PROCEEDINGS OF WORKSHOP

On development of suitable strategy for rehabilitation of

ORANS and GAUCHARS in Rajasthan

16-17 APRIL, 2002

Organized by

Arid forest Research

Institute, Jodhpur

Sponsored by

United Nations

Children's Fund

PROGRAMME

16-01-2002

Inaugural Function

10.00 AM Welcome Address by Shri K.K. Chaudhury, Director, AFRI Jodhpur
10.10 AM Lighting of lamp

10.15 AM Address by Dr.Pratap narian, Director, CAZRI, Jodhpur

10.25 AM Address by Dr.Ahmed salman, Project officer UNICEF, Jaipur

10.35 AM Key note Address by Dr. S.M. Mohnat , Director, The school of desert science, Jodhpur

11.00 AM Address by Chef Guest shri manoher kant , divisional commissioner, Jodhpur

11.20 AM Presidential Address by shri U.M. sahai, chief conservator of forest, Jodhpur

11.35 AM Vote of thanks by shri R.L. Meena Grup Co-ordinator (Rearch), AFRI Jodhpur

11.40 AM Inaugural Tea.

Technical Session - I

Chairman: Shri U.M. Sahai, IFS, chief conservator of forest Jodhpur

Reporters 1. Dr. D.K. Mishra, Scientist D, AFRI
2. Dr. Tarun Kant, Scientist B, AFRI

12.00 Noon Brif introduction to 'Comprehensive' drought preparedness programme to improve Quality of life of women and children in Jodhpur District
Shri H.C. Chaudhary, *AFRI, Jodhpur*

12.20 PM Management of community grazing land for security and improved living
Dr. J.P. Gupta, *Principal scientist (Retd.) CAZRI Jodhpur*

1.00 PM Lunch Break

2.30 PM Remote sensing in mapping and characterization of *orams* and *gauchars in* arid Rajasthan A case study of Jodhpur District
Dr. N.K. Kalra, *Project Director, SRSAC, Jodhpur*

2.50 PM Status of *Gauchar* and *oran* land using multi-temporal satellite data
Dr. J.R. Sharma, RRSSC *Jodhpur*

3.10 PM Drought Preparedness: Planning, policy and management in areas
Dr. V.P. Tiwari, AFRI, *Jodhpur*

3.30 PM Tea Break

Technical Session – II

Chairman: Dr. J.P. Gupta, Principal Scientist (Retd.), CAZRI, Jodhpur
Rapporteurs 1. Dr. S. Mohan, Scientist B, AFRI

3.40 PM Community grazing land and forestry: A story of confrontations and co-operations
Shri Ranjan Mathur, *conservator of Forest Jodhpur*

4.00 PM Fisheries potential of ponds located in Jodhpur district of Rajasthan
Shri Gom Sing, *Assistant Fisheries Development officer, Jodhpur*

4.15 PM *Ground water potential of Jodhpur district
Dr. D.D. Ojha,*GWD, Jodhpur*

4.30 PM Floral diversity and carbon stock in common property land resources in some village Rajasthan and Gujarat

4.45 PM Significant pest problems in *orari and Gauchar* lands and their management
Dr. S.I. Amhed, *AFRI Jodhpur*

17-04-2002

Technical Session – III

Chairman: Dr. Ahmed Salman, Project officer UNICEF, Jaipur
Co- Chairman: Shri Rajesh Yadav, IAS Project Director DRDA, Jodhpur
Rapporteurs: 1. Dr. K.K Srivastava, Scientist D, AFRI, Jodhpur
2. Dr. Kishan Kumar V.S. Scientist D, AFRI

10.00AM Technical intervention for development of *orans* and *Gaucher*
Dr. L.N. Harsh, *CAZRI, Jodhpur*

10.20AM Performance of some impotent three species in silvi-pasroral system in arid Rajasthan
Dr. Ranjana Arya, *AFRI, Jodhpur*

10.40 AM Three Important for enhancing the periodicity of *Orans & Gauchars*
Shri CJSK Emmanuel, AFRI, *Jodhpur*

11.00AM Planting of quality stock for fuel and fodder in community lands using clonal technique
Dr. U.K. Tomar, *AFRI, Jodhpur*

11.20 AM Tea Break

11.40 AM Role of bio-fertilizers in improvement of *oran* and *Gauchar* land
Dr. K.K.Srivastava, *AFRI, Jodhpur*

12.00 Noon Social aspects of the village common property resources *orans* and *Gauchar* grazing lands conservation, utilization and management
Dr. L.P. Bharara, *Principal Scientist (Retd.), CAZRI, Jodhpur*

12.20 PM Status of common access resources (CARs) and socio-economic conditions in some Villages in Rajasthan and Gujarat.
Shri N. Bala, *AFRI, Jodhpur*

1.00 PM Lunch Break

Technical Session – IV

Chairman: Shri S.B.L. Mathur, joint Director,SC&WD Department Jodhpur

Rapporteurs:
1. Dr. Sunil kumar, Scientist D, AFRI, Jodhpur
2. Smt. Seema Kumar, Scientist C, AFRI, Jodhpur

2.30PM *Legal aspect related to the management and conservation of *oran* and *Gauchar* lands
Shri Chetan Jakhar, *Advocate Rajasthan High Court, Jodhpur*

2.45PM An experience in revival of tradition institutional mechanism for restoration of ecological balance
Cononel Narendra Singh (Retd.) *PSBUSS, Shergarh, Jodhpur*

3.00PM *Faunal component in the revival model for *oran* and *Gauchar* in the desert in the Rajasrhan
Dr. P.N. Kankane, *ZSI, Jodhpur*

3.15PM *A case study of *oran* and *Gauchar* in Barmer District
Shri Bhuvnesh jain , *Neharu Yuva Kendra, Barmer*

3.30PM **Gauchar aur oran punarutthan mein varsha jal sangrahran evem jal parbandhan ki mahta*
Smt. Govindi Pawar, *Jagrook Mahila vikash samiti, Jodhpur*

3.45PM Tea Break

Plenary Session

Chairman: Dr. S.M. Mohnot, Director, The school of Desert Science, Jodhpur
Co- Chairman: Dr. Ahmed Salman, Project officer UNICEF, Jaipur
Rapporteurs:
1. Dr. G. Singh, Scientist E, AFRI, Jodhpur
2. Dr. B.M. Dimri, Research officer, AFRI

4.00PM Summery recommendations of technical session –I
4.10PM Summery recommendations of technical session –II
4.20PM Summery recommendations of technical session –III
4.30PM Summery recommendations of technical session –IV
4.40PM Discussion and adoption of recommendation
(*)

RECOMMENDATIONS

Problem Identification and Prioritization

1. Though Orans and Gauchars constitute significant portion of the total geographical area of the Rajasthan, till date, State Government has not formulated separate policy for management, conservation and utilization of these village common resource repositories.
2. The existing acts and rules governing protection and management of Orans and Gauchars have not been proved effective in proper protection, utilization and management of these areas. There are no special laws facilitating quick and speedy eviction of unauthorized occupants from the Orans and Gauchars.
3. Revenue department or any other department of the State Government do not maintain systematic and separate records of the Orans and Gauchars available in different parts of the State. Non-availability of all necessary information about the Orans and Gauchars at one place hinders proper planning and execution of suitable measures for rehabilitation of these areas.
4. Diversion of *Oran and Gauchar* lands for non-grazing purposes is increasing at a very fast rate. Such diversions of the *Orans and Gauchar* lands for non-grazing purposes may be classified into following broad categories:

a. Utilization of *Orans and Gauchar* lands for construction of various community assets like Schools, Hospitals, Community Halls, *Panchayat Bhavans*, Public Distribution Systems (PDS) Centers, Meeting Halls, *Patwar Bhavans*, *Anganvadi Kendras*, etc. under various Rural Development Schemes being implemented by District Rural Development Agency (DRDA) and other government departments & non-governmental organization/agencies.
b. Construction of dwelling houses, bara etc. by landless resident within *Oran and Gauchar* lands.
c. Construction of houses, *bara*, shops and other commercial establishments by influential local residents, elected representatives, land-mafias, etc.
d. Slow but steady extension of the boundary of the adjoining agriculture fields into the *Orans and Gauchars*, resulting in reduction of in their size.

5. Probable reasons for diversion of *Orans and Gauchar* lands for non-grazing purposes and as below:

a. *Orans and Gauchars* are mostly located near the habitations, which make them ideal sites for construction of various community assets as well as for construction of dwelling houses, shops and other business establishments.
b. In most of the government schemes for creation of rural community assets, there is no provision for making payment in respect of the land utilized for their construction. At the same time, in most of the villages, *Oran and Guachar* land available therein is the only community land that can be utilized, free of cost, for creation of such community assets.
c. Due to very fast increase in the rural population, number of landless residents, which were non-existent in most of the villages in Rajasthan in the past, is also increasing. *Orans and Gauchars* are first choice of such landless residents for construction of dwelling houses, bara etc. Due to still existent strong community bond and compassion for fellow poor villagers, local residents normally do not object such encroachment by the landless residents.
d. Due to severe degradation caused by overgrazing and other associated reasons, production of fodder, fuel wood, small timber and other non-wood forest products from *Orans and Gauchar* lands has greatly reduced, resulting in severe erosion of net flow of monetary benefits from such areas to the rural economy. Reduction in the net economic benefits from these areas to the rural economy resulted in reduction of the significance of these areas in the life of local population, due to which people normally do not object to the diversion of such areas for non-grazing purposes.
e. Through there is no statutory provision under which *Sarpanch* or *Gram Sabha* can allot plot of land within *Orans or Gauchars* land to any individual or organization but at many palces it has been observed that *Sarpanches* are

allotting *Oran and Gauchar* lands to various persons and firms etc. by issuing *patta*. Such acts of elected representatives, without any authority of law acts as stimulus for encroachment of *Orans and Gauchars.*

f. Almost all the *Orans and Gauchars* do not have any kind of boundary delineation and physical boundary demarcation. Lack of proper boundary demarcation by fixing of boundary pillars, construction of boundary wall or barbed wire fencing etc. prevents detection of gradual shifting of the boundary of the adjoining agricultural fields into the *Orans and Gauchars.*

g. Due to spread of education and rational thinking fear of local deity to whom *Orans* have been dedicated, which once acted as an effective deterrence against the illegal encroachment, is gradually vanishing.

h. Lack of any action against the early encroachers encourages many others law abiding residents also to encroach the *Oran and Gauchar* lands.

6. In the past,*Orans and Gauchars* were mainstays of livestock farming in the district. The productivity of these areas has, however been decreased due to heavy pressure of grazing. The population of livestock in arid region of Rajasthan has increased from 13.72 million in 1961 to 23.18 million in 1992 (70% increase). Such high increase in the livestock population resulted in heavy overgrazing in *Orans* and *Gauchars* much beyond their carrying capacity. Continued over grazing of naturally growing palatable grasses and shrubs like Sevan (*Lasiurus scindicus),* Dhaman (*Cenchrus ciliaris),* Bhurat (*Cenchrus biflorus),* Anjan (*Cenchrus setigerus),* Dhamnio (*Cenchrus pennisetiformis),* Tantia (*Dactyloctenium sindicum),* Shinio (*Crotalaria burhia),* Santo (*Trianthema portulacasturm),* Kanti (*Tribulus lanuginosus),* Bar Bordi (*Ziziphus mauritiana),* Kankero (*Maytenus emarginatus)* and Borti (*Ziziphus nummularia)* etc. especially during pre-seeding period, has adversely affected seed production and regeneration of such palatable species. Poor regeneration of palatable species resulted in their gradual replacement by non-palatable grasses and shrubs like Bihani (*Tephrosia purpurea),* Bui (*Aerva pseudotomentosa),*
Bekario (*Indigofera cordifolia),*Bihani (*Tephrosia wallichill),*Kheenp (*Leptadenia pyrotechnica),*Aak (*Calotropis procera)* and Ker (*Capparis deciduas)* etc. Presently, major part of *Orans and Gauchars* have become totally bereft of palatable species resulting in heavy erosion of their capacity to support livestock population on a sustained basis.

7. Afforestation works and other rehabilitation measures undertaken by State Forest Department, Watershed Development & Soil Conservation Department and other Government and Non-Government Departments and Organizations within *Orans* and *Gauchars* are normally not designed to suit the specific requirements of such areas as rangeland. Some of the major shortcomings noticed in respect of such programmes are as below:

a. Species planted under various afforestation programmes undertaken within *Orans* and *Gauchars* have mainly been selected keeping in view their potential to survive with minimum input and care, irrespective of likely output of fodder, fuel wood, small timber and minor forest produce on sustained basis. Due to over-emphasis on survival of plants with minimum input and care, species like *Acacia tortilis,Prosopis juliflora* etc. that do not yield fodder, timber etc. in sufficient measure have mainly been planted in most of such programmes. Planting of such exotic thorny plants do not increase output of fuel wood, fodder etc. In fact, due to colonizing character of these species, fodder production from the *Orans* and *Gauchars* after planting of such species have reduced.

b. Many a times, plantations are raised in the portion of the *Oran* and *Gauchars* constituting catchment area of village pond locally called *'Agor'* Planting of the seedlings in the *'Agor'* accompanied with heavy soil and moisture conservation works like construction of contour bunds, graded bunds, bigger size *thavla* etc. reduces runoff rate of the rainwater resulting in poor re-charging of village pond, that in many cases is only source to meet daily requirement of wwter for human and livestock population for the entire village.

c. Carriage of the fallen leaves of the *Prosopis juliflora* planted in the catchment area of the village pond along with rain water to the village pond results in deterioration of the water quality that causes widespread inconvenience to the

rural population that as mentioned above, in many cases depends entirely on the village ponds for meeting their daily requirement of water for human and cattle population.

d. Plantation programmes for the *Orans* and *Gauchars* are planned and executed without obtaining any prior opinion of local people. Systematic need analysis to clearly identify and prioritise the needs of the local people is not undertaken before planning and executing such programmes. Local people are normally not made to understand that plantations are being raised for their benefit only. In absence of frank and open communication between the executing agency and the local people, the local people normally fear that once a government department like Forest Department or Watershed Development & Soil Conservation Department is allowed to raise plantations in the *Oran* or *Gauchar* lands they may permanently garb that piece of land. Under the unfluence of such unfounded fear, in many cases, at every stage local people try to obstruct the work undertaken by the executing agencies, Instances of willful damage to the seedlings planted within *Orans* and *Gauchars* and the enclosures created for protection of these seedlings, have also been noticed.

e. Frequent drought is inherent characteristic of the climatic conditions of the Rajasthan and the adverse effects of the deficit rainfall during drought years on the overall survival and growth of plants is also well known. Though higher mortality of the plants raised under various schemes undertaken for the rehabilitation of the *Orans* and *Gauchars* during the drought years is well recorded, no provision is made in these projects/schemes for limiting the adverse effects of drought on the overall survival percentage and growth of plants during the drought years by providing additional watering of the plants during such deficit rainfall years.

f. Under most of the schemes/projects taken up for the rehabilitation of the *Orans* and *Gauchars* more emphasis is given to cover larger area without providing commensurate financial outlay to ensure quality output. In most of such projects/schemes adequate provision for watering and care of the plants commensurate with the harsh climatic conditions and very high biotic interference is not made. Insufficient watering coupled with very harsh conditions and high biotic interference results in death of most of the seedlings planted under such programmes and the entire expenditure incurred under such schemes becomes infructuous.

g. Large scale mortality of plants raised under rehabilitation programmes undertaken for the *Orans* and *Gauchars* lands by termites is well known even then adequate provision to protect the seedlings from termites in normally not made under majority of such programmes.

h. Once seedlings are planted, they need timely care and upkeep till they become free from external biotic interference. Sometimes, due to late release of funds by the DRDA or other funding agencies, proper and timely care of the plants raised within *Orans* and *Gauchars* cannot be taken after their planting, which results in the death of the seedlings planted and entire expenditure incurred on their raising and maintenance becomes infructuous.

8. Till date, very little efforts have been undertaken on tap the potential of the ponds located within the *Orans* and *Gauchars* to support and sustain fish farming. If properly utilized, ponds located within the *Orans* and *Gauchars* can support and sustain fish farming at a substantially large scale.

   Adequate scientific data about the present as well as the potential carrying capacity of these areas are presently not available.

   Majority of the ponds completely dries during the summer months when water becomes most scares commodity. There are very few perennial ponds that contain water throughout the year. Such perennial ponds are also not uniformly distributed throughout the State. During the drought years under famine relief works undertaken by the Government, substantial amount is spent on desilting/enlargement of the ponds, but such efforts are evenly distributed on almost all the ponds available in the State. Instead of diffusion of the desilting efforts by distributing them to large number of ponds, if few evenly distributed non-perennial ponds having large catchment areas are identified and the efforts for desilting/enlargement of the ponds during the drought years are limited to these ponds

only then over the years such ponds may be developed as perennial water source and may meet water requirement of the local population during the dry months resulting in drought proofing of the area.

9. There is no single agency of the Government, which is responsible for co-ordination, and supervision of the efforts taken by various governmental and non-governmental departments/organizations for protection and conservation of the *Orans* and *Gauchars*. Absence of a single coordinating agency results in fragmentation as well as duplication of the efforts undertaken by various governmental and non-governmental agencies for their conservation and rehabilitation.

Strategy Recommended For Rehabilitation of *Orans* and *Gauchars*

1. Considering the economic importance of the *Orans* and *Gauchars* in agriculture and animal husbandey based rural economic of the Rajasthan, Their conversion and Rehabilitation may be accorded higher priority.

2. Keeping in view the special social & legal status, unique edaphic & vegetation properties of the *Orans* and *Gauchars* , a separate *Orans* and *Gauchars* land policy. May be formulated to by stat Govt. to ensure conservation protection and rehabilitation of *Orans* and *Gauchars* in most cost-effective manner through active cooperation and involvement of local people, specially women to meet their requirement of fuel wood fodder & small timber etc. on stringent

3. Exiting statutory rules and regulations governing protection and management of *Orans* and *Gauchars* may be critically reviewed and if required, these rules and regulation may be suitably amended to make them more effective and stringent .Acts and rule governing removal of unauthorized occupants from the *Orans* and *Gauchars* may be made more stringent and effective.

4. Before planning large-scale Rehabilitation measures, detailed survey to access the present status of the *Orans* and *Gauchars* available in each district of Rajasthan may be carried on priority basis. Depending upon the amount of the fund available for the purpose, may any of the following two methods may be adopted for the initial survey of the *Orans* and *Gauchars* :

a. By physical visit to each of the *Orans* and *Gauchars* by teams of surveyors constituted by officers in-charge of each revenue tehsil.
b. By interpretation of remote sensing satellite imageries.

In case sufficient funds are available, preliminary survey of the *Orans* and *Gauchars* by physical visits may be preferred over their survey by using remote sensing imageries due to possibility of collecting following additional that may be unitized in the preparation of the suitable plan for rehabilitation of *Orans* and *Gauchars,:*

a. Probable year and purpose for the declaration of area as *Orans* and *Gauchars*
b. Past management system for each *Orans* and *Gauchars,*
c. Type and extant of vegetation available in each *Orans* and *Gauchars* at persrnt as well as in the past,
d. History of past interventions for rehabilitation of each *Orans* and *Gauchars,*
e. Type and extent of encroachment, if any with each *Orans* and *Gauchars,*
f. Likelihood and likely manner of people's participation in the future rehabilitation of each *Orans* and *Gauchars.*
g. Name of deity to whom *Orans* has been dedicated and present level of people's faith in the concept of *Orans*

Once all the *Orans* and *Gauchars* available in the state have been identified and detailed history card in respect of each of them is prepared, periodic change in their status may be monitored through analysis of the multi spectral satellite imageries taken at regular intervals.

5. On the basis of the information collected during the detailed survey of the *Orans* and *Gauchars* as outlined above, similar to the 'Register of Reserved Forest, Protected Forests and Un-classed Forests' as maintained by various State Forest Department in respect of the forest areas under their management, a separate register of *Orans* and *Gauchars* available in each revenue *tehsil* may be prepared and regularly updated by officer in-charge of the revenue *tehsils*.In such register, separate pages may be allotted to each *Orans* and *Gauchars* located within the respective tehsil and brief description of their past history as well as rehabilitation measures and diversion, if any, of any of its portion shall be maintained and be regularly updated from time to time.

6. Serious and concerted efforts may be initiated by all concerned to halt the diversion of *Oran* and *Gauchar* lands for non-grazing purposes. Some of the measures that can help to halt diversion of *Oran* and *Gauchar* lands for non-grazing purposes are as below:

a. Lower level functionaries of the revenue department viz, Revenue Inspector etc, may be assigned the duty to survey and delineate the boundary of each *Oran* and *Gauchar* located within their jurisdiction. The initial survey of the *Oran* and *Gauchar* will help in identification and exact quantification of the area diverted for non-grazing purposes.

b. The boundary of each *Oran* and *Gauchar* as delineated during the initial survey, as detailed above, may be physically demarcated by fixing of suitably spaced stone/RCC boundary pillars. Depending upon the size of individual *Oran/Gauchar* spacing between two consecutive boundary pillars may vary. The optimum distance between two consecutive boundary pillars may be 200 meters for the *Orans* and *Gauchars* having area more than 40 hectare, 100 meters for the *Orans* and *Gauchars* having area between 10 hectare to 40 hectare and 50 meters for the *Orans* and *Gauchars* having area less than 10 ha. However, boundary pillars shall necessarily be fixed at every corner of the each *Oran* and *Gauchar*.

c. In order to ensure easy and timely detection of shifting of any of boundary pillars by unscrupulous persons, each boundary pillars may be assigned a unique serial and two-diminsional co-ordinates of each boundary pillar with reference to locally available Survey of India benchmark, if any, available within the village, or with reference to a permanent, non-movable natural or artificial reference point as available within the village like corner of village temple, centre of village well etc. may be obtained by using modern, high precision survey equipment called 'Total Station'. A proper record of the two dimensional co-ordinates of each boundary pillars as obtained by using 'Total Station' may be maintained by the concerned *Patwari* as well as by the *Tehsildar,* boundary pillar can be easily ascertained. Such two-dimensional co-ordinates of the boundary will also help in re-fixing of the shifted/damaged boundary pillars at their exact location.

d. Once boundary of all the *Orans* and *Gauchars* is delineated by fixing of boundary pillars, concerned *Patwari* may inspect physical condition of boundary pillars at least once in every year so that any damage/shifting of the boundary pillars by unscrupulous person(s) can be detected in time and necessary remedial measures may be taken in time. During the annual inspection, the concerned *Patwari* may check two-dimensional co-ordinates of at least 10% randomly selected boundary pillars.

e. All illegal encroachments as delineated/identified during the initial survey, as referred above, may be removed by undertaking suitable anti encroachment drive. As in the case of anti-encroachment drives involving slum dwellers etc. as undertaken by the district administration and civic authorities in urban areas, the anti encroachment drives in *Orans* and *Gauchars* as recommended above, may be accompanied with suitably planned rehabilitation measures for identified poor families who are displaced or made homeless during such drives. However, in case of the

encroachments by persons with sound economic background, no such rehabilitation measures may be undertaken. In fact, heavy penalty may be imposed upon such encroachers having sound economic condition.

f. The *Patwari* & *Gram Sevak* may be made personally responsible to prevent any new encroachment within the *Orans* and *Gauchars*. In case any new encroachment is detected. the *Patwari* and *Gram Sevak* may take prompt action for their eviction. However, in the cases where it is not possible for the *Patwari* and *Gram Sevak* to evict the unauthorized occupant due to resistance with force by encroacher(s), they may submit a full report of the encroachment to concerned *Tehsildar*, as early as possible but in any case not later than 30 days from the date of detection of the encroachment. On receipt of any such information, the concerned *Tehsildar* may take help of police, if required, during the removal of such encroachments.

g. In order to facilitate eviction of unauthorized occupants from the *Orans* and *Gauchars*,similar to the Acts conferring special powers on the forest officers for eviction of unauthorized occupants from the forest areas, as enacted by the various State legislatures, special acts conferring special powers on the revenue department officials for eviction of unauthorized occupants from the *Orans* and *Gauchars* lands may be enacted by the State legislature.

h. Use of *Oran* and *Gauchar* lands for creations of community assets under various rural development schemes may be discouraged. Detailed estimates for construction of community assets like schools, hospitals, etc. presently being undertaken in the *Orans* and *Gauchars* under various rural development schemes may be modified by making suitable provision for cost of land required for construction of such assets. Once cost of land required for creation of such community assets is included in the detailed estimates, all new community assets in the rural areas can be constructed on land purchased from the willing local residents, outside the *Oran* and *Gauchar* lands.

i. Necessary training about the powers conferred upon and duties assigned, to the *Sarpanches* may be imparted at regular interval to control illegal practice of allotment of *Oran* and *Gauchar* lands and issue of *patta* by *Sarpanches* due to ignorance or wilful defiance of law. Strict instructions may be issued to all the *Sarpanches* directing them not to a allot any plot of land *Oran* and *Gauchar* to any private individual and strong action may be undertaken against the erring *Sarpanches.*

7. Plantation programmes and other measure being under taken for the rehabilitation of *Orans* and *Gauchars* by state forest department and other department and organization may be appropriately modified to meet specific requirement of these areas an rangeland. While planning any rehabilitation measure for *Orans* and *Gauchars* following point may be kept in mind

a. For under taking rehabilitation works for *Orans* and *Gauchars* lands, local people may be taken into full confidence. The local people may be actively involved in the planning as well as execution of works taken for rehabilitation of the *Orans* and *Gauchars* lands. The local people may be clearly made to understand that the rehabilitation works are to be undertaken for their benefits only and the implementing agency do not have any intention to grub the land.

b. Before undertaking any rehabilitation work, detailed analysis of the demand and supply position in respect of fuel wood fodder, small timber and other noon wood forest product which can be met from the *Orans* and *Gauchars* land as well as expectations of the local people from the *Orans* and *Gauchars* may be carried out close cooperation and participation of the local population so that rehabilitation plan for the *Orans* and *Gauchars* may be designed to fill the identified gaps in the supply of fuel wood, fodder, small timber etc. in order of priority as decided in consultation with the local people.

c. Type of species to be planted for the rehabilitation of the *Orans* and *Gauchars* lands may be selected carefully, the species may be selected keeping in view their potential to bridge gap in the demand decided in consultation with the local people in the most cost-effective manner by ensuring best possible utilization of the land capability of the land capability of the *Orans* and *Gauchars* land and other available resources like water for irrigation purpose, from yard manure etc.

d. Detailed analysis of the optimum requirement of the various input like irrigation from yard manure, fencing etc. which can ensure optimum growth and survival of the rehabilitation work may be carried out of various species likely to be planted under different site contestation for the rehabilitation of *Orans* and *Gauchars* land. All future proposals for the rehabilitation of the *Orans* and *Gauchars* land may be prepared on the basis of the optimum requirement of the various as identified above. Attempts to limit the per hectare cost of rehabilitation works below a certain hypothetical upper limit fixed without any scientific basis, by decreasing the quality and quality of various input having direct impact on the overall growth and survival of the plants raised may be discouraged at all cost.

e. The present practice of over –reliance on hardly exotic species of the *Acacias* that can survive with minimum input and care may be discontinued in the palace of the exotic *Acacias,* local species that can yield higher output of fodder, fuel wood, small timber, timber etc. and can allow palatable grasses and legumes species to grow under them and can also with stand the harsh climatic condition of the region may be preferred. Some of the such local species that may be given more preference in the such rehabilitation works are khejadi. (*Prosopis cinerarja*),Kumat (*Acacia Senegal*), Ardu (*Ailanthus excels*), Mopen (*Colophospermunm mopane*), Arjun (*Hardwickia binata*), Desi Babool (*Acacia nilotica*),etc.

f. In order to prevent the recurrence of problems caused by the exotic species like *prosopis juliflora,* no new exotic species may be introduced in the region without detailed analysis of their impact on the native flora in general and desert ecosystem in particular.

g. As fair as possible, plantation may not be raised in the portion of the *Orans* and *Gauchars* constituting catchment area of the village pond, locally called *Agor*. However , due to certain unavoidable reasons, plantations are required to be raised in the A*gor,* it shell be raised in the *Agor*. It shell be raised without extensive soil working that may reduce run of rate of the rain water resulting in the poor recharging of the village pound, species like *prosopis juliflora* and any other species whose litter fall many cause deterioration of the water quality of the village pound may not be planted in the *Agor*.

h. Suitable contingency plan to cope with the deficit rainfall during the drought years may be a compulsory constituent component of each project/scheme formulated for the rehabilitation of the *Orans* and *Gauchars* lands. Such contingency plan may contain provision for the additional watering of the plants during the drought years of avoid large-scale mortality during such drought years.

i. Timely release of fund for implementation of various as per the pre-decided schedule may be ensured by all concerned.

j. Adequate provision may be made for the protection of the plants raised under rehabilitation programmes from the termite attack.

8. In order to prevent overgrazing and consequent change in the vegetation composition of the *Orans* and *Gauchars,* possibilities of adopting the sustainable garaging practices like rotational grazing, deferred rotational grazing etc. within such areas may be explored and wherever feasible such system may be put into practice.

9. Concerted research programme may be initiated to estimate the present as well as potential productivity of such areas.

10. In order to create awareness about the importance of the *Orans* and *Gauchars* in the agriculture and animal husbandry based rural economy of the Rajasthan and also to ensure active cooperation and involvement of the local people in the rehabilitation of the *Orans* and *Gauchars,* discussion on the importance of *Orans* and *Gauchars* and development of suitable strategies for their rehabilitation may be included as permanent agenda item for every meeting of the *Gram Sabha* which is normally held once in every six months.

11. Serious effort may be undertaken to utilize the potential of the ponds located within the *Orans* and *Gauchars* to support and sustain fish farming.

12. In order to conserve representative biodiversity of the desert region of the western Rajasthan, few *orans*, Which are repository of the biodiversity, may be selected for complete protection to ensure preservation of the biodiversity.

13. A single department viz. forest & Environment department or revenue department may be declared as a nodal department to plan and co-ordinate various works for rehabilitation of the *Orans* and *Gauchars* lands.

14. In order to ensure smooth execution of the works under the UNICEF funded project entitled comprehensive community drought preparedness programme to improve quality of life of women and children in jodhpur district under which the instant workshop has been organized, a programme support groups consisting of at least four persons may be constituted support and monitor the successful implementation and completion of the programme. The meeting of such programme support group may be held at least once in every month.

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