

PARTICIPATORY APPROACH TO RELOCATE VILLAGES FROM PROTECTED AREA : A LESSON FROM CHANDAKA - DAMPARA WILDLIFE SANCTUARY

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Introduction

The capital of Orissa, Bhubaneswar, is unique in having the Chandaka-Dampara Wildlife Sanctuary of 193.39 km² at its doorstep. This ecosystem was well conserved till 1950s but witnessed slaughter during 1960s and 1970s. Peripheral area is still subjected to tremendous biotic pressure. The cause of degradation of area was mostly due to biotic pressure and rapid urbanisation. The result was loss of vegetation, drying up of natural streams and nalas and Elephant's depredation in surrounding habitation. The Elephant depredation compelled the Government to declare the area as Sanctuary along with formulation and implementation of a scheme since 1983. The scheme prescribed the creation of Elephant-proof fence (Trench, Electric fence, Water passage barrier etc.) along with Wildlife Management Practices and enforcement of protection measures.

Chandaka-Dampara ecosystem was marked by high degree of biodiversity in the past. The relocation of inside villages to appropriate places outside the sanctuary is one of the major activity required. With this objective, a multiple conservation vis-a-vis development project is conceived to rebuild the Chandaka-Dampara Natural ecosystem with joint participation of people and Forest managers.

The Wildlife Sanctuary

The Chandaka-Dampara Wildlife Sanctuary is located between 85° 34' to 85° 50' East Longitude and 20° 16' to 26° 26' North Latitude approximately. It is situated at 20 minutes drive from Bhubaneswar in Khurda and Cuttack District of Orissa (India).

The Wildlife Sanctuary has an area of 193.39 km² and was notified vide No. 13482/FFAH dated 10.6.1988. The Chandaka Wildlife Division has territorial area of 260 km² and notified vide No. 22163/FFAH dt. 30.12.1985. The details about legal status of land is mentioned below :

(i) Reserved Forest	91.40 km ²
(ii) Demarcated Protected Forest	92.20 km ²
(iii) Area of Five enclosed villages	1.96 km ²
(iv) Private Area	0.52 km ²
(v) Bhaluka Corridor	0.19 km ²
(vi) Other land Area	7.12 km ²
Total	193.39 km ²

The approximate length of boundary of sanctuary is 174 km (excluding the Bharatpur R.F. and Jaganathprasad D.P.F. - 30 km approximately) of which 80 km was enclosed by Electric fencing and 64 km by Elephant Proof Trench. The electric fencing is non-existent and a small portion is being replaced by random rubble wall. Elephant

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proof trench is subjected to siltation and requires regular maintenance by re-digging and by providing laterite lining of the trench.

Vegetation : Standard vegetation types recognised by Champion and Seth are absent due to repeated biotic interferences except in areas where natural regeneration are being established. Forest is tropical dry deciduous. Forest exists in arrested seral stage and is influenced by biotic pressure but is capable of regeneration into high forest by protection and management manipulation as evident by the revival of regeneration in certain pockets. Present working scheme has recognised there common categories :

- (a) Dry xylia semi-evergreen forest - *Xylia xylocarpa* Present
- (b) Dry Miscellaneous semi-evergreen forests - *Xylia xylocarpa* Absent.
- (c) Coastal plain Sal forest.

Vegetation is open dry degraded forest and a portion is regenerated into secondary forest marked by undulating terrain broken by small hill invaded by *Eupatorium* spp. in peripheral zones and bamboo brakes in inner area. Altitude varies from 40 to 225 m from MSL. The natural succession has been arrested due to biotic pressure and induced succession has been noticed in the inner area due to protection and management measures. Dominant species are constituted by heterogeneous forest of *Shorea robusta*, *Xylia xylocarpa*, *Bambusa arundinacea* with associates and coppiced Teak of plantation origin capable of resurrection into multi-level semi-dry deciduous high forest. Formation level is divided into Ground level (upto 0.5), Field level (0.5m to 1.8m), Scrub level (1.8m to 5m), wood level (above 5m).

Fauna : Common Fauna are *Elephas maximus*, *Axis axis*, *Cervous unicolours*, *Susscrofa eristatus*, *Panthera pardus*, 99 species of Birds, Reptiles etc. Estimated Elephant population during 1993 was 46 (Male - 12, Female - 24, Young - 10). Sex ratio of Elephant population is 1M : 2F. Female calf ratio is 1F : 0.41. Leopard population reported in 1993 is 10 which is possibly on very lower side. Decomposer and scavengers are *Hyena hyena*, Jackal, Vultures, Dung Beetles, Termite, Microfauna etc.

Hydrological features : Hydrological features are main factor for migration pattern of Elephant influenced by seasonal variation. Perennial sources are scarce except reservoir at periphery (Kumar Khunti, Deras, Manpur, Jhumka Dam, Panasjhar, Jaria Dam, Haduapatta, Ambilo Tank, Baripokhari etc.).

Climate : The climate is sub-tropical, with rainfall 1200 mm - 1400 mm. Temperature varies from 10°C to 41°C approximately.

Edaphic factors : Edaphic factor is constituted by lateritic soil of various type - clay to sandy loam. Degraded soil without humus, soil depth is good.

Habitat Diversity : Habitat diversity of high order is absent except in certain portion which has responded greatly due to protection measures and marked with revival of ecological succession. Induced succession in territorial habitat ecosystem is due to grazing, ground fire, illicit felling, and other biotic interference. Subterranean ecosystem is constituted by rock, cave, crevices, burrows, used by variety of fauna. Aquatic habitat ecosystem represented by perennial reservoir is seasonally inhabited by a number of migratory birds (November

to February). Common among them are *Anas acuta*, *Dedrocygna javanica*, Open billed stork Darter etc which represent aerial habitat system. Some Crocodiles have also been released in reservoir.

Bamboo cover provides good niches to Elephants as it provides fodder cover. It also provides perching and nesting sites for birds. Salt-licks, wallows, and dust baths are common near by natural streams. Artificial salt-licks have been added at Kumar Khunti, Ambilo, Pitagadia and kept under constant watch. Incidence of cattle lifting have increased by Panthers. Stray Leopard cubs have also been recovered. *Eupatorium* has invaded in entire protected area. Common fodder species of Elephant are *Terminalia tomentosa*, *Lannea coromandelica*, *Bauhinia malabarica*, *Bridelia retusa*, *Randia* sp., *Sidero-xylon tomentosa*, *Bambusa arundinacea*. Elephants peel of the bark of *Grewia tiliaefolia* etc.

Foresters' problem

The main problem for management of

this Wildlife Sanctuary is the protection against biotic interference especially due to the villages located inside the Sanctuary and villages located at periphery.

Land use pattern of these villages is summarised in Tables 1 and 2.

In this paper, the problem arising due to village inside the sanctuaries are discussed with an attempt to solve them through participatory approach.

The main problems are unemployment resulting in the illicit cutting of wood and selling of firewood from sanctuaries. Even illicit charcoal making was found rampant causing forest fire. The villagers were found encroaching the Sanctuary land around their hamlets converting meadow into cultivated land causing hardship to wildlife. Cattles were numerous and even taken from outside by these villages for grazing against token amount of many. Poaching was found not uncommon inspite of intensive patrolling and combing of these forest areas by forest staff. All these activities interacted with each other and created complex

Table 1
Land use patter of villages located inside the Sanctuaries

Village	No. of Families	Population (Estimated)	Homestead Land (Acres)	Cultivated land (Acres)	Others (Acres)	Total (Acres)
Behentasahi	65	390	5.04	73.61	0.07	78.72
Dahanigadia	43	258	2.39	33.95	1.20	37.54
Pithakhia	56	336	3.56	32.95	1.88	38.39
Nuakuan	33	198	1.65	31.75	0.25	33.65
Dholakata	104	624	4.32	54.02	0.07	58.41
Encroachment in Chudanga R.F.	99	594	-	-	-	-
Total	400	2400	16.96	226.28	3.47	246.71

Source : Singh, K.R. (1993). Project scheme for Ecodevelopment around Chandaka - Dampara Sanctuary.

Table 2
Land use pattern of villages located at the periphery of Sanctuary

Village	Total Area (Acres)	Cultivated land (Acres)	Wasteland (Acres)
Bhola	1661.604	200.119	1461.485
Dalua	2393.685	69.758	2323.927
Analapatna	1641.645	47.230	1594.415
Similipatna	1843.701	118.659	1774.512
Chandaka	3445.590	1044.133	2401.457
Tulsideipur	1110.291	205.687	904.604
Bhuasuni	1460.526	341.537	1118.989
Krushnanagar	922.330	145.099	777.231
Bhaluka	1314.277	197.518	1116.759
Chudanga	759.604	86.095	671.852
Jujagarh	1627.707	508.171	1119.536
Darutheng	999.970	804.280	195.697
Shyamsunderpur	555.304	280.625	275.679
Pathargadia	1121.871	470.541	651.330
Sunderpur	1361.915	345.254	1016.663
Kujimahul	406.708	307.587	99.123
Jaganathprasad	2249.453	503.008	1746.445
Andharua	2776.365	997.214	1779.151
Dashpur	987.015	260.545	726.470
Total (ha)	11610.270	2805.710	8804.080

Percentage of wasteland to total land area = 75.83%.
 (Source: Mishra, S.K. (1982). Working Scheme)

problem of "Habitat destruction".

Villagers' problem

The most disappointing aspect the author came across while talking to the villagers during inspection of plantation in July 1993 that community development programme of NREP, RLGEF, JRY, EAS etc. has been discontinued to these villages after declaration of the Wildlife Sanctuary by Government on the reason that villages are located inside the Wildlife Sanctuary. There was scarcity of drinking water during summer, schools (Primary even) were in

bad shape. Roads were maintained only by the meagre fund of Forest Department, absolutely no health facility, no electricity, poor road facility, no employment assurance scheme was extended by their village panchayat! Only employment source was there unprofitable cultivation (with respect to labour invested) on encroached land of Sanctuary, forest activity carried out from meagre negative allotment of Forest Department, illicit sale of firewood, bamboo and charcoal from the Sanctuary devastating the forest and destroying the habitat. Malnutrition and skin disease were found very common. Poverty was at extreme.

Villagers also expressed the danger to life and property due to depredation caused by Wild Elephant and Leopards.

A sense of trust on the government machinery was found lacking primarily due to repeated false promises by local leaders for their rehabilitation and also death of a villager in firing while removing firewood and charcoal few years back.

Participatory approach

Author started participatory approach with villagers and staff to find out their problems and prospective solution. On 31st July, 1993, author interacted with villagers of Behentasaahi, who realised their sufferings and expressed their willingness to shift from Sanctuary subject to compliance of following :

- (i) Payment of compensation of land.
- (ii) Issue of Patta for 2.5 Acres of land outside the Sanctuary and subsequent facilities for irrigation.
- (iii) House to each family.
- (iv) Drinking water, education facility, health facility, electricity at the new housing site.

Subsequent discussion with villagers of Pithakhia and Dahinigadia indicated similar willingness for shifting. Villagers of Nuakuan expressed mixed reaction and villagers of Dholakat did not show any willingness as they were close to mining site of Talabasta and were employed in mining activity. Encroachers of Chudanga and Bhaluka were not touched as they are at periphery of Sanctuary.

While talking to the staff of Chandaka Wildlife Division, the author came to know that relocation attempts were being made since 1989 and about Rs. 37.82 lakhs had been spent in construction of 394 nos. of houses at Krushnanagar, Bhuasuni, Tulsideipur near Nandankanan but the villagers did not come out due to change in Government after election.

A series of doorstep discussions were organised by the author with villagers and also with staff in Range Office to know the actual reason for non-willingness in the past and to develop a sense of mutual trust and understanding. The following main reasons were attributed :

- Natural leaders of the villagers were not taken into confidence rather intermediaries of political character were involved in rehabilitation process.
- Villagers were not involved in site selection, house construction and were not paid compensation of land.
- Sense of mistrust between the villagers and the Department/Government due to lack of transparencies in the terms and condition of rehabilitation.

After a series of repeated talks with natural leaders of villages (outside persons, even Sarpanch and others of political shade, were not allowed) an integrated rehabilitation scheme based on Resettlement and Rehabilitation policy of Orissa was prepared for Rs. 3.36 crores and submitted to the Government of Orissa for onward transmission to Government of India. But a lot of bottlenecks were found for the sanction of the scheme at level of State Government and Government of India. Therefore author tried to take up the issue

within the existing resources.

The following things were found available at hand :

- (i) A sum of Rs. 30.00 lakhs with Collector, Cuttack for payment of compensation.
- (ii) Houses at Bhuasuni, Tulsidipur and Krushnanagar in dilapidated condition of which the houses of Krushnanagar were in better shape.
- (iii) Identified lands of about 520 Acres of which 108 Acres were near Krushnanagar.

The only immediate requirement was some money for repair of the houses, tube wells, well (about Rs. 2-3 lakhs). The author contacted the Principal Secretary, Panchayati Raj Department, Government of Orissa and got released Rs. 3.00 lakh under JRY for repair of the houses, well, tube well etc. as these houses were previously constructed under Indira Awas Yojana.

At first, only one village Behentasahi was contacted because natural leader of the village (Manglu Nayak) was more sensible with clear vision and they were directly explained about the problem clearly. They were told about immediate provision of following provided they are willing to shift :

- (i) Payment of compensation of land as per entitlement.
- (ii) Provision of houses as per entitlement after proper repair by involving themselves.
- (iii) The grant of patta 2.5 acres of agricultural land will take some time

and shall be given after clearance under Forest Conservation Act, 1980 as there were forest land in Revenue record even though not part of Sanctuary for other wise covered by forest.

About half of the families expressed their willingness for shifting and only they were taken into consideration. The people who did not express their willingness (mostly due to influence of Dholkat and Nuakuan villagers) were left as such.

At first the Collector, Cuttack was motivated and with a lot of difficulty land acquisition process was completed to decide about amount of compensation. It was decided not to award money in cash rather all amount and compensation money was deposited in Passbook. This created a sense of apathy among the staff of Land Acquisition process for obvious reasons. Anyway the process was completed with a lot of persuasion and pressure by Collector, Cuttack.

Simultaneously villagers were involved in repair of houses after allotment and they were paid wages. This created employment opportunity as well as a sense of attachment towards respective houses. Community house was repaired. Tube well, Well and Roads were repaired. Solar electric power was given in the community hall. Street roads were improved. Houses were plastered and coloured. Door and Window were repaired.

It was decided that Forest Department will not take any initiative for demolition of their old houses rather villagers will themselves demolish their houses and Forest Department will provide necessary transport facilities. About 62 families agreed and they themselves demolished their own

old houses in Behentasahi and shifted to new site at Krushnanagar on 10.07.1994 after one year of continuous participatory exercise. From Forest Department side one bus of Nandankanan Zoological Park, two trucks and two tractors were provided as means of transport. On 26.08.94 the Passbook containing money of land compensation were distributed by Collector in presence of Author. No political persons were involved in the entire process.

A small house was repaired to function as school. A literate boy of the rehabilitated village was also engaged for teaching on daily wage. A fair price shop was opened. With assistance of BDO, Bhubaneswar, school books were distributed. Health was checked up at regular intervals by engaging the local Doctors from welfare fund of World Food Programme. Families were also given food ration (rice/wheat/pulses and oil) from the World Food Programme against employment opportunity created by the forest budget source to the extent of possible. Later on, thrust was given to search their own employment because Bhubaneswar and Baranga were located near the site so that oustees could be self independent. A part of money kept in Passbooks was transferred to fixed deposits for more interest. Proposal to Government of India was moved for clearance under Forest Conservation Act, 1980 for grant of patta for agricultural land. State Government was moved for issue of homestead patta, which was prepared and given to the families. One small kirana/tea shop was opened by the villager themselves to avoid exploitation by money lender.

Even after the shifting to new site, the participatory approach was continued and rather shifted from DFO's level to Range Officers level and the problems of villagers were discussed and sorted out from time to

time. This gave a sense of confidence to the villagers that in case of necessity the Forest Guard, Forester, Range Officer can help them. Author was transferred from Division on 26.06.95 and since then, no further efforts were made to shift other villagers as learnt from villagers. No NGO could be located in the area in order to continue the process independently. Some were contacted but were not willing to come forward for this work. So the village committee involving natural leaders were only made responsible for solving their own problem.

Discussion and Conclusion

Rehabilitation is a complex problem involving socio-economic and cultural issues and can be solved only by participatory approach which is a continuous process. Participatory exercise is a method and tool for discussing the common problem to find an amicable solution among themselves. Village level institutions have to be strengthened without political overtones. For this purpose, a sense of trust and understanding should be developed between affected families. Direct relation with natural leader is a viable course and even intermediaries should be avoided. Concerned agency i.e. Divisional Forest Officer should be made overall responsible for this and all other agencies e.g. Land Acquisition Officer etc. should be directly placed under him till the rehabilitation is completed. The concerned agency should have direct communication with Government so that unforeseen problem and bureaucratic bottlenecks can be removed at the earliest. Collector's involvement in such work is desirable but it would be better to strengthen the Department directly concerned for such works because of the heavy engagements of Collector. Attitude of the government is

more important than the fund. i.e. political will is pre-requisite to administrative pull.

By using participatory approach, problem of rehabilitation of protected area can be sorted out. It may not involve much official and legal procedure as the human feelings do not require this.

An area of concern is that most of this approach is adopted temporarily and not

institutionalised and goes away with person being transferred. This can be overcome by involving NGOs in such work. Preferably rehabilitation scheme of protected area should form a part of Working Plan/Working Scheme. This method can be employed for solving any community problem vis-a-vis development as it is based on the old Indian tradition and set up of our old village institutions which has been degenerated and destroyed due to wrong policy in colonial period and continuing its legacy till to date.

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SUMMARY

Rehabilitation of villagers from protected area is one of major problems of forest and wildlife managers in India. The present case study involving relocation of a part of village from Chandaka - Dampara Wildlife Sanctuary near Bhubaneswar, based on participatory approach, is one of the success stories which throws light on the possible methodology for relocating villagers from protected area by developing a sense of mutual trust and understanding. The method can be applied also for any Community problem, rehabilitation proposal arising due to irrigation, mining, industrial or other project and even for Community Development.

सुरक्षित वन क्षेत्रों से हटाकर ग्राम पुनः बसाने के लिए भागीदारी दृष्टि - चन्दका-डेम्पेरा

वन्य प्राणि अभयारण्य से सीखा गया पाठ

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सारांश

सुरक्षित वन क्षेत्रों से हटाकर ग्रामों का पुनर्वासन कराना भारत में वन और वन्य प्राणि प्रबन्धकर्ताओं की बड़ी समस्याओं में आता है। यह विशिष्ट अध्ययन जिसमें भूवनेश्वर के निकट बने चन्दका-डेम्पेरा अभयारण्य से गांव के एक भाग को हटाकर अन्यत्र बसाना निहित था भागीदारी दृष्टि से पुनर्वासित किया गया, सफलता की ऐसी कहानी है जो पारस्परिक विश्वास और सूझबूझ की भावना विकसित करके सुरक्षित क्षेत्रों से गांव को हटाकर उन्हें अन्यत्र पुनर्वासित करने के संभावित रीति-विज्ञान पर अच्छा प्रकाश डालती है। यह रीति सिचाई, खनिकर्म, औद्योगिक और अथवा किसी अन्य परियोजना के कारण आवश्यक पुनर्वास प्रस्तावों से उठने वाली सामुदायिक समस्याओं, यहाँ तक कि सामुदायिक विकास कार्यक्रमों में भी, उपयोग की जा सकती है।

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