well	1	0	0	1		2
(iii) Water Tanks	1	1	0	1	2	5
(iv) Construction of Wells	2	0	0	0	1	3
(v) Water Stand Post	0	0	0	3	0	3
(f) Individual Beneficiaries Scheme						
(i) Seedling Distribution	1346	4500	250	0		6096
(g) Awareness Programme						
(i) Exposure Tours	0	2	0	0	8	10
(ii) Trainings	0	0	2	0	17	19
(iii) Workshops	0	1	1	0	1	3

approach of the past had to be transformed into that of participative mechanism, greater interaction and collective decision making. Some of the lessons that the Park Management has learnt so far have been discussed below :

(a) *Patience* : Perception of the community can not be changed overnight. Past history always has a bearing on future actions. Initial success can be a source of encouragement but not complacency.

(b) *Importance to Disadvantaged classes* : Landless and poor people must be given equal importance. This group needs considerable support for their upliftment.

(c) *Politics* : Local politics needs to be kept away. It is a difficult task and needs careful handling and ingenuity.

(d) *Youth* : Training/Education of youth for acquiring new skills for self employment and economic independence.

(e) *Local leadership* : Let the local leaders speak your mind. Every village or caste or religious group has undisputed leaders who are a respected lot. They can be an asset for eco-development activities.

### **The Way Forward**

The concept of PA was initiated to save the biodiversity by either minimizing or completely avoiding biotic pressures. Stringent laws i.e. Wildlife Protection Act, 1972; Environment Protection Act, 1986 etc. were enacted and suitably amended from time to time to provide teeth to the authorities. No doubt, these laws have acted as strong deterrent but provisions of these laws have also increased conflicts between and amongst stakeholders. Gir is no

exception to this changing scenario. It has passed through turmoil during the current century because of poaching, recurring droughts, illegal tree cutting and encroachment etc. Fortunately, the conservation efforts initiated by Nawab of Junagadh and supported by the people and Forest Department subsequently has paid rich dividends and the Gir of today is because of the collaborative efforts of the past stakeholders. Much has been done so far but the increasing biotic pressure demands more to be done if we sincerely wish to preserve and protect this unique ecosystem on the earth. Future programme of eco-development should aim at :

(a) Providing opportunities to the stakeholders to participate in the conservation movement of not only Gir but the surrounding support zone also starting from planning and implementation to monitoring and evaluation.

(b) People in and around the PA must be developed economically and in an environmentally friendly manner.

(c) Agroforestry practices rather than agriculture alone will bring ecological security in the area.

(d) Effective and extensive support from primary as well as secondary stakeholders for the successful implementation of the strategy through awareness campaign and reciprocal arrangements.

(e) Enhancing the present database to the required level through research and monitoring.

The task is uphill considering the fact that biotic pressures are high, society is heterogeneous, personal gains dominate



communal gains etc. A genuine and honest approach by all the stakeholders would certainly lead to successful implementation of the strategy. It essentially means site-specific package of measures, developed through collaborative efforts of the

stakeholders with the objective of promoting sustainable development. It integrates the concern of local people into the management of Protected Areas for the long term survival of resource and the users.

### SUMMARY

**The collaborative efforts of the people and the Forest Department have paid rich dividends in changing the scenario of Gir. But increasing the biotic pressure demands more to be done economically, environmentally and in friendly manner to preserve and protect the ecosystem.**

जनता की भागीदारी - गीर के सुरक्षित क्षेत्रों का प्रबन्ध कराने के मुख्य संयोगांग

असीम श्रीवास्तव

सारांश

जनता और वन विभाग के मिलेजुले प्रयत्नों से आगे चलकर गीर की परिस्थिति बदल डालने के रूप में बहुत मूल्यवान लाभ हुआ है। परन्तु जैवदबाव बढ़ाते समय यह आवश्यक है कि इसे मितव्ययितापूर्वक, पर्यावरण दृष्टि से और भैत्रीपूर्वक किया जाए तथा पर्यावरण-संहति को सुरक्षित और यथावत् बनाए रखा जाए।

---