

REPORT
on
MONITORING OF DEVELOPMENTAL ACTIVITIES OF
ACHANAKMAR-AMARKANTAK BIOSPHERE
RESERVE IN CHHATTISGARH UNDER
MANAGEMENT ACTION PLAN 2011-12



Submitted

by

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INTRODUCTION

Achanakmar-Amarkantak Biosphere Reserve is the first biosphere reserve of Chhattisgarh State and 14th biosphere reserve of the country, declared by Government of India during the year 2005 (vide No. 9/16/99 CS/BR dated 30th March 2005). Recently, the International Council of UNESCO's Man and the Biosphere Programme (MAB) meeting in Paris from 9-13 July 2012 has declared Achanakmar-Amarkantak Biosphere Reserve under the World Network of Biosphere Reserves (WNBR). Achanakmar-Amarkantak Biosphere Reserve lies between latitude 22° 15' to 20° 58' N and longitude 81° 25' N to 82° 5' E and is spread from Maikal hill ranges to the junction of Vindhyan and Satpura hill ranges in a triangular shape. Its boundaries start from Kota and Lormi forest ranges of Bilaspur district in (Chhattisgarh) south to Rajendragram forest range of Anuppur district (Madhya Pradesh) in the north and Belgahana forest range of Chhattisgarh in the east to Dindori forest range of Dindori district in Madhya Pradesh. The total geographical area of biosphere reserve is 38,35.51 sq. km. It consists of three distinct zones, viz. core zone with an area of 551.55 sq. ha. in Chhattisgarh state, buffer zone with an area of 1,95,587.5 sq. ha. in Madhya Pradesh and Chhattisgarh, and outer most transition zone with an area of 132808.5 sq. ha. in both the states. The biosphere reserve has three distinct seasons, viz. monsoon, which begins from July and continues up to October; winter from November to February; and summer from March to June. The lowest temperature in winter is 2 °C, which rises up to a maximum of 46 °C in June. The humidity varies from 39 % to 90%.

The vegetation or forest types and subtypes met in the BR are: Northern Indian Tropical Moist Deciduous Forests, subtype Northern Indian Moist Deciduous Forests consisting of Moist Peninsular sal forest moist high level sal forest, moist low level sal forest, moist valley sal forest and Northern Indian Moist Deciduous Forests sub-type Moist Mixed Deciduous Forests; Northern Tropical Dry Deciduous Forests subtypes Dry

Peninsular sal Forests and Northern Dry Mixed Deciduous Forests. The present BR encompasses a variety of ecosystem like sal forest, mixed forest, degraded forest and agro-forestry ecosystems. The various floral and faunal species, various micro and macro-ecosystems evolved or undergoing evolution, hydrological and mineral cycling, climate change, etc. are the special characteristics of the area, which has its regional as well as global significance in biodiversity conservation. The drainage system of BR consists of rivers originating from the core and buffer zone and a water check dam known as Khudia dam situated in the Maniari river towards south-west of the BR, fulfill the needs of inhabitants and wildlife.

Inhabitants and their socio-economic profile

Nearly 7,617 traditional primitive tribal inhabitants, as per the population census of the year 2001, are settled in 22 villages of the core zone. The buffer and transition zones of BR comprise of 399 villages and sub urban areas. Of which, 238 forest and revenue villages and sub urban areas with a population of 4, 40,404 persons exist in buffer and transition zones falling in Bilaspur and Marwahi divisions of Chhattisgarh. Major residential areas or settlements in buffer and transition zones are Kota, Khondri, Dindori, Lormi, Akhrar, and some revenue and forest villages. There are 27 communities consisting of Baiga, Gond, Dhanwar, Kol, Kanwar, oraon, Chamar, Sais (Sarathi), Basore, Lonia, Muslim, Sindhi, Brahmin, Rajput, Goswami, Baraith, Kalar, Kumhar, Kewat, Nai, Ahir (Raut), Panika, Sondhiya, Lohar, Maratha, Sonar and Baniya live in these two zones. The baigas are primitive Dravidian tribe. Presently, the baigas are dominant in population and ranked on the top among the other tribal communities in the BR. Mahamai village has two hamlets namely Babutola and Ghameri where 13 and 45 families are living from last 10 to 15 years. Baiga is an endogamous group. The population of baiga is increasing due to the high birth rate and immigration from other parts of the state. Gonds also have their origin from Dravid culture. Their economy is

largely dependent on agriculture. Kols migrated to BR from Singhbhum district of Jharkhand province. Oraons are also Dravidians tribe migrated from Chhota Nagpur. Some of them have come from Sarguja district and settled in BR in early eighties. They are settled in Surhi, Jakadbandha, Daganiya, Mahamai, (core zone) and Jamunahi, Ghameri and Babutola (transition zone). All tribal and non-tribal inhabitant, get fuel, fodder, edible roots and tubers from forest besides cultivating some seasonal agricultural crops like wheat, maize, etc. in small areas. The cattle are low milk producing, unproductive and dependent on forest for grazing. Some of the labourers are engaged by forest department. Besides this, lack of education, unapproachable roads and footpaths in remote areas are some of the main huddles in upliftment of the status of the inhabitants. Non- wood forest produce collection plays a vital role in the economy of the inhabitants.

MONITORING AND EVALUATION COMMITTEE

1. Dr. N. Roychoudhury, Scientist F, Tropical Forest Research Institute, Jabalpur
2. Shri Ram Bhajan Singh, Research Officer-II, Tropical Forest Research Institute, Jabalpur

METHODOLOGY

The information on various developmental activities conducted by Achanakmar-Amarkantak BR authorities in Chhattisgarh part of BR was collected from the Director, Achanakmar- Amarkantak BR, Koni, Bilaspur. A copy of the Annual action plan approved by Government of India, Ministry of Environment and Forests, New Delhi for the year 2011-12 vide letter no. 9/03/2011-CS/BR dated 31.01.2012 and the actual work done on priority basis as per the released installment of Rs.145.44 lakhs was also collected (Annexure I). The various activities conducted at different ranges of BR were monitored and evaluated physically from 18.12.2012 to 20.12.2012.

LOCALITY VISITED

Achanakmar, Amadob, Bagdhara, Bankal, Barmanala, Belgahana, Bendramada, Bhosko, Borkarakachhar, Chhaparwa, Gorella, Jalda, Karwa, Karkha, Khodri, Koni, Kota, Lamni, Ranidand, Sambhardhasan, Shivtarai, Surhi and Tatidhar.

MONITORING AND EVALUATION OF VARIOUS DEVELOPMENTAL ACTIVITIES

1. DEVELOPMENT OF GRASS MEADOWS

A total of 50 ha grass meadows developed in Achanakmar Tiger Reserve, out of which 25 ha in Jalda (Compartment No. 152) of Achanakmar Range and 25 ha in Borkarakachhar (Compartment No. 210) of Chhaparwa Range (Fig. 1). These grass lands have taken two years from preparation of lands, sowing of seeds, weeding and application of biofertilizer (vermicompost). The growth of grasses has been observed to be satisfactory, which can serve as food for herbivore animals.



Compartment No. 152
(Photo dated 28.8.12)



Compartment No. 210
(Photo dated 15.12.12)

Fig. 1. Development of grassland meadows

2. CONSTRUCTION OF PONDS/CHECK DAM

A total of three ponds/check dams constructed, two in Achanakmar Tiger Reserve, out of which one in Ranidand (Compartment No. 215) and one in Surhi (Compartment No. 240) and another one in Kota range (Compartment No. 1553) (Fig. 2). These water bodies can be useful for wild animals and irrigation for villagers of biosphere reserve.

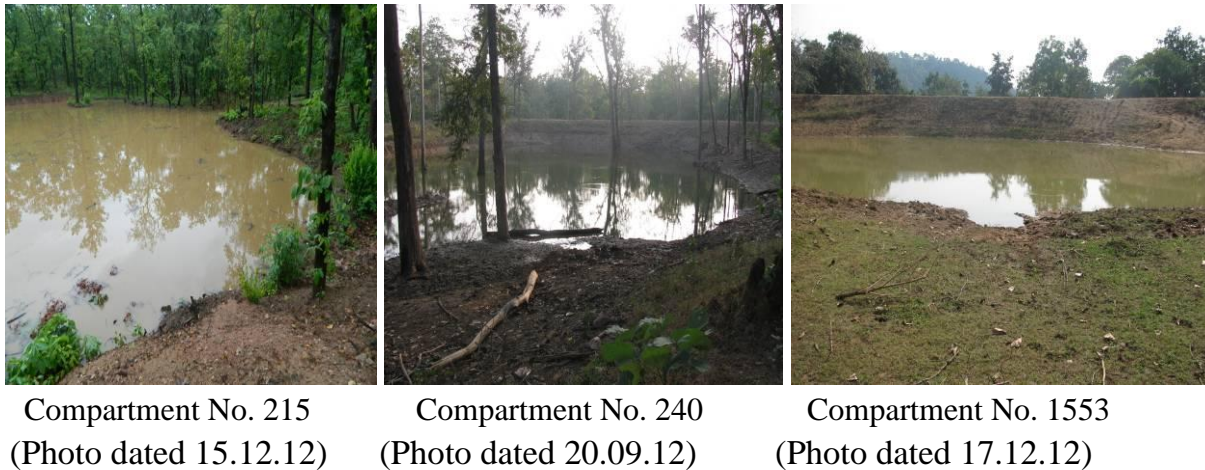


Fig. 2. Construction of ponds/check dam

3. DEEPENING/DE-SILTING/CLEANING OF EXISTING WATER HOLES /PONDS

Carried out deepening, de-silting, cleaning of existing four water holes/ponds in core zone of Achanakmar Tiger Reserve, two in Chhaparowa range (compartment No. 222 and 357) and two in Lamni range (compartment No. 262 and 269).

4. DE-SILTING AND REPAIRS OF ANICUTS

Carried out de-silting and repairing of anicuts and made them as check dam in Chhaparowa range of locality Barmanala (compartment No. 356) and locality Bendramada (compartment No. 347/348).

5. DEVELOPMENT OF COMMUNICATION SYSTEM AND NETWORKING

One day seminar, entitled “Achanakmar-Amarkanatk Biosphere Reserve on World Net Work : Prospects and challenges” was organized on 21st November at Bilaspur, where all the Forest Officers, scientists, professors, NGOs, students and rural peoples from biosphere reserve were assembled and taken part in discussion (Fig. 3). Organized workshop at Lamni and visited students of Sirpur School. Organized environmental education programmes in 10 school of Achanakmar-Amarkanatk Biosphere Reserve (Fig. 4).



Fig. 3 . Seminar on “Achanakmar-Amarkanatak Biosphere Reserve on World Net Work
(Photo dated 21/11/2012)



(Photo dated 05.12.12) (Photo dated 15.12.12) (Photo dated 15.12.12) (Photo dated 17.12.12)

Fig. 4 . Environmental education programmes in schools of Biosphere Reserve
6. FIRE PROTECTION

Created 831 km fire lines on both sides of important roads in different ranges of Achanakmar-Amarkanatk biosphere reserve, such as Kota, Achanakmar, Chhapparowa, Surhi, Lamni, Gorella, Khodri and Belghana. Distributed cap, bag, torch and water bottle to all the employees of Achanakmr Tiger Reserve.

7. DEVELOPMENT OF ECO-TOURISM

Distributed dress and cap to 14 tourist road guides of Achanakmar Tiger Reserve (Fig. 5). Constructed stage for cultural activities, eco-cottage and tourist information center at Shivtarai (Fig. 6). Constructed nature trail of two km in Kota range (Gattumur to Bade Kachhar) and six km in Lamni range (Kachandi Jalprapat to Rahiama) of buffer zone of Achanakmar-Amarkantak biosphere reserve.



Fig. 5. Distribution of dress and cap to tourist road guides (Photo dated 18.04.12).



Fig. 6. Construction of cultural stage, eco-cottage and tourist information center at Shivtarai (Photo dated 19/12/12)

8. SOCIAL WELFARE ACTIVITIES

Distributed 20 solar lanterns among the villagers of Birarpani and chhirhatta (Fig. 7). Vaccinated domestic cattle of 22 villages, namaley Sarasdol, Vidawal, Shivalkhar, Tilaidabra, Chhapparwa, Achankanmar, Ataria,Kuba, Virapani, Amadob, Ranjiki, Chhirhatta, Lamni, Aorapani, Patprha, Chhuiha, Sargod, Kurdar, Chhikladabari, Bagdhara, Bhosko and Bhanwartang, for protection of pests and pathogens (Fig. 8). Constructed three wells, one each in Tatidhar, Bhosko and Bagdhara (Fig. 9). Constructed four raptas on Rajak to Boiraha raod of Acahnakmar-Amarkanatak biosphere reserve.



Fig. 7. Distribution of solar lantern among the villagers of Birarpani and Chhirhatta
(Photo dated 16.04.12).



Fig. 8. Vaccination of domestic cattle (Photo dated 05.03.12)



Tatidhar
(Photo dated 19/12/12)



Bhosko
(Photo dated 19/12/12)



Bagdhra
(Photo dated 19/12/12)

Fig. 9. Construction of wells

9. INCOME GENERATING ACTIVITIES

Established micro enterprises for collection and processing of Mahul leaves at Shivtarai by Mahamaya self help group (SHG). Constructed one pond for pisciculture at Karwa by local SHG (Fig. 10). Collected seeds of local fruit trees and raised seedlings in nurseries at Belghana and Khodri and carried out marketing with the assistance of local SHG (Fig. 11). Promoted lac cultivation and marketing through SHG at Shivtarai (Fig. 12). Collected and processed honey through local SHG, Amadob. Collected and prepared amchur and pickle based on the local fruits available by the Saraswati Mahila SHG, Achanakmar and Ma Sharad SHG, Amadob. Constructed vermicompst unit through SHG, Shivtarai (Fig. 13). Collected and processed medicinal plants through SHG, Shivtarai and Amadob.



Fig. 10. Pond for pisciculture at Karwa (Photo dated 16.12.12).



Belghana (Photo dated 15.06.12)



Khodri (Photo dated 18.06.12)

Fig. 11. Nursery development



Fig. 12. Lac cultivation and collection by SHG at Shivtarai (Photo dated 18.10.12)



Fig. 13. Construction of vermicompost unit by SHG at Shivtarai.
(Photo dated 22.11.12)

10. SKILL DEVELOPMENT

Conducted training camp on skill development for seedling collection and raising of nurseries at Khodri and Belghana (Fig. 14). Organized two training programmes on driving and cooking for drivers of tourist vehicles and cooks of hotel/dabha respectively of Achanakmar Tiger Reserve (Fig. 15).



Fig. 14. Training on seedling collection and raising of nurseries at Belghana.
(Photo dated 08.03.12)



Fig. 15. Cooking training in Achanakmar-Amarkantak biosphere reserve.
(Photo dated 09.12.12)

COMMENTS ON WORK DONE UNDER THE MANAGEMENT ACTION PLAN

Government of India, Ministry of Environment and Forests, New Delhi sanctioned a grant-in-aid to Government of Chhattisgarh for Rs.541.15 lakhs to implement the Management Action Plan of Achanakmar-Amarkantak biosphere reserve for the year 2011-2012 as per details given in annexure I. The installment of the grant-in-aid, i.e. Rs. 145.44 lakhs was released to undertake the work of the BR in term of relevant parameters. The authorities prioritized the activities keeping in mind the terms and conditions of the grant sanctioned

RECOMMENDATIONS

The grant- in- aid released by Government of India, Ministry of Environment and Forests, New Delhi has been fully utilized by the BR authorities for the activities it was sanctioned. The remaining amount should also be released immediately, so that the remaining approved activities could be initiated.

The funding agency is also requested to convey the sanction of Management Action Plan to the implementing agency at least in the first quarter of the financial year, so that the sanctioned physical and financial targets could be achieved fully during the financial year.

(Dr. N. Roychoudhury)

वर्ष 2011-12 में कराये गये कार्यों का विवरण

S.N.	Name of work	Physical Target	Cost per Unit (In Rs. lakhs)	Financial Target (Rs. In Rs)	Physical Achievement	Financial Achievement (Rs. In Rs)	Location		
		Units					Site	Latitude	Longitude
1	2	4	5	6	7	8	9	10	11
{A} HABITAT IMPROVEMENT									
1	DEVELOPMENT OF GRASS MEADOWS	50 Ha	0.30	750000	25 Ha.	750000	Compt.no. 152, Jaldia	22°21'50" N	81°40'00" E
			0.30	750000	25 Ha.	750000	Comp. No.210, Bokarakachhar	22°26'02" N	81°50'00" E
				1500000		1500000			
CREATION OF WATER BODIES									
2	CONSTRUCTION OF PONDS/CHECK DAM	1	10.00	1000000	1	1000000	Ranidand Comp. No. 215	22°26'00" N	81°52'06" E
		1	5.00	500000	1	500000	Comp.1553 Karkha	22°17'8.806 N	82°01'370" E
		1	8.00	800000	1	799956	Comp. 240	22°27'37.3 N	81°45'01.3" E
				2300000		2299956			
3	DEEPENING / DE-SILTING / CLEANING OF EXISTING WATER HOLES / PONDS	1	3.00	300000	1	300000	Bankal Comp.No. 222	22°27'32.30" N	81°53' 07.40" E
		1	3.00	300000	1	300000	Sambhardhasan Comp.No. 357	22°28'56.2" N	81°51'15.6" E
		1	1.00	100000	1	100000	Comp.No. 269	22°37' 54.0." N	81°40 34.8' E
		1	1.00	100000	1	99996	Comp.No. 262	22°38' 38.5" N	81°41'13..8' E
				800000		799996			
4	DE-SILTING AND REPAIRS OF ANICUTS	1	3.00	300000	1	300000	Barmanala Comp.No. 356	22°28'30.8" N	81°51' 06.1" E
		1	3.00	300000	1	300000	Bendramada Comp.No. 347/348	22°30'34.3" N	81°46'15.3" E
				600000		600000			

5	DEVELOPMENT OF COMMUNICATION SYSTEM & NETWORKING								
	INTER BIO-SPHERE RESERVE VISITS/SEMINARS/WORKSHOPS / CONDUCTION OF INTER STATE MEETING OF THE BIOSPHERE RESERVE CONDUCTIONG WORKSHOPS OF STAKEHOLDERS			500000		435000	Seminar at Bilaspur, workshops at Lamni and visit of students of Chhapparwa, school to Sirpur		
6	FIRE PROTECTION								
a	CREATION OF FIRE LINES AND BURNING OF BRUSH WOOD In RF 12m WIDE	150 km	1100 Per km	165000	165 km	164759	-	-	-
	PF 6m WIDE	300 km	700 Per km	209000	327 km	209697	-	-	-
	3 - 3m ON BOTH SIDE OF IMPORTANT ROAD	300 km	400 Per km	121000	339 km	120768	-	-	-
b	ENGAGING FIRE GANGS (11 Gangs each consiting of six persons for 45 days)	11	0.42	210000	11	209127	-	-	-
c	PURCHASE OF FIRE FIGHTING EQUIPMENTS (JUNGLE SHOES, CLOTHINGS, CAPS, BELTS, STICKS, WATER BOTTELS, SHOULDER BAGS ETC.)	LS	LS	150000	LS	150000	-		
				855000		854351			
8	DEVELOPMENT OF ECO-TOURISM								
a	SUPPORT TO TOURIST GUIDE ECO-DEVELOPMENT COMMITTEE/s	LS	LS	200000	LS	82500	-	-	-
b	CONSTRUCTION OF SHOW STAGE FOR LOCAL FOLK CULTURAL ACTIVITIES AT SHIVTARAI	1	5.00	500000	1	499968		22°21' 37.6" N	81° 55' 594" E
c	CONSTRUCTION OF ECOTOURISM COTTAGES AT SHIVTARAI	1	4.00	400000	1	400000		22°21' 410" N	81° 55' 616" E

d	CONSTRUCTION TOURIST INFORMATION CENTER	1	1.00	100000		99903		22°21' 470" N	81° 55' 609" E
f	CONSTRUCTION OF NATUER TRAIL	8 kms	1.00	200000	8 kms	199868	Gattunode to Bade kachhar 2 km RF 183 2 km	22°23' 980" N 22°24' 210" N	81° 53' 252" E 81° 53' 762" E
				600000		600193	Kachandi Jalprapat - Rahiama 6 km	22°36' 1.5" N 22°35' 50.5"N 22°35' 56.4"N 22°36' 2.1" N	81°41' 41.9" E 81°39' 14.1"E 81°40' 5.8"E 81°40' 0.7" E
				800000		800061			
9	SOCIO-ECONOMIC UPLIFTMENT OF LOCAL COMMUNITIES								
	SOCIAL WELFARE ACTIVITIES							-	-
a	DISTRIBUTION OF SOLAR LANTERN & OTHER SOLAR EQUIPMENTS	20	0.10	200000	20	200000	-	-	-
b	IMMUNIZATION / VACCINATION OF DOMESTIC CATTLE	22 VILLAGES	LS	400000	22 VILLAGES	400000	Sarasdol, Vidawal, Shivalkhar, Tilaidabra, Chhaparwa, Achanakmar, Ataria, Kuba, Virarpani, Amadob, Ranjki, Chhirhatta, Lamni, Aorapani, Patprha, Chhuiha, Sargod, Kurdar, Chhikladabri, Bagdhara, Bhosko, Bhanwartang	-	-
d	CONSTRUCTION OF WELL	3	1.00	300000	1	99819	Tatidhar	22°34' 24.1" N	81° 53' 29.1" E
					1	99849	Bhosko	22°33' 36.0" N	81° 59' 50.4" E
					1	99839	Bagdhara	22°32' 0.93" N	81° 51' 11.22" E
e	CONSTRUCTION OF RAPTA ON RAJAK TO BOIRAHA ROAD	1	2.00	800000	1	145300	Rajak to Boiraha Road 1 No.	22°28' 47.0" N	81° 37' 39.1" E
		1	2.00		1	197642	Rajak to Boiraha Road 2 No.	22°28' 56.7" N	81° 37' 08.6" E
		1	2.00		1	198135	Rajak to Boiraha Road 3 No.	22°29' 11.6" N	81° 36' 38.7" E
		1	2.00		1	258806	Rajak to Boiraha Road 4 No.	22°29' 09.3" N	81° 36' 36.1" E
				1700000		1699390			
10	INCOME GENERATING ACTIVITIES								
a	ESTABLISHMENT OF MICRO ENTERPRISES FOR COLLECTION & PROCESSING OF MAHUL LEAVES	1		1000000	1	1000000	Mahamaya SHG Shivtarai		

b	CONSTRUCTION OF POND FOR PISCICULTURE LOCAL S.H.G. AT KHODERI, KARWA, KEONCHI,	3	6.00	600000	3	599981	Karwa	22°29' 49.0" N	81° 59' 12.0" E
f	COLLECTION OF LOCAL BAMBOO, MUNGA AND SITAFAL SEEDS AND RAISING SEEDLING IN NURSERIES AND MARKETING WITH THE ASSISTANCE OF LOCAL S.H.G. AT BELGAHNA	25000	Rs 15 Per Plants	225000	25000	225000	Belgahna Nurseries	-	-
i	COLLECTION OF LOCAL BEL AND JAMUN SEEDS AND RAISING SEEDLING IN NURSERIES AND MARKETING WITH THE ASSISTANCE OF LOCAL S.H.G. AT KHODERI (PNDRA ROAD)	25000	Rs 15 Per Plants	225000	25000	225000	Khodri Nurseries	-	-
	PRPMOTION OF LAC CULTIVATION AND MARKETING THROGH SHG AT SHIVTARAI	1		500000	5	250000	Adarsh, Ekta, Babadarbar, Ganesh, Ma Jai Santoshi, SHG at Shivtarai		
	COLLECTION AND PROCESSING OF HONEY WITH LOCAL SHG.	1		300000	1	300000	Ganga SHG Amadob		
	COLLECTION AND PREPARATION OF AMCHUR AND PICKLE INTERPRISES BASED ON THE USE OF VARIETIES OF FRUITS AVAILABLE IN THE LOCAL SHG AT AMADOB			300000	2	250000	Sarswati mahila SHG Achankamar and Ma Sharda SHG Amadob		
	CONSTRUCTION OF VERMICOMPOST UNIT THROUGH SHG	2		500000	3	75000	Kishan Swaraj SHG, Jai Budhadev SHG and Mahamaya SHG Shivtarai		
	COLLECTION AND PROCESSING OF MEDICINAL PLANTS THROUGH SHG	2		500000	4	225000	Jai Durga Mahila SHG, Durga SHG, Mahamaya SHG Shivtarai and Ma Narmada SHG Amadob		
				4150000		3149981			
11	SKILL DEVELOPMENT								

a	CONDUCTING SKILL DEVELOPMENT CAMP FOR SEEDLING COLLECTION AND RAISING NURSERIES	2	0.25	25000	2	25000	Camp on Khodri Nurseries	-	-
				25000		25000	Camp on Belgahna Nurseries		
b	TRAINING IN DRIVING, WOODWORK, ELECTRIC WORK COOKING ETC.,	5	0.20	100000	2	40000	Driving training, and cooking training		
				150000		90000			
							Director		
							Achanakmar- Amarkantak Biosphere		
							Reserve Bilaspur (C.G.)		