Mobile Health Unit and Primary Health Delivery System under RLTAP in KBK Districts
(An Evaluation Study)

Sponsored by :
Planning & Coordination Department
Govt. of Orissa

Agricultural and Rural Development Consultancy Society
(ARDCOS)
115, Basundhara Aptt, Rasulgarh, Bhubaneswar – 751010
Orissa.
2007

ACKNOWLEDGEMENT

This evaluation study titled "Mobile Health Unit and Primary Health Delivery System Under RLTAP in KBK Districts" is the outcome of findings based on field level information collected through canvass of specially designed questionnaires among the selected Mobile Health Units, Doctors, officials, non-officials and other individuals associated with this Social Welfare Programme. Our sincere gratitude is offered to all of them and those who helped us in the preparation of the Report. The study could not have been completed without their cooperation and help.

We express our sincere thanks and gratitude to the Planning & co-ordination Department, Govt. of Orissa for entrusting the work to us. We are grateful particularly to Dr. R. V. Singh, IFS, Special Secretary to Govt. of Orissa, P & C Department for his support for conducting this study. We thank Sri G.C Paul, Director (E) - Cum- Addl. Secretary, Sri N.K. Panda and other officials of P & C Department for their valuable suggestions on the draft report which helped us considerably in finalizing the report.

At the State and District level many persons have helped us in their official and non-official capacity. We thank all of them for their kind support.

We sincerely thank collectors and PD, DRDA of all the 8 KBK districts, for their whole hearted support while conducting the survey. Our heartfelt thanks are due to CDMOs of all the KBK Districts for their help and assistance. The help and support extended by the Medical Officers in charge of selected Mobile Health Units and their Staff was overwhelming and we sincerely thank all of them.

The cooperation rendered by the surveyed house holds, of both beneficiary and non-beneficiary, as also the office bearers of Zilla Swasthya Samities was immense and we place on record our sincere thanks to all of them. Many key informants like school teachers, Sarapanches, Ward members and knowledgeable persons have provided information and opinion about the Programme. We thank all of them for their help and cooperation.

All the supervisors and investigators of ARDCOS deserve our special thanks for working ungrudgingly till completion of the Report.

Dr. Gyana Chandra Kar,
Hony. President & CEO

Core Team

Dr. G. C. Kar

Sri. L. Sarangi

Smt. Arati Nanda

Field Team

Dr. Bijaya Kumar Sahoo (Field Officer)

Sri. Pratap Sahu (Field Team Leader)

Sri. Chagali Seth

Sri. Ramesh Chandra Behera

Sri. Pintu Pradhan

Sri. Priyadarshan Jena

Sri. Satyanarayana Rana

Sri. Himansu Sekhar Behera

Sri. Ranjit Sahu

Sri. Chandrasekhar Padhiary

Sri. Rajani Kanta Das

Sri. Rasmi Ranjan Sethi

Contents

List of Tables

List of Annexures

List of Charts

Photographs

ABBREVIATIONS

Sl	Abbreviation	Expansion
(1)	(2)	(3)
01	ACA	Additional Central Assistance
02	APL	Above the Poverty Line
03	ARDCOS	Agricultural and Rural Development Consultancy Society
04	ARI	Acute Respiratory Infection
05	AWC	Anganwadi Centre
06	AWW	Anganwadi Worker
07	B P	Blood Pressure
08	BPL	Below the Poverty Line
09	B S	Blood Slide
10	CBO	Community Based Organisation
11	C D	Community Development
12	CDMO	Chief District Medical Officer
13	CHC	Community Health Centre
14	FGD	Focus Group Discussion
15	F W	Family Welfare
16	G P	Gram Panchayat
17	GOI	Government of India
18	GOO	Government of Orissa
19	HDI	Human Development Index
20	H & FW	Health and Family Welfare
21	H H	House Hold
22	IEC	Information Education and Communication
23	KBK	Kalahandi, Balangir and Koraput districts
24	K I	Key Informant
25	K P	Knowledgeable Person
26	LTAP	Long Term Action Plan
27	MAC	Medical Aid Centre

Sl	Abbreviation	Expansion
(1)	(2)	(3)
28	MBBS	Bachelor in Medicine and Bachelor in Surgery
29	MDM	Mid-day-Meal
30	MHU	Mobile Health Unit
31	M P	Malaria Parasite
32	N A	Not Applicable / Not Available
33	NAC	Notified Area Council
34	NGO	Non Government Organisation
35	OBC	Other Backward Class
36	ORS	Oral Rehydration Solution
37	P C	Planning Commission
38	PEO	Programme Evaluation Organisation
39	PHC	Primary Health Centre
40	P M	Programme Manager
41	PRI	Panchayati Raj Institution
42	RKS	Rogi Kalyan Samiti
43	RLTAP	Revised Long Term Action Plan
44	S C	Scheduled Caste / Sub-Centre
45	SCA	Special Central Assistance
46	SHC	Subsidiary Health Centre
47	SHG	Self Help Group
38	S T	Scheduled Tribe
49	T B	Tetanus
50	TSP	Tribal sub-Plan
51	T V	Television
52	T & V	Training and Visit
53	T W	Tube Well
54	W S	Water Supply
55	ZSS	Zilla Swathya Samiti

EXECUTIVE SUMMARY

1. Health Profile of the KBK Region:

Provision of health care facilities and the extent of their utilisation is one of the indices of human development .The overall picture of health care provisions and their utilization is far from satisfactory in specific regions as well as among specific communities in the State of Orissa because of historical reasons. Provision of health care services has two broad objectives, viz.,(i) to cure illness as and when it occurs and (ii) to provide all other health care services including creation of awareness and to take preventive measures through health and hygiene education, sanitations, immunization etc sufficiently in advance to prevent occurrence of preventable diseases. Not to speak of the KBK region, the health scenario of the state is not so happy although serious efforts are being taken in every front, to bring down the levels to that of the national average first and then to think of further improvements.

According to the Human Development Index (HDI), calculated in the Orissa Human Development Report 2004, Balangir ranks 21st, Kalahandi 11th, Koraput 27th, Malkangir 30th, Nawarangpur 26th, Nuapada 14th, Rayagada 25th, and Sonepur 16th. This clearly indicates that the districts coming under the KBK region in general have a lower level of human development index as compared to rest of the districts in the State. In terms of Health Index Ranking as calculated in the above report except Kalahandi, Nuapada and Sonepur the rest of districts in the KBK region rank very low as compared to the districts of Orissa outside the KBK region. The hospital beds per lakh of population in the KBK region is around 32 as against a State average of 38. Malaria death during the 5 years from 2001 to 2005 comes to 6 per lakh of population in the KBK region as against State average of 4. The percentage of tribals to the total population in Orissa is 22.13 and that in the KBK region is 38.41. In the literacy front, the KBK region is far behind the State average. In terms of poverty and Human Development Index, the KBK region is also behind the State average.

2. The Study Area:

Enhancement of the access of the people living in the KBK region and more specifically the Scheduled Tribes to improved health care services has been considered as one of the strategic interventions for all round development of the KBK region. The Revised Long Term Action Plan (RLTAP) in Orissa has appropriately taken up the challenge of tackling the problem of lack of adequate access to health care services by way of establishing requisite number of Mobile Health Units within

the region and providing funds for the purpose from out of the Special Central Assistance and Additional Central Assistance received under the programme of RLTAP.

Establishment of Mobile Health Units in the KBK region is as old as 1988-89 with the launching of the then Area Development Approach for Poverty Termination (ADAPT) programme in the erstwhile Kalahandi and Koraput districts. Through the process of implementation of the programme of Long Term Action Plan (LTAP) and subsequently the Revised Long Term Action Plan (RLTAP), a total of 90 Mobile Health Units have since been established in the KBK region. Requisite staff, infrastructure, vehicles, equipments, medicines etc have been provided out of RLTAP funds on a regular basis. Since the programme has already operated in full swing, it is naturally expected that the objectives of establishing Mobile Health Units in the KBK region like (a) ensuring adequate access of the local people to health care services, (b) improved access of the disadvantaged groups to health services, (c) availability of adequate staff in health care institutions, (d) effective and prompt treatment of TB, Panchbyadhi and minor ailments, and (e) extension, awareness and acceptance of availability medical facilities and its popularization must have been achieved to a reasonable extent by now if not in full.

Keeping this in view, the Planning and Coordination Department of the Government of Orissa have decided to launch a study in the KBK region to make a realistic assessment of the achievements in the direction of fulfilment of the objectives of establishing Mobile Health Units in the KBK districts and come up with appropriate recommendations for taking policy initiatives needed for bringing in improvements in the implementation of the programme in future.

3. The Agency:

The proposed assessment to be free and fair enough, the Planning and Coordination Department of the Government of Orissa have decided assign this responsibility to an independent Research Organisation having expertise in the line. Accordingly they have selected and assigned this assessment study to the Agricultural and Rural Development Consultancy Society (ARDCOS), Bhubaneswar.

4. Study Objectives:

Precisely enough, the proposed study envisaged examining the following aspects of the establishment and operation of Mobile Health Units in the KBK region.

4.1 Adequate access of the local people to health care services.

4.2 Improved access of the disadvantaged groups to health care services.

4.3 Availability of adequate staff in MHUs.

4.4 Effective and prompt treatment of TB, Panchbyadhi and minor ailments.

4.5 Extension, awareness and acceptance of availability medical facilities and its popularization.

4.6 Whether all villages assigned to the MHUs are being covered each month.

4.7 Number of days of village visits by the MHUs.

4.8 Distance travelled to get services from MHUs.

4.9 Adequacy of staff in the MHUs.

4.10 Whether the MHUs are well equipped and provided with requisite equipments and medicines.

4.11 Organisation of community programmes by the MHUs.

4.12 The objectives and benefits of the MHUs as perceived by the users and the knowledgeable persons of the locality.

4.13 Eliciting the views and opinion of the Chief District Medical Officers on the present level of performance of the MHUs and their suggestions for bringing in improvements in the implementation of the programme in future.

5. Study Design:

Keeping in view the number of MHU in the blocks, it was decided to take at least three MHUs from each district. In the first instance, three blocks were selected from a district and then one MHU each from each of the sample blocks were selected. However, care was taken to select 25 sample MHUs as a whole with some adjustments.

6. Study Instruments:

For the purpose of collection of data, a set of 4 schedules, i.e. (a) MHU Schedule, (b) Household Schedule, (c) Key Informant Schedule and (d) Programme Manager Schedule were developed and administered in the field.

7. Field Work:

The field work was undertaken through a set of well-qualified and experienced persons after imparting adequate training. The team comprising of 4 Field Investigators and a Team Leader was given intensive and adequate training for three days. A set of instructions for undertaking the field work was prepared and provided to all members of the team for their reference in the field. For ensuring

adequate mobility and smooth conduct of the field study, the team was provided with an exclusive transport and all other logistic supports were extended to the team. The field work under the study was completed during the period from November 2006 to February 2007.

8. Samples Executed:

In all, 25 Mobile Health Units were selected out of 90 in the KBK region. As against 25 sample MHUs, 125 households at the rate of five per MHU were interviewed and interactions were made with 50 Key Informants at the rate of two per MHU. Interaction was also made with all the 8 Chief District Medical Officers to elicit their views and opinion on the effectiveness of MHU programme in the their districts under the RLTAP.

9. Coordination and Supervision:

Apart from the Team Leaders effecting necessary supervision of the field work at field levels in each district, the senior executives of the Agricultural and Rural Development Consultancy Society (ARDCOS), Bhubaneswar had effected appropriate supervision and coordination at all levels for ensuring quality of output and timely completion of the study.

10. Summary Conclusions:

In course of this research study, the following conclusions on the functioning of MHUs under the RLTAP emerged on the basis of field observation.

10.1 On an average, one sample MHU serves a population of 54,300 in about 113 villages against an average population of 74,675 in a sample block thereby providing service to 73 per cent of the population of a block and the rest of 27 per cent of the block population avail health services from other medical Institutions nearer to them like the PHC, CHC, MAC, and SHC etc.

10.2 As high as 76 per cent of the sample MHUs were visiting all the villages allotted to them in each month and the rest of 24 per cent are not able to visit all villages assigned to them in each month.

10.3 It was reported that 56 per cent of the sample MHUs were visiting their villages twice a month and the rest 44 per cent once a month.

10.4 As high as 96 per cent sample MHUs reported to have been working on holidays to cope with the work load.

10.5 When a mobile clinic is held in a particular village for a group of villages, other villagers had to come to this village to avail the services. The maximum distance traveled by patients to come to the mobile clinics was reported to be around 25 kms in case of Balangir and 10 kms in case of Nuapada and Rayagada districts and it was within 6 kms in case of rest of the districts.

10.6 A Medical Officers, a Pharmacist and a Health Worker (Female) are the three crucial staff of a MHU and 92 per cent of the sample MHUs had all these three crucial positions filled in.

10.7 In 40 per cent of the sample MHUs, there were Allopathic Doctors, in 52 per cent Ayurvedic Doctors and in 8 per cent there were Homeopathic Doctors.

10.8 A good thing was observed that all the sample MHUs had a vehicle each, whether Government or hired. Also it was heartening to note that all sample MHUs had B P instruments, Slides and requisite medicines. However, there was no stethoscope in one of the MHUs and no Microscope in case of 4 sample MHUs.

10.9 As high as 32 per cent of the sample MHUs expressed that the village visits by MHUs had not been adequate among which 20 per cent of the MHUs faced constraints of fuel and funds and 12 per cent had problems of transport and medicines.

10.10 Irrespective of the coverage of all the villages assigned to a MHU and the number of visits to a village during a month, the average number of tour days during a month comes to 20 in respect of 5 districts and less than 20 in respect of 3 districts and the overall average comes to 19 days per MHU.

10.11 As regards night halts, none of the districts except Malkangir comply with the minimum requirement of at least two night halts per month.

10.12 The number of school visits varies between 2 to 9 per month per MHU and the distribution of ORS per MHU is 1657 (minimum 360 and maximum 4695).

10.13 Apart from holding mobile clinics at village levels, it was observed that the MHU had also been associated with other activities like organisation of Health Camps, Immunisation Camps, Family Welfare Camps, and rendering services during calamities as and when necessary.

10.14 It was very good to note that in almost all cases of sample MHUs, timeliness has been observed in provision of staff and mobile van. Supply of medicines was delayed in case of 16 per cent of MHUs, equipments in case of 52 per cent MHUs, provision of funds in case of 72 per cent MHUs, and delays in communicating higher level decisions in 4 per cent cases.

10.15 In course of interaction with the Medical Officers in charge of the sample MHUs and field observation, it was felt that modern equipments, quality medicines as per local needs, furniture for camps, ambulance and telecommunication facility for emergency cases, Microscope training to the Pharmacists, a display board in the villages on MHU programme, accommodation and storage facility for MHUs are essential requirements for a MHU.

10.16 Out of 125 hose-holds interviewed, as high as 90 per cent house-holds were aware of the functioning of a MHU in their area and all of them were aware that the MHU is providing treatment to individual patients. But only 31 per cent of them were aware that the MHU is organising community health care programmes also. While 90 per cent of the house-holds are aware about the functioning of MHU for them, only 67 per cent of them are availing treatment from the MHU.

10.17 Of the 75 sample beneficiary house-holds, as high as 52 per cent said that the MHUs are capable of attending emergency cases, as low as 4 per cent said that MHUs charge fees from patients, 23 per cent said that MHUs undertake follow ups of the patients treated earlier.

10.18 There were as many as 6 children below the age of one and 62 below the age of 5 years in the 125 sample households and all of them were reported to have been immunised. But out of as many as 8 pregnant women in the sample households, only 6 (75%) were reported to have been vaccinated and given iron supplements. It was given to understand that unless a patient comes to a clinic or a camp organised for specific purposes, spontaneous netting of events, attendance to emergent cases, and taking follow up of patients on the part of the MHUs do not appear to be encouraging.

10.19 Of the 75 beneficiary households, 65 per cent expressed that they are getting service at their door step. While all of them said that supply of medicine was adequate, 89 per cent expressed that the MHUs were

cooperative, 71 per cent said to have received treatment timely, 53 per cent opined the follow up of patients was good, 52 per cent of them said that the MHUs are attaching more priority to rich and influential persons. However, it was good to note that 88 per cent of the beneficiary households expressed their overall satisfaction on the functioning of the MHUs.

10.20 Out of 50 Key Informants interviewed, 98 per cent were aware of the functioning of a MHU in their locality and all of them said that a MHU is conducting village visits but none of them expressed that the sample MHUs had made any night halt during the last six months.

10.21 The perception of the Key Informants on the treatment facilities available on diseases like Malaria, Diarrhoea and scabies is quite appreciable and their perception on the treatment of other diseases like T B, Leprosy and ARI is quite poor.

10.22 As high as 58 percent of the Key Informants have expressed that they would prefer private clinics to that held by the MHUs. By this, one should not necessarily bear the impression that this is a totally adverse opinion on the MHUs. As a private clinic is open to patients 24 hours, the preference naturally goes for a private clinic, where as MHUs are open for specific villages on specific days.

10.23 As high as 98 per cent of the Key Informants have their knowledge that MHUs are conducting school visits, 70 per cent conducting immunisation camps, 50 per cent antenatal check ups, 48 per cent health camps, and 18 per cent family welfare camps. Unless people have their perception that all these services can be provided by the MHUs, they cannot come forward spontaneously to avail the same.

10.24 The observation of the Key Informants is not very much encouraging on the prevention and control measures as well as the health hygiene education imparted by the MHUs in the local area.

10.25 The Key Informants expected more of night halts by MHUs, supply of sufficient medicines, increasing village visits, attendance to emergencies, provision of telephone facilities for emergency cases and more of IEC programmes. Their expectations appear to be genuine.

10.26 As per the opinion of the CDMOs, MHUs in as many as 5 districts are fully equipped.

10.27 As against 90 MHUs operating in the KBK region, Medical Officers are in position in 87 MHUs, Pharmacists in 70 MHUs and Health Worker (Female) in 81 MHUs.

10.28 Against 90 MHUs in the region, the CDMOs visited the MHUs on 96 occasions during 2005-06. The number of visits in case of 5 districts is less than the MHUs in the district which implies that certain MHUs are not visited by the CDMOs during a year at all.

10.29 Even though a minimum of two night halts per month has been prescribed per MHU, the CDMOs themselves have expressed that it has not been adequately undertaken in case of 5 districts.

10.30 The number of blood slides collected has gradually been increasing over the years. The malaria positive cases found varies between 17 to 22 per cent of the blood slides collected in the region over the years with an average of 21 per cent over a period of 8 years. More so, the malaria positive cases detected is all time highest in Malkanagir district followed by Nuapada, Koraput, Rayagada, Nawarangpur, Balangir, Kalahandi, and Sonepur districts in descending orders of magnitude.

10.31 Disease specific number of patients treated has not been well maintained except Malaria in any of the districts.

10.32 The number of patients treated per MHU per annum was around 2784 in 1998-99, which has gradually increased over the years and reached a number of 8385 in 2005-06 and this is more than three times the number of 1998-99 that shows that access to health delivery system through the MHUs is gaining rapid momentum.

10.33 The CDMOs also expressed that the delivery of health care facilities would not have gained momentum in these districts in the absence of the MHUs. As such, establishment of the MHUs in the KBK region has tremendous positive impact on the health care delivery system in these districts.

11. Summary Recommendations:

Based on the conclusions arrived at, a set of recommendations as given below have been suggested which will help in improving the implementation of the programme of MHU in future by taking appropriate policy initiatives.

11.1 The Zilla Swasthya Samitis should ensure a minimum of number two visits by a MHU to each village during a month. Impeding problems, if any, should be resolved at their level or else State level support required, if any, should be sought for.

11.2 MHUs should arrange clinics in such a manner that villagers shall not be required to travel more than 5 kms to attend a clinic. Alternatively, MHUs should hold clinics for villages within a radius of 5 kms.

11.3 With a view to ensuring requisite number of village visits and providing health services to the people, none of the crucial posts of a MHU like the Medical Officer, the Pharmacist and the Health Worker (Female) should be kept vacant at any point of time.

11.4 Although Allopathic, Ayurvedic as well as Homeopathic Doctors are equally qualified and authorized, preferably allopathic Doctors should be kept in charge of the MHUs. Of course, Doctors from other streams can attend to their job in exigency.

11.5 The District Authorities should regularly review and ensure full provision of equipments including Stethoscope and Microscope in the MHUs. If necessary, repairs and replacements should be done in time.

11.6 District Authorities should review the adequacy of village visits by MHUs and the impeding problems like transport, fuel, equipment and medicine should be sorted out. More so, adequate fuel need be purchased in advance and kept as reserve as fuel may not be available every where in rural areas.

11.7 The CDMOs should review the position at the end of each month and enforce fulfilment of a minimum of 20 days tour and 2 days of night halts in case of one and all MHUs.

11.8 While distribution of ORS is situation-specific, the departmental authorities could prescribe a minimum number of school visits per month.

11.9 District Authorities should take a view as to the minimum number of Health Camps, Immunisation Camps, and Family Welfare Camps need to be organised by individual MHUs and the target communicated to them in advance.

11.10 It is expedient for the supervisory authority to review the position and ensure provision of support services like supply of medicines, equipments,

provision of funds etc to the MHUs strictly in time for their effective functioning.

11.11 Departmental Authorities, keeping in view the existing arrangements made, should examine the possibility of making provisions for modern equipments, quality medicines as per local needs, furniture for camps, ambulance and telephone facility for emergency cases, Microscope training to the Pharmacists, a display board at the village level, accommodation and storage facility for MHUs.

11.12 IEC activities should be made further more vigorous so as to creating adequate awareness among the people on the nature and extent of services a MHU provides to the people.

11.13 To bring improvements in the quality services delivered by the MHUs, the CDMOs should undertake more of field visits and more specifically mix with villagers to know about the quality of service provided by MHUs. It will have some positive impact no doubt. Frequent visits by CDMOs would increase attendance of emergency, enhance follow ups, eliminate the scope of charging fees to patients, and ensure complete enumeration of expectant mothers thereby vaccinating and providing iron supplements to one and all of them.

11.14 CDMOs should visit the villages on clinic days and interact with the villagers so that it will have adequate impact in providing doorstep services, ensuring good cooperation of the MHUs with the villagers, providing timely treatment, on ensuring cent per cent follow ups, and in removing bias of MHUs towards the rich and influential people, if any.

11.15 Even though, the prevalence of T B, Leprosy and ARI in the region is lees as compared to Malaria, Diarrhoea and Scabies, it is essential that various treatment facilities available should be widely publicised. It is, therefore, necessary that the IEC programme should be more vigorous in this respect.

11.16 It is necessary to create adequate awareness, through vigorous IEC activities, that MHU can organise or assist organisation of school visits, conduct immunisation camps, antenatal check ups, health camps, and family welfare camps etc.

11.17 The MHUs should undertake adequate prevention and control measures on TB, Malaria, Leprosy, Diarrhoea, ARI, and Scabies as well as various health and hygiene education programmes. More specifically, a Doctor should invariably lead the mobile team in organising mobile clinics in villages.

11.18 The administrative department should prescribe the minimum number of visits to each MHU by CDMOs similar to number tour days and the number of night halts prescribed for the Medical Officers of MHUs.

11.19 There is need for vigorous malaria prevention and control measures in the districts of Malkanagir, Nuapada and Koraput where the Malaria positive cases are found to be very high.

11.20 Since treatment of Panchabyadhi is an important component of the MHU programme, the MHUs should maintain records of the patients treated under various diseases, more particularly for Panchabyadhi which will help in undertaking policy reviews in future.

11.21 Government may take appropriate decisions on some of the valuable suggestions given by the CDMOs as listed below for bringing in improvements in the health care delivery services provided through MHUs. It may not be possible to deal with their suggestions vertically. However, some viable alternate solution will be good enough to implement their suggestions.

i. Provision of accommodation for office, staff and store for MHUs.

ii. Establishment of one additional MHU in large-sised blocks.

iii. The tour days having been increased from 20 per month to 24, the funds provision should increase accordingly.

iv. Periodical training for both Medical and Para-medical staff of the MHUs should be organised on a regular basis.

v. Posting of adequate number of MBBS Doctors in MHUs.

vi. A mechanism need to be evolved to associate PRIs in conducting clinics by MHUs with a view to ensuring village visits on fixed days and regulating night halts.

CHAPTER – I
INTRODUCTION

1. Health Care Services:

Provision of health care facilities and the extent of their utilisation is one of the indices of human development .The overall picture of health care provisions and their utilization is far from satisfactory in specific regions as well as among specific communities in the State of Orissa because of obvious reasons.

Illness leads to impoverishment by adversely affecting ability to access livelihood. The impact of illness is catastrophic for the poor as their only source of earning is physical labour. It is, therefore, very much necessary to provide health care services not only to prevent illness, but also to improve the health condition which eventually lead to an enhancement in their capacity to be more productive leading to higher income earnings. Thus, provision of health care services has broadly two objectives, viz.,(i) to cure illness as and when it occurs and (ii) to provide all other health care services including creation of awareness and to take preventive measures like health and hygiene education, sanitations, immunization etc sufficiently in advance so as to preventing occurrence of preventable diseases. The latter has a long term effect by way of creating a healthy atmosphere for the community at large thereby ensuring more of productive workers particularly among the poorer sections, and the former provides immediate relief and prevents the painful experience of going without wage and to push the family to squalor. The health scenario of the state is not so happy although serious efforts are being taken in every front, to bring down the levels to that of the national average first, if not more, and then to think of further more improvements.

2. The Health Profile:

Health is one of the components of Human Development Index (HDI). The Orissa Human Development Report 2004 shows that the rank of Balangir is 21st, Kalahandi 11th, Koraput 27th, Malkangiri 30th, Nawarangpur 26th, Nuapada 14th, Rayagada 25th, Sonepur 16th in terms of their Human Development Index. This clearly indicates that the districts coming under the

KBK region in general have a lower level of human development index as compared to rest of the districts in the State. In terms of Health Index Ranking as calculated in the above report excepting Kalahandi, Nuapada and Sonepur, the rest of 5 districts in the KBK region rank very low as compared to the districts of Orissa outside the KBK region. Selected development indicators relating to the districts in the KBK region via-a-vis the State of Orissa are presented the Table No: 1.1 for appreciating the development scenario of the KBK region as compared to the situation prevailing at the state level.

Table No: 1.1

District-wise Few Development Indicators in KBK Region

Sl	District	Popn (lakh)	Hosptl Beds	Malaria Deaths 2001-05	ST (%) 2001	Literacy 2001	% of BPL 1997 *	HDI 2004 **
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Balangir	13.37	438	6	20.63	55.70	61.06	0.546
2	Kalahandi	13.35	491	35	28.65	45.94	62.71	0.606
3	Koraput	11.81	349	112	49.62	35.72	83.81	0.431
4	Malkangiri	5.04	286	124	57.43	30.53	81.88	0.370
5	Nawarangpur	10.26	236	38	55.03	33.93	73.66	0.436
6	Nuapada	5.31	158	63	34.71	42.00	85.70	0.581
7	Rayagada	8.31	225	57	55.76	36.15	72.03	0.443
8	Sonepur	5.42	153	0	9.78	62.84	73.02	0.566
	KBK Total	**72.87**	**2336**	**435**	**38.41**	**43.3**	**71.97**	**-**
	Orissa	**368.05**	**13936**	**1635**	**22.13**	**63.08**	**66.37**	**0.579**

*: Percentage of families below the poverty line as per BPL Census 1997.

**: Human Development Index published in the Human Development Report of Orissa, 2004.

***: Papers for CDMO Conference in April 2006.

The above table reveals that the hospital beds per lakh of population in the KBK region is around 32 as against a State average of 38. The Malaria death during the 5 years from 2001 to 2005 comes to 6 per lakh population in the KBK region as against a State average of 4. The percentage of tribals to

the total population in Orissa is 22.13 and that in the KBK region is 38.41. In the literacy front, the KBK region is far behind the State average. In terms of poverty and Human Development Index the KBK region is also behind the State average.

3. The Study Area:

It may be emphasized that it is not a question of availability of the health care facilities in a region but the accessibility of the people to the available facilities among the poor, backward and traditional bound communities that counts. The accessibility of the people in the KBK region to the available health care facilities has, therefore, to be judged from the points of distance of health care units, the convenience at which it can be accessed and the affordability of the people etc. Source of the medical centre may appear to be nearer if the distance is lessened in terms of 'as the crow flys'. But the difficult terrain and lack of all weather roads make such facilities inaccessible. To add to this, poor as they are, they may not have the financial resources to avail the facilities. Further, among the tribals, some of the 'beliefs' are deep rooted for which access to health care services may not be availed at all or availed when it is too late. It is, for this reason, necessary for the health services to reach their door step both to treat the sick as well as to make him aware of the health problems and associated causes of illness.

The State, unfortunately, has extremely large backward population like STs and SCs who are mostly found in Southern and Northern parts of the State which remained inaccessible for long since. As such, the KBK region now comprising 8 districts out of 30 districts in the State, has largest burden of being home to most of Orissa's STs and SCs with enormous property.

Enhancement of the access of the people living in the KBK region and more specifically the Scheduled Tribes to improved health care services has, therefore, been considered as one of the strategic interventions required for all round development of the KBK region. The Revised Long Term Action Plan (RLTAP) in Orissa has appropriately taken up the challenge of tackling the problem of lack of adequate access to health care services by way of establishing requisite number of Mobile Health Units (MHUs) within the region

and providing funds for the purpose from out of the Special Central Assistance and Additional Central Assistance received under the programme of RLTAP.

Establishment of Mobile Health Units in the KBK region is as old as 1988-89 with the launching of the then Area Development Approach for Poverty Termination (ADAPT) programme in the erstwhile Kalahandi and Koraput districts. Throuh the process of implementation of the programme of Long Term Action Plan (LTAP) and subsequently the Revised Long Term Action Plan (RLTAP) a total of 90 Mobile Health Units have since been established with at least one MHU in each of the 80 blocks in the KBK region. However, there are two MHUs in one block each in Balangir, Kalahandi, Koraput, Nawarangpur, Nuapada, Rayagada and Sonepur districts and in case of Malkangir district there are as many as two MHUs in one block and 3 in another an abstract of which is given vide Table No: 1.2 given below.

Table No: 1.2

Abstract of Mobile Health Units in the KBK Region

Sl	District	Blocks			MHUs with Vans		
		Non-Tribal	Tribal	Total	Govt.	Hired	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Balangir	14	0	14	4	11	15
2	Kalahandi	11	2	13	06	08	14
3	Koraput	0	14	14	05	10	15
4	Malkangiri	0	7	7	03	07	10
5	Nawarangpur	0	10	10	04	07	11
6	Nuapada	5	0	5	04	02	06
7	Rayagada	0	11	11	10	02	12
8	Sonepur	6	0	6	03	04	07
	Total	36	44	80	39	51	90

As many as 90 Mobile Health Units were established in the KBK region and put to operation and requisite staff, infrastructure, vehicles, equipments, medicines etc have been provided out of RLTAP funds on a regular basis for their day to day operation and maintenance. Since the programme of MHU has already operated in full swing, it is natural expect that the objectives of

establishing Mobile Health Units in the KBK region like (a) ensuring adequate access of the local people to health care services, (b) improved access of the disadvantaged groups to health services, (c) availability of adequate staff in health care institutions, (d) effective and prompt treatment of TB, Panchbyadhi and minor ailments, and (e) extension, awareness and acceptance of availability medical facilities and its popularization must have been achieved to a reasonable extent by now if not in full.

Keeping this in view, the Planning and Coordination Department of the Government of Orissa have decided to launch a study in the KBK region to make a realistic assessment of the achievements in the direction of fulfillment of the objectives of establishing Mobile Health Units in the KBK districts and come up with appropriate recommendations for taking policy initiatives needed for bringing in improvements in the implementation of the programme in future.

4. The Agency:

The proposed assessment to be free and fair enough, the Planning and Coordination Department of the Government of Orissa have decided to assign this responsibility to an independent Research Organisation having their expertise in the line. Accordingly they have selected and assigned this assessment study to the Agricultural and Rural Development Consultancy Society (ARDCOS), Bhubaneswar.

CHAPTER - II

PROFILE OF STUDY AREA

1. Administrative Units:

The KBK region, prior to 1994, was comprised of 3 tribal dominated districts of Orissa namely, Koraput, Bolangir and Kalahandi. These districts lying in western and southern parts of Orissa were reorganised into 8 districts in 1994. These new districts are Koraput, Malkangiri, Nabarangpur and Rayagada (constituent parts of erstwhile Koraput district), Kalahandi and Nuapada (constituent parts of erstwhile Kalahandi district) and Balangir and Sonepur (constituent parts of erstwhile Balangir district). The administrative units in the districts in the KBK region are presented in Table No: 2.1.

Table No: 2.1

Administrative Units in the KBK Region.

Sl	District	Sub-Divns.	Blocks	TSP	GP	Villages
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Balangir	3	14	0	285	1,794
2	Kalahandi	2	13	2	273	2,236
3	Koraput	2	14	14	226	2,028
4	Malkangir	1	7	7	108	1,045
5	Nawarangpur	1	10	10	169	901
6	Nuapada	1	5	0	109	663
7	Rayagada	2	11	11	171	2,667
8	Sonepur	2	6	0	96	959
	Total	14	80	44	1,437	12,293

Source: Annual Action Plan, under RLTAP for KBK districts 2006-07, Govt. of Orissa, Planning and Co-ordination Department.
Note : TSP-Tribal Sub-Plan, Blocks, GP-Gram Panchayat, Sub-Divn-Subdivision

2. Area and Population:

The 8 districts in the KBK region account for about 31 per cent of the State's total geographical area and 20 per cent of the total population of the State. The district-wise area and the composition of population according to the social class in the KBK region vis-à-vis that of the State is presented below vide Table No: 2.2.

Table No: 2.2

Area and Population in KBK Districts.

Sl.	District	Area (Sq Km)	Total Popn	Rural Popn	Total literates	SC Popn	ST Popn	%ST Popn	Popn Density
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Balangir	6,575	1,337,194	1,182,871	638,048	226,300	275,822	20.63	203
2	Kalahandi	7,920	1,335,494	1235275	513,383	236,019	382,573	28.65	168
3	Koraput	8,807	1,180,637	982,188	350,044	153,932	585,830	49.62	134
4	Malkangir	5,791	504,198	469,582	126,498	107,654	289,538	57.43	183
5	Nawarangpur	5,291	1,025,766	966,496	284,538	144,654	564,480	55.03	192
6	Nuapada	3,852	530,690	500,652	187,412	722,96	184,221	34.71	138
7	Rayagada	7,073	831,109	715,702	247,829	115,665	463,418	55.76	116
8	Sonepur	2,337	541,835	501,767	291,931	128,000	52,978	9.78	231
	KBK districts	47646	7286923	6554533	2639683	1184520	2798860	38.41	152
	Orissa	155707	36804660	31287422	19837055	6062063	8145081	22.13	236

Source : 1. District Statistical Handbooks, 2. Census of India

While the percentage of Scheduled Tribes to the total population of the State is 22.13, the same within the KBK region is 38.41.

Extremely backward classes like STs, SCs and other backward classes dominate the KBK region. About 38.41 per cent of the population of the KBK region are Scheduled Tribes and some of the primitive tribes like Bondas, Dadais, Lanjia Sauras and Dangaria Kandhas reside here. The tribal population of this region is much above the state average of 22.13 per cent .The SC population of this region is more or less equal to the state average of 16.53 per cent (it being 16.25 per cent for KBK region).

3. Quality of Life:

Literacy and income, alternatively the poverty as also the human development index (HDI) of a region give us some idea on the qualities of life enjoyed by the people living in it. District-wise prevailing rates of literacy, percentage of people living below poverty line and human development index in the KBK region is presented below the Table No: 2.3.

Table No: 2.3

Few Indicators of Qualities of Life in KBK Region.

Sl. No.	District	Literacy (%)			% of BPL 1997	HDI of 04
		Male	Female	Total		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Balangir	71.67	39.51	55.70	61.06	0.546
2	Kalahandi	62.66	29.27	45.94	62.71	0.606
3	Koraput	47.20	24.26	35.72	83.81	0.431
4	Malkangir	40.14	20.91	30.53	81.88	0.370
5	Nawarngpur	46.70	20.67	33.93	73.66	0.436
6	Nuapada	58.45	25.79	42.00	85.70	0.581
7	Rayagada	48.18	24.56	36.15	72.03	0.443
8	Sonepur	78.94	46.12	62.84	73.02	0.566
	KBK Districts	57.35	29.10	43.33	71.97	-
	Orissa	75.35	50.51	63.08	66.37	0.579

Source: (1). Census of India, (2). Human Development Report, 2004.

Literacy in the KBK region is very low being 43.33 per cent on an average and far below the state average of 63.08 per cent as per 2001 census. As regards female literacy, it is extremely low, the average for the region being 29.10 per cent as against the State average of 50.51 per cent.

4. Level of Backwardness:

In 1994, the Committee on the Constitution of Separate Development Board in Orissa (known as P C Ghadei Committee) in its report have given a clear picture of the degree of backwardness of the blocks in the state. The Committee have identified 82 out of 314 blocks in the State as very backward of which 53 are situated in the KBK region. The district-wise picture of very backward blocks in the KBK region as identified by the Committee is presented in Table No: 2.4.

Table No: 2.4

District-wise Very Backward Blocks in KBK Region.

Sl	District	Total Blocks	Very Back-ward Blocks	% to Total
(1)	(2)	(3)	(4)	(5)
1	Balangir	14	10	71.42
2	Kalahandi	13	8	61.54
3	Koraput	14	9	64.28
4	Malkangiri	7	5	71.43
5	Nawarangpur	10	5	50.00
6	Nuapada	5	4	80.00
7	Rayagada	11	9	81.82
8	Sonepur	6	3	50.00
	KBK Region	80	53	66.25
	Rest of Orissa	234	27	11.24
	Orissa	314	82	26.11

The table reveals that more than 66 per cent of the blocks in the KBK region are very backward as against 26.11 per cent in the state as a whole and 11.54 per cent in the rest of Orissa.

5. Forest Resources:

The KBK districts have been historically rich in forest resources. Though the people in the region have been using these forests very intensively and earning their livelihood from this source, forests of this region have not received adequate investments and managerial inputs over time. Intensive use of forest for sustenance coupled with lack of insufficient investment and managerial input thus, continuously led to its degradation. The KBK region has a total geographical area of 47,646 sq km of which 16,857.8 sq km (35.34 %) is variously recorded as forest area. The satellite imagery data (1997) suggested that nearly 5473 sq km (around one third) out of a total forest area of 16857.8sq km is dense forest with crown cover of more than 40 percent that accounts for 11.49 per cent of the total geographical area of the KBK region. However, forest regeneration in the KBK region has improved since 1997. Dense forest in the region has increased from 5473 sq km in 1997 to 6166 sq km in 2001.The State Forest Report prepared by the FSI

based on satellite imagery data of 2001 reveals that 12,236 sq km of forest cover excluding scrubs existed in the area, district wise details of which is presented in Table No: 2.5.

Table No: 2.5

District wise status of Forest Area (sq km) in KBK Region: 2001

Sl	District	Goeg. Area	Dense Forest	Open Forest	Total Forest	% to Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Balangir	6575	504	488	992	15.09
2	Kalahandi	7920	1161	978	2139	27.01
3	Koraput	8807	667	815	1484	16.85
4	Malkangiri	5791	1076	1112	2188	37.78
5	Nawarangpur	3852	588	649	1237	32.11
6	Nuapada	5291	687	463	1150	21.74
7	Rayagada	7073	1308	1425	2733	38.64
8	Sonepur	2337	173	140	313	13.39
	KBK Region	47646	6166	6070	12236	25.68

6. Health Care Facilities:

The total number of medical institutions in the State as of 2006 was of the order of 1,791 and the total sub-centres were 5,927. The total number of beds available in 2006 was 13,936. However, the health care facilities available in the KBK districts are comparatively less as compared to that of the State as a whole. More so the KBK districts are more prone to Malaria. Table No: 2.6 presented below reveals the factual position.

Table No: 2.6

District wise Health Care Facilities in the KBK Region: 2006.

Sl	District	Popn (lakh)	Med Inst + MHUs	Sub-Centres	Hosp Beds	Beds per lakh Popn	Malaria Deaths 2001 to 2005	
							Total	Per lakh
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Balangir	13.37	75	203	438	33	6	0.45
2	Kalahandi	13.35	76	213	491	37	35	2.62
3	Koraput	11.81	80	253	349	30	112	9.48
4	Malkangiri	5.04	49	134	286	56	124	24.60
5	Nawarangpur	10.26	61	222	236	23	38	3.70
6	Nuapada	5.31	29	85	158	28	63	11.86
7	Rayagada	8.31	61	200	225	27	57	6.86
8	Sonepur	5.42	33	76	153	28	0	0.00

Sl	District	Popn (lakh)	Med Inst + MHUs	Sub-Centres	Hosp Beds	Beds per lakh Popn	Malaria Deaths 2001 to 2005	
							Total	Per lakh
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	KBK Region	**72.87**	**464**	**1356**	**2336**	**32**	**435**	**5.97**
	Orissa	**368.05**	**1791**	**5927**	**13936**	**37**	**1635**	**4.44**

Source: Conference of CDMOs 2006

The table reveals that the medical institutions per lakh of population in the KBK region were of the order of 6 (including the 90 MHUs) and 5 excluding the MHUs against the State average of 5. But the availability of hospital beds per lakh of population in the KBK region is 32 against a State average of 37. The major concern of the KBK region is lack of accessibility of the people to the health services available around and the preponderance of malaria in the region which is evident from the fact that, on the basis of data available, the number of malaria deaths during the 5 years from 2001 to 2005 per lakh of population in the region was of the order of 5.97 against the State average of 4.44.

7. Socio-economic Profile:

The broad socio-economic and demographic features of each of the eight districts coming under the KBK region are presented vide Annexures-2.1 to 2.8. A perusal of the profile of the KBK districts brings out few distinctive features. Apart from what are described above, the districts in the KBK region have an overwhelming burden of backward and primitive agriculture. The share of workers in primary sector to total main workers is very high. It is 81.20 per cent in case of Balangir, 85.10 per cent in case of Kalahandi, 81.20 per cent in case of Koraput, 91.30 per cent in case of Malkangiri, 88.60 per cent in case of Nawarangpur, 86.90 per cent in case of Nuapada, 82.90 per cent in case of Rayagada and 83.60 per cent in case of Sonepur districts. These 8 districts also have very low per capita income.

CHAPTER - III

STUDY OBJECTIVES AND METHODOLOGY

1. THE STUDY OBJECTIVES:

The number of Mobile Health Units in the KBK region has gone up to 90 against 80 Community Development Blocks ensuring at least one MHU for each block. Although requisite infrastructure i.e. staff, equipments, medicines and other amenities are being provided exclusively to the MHUs for their efficient functioning, these MHUs can not be treated as separate outfits but an integral part of the overall system of health care services of the district. In view of this, the first and foremost objective of the establishment of MHUs in the KBK region will be to augment the overall health care system in the region in achieving its objectives as well as to carry on specific tasks as have been assigned to them. The objectives of any mission gets fulfilled only when there have been observed timeliness and quality assurance in the strategic interventions in terms of various components of the programme. More so, fulfillment of objectives will be smooth and uninterrupted if there is appropriate post-intervention care and regular follow-ups. In view of this, the objectives of the study will be not only to assess the overall objectives of the establishment of Mobile Health Units in the region but also to include in it the assessment of timeliness in implementation of various components, the quality of implementation, and regularity in taking appropriate follow-ups.

To be precise enough, the proposed study envisages examining the broad and specific aspects of establishing the Mobile Health Units in the KBK region; deriving conclusions on the working of the MHUs at present and come up with recommendations for taking policy initiatives with a view to bringing in improvements in the implementation of the programme of NHU in future.

1.1 Broad Aspects of Study Objectives:

The following are the broad aspects proposed to be examined through the present study.

(a) Adequate access of the local people to health care services.

(b) Improved access of the disadvantaged groups to health care services.

(c) Availability of adequate staff and other infrastructure in the MHUs.

(d) Effective and prompt treatment of TB, Panchbyadhi and minor ailments.

(e) Extension, awareness and acceptance of availability medical facilities and its popularization.

1.2 Specific Aspects of Study Objectives:

The following are the specific aspects proposed to be examined through the present study.

(a) Whether all villages assigned to the MHUs are being covered each month.

(b) Number of days of village visits by the MHUs.

(c) Distance traveled to get services from MHUs.

(d) Adequacy of staff in the MHUs.

(e) Whether the MHUs are well equipped and provided with requisite medicines.

(f) Organisation of community programmes by the MHUs.

(g) The objectives and benefits of the MHUs as perceived by the users and the knowledgeable persons of the locality.

(h) Eliciting the views and opinion of the Chief District Medical Officers on the present level of performance of the MHUs and their suggestions for bringing in improvements in the implementation of the programme in future.

2. METHODOLOGY:

2.1 The Study Design

For obvious reasons, establishment of the Mobile Health Units under the RLTAP has not been uniform since in certain blocks there are two Mobile Health Units and in one block of Malkangir district there are three Mobile

Health Units functioning under the programme of RLTAP where as in all other blocks there is functioning of only one Mobile Health Unit. As such, the traditional procedure of selecting sample blocks, villages and households in case of this Mobile Health Component was not considered suitable for undertaking this evaluation study. Under the RLTAP, as many as 90 Mobile Health Units have since been made operational as given the Table No: 3.1 and the list of 90 Mobile Health Units operating in the KBK region under the RLTAP is given in Annexure-3.1. Keeping in view to selecting at least 25 per cent of the total Mobile Health Units, it was decided to select at least three blocks from each district and then to select one Mobile Health Unit from each sample block.

Table No: 3.1

Mobile Health Units Operating in the 8 KBK Districts

Sl.	Districts	Blocks	MHUs
(1)	(2)	(3)	(4)
1	Balangir	14	15
2	Kalahandi	13	14
3	Koraput	14	15
4	Malkangiri	7	10
5	Nawarangpur	10	11
6	Nuapada	5	6
7	Rayagada	11	12
8	Sonepur	6	7
	Total	80	90

2.2 Study Instruments:

For the purpose of collection of data on this component, a set of 4 schedules, i.e. (a) MHU Schedule, (b) House-hold Schedule, (c) Key Informant Schedule and (d) Programme Manager Schedule were developed and administered in the field. Brief description of each of these study instruments is given below.

(a) MHU Schedule: Information in the MHU schedule was collected from the Secretary of the Zilla Swasthya Samiti and the Medical Officer in chare of the sample MHU as well as field observations made by the study team.

(b) House-hold Schedule: Information in the House-hold Schedule was collected from 5 house-holds each coming under the sample MHU of whom 3 were beneficiaries of the MHU and 2 were non-beneficiaries. Data was collected on their perceived objectives and benefits of the MHU established for them as well as the advantages and disadvantages experienced by them on account of the MHU.

(c) K I Schedule: Information in the Key Informant Schedule was collected from two knowledgeable persons of the locality in respect of each sample MHU. Data was collected on their perceived objectives and benefits on account of establishment of MHUs in the KBK districts.

(d) P M Schedule: Information in the Programme Manager Schedule was collected from the Chief District Medical Officers of the 8 KBK districts on the effectiveness and the impact of the establishment of MHUs in the districts as well as their opinion on the problems encountered and their suggestions for bringing in improvements in the performance of MHUs in future.

2.3 The Field Work:

The field work under this assessment study was undertaken through a set of well-qualified and experienced Field Investigators after imparting them adequate training. The team comprising of 4 Field Investigators and a Team Leader were given intensive and adequate training for three days. A set of instructions for undertaking the field work under the study was prepared and provided to all members of the team for their reference in the field. The questionnaires were subjected to pre-test before finally canvassing the same. For ensuring adequate mobility and smooth conduct of the study in the field, the team was provided with an exclusive transport and all other logistical

support was extended to the team. The field work under the study was completed during the period from November 2006 to February 2007.

2.4 Samples Executed:

In all, 25 sample Mobile Health Units were selected out of 90 Mobile Health Units operating in the KBK region. As against 25 sample MHUs, 125 households (75 beneficiaries and 50 non-beneficiaries) at the rate of 5 (3+2) per MHU were interviewed and interactions were made with 50 Key Informants at the rate of two per MHU. Interaction was made with all the 8 Chief District Medical Officers to elicit their views and opinion on the effectiveness of the operation of MHUs established under the programme of RLTAP in their respective districts. The district wise break up of the samples executed is given the Table No: 3.2.

Table No: 3.2

Samples Executed under the MHU Programme in KBK Districts.

Sl	District	Total Blocks	Total MHUs	Sample Blocks	Sample MHUs	Sample House-holds			Sample K Is	P M Sch
						Total	Beni	Non-beni		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	Balangir	14	15	4	4	20	12	8	8	1
2	Kalahandi	13	14	3	3	15	9	6	6	1
3	Koraput	14	15	3	3	15	9	6	6	1
4	Malkagir	7	10	3	3	15	9	6	6	1
5	Nawarangpur	10	11	3	3	15	9	6	6	1
6	Nuapara	5	6	3	3	15	9	6	6	1
7	Rayagada	11	12	3	3	15	9	6	6	1
8	Sonepur	6	7	3	3	15	9	6	6	1
	Total	80	90	25	25	125	75	50	50	8

2.5 Coordination and Supervision:

Apart from the Team Leaders effecting necessary supervision of the field work under the study at field levels in each district, the senior executives of the Agricultural and Rural Development Consultancy Society (ARDCOS), Bhubaneswar had effected appropriate supervision and coordination at all levels for ensuring quality output and timely completion of the study project.

CHAPTER - IV

STUDY FINDINGS

1. The Basis:

As explained in previous chapters, the study of Mobile Health Units and the Health Care Delivery System in the KBK region covered all the eight districts within the region. The sample coverage at different levels under the study was as many as 25 out of 90 Mobile Health Units established under the programme of RLTAP in the region, 125 house-holds (75 beneficiary and 50 non-beneficiary), 50 knowledgeable persons and the Chief District Medical Officers of all the 8 districts who are in charge of the administration of the Mobile Health Units in their districts. The conclusions drawn in this chapter are based on the response obtained in the field in the process of detailed survey and the views that emerged in course of discussions with various stake holders and the functionaries of the executing agency as well as the observations made by the study team in course of their field visit.

2. Service Area:

The KBK region is composed of tribal as well as non-tribal blocks. Out of 80 blocks in the region, as many as 44 are tribal blocks and the rest 36 are non-tribal. The sample MHUs consist of 19 tribal and 6 non-tribal blocks. The villages and the population served by the sample MHUs is presented below vide Table No: 4.1.

Table No: 4.1

Service Area of Sample MHUs

Sl	District	Total Blocks	Total MHUs	Sample Blocks		Coverage of Sample MHUs.		
				No	Popn.	No	Vill.	Popn
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Balangir	14	15	4	306845	4	335	248758
2	Kalahandi	13	14	3	231267	3	362	46835
3	Koraput	14	15	3	183786	3	205	108267
4	Malkangir	7	10	3	238373	3	223	148406
5	Nawarangpur	10	11	3	232516	3	506	228369
6	Nuapada	5	6	3	215748	3	279	268192
7	Rayagada	11	12	3	234699	3	690	197026
8	Sonepur	6	7	3	223640	3	236	111636
	Total	80	90	25	1866874	25	2836	1357489

The 25 sample Mobile Health Units are providing service to 2836 villages, thereby the villages served per mobile health comes to 113 on an average. Similarly, the population served per MHU comes to 54300 against an average of 74675 in a sample block. As such the percentage of population of a block served by the MHU comes to 73. The rest 27 per cent of the block population get their medical services from other medical Institutions nearer to them like the PHC, CHC, MAC, and SHC etc.

3. Village Visits:

The sole objective of providing MHUs is to provide services at the doorstep. Accordingly they are supposed to hold clinics at village levels and visit villages at least 20 days a month at the rate of 10 days a fortnight and make two night halts in the villages per month. More so, a MHU has to visit each village at least twice a month - once in the first fortnight and once in the second fortnight. Since the number of villages assigned to a MHU is more than 100 on an average, the MHUs may hold clinics for a group of villages by clubbing them together. In case of any default in holding clinics for certain villages during a fortnight, the said villages should be covered on priority basis during the subsequent fortnight. Information on the modus of operation of the sample MHUs in the districts was collected. The same in respect of 25 sample MHUs is presented in Table No: 4.2.

Table No: 4.2

Modus Operandi of Sample MHUs.

Sl	District	Sample MHUs	MHUS Visiting all Villages a month	Visiting a village per month		Conducting Clinics on Holidays	Max Clinic Distance (Km)
				Once	Twice		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Balangir	4	3	2	2	4	25
2	Kalahandi	3	2	3	0	3	6
3	Koraput	3	3	0	3	3	5
4	Malkangir	3	3	0	3	2	2
5	Nabarangpur	3	3	1	2	3	4
6	Nuapada	3	0	1	2	3	10
7	Rayagada	3	2	3	0	3	10
8	Sonepur	3	3	1	2	3	5
	Total	25	19	11	14	24	25

It was reported that as many as 19 (76%) of the 25 sample MHUs were visiting all the villages allotted to them in each month and the rest of 24 per cent are not able to visit all villages assigned to them in each month. It was reported that 14 (56%) of the sample MHUs were visiting their villages twice a month and the rest of 11 (44%) were visiting once a month. As many as 24 (96%) sample MHUs reported to have been working on holidays to cope with the workload. This being the situation it is recommended that the Zilla Swasthya Samiti should ensure a minimum of two visits to each village during a month. Impeding problems, if any, should be resolved at their level or else State level support should be sought for in this regard. When a mobile clinic is held in a particular village for a group of villages, other villagers have to come to this village to avail the services. The maximum distance covered for coming to the mobile clinics was reported to be around 25 kms in case of Balangir and 10 kms in case of Nuapada and Rayagada districts. In case of rest 5 districts it was up to 6 kms. A distance of 25 kms is as good as there is no MHU for them as the patients or their attendants have to suspend all other activities for the day to attend the clinic. It is, therefore, suggested that MHUs should arrange clinics in such a manner that villagers shall not be required to cover more than 5 kms to attend a clinic. Alternatively, MHUs should hold clinics for villages within a radius of 5 kms.

4. Staff Position:

Coming to staff position in the MHUs, the information collected from the field in respect of the 25 sample MHUs is presented in Table No: 4.3. In this table only the physical position of the staff crucial to the operation of the MHUs has been shown.

Table No: 4.3

MHUs According to Staff Position

Sl	District	Sample	MHUs with the Staff			
		MHUs	M O	Pharmacist	H W (F)	All three
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Balangir	4	4	4	3	3
2	Kalahandi	3	3	3	3	3
3	Koraput	3	3	3	3	3
4	Malkangir	3	3	3	3	3
5	Nawarangpur	3	3	3	3	3

Sl	District	Sample	MHUs with the Staff			
		MHUs	M O	Pharmacist	H W (F)	All three
(1)	(2)	(3)	(4)	(5)	(6)	(7)
6	Nuapada	3	3	3	2	2
7	Rayagada	3	3	3	3	3
8	Sonepur	3	3	3	3	3
	Total	25	25	25	23	23

The table reveals that all the 25 sample MHUs have Medical Officers and Pharmacists. But only 23 MHUs have Female Health Workers. As such, 23 MHUs have all these three crucial positions filled in. Since the Medical Officer, the Pharmacist and the Female Health Worker are the king pins of a MHU and the MHUs are supposed to visit each village twice a month, it is suggested that none of these three positions of a MHU should fall vacant at any point of time.

The Medical Officer of the MHU is the leader of the mobile team who guides the team for efficient delivery of health services to the people. He should, therefore, be well qualified and adequately experienced to run a MHU under arduous conditions. The educational qualification of the Doctors in 25 sample MHUs in position is presented in Table No: 4.4.

Table No: 4.4

Qualification of Doctors in Sample MHUs

Sl	District	Sample MHUs	Qualification of Doctors in Sample MHUs			
			Allopathic	Ayurvedic	Homeopathic	Doctor
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Balangir	4	3	1	0	0
2	Kalahandi	3	2	1	0	0
3	Koraput	3	0	3	0	0
4	Malkangir	3	0	3	0	0
5	Nawarangpur	3	1	0	2	0
6	Nuapada	3	1	2	0	0
7	Rayagada	3	1	2	0	0
8	Sonepur	3	2	1	0	0
	Total	25	10	13	2	0

As observed only 10 out of 25 Medical Officers are allopathic Doctors, 13 are Ayurvedic and 2 are Homeopaths. Although all are equally qualified and authorized, preferably allopathic doctors should be kept in charge of the MHUs. Of course, doctors from other stream can attend to their jobs in exigency. Provision of some medical facilities, may be the alternative system of medicine, is better than no medical facilities particularly when state has a acute shortage of allopathic doctors.

5. Equipment and Medicines:

A transport is essential for ensuring mobility of the MHUs. Provision of other equipments and medicines are no less important. Table No: 4.5 presented below gives the position of equipments and supply of Medicines to the MHUs.

Table No: 4.5

Sample MHUs with Equipments and Medicines

Sl	District	Sample MHU	Vehicle		B P Instmt	Stesth-oscope	Micro-scope	Slides	Rapid Sticks	Medi-cines
			Govt	Pvt						
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	Balangir	4	1	3	4	4	2	4	2	4
2	Kalahandi	3	0	3	3	3	3	3	3	3
3	Koraput	3	1	2	3	3	3	3	3	3
4	Malkangir	3	1	2	3	2	2	3	3	3
5	Nabarangpur	3	0	3	3	3	3	3	3	3
6	Nuapada	3	2	1	3	3	3	3	3	3
7	Rayagada	3	2	1	3	3	3	3	3	3
8	Sonepur	3	2	1	3	3	2	3	1	3
	Total	25	9	16	25	24	21	25	21	25

A good thing was observed that all the 25 sample MHUs had a vehicle each, whether supplied by Government or hired. Also it is good that all the 25 sample MHUs had B P instruments, Slides and requisite Medicines. However, there was no stethoscope in case of one MHU and no Microscope in case of 4 MHUs. While no Doctor moves without a stethoscope, the need of a Microscope for a clinic in Malaria pronounced region need not be emphasized as collection of blood slides without a Microscope will be meaningless. It is, therefore, suggested that the District Authorities should regularly review and

ensure provision of all equipments including Stethoscope and Microscope in the MHUs. If necessary, repairs and replacements should be done at once.

6. Adequacy of Village Visits:

Adequacy of village visits is adjudged by the coverage of all villages assigned to a MHU in each month and ensuring at least two visits to each village either individually or by way of forming groups. The MHUs where the village visit was inadequate and the reasons for inadequate visits as per the information collected from the field are presented in Table No: 4.6.

Table No: 4.6

Inadequate Village Visits by Sample MHUs according to Reasons

Sl	District	Sample MHUs	Of which Inadequate visits	Inadequate Visits due to lack of					
				Staff	Trans port	Fuel	Equip ment	Medi cine	Funds
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Balangir	4	1	0	0	0	0	1	1
2	Kalahandi	3	1	0	1	1	0	0	1
3	Koraput	3	0	0	0	0	0	0	0
4	Malkangir	3	3	0	1	2	0	1	1
5	Nabarangpur	3	1	0	0	0	0	0	1
6	Nuapada	3	0	0	0	0	0	0	0
7	Rayagada	3	2	0	1	2	0	1	1
8	Sonepur	3	0	0	0	0	0	0	0
	Total	25	8	0	3	5	0	3	5

As against 25 sample MHUs, as many as 8 have expressed that the village visits have not been adequate. The reasons relating to inadequate village visits are many of which lack of requisite number of staff, lack of transport, fuel, equipments, medicines and funds are the vital ones. Field information revealed that lack of staff and equipment was not a reason for inadequate village visits. Under constraints of fuel and funds as many as 5 MHUs had experienced inadequate village visits and in 3 cases each the village visit was not adequate due to problems of transport and medicines. It is, therefore, suggested that adequacy of village visits by the MHUs in the districts should be reviewed each moth by the district authorities and the impeding problems like transport, fuel, equipment and medicine should be sorted out. Adequate fuel be purchased in advance and kept as reserve since fuel may not be available everywhere in rural areas.

7. Other Activities:

With a view to deriving the number of tour days and night halts done, school visits and other camps organised, calamities attended, and ORS distributed by a MHU on an average, information over a period of 8 years from 1998-99 to 2005-06 in respect of each of the 25 sample MHUs was collected and analyzed. Since year of operation of each sample MHU is different, for the sake of analysis a new term, "MHU Year" has been used, where one MHU operating for one year accounts for one MHU year. The data so collected have been presented in Table No: 4.7.

Table No: 4.7

Other Activities Performed by Sample MHUs during 1998-99 to 2005- 06

Sl	District	Samp MHUs	MHU Years	Tour Days		N H Done		School Visits		Dist of ORS	
				Total	Month	Total	Month	Total	Month	Total	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Balangir	4	26	6138	20	164	0.52	689	2.20	48514	1866
2	Kalahandi	3	22	5307	20	0	0.00	1064	4.03	47834	2174
3	Koraput	3	24	5649	20	87	0.30	1636	5.68	13291	554
4	Malkangir	3	24	5177	18	1350	4.69	911	3.16	40175	1674
5	Nabarangpur	3	23	5619	20	202	0.73	842	3.05	8280	360
6	Nuapada	3	21	4283	17	56	0.22	808	3.20	12021	523
7	Rayagada	3	23	5479	20	284	1.02	2613	9.46	42271	1838
8	Sonepur	3	19	4355	19	98	0.43	111	0.49	89200	4695
	Total	25	182	42007	19	2241	1.03	8674	3.97	301586	1657

Table No: 4.7 (Continued ……)

Sl	District	Samp MHUs	MHU Years	Health Camps		Imm Camps		F W Camps		Calamities	
				Total	Month	Total	Month	Total	Month	Total	Annual
(1)	(2)	(3)	(4)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1	Balangir	4	26	1863	72	770	30	196	8	133	5
2	Kalahandi	3	22	672	31	781	36	5	0.2	0	0
3	Koraput	3	24	325	14	325	14	325	14	201	8
4	Malkangir	3	24	356	15	587	16	549	23	47	2
5	Nabarangpur	3	23	154	7	271	12	0	0	149	6
6	Nuapada	3	21	1979	94	152	7	4	0.2	0	0
7	Rayagada	3	23	996	43	743	32	282	12	80	3
8	Sonepur	3	19	21	1	0	0	0	0	82	4
	Total	25	182	5466	30	3629	2	1361	7	692	4

From the above table it is revealed that irrespective of the coverage of all the villages assigned to a MHU and the number of visits to a village during a month, the average number of tour days during a month comes to 20 in respect of 5 districts and less than 20 in respect of 3 districts and the overall average comes to 19 per MHU. As regards night halts, none of the districts except Malkangir comply with the minimum requirement of at least two night halts per month. It is, therefore, expedient that the CDMOs should review the position at the end of each month and enforce fulfilment of a minimum of 20 days of tour and 2 days of night halts in case of one and all MHUs. The number of school visits varies between 2 to 9 per month per MHU and the distribution of ORS is 1657 (minimum 360 and maximum 4695). While distribution of ORS is situation specific, the departmental authorities could prescribe a minimum number of school visits. Apart from holding mobile clinics at village levels, the MHU had also been associated with other activities like organisation of Health Camps, Immunisation Camps, Family Welfare Camps, and rendering services during calamities as and when necessary. It is obvious that occurrence of calamities will vary from district to district. But there does not appear any valid reason for wide variance in the number of other camps organised by MHUs in different districts. It is, therefore, suggested that the district authorities should take a view as to the minimum number of Health Camps, Immunisation Camps, and Family Welfare Camps need to be organised by individual MHUs and the target communicated to them in advance.

8. Support Services:

It has earlier been observed that various support services are made available to the MHUs for their functioning. But the MHUs will function effectively if timeliness is observed in provision of such services. Information collected in this regard is presented in Table No: 4.8.

Table No: 4.8

Observance of Timeliness in Provision of Support Services.

Sl	District	Sample MHUs	Timeliness in Provision of					
			Van	Staff	Medicines	Equip	Funds	Decisions
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Balangir	4	4	4	3	2	3	4
2	Kalahandi	3	3	3	2	1	1	3
3	Koraput	3	3	3	3	2	0	3
4	Malkangir	3	3	3	2	1	0	2
5	Nawarangpur	3	3	3	3	1	0	3
6	Nuapada	3	3	3	2	2	1	3
7	Rayagada	3	3	3	3	0	0	3
8	Sonepur	3	3	3	3	3	2	3
	Total	25	25	25	21	12	7	24

It is very good that in all most all the cases of 25 sample MHUs it was revealed that provision of staff and mobile van was made in time. Supply of medicines were delayed in case of 4 MHUs, equipments in case of 13 MHUs, provision of funds in case of 18 MHUs, and delays in communicating higher level decisions was reported in case of one MHU. Unless support services are made available in time, there is every likelihood that it will affect effective functioning of the MHUs even if resources are utilised as per the requirements. It is, therefore, expedient for the supervisory authority to review the position and ensure provision of support services strictly in time.

9. Rudimentary Problems:

In course of interaction of the study team with the Medical Officer in charge of the MHUs and field observation made by the study team, certain rudimentary problems experienced by the MHUs were noticed as listed below that need to be considered by the departmental authorities keeping in view the existing arrangements made in that regard.

i. Provision of adequate staff

ii. Supply of modern equipments

iii. Supply of good quality medicines

iv Supply of furniture for camps

v. Supply of medicines as per local need

vi. Ambulance and telecommunication facility for emergent cases.

vii. Microscope training to the Pharmacists.

vii. A display board in the villages on MHU programme

viii. Accommodation and storage facility for MHUs

10. Opinion of Households:

Apart from collecting information on the sample MHUs, steps were also taken to elicit information from selected households to know as to their views on the programme of MHU and their perceived benefits under the programme. For the purpose of examining this aspect, 125 households were selected in all, 75 beneficiary households at the rate of 3 per sample MHU and 50 non-beneficiary house-holds at the rate of 2 per sample MHU. All the 125 households were interviewed and the result obtained in the process has been discussed in the following paragraphs;

10.1 Characteristics of Respondents:

Table No: 4.9 presented below gives the characteristics of the 125 household heads who were interviewed.

Table No: 4.9

Characteristics of Household Heads Interviewed.

Sl	District	Sample MHUs	Sample HHs	Of whom BPL	HH Category		Education		Sex	
					Bene	non-bene	Illiterate	Literate	Male	Female
(1)	(2)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Balangir	4	20	14	12	8	7	13	14	6
2	Kalahandi	3	15	12	9	6	5	10	12	3
3	Koraput	3	15	11	9	6	1	14	13	2
4	Malkangir	3	15	12	9	6	9	6	7	8
5	Nabarangpur	3	15	11	9	6	1	14	14	1
6	Nuapada	3	15	12	9	6	5	10	10	5
7	Rayagada	3	15	9	9	6	6	9	14	1
8	Sonepur	3	15	9	9	6	2	13	13	2
	Total	25	125	90	75	50	36	89	97	28

Of the 125 households, 90 (72 %) were BPL households. As many as 36 (29 %) of them were literates and 89 (71 %) illiterates. Of them 97 (78 %) were males and 28 (22 %) were females. As such the sample households were a very good mix of different categories of respondents.

10.2 Source of Awareness:

Table No: 4.10 presented below gives the information on the awareness of the household on the operation of a MHU for them in their locality.

Table No: 4.10

Awareness of HHs on the Services Provided by MHUs

Sl	District	Sample HHs	Aware of MHU	Service Provided		Availing Tmt
				Individual	Community	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Balangir	20	18	18	4	12
2	Kalahandi	15	15	15	1	9
3	Koraput	15	13	13	5	9
4	Malkangir	15	10	10	3	9
5	Nabarangpur	15	14	14	8	9
6	Nuapada	15	15	15	2	9
7	Rayagada	15	14	14	9	9
8	Sonepur	15	13	13	5	9
	Total	125	112	112	37	75

The above table reveals that as many as 112 (90%) out of 125 households are aware that a MHU is operating in their locality for providing health care services to them and these 90 per cent house-holds are of the knowledge that MHU is providing treatment to individual patients and only 37 (30%) of the 125 house-holds interviewed are aware that the MHU is organising community health care programmes. While 112 households are aware about the functioning of MHU for them only 75 (67%) of them are availing treatment through the MHUs and the rest 33 per cent are not availing. It is, therefore, necessary that the existing IEC programme should be made more vigorous to create adequate awareness and appreciation among the people on the nature and extent of services the MHU can provide for them.

10.3 Service Provided:

As far as the knowledge of the beneficiary house-holds goes, their opinion on the various kinds of services provided by the MHUs in their locality is presented below in Table No: 4.11.

Table No: 4.11

Opinion of Beneficiary Households on the Services Provided by MHUs

Sl	District	Benificiary HHS	Attend Emerg.	Charge Fees	Follow Ups
(1)	(2)	(3)	(4)	(5)	(6)
1	Balangir	12	2	1	5
2	Kalahandi	9	0	0	2
3	Koraput	9	6	0	1
4	Malkangir	9	9	0	3
5	Nabarangpur	9	8	1	2
6	Nuapada	9	3	0	0
7	Rayagada	9	9	1	3
8	Sonepur	9	2	0	1
	Total	75	39	3	17

Of the 75 sample beneficiary house-holds interviewed, as many as 39 (52%) said that the MHUs are capable of attending emergency cases, as many as 3 (about 4%) said that MHUs charge fees from patients, as many as 17 (about 23%) said that MHUs take follow up of patients.

Coming to the Health Care Services provided by the MHUs to the children and pregnant mothers in all the 125 sample house-holds, the Table No.4.12 presented gives valuable information.

Table No: 4.12

Opinion of Sample Households on Mother and Child Care Services.

Sl	District	Sample HHS	Chldren < 1 Yr		Chldren < 5 Yr		Pregnant Mothers		
			Total	Immu	Total	Immu	Total	Immu	Med
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Balangir	20	0	0	13	13	1	1	1
2	Kalahandi	15	2	2	4	4	0	0	0
3	Koraput	15	1	1	7	7	0	0	0
4	Malkangir	15	1	1	10	10	1	1	1
5	Nabarangpur	15	0	0	6	6	2	1	1
6	Nuapada	15	2	2	9	9	2	1	1
7	Rayagada	15	0	0	2	2	2	2	2
8	Sonepur	15	0	0	11	11	0	0	0
	Total	125	6	6	62	62	8	6	6

There were as many as 6 children below the age of one and 62 children below the age of 5 years in the 125 sample households and all of

them were reported to have been immunised. But out of as many as 8 pregnant women in these sample households, only 6 (75%) of them were reported to have been vaccinated and given iron supplements. This gives to understand that unless a patient comes to a clinic or a camp organised for specific purposes, spontaneous netting of events, attendance to emergent cases, and taking follow up of patients on the part of the MHUs etc do appear to be encouraging. If at all fees are charged from patients, this is certainly serious. To bring improvements in the quality of services delivered by the MHUs, the CDMOs should undertake more of field visits and more specifically mix with villagers to know about the quality of service provided by MHUs, so that it will have some positive impact and attendance of emergency cases will improve, enhance follow ups, eliminate the scope of charging of fees from patients, and ensure complete enumeration of expectant mothers thereby vaccinating and providing iron supplements to one and all.

10.4 Quality of Services:

Care was also taken to elicit information from the 75 beneficiary households on the quality of services rendered by the MHUs. The response received from them has been presented in Table No: 4.13.

Table No: 4.13

Quality of Services Provided by MHUs

Sl	District	Bene HH	Door Step Service	Drugs Adeq	MHU Coop.	Timely Tmt	Good Follow -ups	To Rich / Influ.	Overall Good
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Balangir	12	12	12	12	4	4	3	9
2	Kalahandi	9	9	9	8	9	3	3	9
3	Koraput	9	7	9	5	8	4	3	7
4	Malkangir	9	9	9	9	9	8	5	9
5	Nabarangpur	9	7	9	8	6	5	5	9
6	Nuapada	9	9	9	9	9	4	8	9
7	Rayagada	9	5	9	8	6	9	8	9
8	Sonepur	9	7	9	8	2	3	4	5
	Total	75	65	75	67	53	40	39	66
	% to Total	-	87	100	89	71	53	52	88

Of the 75 beneficiary households, 87 per cent expressed that they are getting service at their door step on account of establishment of the MHUs. While all of them said that supply of medicine was adequate, 89 per cent of them expressed that the MHUs were cooperative, 71 per cent said to have received treatment timely, 53 per cent opined the follow up of patients was good and 52 per cent of them said that the MHUs are attaching more importance to rich and influential persons. However, 88 per cent of the beneficiary households expressed their overall satisfaction on the functioning of the MHUs. It is, therefore, suggested that the CDMOs should visit the villages on clinic days and interact with the villagers so that it will have adequate impact in providing door step services, the cooperation of the MHUs with the villagers, in providing timely treatment, in ensuring cent per cent follow ups, and in removing bias of MHUs towards the rich and influential persons in providing treatment.

11. Opinion of Key Informants:

Apart from interviewing some households, interaction was also made with as many as 50 knowledgeable persons at the rate of two per MHU to know their view on the functioning of the MHUs in their locality. The response received from them has been presented in the following paragraphs:

11.1 Broad Characteristics and Awareness of K Is:

The categories of Key Informants interviewed and their awareness about the functioning of MHUs in their locality is presented below in Table No: 4.14.

Table No: 4.14

Category of K Is Interviewed.

Sl	District	Sample MHUs	Sample K Is	Edn of K Is		Sex of K Is		Aware of MHU	Vill Visits	NH last 6 moths
				Illiterate	Literate	Male	Female			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	Balangir	4	8	0	8	6	2	8	8	0
2	Kalahandi	3	6	0	6	6	0	6	6	0
3	Koraput	3	6	0	6	4	2	6	6	0
4	Malkangir	3	6	1	5	4	2	6	6	0
5	Nabarangpur	3	6	0	6	5	1	6	6	0

Sl	District	Sample MHUs	Sample K Is	Edn of K Is		Sex of K Is		Aware of MHU	Vill Visits	NH last 6 moths
				Illiterate	Literate	Male	Female			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
6	Nuapada	3	6	0	6	5	1	6	6	0
7	Rayagada	3	6	0	6	6	0	6	6	0
8	Sonepur	3	6	0	6	4	2	5	5	0
	Total	25	50	1	49	40	10	49	49	0
	% to Total	-	-	2	98	80	20	98	98	0

Of the 50 Key Informants one was illiterate and 49 were literates. While as many as 40 were males 10 were females. 49 of them were aware that a MHU is functioning in their locality and these 49 Key Informants said that the MHU is conducting village visits. However, all of them expressed that none of the sample MHUs had made any night halt during the last six months. The position of night halts as observed in the earlier sections was not also encouraging. It is, therefore expedient for the CDMOs to enforce at least two night halts per month as per the stipulations made by Government.

11.2 Perception on Treatment Available:

The perception of the Key Informants on the nature of services provided by the MHUs as expressed by them is presented in Table No: 4.15.

Table No: 4.15

Perception of K Is on Treatment and Facilities Available through MHUs.

Sl	District	No of K Is	Perception on Specific Treatment Available						Pref. Pvt Clinic
			TB	Malaria	Lepro.	Diarrh.	ARI	Scabies	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Balangir	8	2	8	1	8	3	8	2
2	Kalahandi	6	3	5	1	5	3	5	1
3	Koraput	6	2	6	2	6	2	6	6
4	Malkangir	6	4	6	4	6	4	6	6
5	Nabarangpur	6	2	6	1	5	2	6	6
6	Nuapada	6	1	6	0	3	0	6	1
7	Rayagada	6	2	6	3	6	1	6	5
8	Sonepur	6	0	5	0	4	3	5	2
	Total	50	16	48	12	43	18	48	29
	% to Total		32	96	24	86	36	96	58

The perception of the Key Informants on the treatment facilities available on diseases like Malaria, Diarrhoea and scabies is quite appreciable and the same in respect of the other diseases like T B, Leprosy and ARI is quite less. Even though, the prevalence of the later category ofdiseases in the region is lees as compared to the former category to a considerable extent, it is essential that various treatment facilities available should be widely publicised. It is, therefore, necessary that the IEC programme should be further more vigorous. As high as 58 per cent of the Key Informants have expressed that they would prefer treatment in private clinics to that of the MHUs. By this one should not necessarily bear totally adverse opinion on the MHUs as a private clinic is open to patients to all 24 hours whereas MHUs are open for specific villages on specific days.

11.3 Perception on Services Provided:

Information collected from the Key Informants on their perception about the nature of services provided by the MHUs is presented in Table No: 4.16.

Table No: 4.16

Perception of the K Is on the Services Provided by MHUs.

Sl	District	Sample K Is	KIs with +ve opnion on the Activities of MHUs					
			Sch Visit	Immu	Antenal	H Camps	FWCamp	Calamity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(9)	(10)
1	Balangir	8	8	6	1	6	0	4
2	Kalahandi	6	6	2	2	3	0	0
3	Koraput	6	6	3	2	2	3	1
4	Malkangir	6	6	5	6	1	1	0
5	Nabarangpur	6	6	5	4	3	3	2
6	Nuapada	6	6	3	3	3	0	0
7	Rayagada	6	6	6	6	1	2	0
8	Sonepur	6	5	5	1	5	0	0
	Total	50	49	35	25	24	9	7
	% to Total	-	98	70	50	48	18	14

As high as 98 per cent of the Key Informants have their knowledge that MHUs are conducting school visits, 70 per cent conducting immunisation camps, 50 per cent antenatal check ups, 48 per cent health camps, and 18 per cent conducting family welfare camps. Although 14 per cent of the Key Informants MHUs are attending to natural calamities, their perception about all

other important services is quite favourable. More so,, attendance to natural calamities is not necessary on the part of the MHUs as frequently as other services.

11.4 Prevention and Control Measures Undertaken:

The MHUs are supposed to undertake varieties of prevention and control measures. Based on their observation, the various measures undertaken by the MHUs as opined by the Key Informants are presented below vide Table No: 4.17.

Table No: 4.17

Perception of K Is on Prevention and Control Measures Taken by MHU

Sl	District	Sample K Is	Opnion of KIs on the Prevention and Control Measures Taken					
			TB	Malaria	Lepro.	Diarrh.	ARI	Scabies
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Balangir	8	3	8	1	8	1	8
2	Kalahandi	6	2	5	0	2	0	5
3	Koraput	6	1	6	2	4	0	3
4	Malkangir	6	0	6	0	1	0	1
5	Nabarangpur	6	1	6	1	5	1	6
6	Nuapada	6	3	6	2	4	0	6
7	Rayagada	6	3	6	4	5	0	5
8	Sonepur	6	3	5	0	4	2	5
	Total	50	16	48	10	33	4	39
	% to Total	-	32	96	20	66	8	78

Table No: 4.17 (contd……..)

Sl	District	Sample K Is	Opnion of KIs on the Prevention and Control Measures Taken					
			H & H Edn	Sani&Food Hab Edn	B S Colln	B S Follow-up	Charge Fees	MHU with a Doctor
(1)	(2)	(3)	(10)	(11)	(12)	(13)	(14)	(15)
1	Balangir	8	4	3	5	5	0	8
2	Kalahandi	6	2	1	1	2	1	6
3	Koraput	6	1	1	1	1	0	5
4	Malkangir	6	4	4	5	6	0	5
5	Nabarangpur	6	5	5	4	4	0	5
6	Nuapada	6	2	2	4	4	0	6
7	Rayagada	6	2	2	6	6	0	5
8	Sonepur	6	2	2	2	1	0	5
	Total	50	22	20	28	29	1	45
	% to Total	-	44	40	56	58	2	90

As it appears from the information presented in the above table the observation of the Key Informants is not very much encouraging on the prevention and control measures taken as well as the health hygiene education imparted by the MHUs in the local area. Such observations are based on what the MHUs are doing in the area. Conduct of IEC activities do not appear to be adequate. At the same time the MHUs should undertake adequate prevention and control measures on TB, Malaria, Leprosy, Diarrhoea, ARI, Scabies as well as various health and hygiene education programmes. Besides, the MHUs should undertake more of follow ups of Malaria cases and more specifically a Doctor should invariably lead the mobile team in organising mobile clinics in villages.

11.5 Expectations from MHUs:

Although the MHUs are rendering various types of services for the people in the locality, the Key Informants had some specific expectations from the MHUs to be rendered for them. Some of their expectations are presented in Table No: 4.18.

Table No: 4.18

Expectations of K Is from MHUs

Sl	District	Sample K Is	Expectations from the MHU					
			E1	E2	E3	E4	E5	E6
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Balangir	8	4	5	4	3	0	0
2	Kalahandi	6	0	2	2	0	0	0
3	Koraput	6	0	0	1	0	0	0
4	Malkangir	6	0	0	5	0	0	2
5	Nabarangpur	6	0	2	6	0	1	0
6	Nuapada	6	0	0	4	0	0	0
7	Rayagada	6	0	2	6	0	0	0
8	Sonepur	6	0	0	3	0	0	0
	Total	50	4	11	31	3	1	2
	% to Total	-	8	22	62	6	2	4

E1- More night halts, E2- supply of sufficient medicines, E3- Increasing Village visits,
E4- Attend emergency cases, E5- Providing tele-communication facility for emergency
E6- Adequate IEC Programme

It is not a question of how many of the Key Informants have expressed their expectations from the MHUs. But all the six items of their expectation are quite genuine and essential. In view of this, the departmental authorities should try to fulfil all these requirements by which the health care facilities rendered by MHUs will be meaningful.

12. Opinion of Programme Managers:

In the process of field investigation, interactions were made with the Chief District Medical Offers of all the 8 districts in the KBK region to elicit their opinion on the effective functioning of the MHUs in their districts as well as their valuable suggestions for bringing in improvements in the health care delivery system through the MHUs in future. The results of the interaction with the CDMOs are discussed in the following paragraphs.

12.1 Equipment and Staff:

The opinion of the CDMOs on the equipment and staff support provided to the MHUs in their districts as well as the adequacy of village visits and the night halts are presented below vide Table No: 4.19.

Table No: 4.19

Opinion of CDMOs on Equipment and Staff Support Provided

Sl	District	Total MHUs	No fully Equipped	Staff in Position			CDMO visits 2005-06	Adq of vill visits		Adq of NHs
				M O	Pharma	H W (F)		Dists	Reason	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	Balangir	15	0	14	10	10	16	Yes		0
2	Kalahandi	14	1	14	13	14	7	Yes		0
3	Koraput	15	1	14	14	15	12	Yes		0
4	Malkangir	10	0	10	9	10	12	Yes		1
5	Nawarangpur	11	0	11	11	11	10	No	Trans	0
6	Nuapada	6	1	6	4	3	7	Yes		1
7	Rayagada	12	1	12	4	12	12	Yes		0
8	Sonepur	7	1	6	5	6	20	Yes		1
	Total	90	5 dists	87	70	81	96	7 dists		3 dists

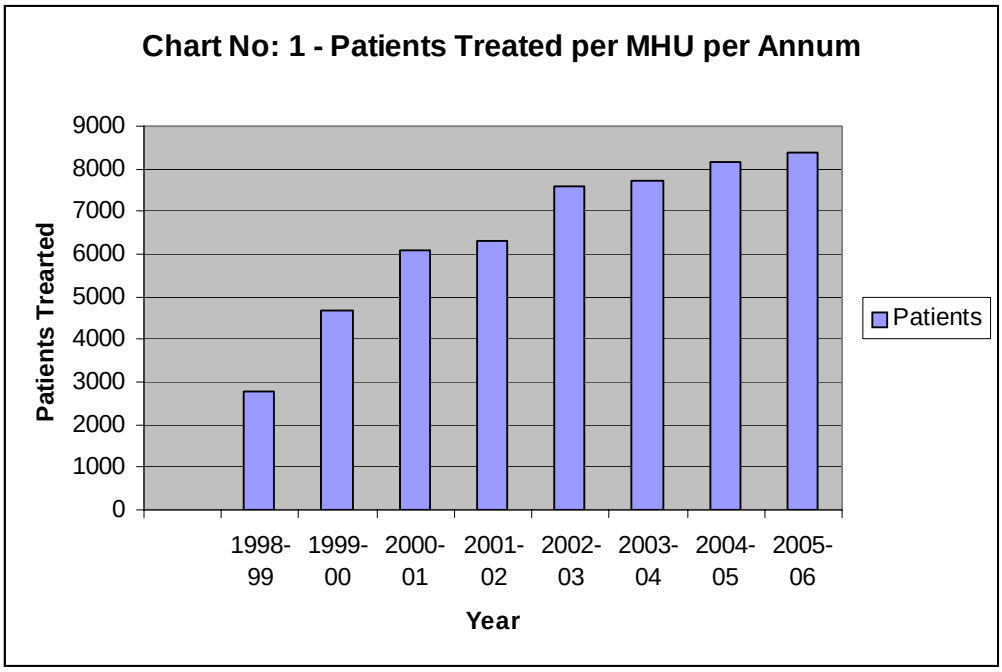
The table reveals that the MHUs are fully equipped in as many as 5 districts. As against 90 MHUs operating in the KBK region, Medical Officers are in position in case of 87 MHUs, Pharmacists in 70 MHUs and Health Worker (Female) in 81 MHUs. Since these are the three crucial positions, Government should see that none of these three positions are kept vacant at any point of time. Although the CDMOs visited the MHUs on 96 occasions during 2005-06, it is not necessary that they had visited each of the 90 MHUs at least once during the year. The number of visits in case of 3 districts is less than the number of MHUs in the district. This implies that certain MHUs are not visited by the CDMOs during a year at all. The administrative department should prescribe the minimum number of visits to each MHU by CDMOs similar to number of night halts prescribed for Medical Officers of MHUs. Even though a minimum of two night halts per month has been prescribed for MHUs, the CDMOs themselves have expressed that it has not been adequate in case of 5 districts. The CDMOs being the controlling officers should enforce the provision of two night halts per month. In Nawarangpur district, the CDMO says that village visits are affected due problem of transport. Corrective measures through regular review and monitoring will improve the position.

12.1 Treatment of Malaria:

Apart from providing doorstep services to the people remaining in inaccessible areas the major objective of the MHUs is to detect malaria positive cases and provide treatment in time. Annexure-4.1 presents the number of blood slides collected and the number of Malaria positive cases detected in different districts in the KBK region through the MHUs. As may be seen from this Annexure, the malaria positive cases found varies between 17 to 22 per cent of the blood slides collected in the region over the years with an average of 21 per cent over a period of 8 years from 1998-99 to 2005-06. More so, the malaria positive cases detected is all time highest in Malkanagir district followed by Nuapada, Koraput, Rayagada, Nawarangpur, Balangir, Kalahandi, and Sonepur districts in descending orders of magnitude. However, prevalence of Malaria is quite high in the districts of Malkanagir followed by Nuapada and Koraput. It, therefore calls for consorted effort in launching programmes for prevention and control of malaria in these three districts on a priority basis.

12.1 Treatment of Patients:

Information on the various categories of patients treated through the MHU per annum over an eight-year period from 1998-99 to 2005-06 is presented vide Annexure-4.2. The said Annexure reveals that disease specific number of patients treated has not been well maintained except Malaria. Since treatment of Panchabyadi is an important component of the MHU programme, the MHUs should maintain the patients treated under various Panchabyadhi diseases in particular which will help in undertaking policy reviews in future. Coming to patients treated per MHU per annum, it was around 2784 in 1998-99, which has gradually increased over the years and reached a number of 8385 in 2005-06 and the number of patients treated in 2005-06 is more than three times the number of patients treated during 1998-99. This shows that access to health delivery system through the MHUs has gained rapid momentum. The CDMOs also expressed that the delivery of health care facilities would not have gained momentum in these districts in absence of the MHUs. As such, establishment of the MHUs in the KBK region has tremendous bearing on the health care delivery systems in the KBK districts. For better appreciation, a graphic representation of the number of patients treated per MHU per annum over the years is given below in Chart No:1.



12.3 Suggestions for Improvements:

The CDMOs have also given certain suggestions for bringing in improvements in the effective functioning of the MHUs in their districts in future. Some of their suggestions are presented below for consideration of the administrative authorities.

i. Provision of accommodation for office, staff and store for MHUs.
ii. Establishment of one additional MHU in large sised blocks.
iii. The tour days having been increased from 20 per month to 24 the funds provision should increase accordingly.
iv Provision of periodical training for both Medical and Para-medical staff of the MHUs.
v. Posting of adequate MBBS Doctors in MHUs.
vi. A mechanism need be evolved to associate PRIs in conducting clinics by MHUs with a view to ensuring village visits on fixed days and regulating night halts.
vii. The suggestions listed above are definitely good. But given the situation about availability of MBBS doctors in the State, nothing much can be done immediately with regard to recruitment of doctors. However, other suggestions are not very difficult to be attended to.

13. Constraints Faced:

The programme of establishment of Mobile Health Units RLTAP in KBK districts was launched with the pious intention of enhancing access of the people of the inaccessible areas to health care services and providing them services at the door step. Besides, the programme also envisages enhancement of the awareness of the people on better health and hygiene practices. A critical appraisal of the analysis made in the foregoing sections based on the factual information collected through field survey reveals that on the whole, the programme has been successfully implemented and it has made considerable impact in the KBK districts. However, there still remain some constraints removal of which will ensure the potential beneficiaries to derive further more utility from out of the programme. Some of the constraints observed in course of the field study are enumerated below for consideration of the Government.

i. As high as 24 per cent of MHUs had not visited all villages assigned to them in each month.

ii. It was reported 44 per cent of MHUS are visiting villages once a month in place of two visits.

iii. There was no stethoscope in one of the MHUs and no Microscope in case of 4 sample MHUs.

iv. As high as 32 per cent of the sample MHUs expressed that the village visits had not been adequate among which 20 per cent of the MHUs faced constraints of fuel and funds and 12 per cent had problems of transport and medicines.

iv. The number of clinic days are less than the prescribed limit in case of 3 districts and none of the districts except Malkangir comply with the minimum requirement of at least two night halts per month.

v. Spontaneous netting of events on mother and child care, attendance to emergent cases, and taking follow up of patients on the part of the MHUs do not appear to be encouraging.

vi. Disease specific number of patients treated has not been well maintained except Malaria in any of the districts.

CHAPTER -V

SUMMARY CONCLUSIONS AND RECOMMENDATIONS

Based on the information collected through field survey and the results of interactions with Medical Officers in charge of the MHUs, selected beneficiary and non-beneficiary households and selected knowledgeable persons as the key informants from within area of operation of the sample MHUs and the views and opinion of the Chief District Medical Officers of the districts in the KBK region and the analysis made thereof, few conclusions have emerged and accordingly appropriate recommendations have been made. The conclusions that have emerged and the recommendations made in the previous chapter are presented in the following paragraphs. The conclusions in this study have mostly been arrived on the basis of quantitative and qualitative data collected in course of the field study. The conclusions drawn on different occasions based on factual data mostly remain the same. However, the views and opinion expressed by the beneficiary and non-beneficiary household members and the key informants as also the CDMOs are of qualitative in nature that have varied from person to person depending on their level of knowledge, perception, appreciation, and satisfaction in respect of a particular kind of amenity available and or services provided through the system of Mobile Health Units. Even then, their views and opinion are vital feedbacks for the administration from the point of taking appropriate policy initiatives in future.

1. Summary Conclusions:

1.1 On an average, one sample MHU serves a population of 54,300 in about 113 villages against an average population of 74,675 in a sample block thereby providing service to 73 per cent of the population of a block and the rest of 27 per cent of the block population avail health services from other medical Institutions nearer to them like the PHC, CHC, MAC, and SHC etc.

1.2 As high as 76 per cent of the sample MHUs were visiting all the villages allotted to them in each month and the rest of 24 per cent are not able to visit all villages assigned to them in each month.

1.3 It was reported that 56 per cent of the sample MHUs were visiting their villages twice a month and the rest 44 per cent once a month.

1.4 As high as 96 per cent sample MHUs reported to have been working on holidays to cope with the work load.

1.5 When a mobile clinic is held in a particular village for a group of villages, other villagers had to come to this village to avail the services. The maximum distance traveled by patients to come to the mobile clinics was reported to be around 25 kms in case of Balangir and 10 kms in case of Nuapada and Rayagada districts and it was within 6 kms in case of rest of the districts.

1.6 A Medical Officers, a Pharmacist and a Health Worker (Female) are the three crucial staff of a MHU and 92 per cent of the sample MHUs had all these three crucial positions filled in.

1.7 In 40 per cent of the sample MHUs, there were Allopathic Doctors, in 52 per cent Ayurvedic Doctors and in 8 per cent there were Homeopathic Doctors.

1.8 A good thing was observed that all the sample MHUs had a vehicle each, whether Government or hired. Also it was heartening to note that all sample MHUs had B P instruments, Slides and requisite medicines. However, there was no stethoscope in one of the MHUs and no Microscope in case of 4 sample MHUs.

1.9 As high as 32 per cent of the sample MHUs expressed that the village visits by MHUs had not been adequate among which 20 per cent of the MHUs faced constraints of fuel and funds and 12 per cent had problems of transport and medicines.

1.10 Irrespective of the coverage of all the villages assigned to a MHU and the number of visits to a village during a month, the average number of tour days during a month comes to 20 in respect of 5 districts and less than 20 in respect of 3 districts and the overall average comes to 19 days per MHU.

1.11 As regards night halts, none of the districts except Malkangir comply with the minimum requirement of at least two night halts per month.

1.12 The number of school visits varies between 2 to 9 per month per MHU and the distribution of ORS per MHU is 1657 (minimum 360 and maximum 4695).

1.13 Apart from holding mobile clinics at village levels, it was observed that the MHU had also been associated with other activities like organisation of Health Camps, Immunisation Camps, Family Welfare Camps, and rendering services during calamities as and when necessary.

1.14 It was very good to note that in almost all cases of sample MHUs, timeliness has been observed in provision of staff and mobile van. Supply of medicines was delayed in case of 16 per cent of MHUs, equipments in case of 52 per cent MHUs, provision of funds in case of 72 per cent MHUs, and delays in communicating higher level decisions in 4 per cent cases.

1.15 In course of interaction with the Medical Officers in charge of the sample MHUs and field observation, it was felt that modern equipments, quality medicines as per local needs, furniture for camps, ambulance and telecommunication facility for emergency cases, Microscope training to the Pharmacists, a display board in the villages on MHU programme, accommodation and storage facility for MHUs are essential requirements for a MHU.

1.16 Out of 125 hose-holds interviewed, as high as 90 per cent house-holds were aware of the functioning of a MHU in their area and all of them were aware that the MHU is providing treatment to individual patients. But only 31 per cent of them were aware that the MHU is organising community health care programmes also. While 90 per cent of the house-holds are aware about the functioning of MHU for them, only 67 per cent of them are availing treatment from the MHU.

1.17 Of the 75 sample beneficiary house-holds, as high as 52 per cent said that the MHUs are capable of attending emergency cases, as low as 4 per cent

said that MHUs charge fees from patients, 23 per cent said that MHUs undertake follow ups of the patients treated earlier.

1.18 There were as many as 6 children below the age of one and 62 below the age of 5 years in the 125 sample households and all of them were reported to have been immunised. But out of as many as 8 pregnant women in the sample households, only 6 (75%) were reported to have been vaccinated and given iron supplements. It was given to understand that unless a patient comes to a clinic or a camp organised for specific purposes, spontaneous netting of events, attendance to emergent cases, and taking follow up of patients on the part of the MHUs do not appear to be encouraging.

1.19 Of the 75 beneficiary households, 65 per cent expressed that they are getting service at their door step. While all of them said that supply of medicine was adequate, 89 per cent expressed that the MHUs were cooperative, 71 per cent said to have received treatment timely, 53 per cent opined the follow up of patients was good, 52 per cent of them said that the MHUs are attaching more priority to rich and influential persons. However, it was good to note that 88 per cent of the beneficiary households expressed their overall satisfaction on the functioning of the MHUs.

1.20 Out of 50 Key Informants interviewed, 98 per cent were aware of the functioning of a MHU in their locality and all of them said that a MHU is conducting village visits but none of them expressed that the sample MHUs had made any night halt during the last six months.

1.21 The perception of the Key Informants on the treatment facilities available on diseases like Malaria, Diarrhoea and scabies is quite appreciable and their perception on the treatment of other diseases like T B, Leprosy and ARI is quite poor.

1.22 As high as 58 percent of the Key Informants have expressed that they would prefer private clinics to that held by the MHUs. By this, one should not necessarily bear the impression that this is a totally adverse opinion on the MHUs. As a private clinic is open to patients 24 hours, the preference

naturally goes for a private clinic, where as MHUs are open for specific villages on specific days.

1.23 As high as 98 per cent of the Key Informants have their knowledge that MHUs are conducting school visits, 70 per cent conducting immunisation camps, 50 per cent antenatal check ups, 48 per cent health camps, and 18 per cent family welfare camps. Unless people have their perception that all these services can be provided by the MHUs, they cannot come forward spontaneously to avail the same.

1.24 The observation of the Key Informants is not very much encouraging on the prevention and control measures as well as the health hygiene education imparted by the MHUs in the local area.

1.25 The Key Informants expected more of night halts by MHUs, supply of sufficient medicines, increasing village visits, attendance to emergencies, provision of telephone facilities for emergency cases and more of IEC programmes. Their expectations appear to be genuine.

1.26 As per the opinion of the CDMOs, MHUs in as many as 5 districts are fully equipped.

1.27 As against 90 MHUs operating in the KBK region, Medical Officers are in position in 87 MHUs, Pharmacists in 70 MHUs and Health Worker (Female) in 81 MHUs.

1.28 Against 90 MHUs in the region, the CDMOs visited the MHUs on 96 occasions during 2005-06. The number of visits in case of 5 districts is less than the MHUs in the district which implies that certain MHUs are not visited by the CDMOs during a year at all.

1.29 Even though a minimum of two night halts per month has been prescribed per MHU, the CDMOs themselves have expressed that it has not been adequately undertaken in case of 5 districts.

1.30 The number of blood slides collected has gradually been increasing over the years. The malaria positive cases found varies between 17 to 22 per cent of the blood slides collected in the region over the years with an average of 21 per cent over a period of 8 years. More so, the malaria

positive cases detected is all time highest in Malkanagir district followed by Nuapada, Koraput, Rayagada, Nawarangpur, Balangir, Kalahandi, and Sonepur districts in descending orders of magnitude.

1.31 Disease specific number of patients treated has not been well maintained except Malaria in any of the districts.

1.32 The number of patients treated per MHU per annum was around 2784 in 1998-99, which has gradually increased over the years and reached a number of 8385 in 2005-06 and this is more than three times the number of 1998-99 that shows that access to health delivery system through the MHUs is gaining rapid momentum.

1.33 The CDMOs also expressed that the delivery of health care facilities would not have gained momentum in these districts in the absence of the MHUs. As such, establishment of the MHUs in the KBK region has tremendous positive impact on the health care delivery system in these districts.

2. Summary Recommendations:

2.1 The Zilla Swasthya Samitis should ensure a minimum of number two visits by a MHU to each village during a month. Impeding problems, if any, should be resolved at their level or else State level support required, if any, should be sought for.

2.2 MHUs should arrange clinics in such a manner that villagers shall not be required to travel more than 5 kms to attend a clinic. Alternatively, MHUs should hold clinics for villages within a radius of 5 kms.

2.3 With a view to ensuring requisite number of village visits and providing health services to the people, none of the crucial posts of a MHU like the Medical Officer, the Pharmacist and the Health Worker (Female) should be kept vacant at any point of time.

2.4 Although Allopathic, Ayurvedic as well as Homeopathic Doctors are equally qualified and authorized, preferably allopathic Doctors should be kept in charge of the MHUs. Of course, Doctors from other streams can attend to their job in exigency.

2.5 The District Authorities should regularly review and ensure full provision of equipments including Stethoscope and Microscope in the MHUs. If necessary, repairs and replacements should be done in time.

2.6 District Authorities should review the adequacy of village visits by MHUs and the impeding problems like transport, fuel, equipment and medicine should be sorted out. More so, adequate fuel need be purchased in advance and kept as reserve as fuel may not be available every where in rural areas.

2.7 The CDMOs should review the position at the end of each month and enforce fulfilment of a minimum of 20 days tour and 2 days of night halts in case of one and all MHUs.

2.8 While distribution of ORS is situation-specific, the departmental authorities could prescribe a minimum number of school visits per month.

2.9 District Authorities should take a view as to the minimum number of Health Camps, Immunisation Camps, and Family Welfare Camps need to be organised by individual MHUs and the target communicated to them in advance.

2.10 It is expedient for the supervisory authority to review the position and ensure provision of support services like supply of medicines, equipments, provision of funds etc to the MHUs strictly in time for their effective functioning.

2.11 Departmental Authorities, keeping in view the existing arrangements made, should examine the possibility of making provisions for modern equipments, quality medicines as per local needs, furniture for camps, ambulance and telephone facility for emergency cases, Microscope training to the Pharmacists, a display board at the village level, accommodation and storage facility for MHUs.

2.12 IEC activities should be made further more vigorous so as to creating adequate awareness among the people on the nature and extent of services a MHU provides to the people.

2.13 To bring improvements in the quality services delivered by the MHUs, the CDMOs should undertake more of field visits and more specifically mix with villagers to know about the quality of service provided by MHUs. It will have some positive impact no doubt. Frequent visits by CDMOs would increase attendance of emergency, enhance follow ups, eliminate the scope of charging fees to patients, and ensure complete enumeration of expectant mothers thereby vaccinating and providing iron supplements to one and all of them.

2.14 CDMOs should visit the villages on clinic days and interact with the villagers so that it will have adequate impact in providing doorstep services, ensuring good cooperation of the MHUs with the villagers, providing timely treatment, on ensuring cent per cent follow ups, and in removing bias of MHUs towards the rich and influential people, if any.

2.15 Even though, the prevalence of T B, Leprosy and ARI in the region is lees as compared to Malaria, Diarrhoea and Scabies, it is essential that various treatment facilities available should be widely publicised. It is, therefore, necessary that the IEC programme should be more vigorous in this respect.

2.16 It is necessary to create adequate awareness, through vigorous IEC activities, that MHU can organise or assist organisation of school visits, conduct immunisation camps, antenatal check ups, health camps, and family welfare camps etc.

2.17 The MHUs should undertake adequate prevention and control measures on TB, Malaria, Leprosy, Diarrhoea, ARI, and Scabies as well as various health and hygiene education programmes. More specifically, a Doctor should invariably lead the mobile team in organising mobile clinics in villages.

2.18 The administrative department should prescribe the minimum number of visits to each MHU by CDMOs similar to number tour days and the number of night halts prescribed for the Medical Officers of MHUs.

2.19 There is need for vigorous malaria prevention and control measures in the districts of Malkanagir, Nuapada and Koraput where the Malaria positive cases are found to be very high.

2.20 Since treatment of Panchabyadhi is an important component of the MHU programme, the MHUs should maintain records of the patients treated under various diseases, more particularly for Panchabyadhi which will help in undertaking policy reviews in future.

2.21 Government may take appropriate decisions on some of the valuable suggestions given by the CDMOs as listed below for bringing in improvements in the health care delivery services provided through MHUs. It may not be possible to deal with their suggestions vertically. However, some viable alternate solution will be good enough to implement their suggestions.

i. Provision of accommodation for office, staff and store for MHUs.

ii. Establishment of one additional MHU in large-sised blocks.

iii. The tour days having been increased from 20 per month to 24, the funds provision should increase accordingly.

iv. Periodical training for both Medical and Para-medical staff of the MHUs should be organised on a regular basis.

v. Posting of adequate number of MBBS Doctors in MHUs.

vi. A mechanism need to be evolved to associate PRIs in conducting clinics by MHUs with a view to ensuring village visits on fixed days and regulating night halts.

Annexures

Annexure – 2.1

Socio-economic Profile of Balangir District

Sl	Item of Information		Information
(1)	(2)		(3)
1	Location		
	(a) Longitude (in Degree)	-	82^0 41' to 83^0 42' E
	(b) Latitude (in Degree)	-	20^0 9' to 21^0 05' N
2	Geographical area (sq. km.)	-	6575.0
3	No. of Sub-Divisions	-	3
4	No of Tahsils	-	3
5	No of CD Blocks	-	14
6	Municipalities	-	1
7	NACs	-	8
8	Police Stations	-	13
9	Gram Panchayats	-	285
10	Total Villages	-	1792
	(a) Inhabited Villages	-	1761
	(b) Un-inhabited Villages	-	31
11	Normal annual rainfall (in mm.)	-	1443.5
12	Total Households (2001)	-	303,385
13	No of Rural Households (2001)	-	272,975
14	Total population (2001)	-	1,337,194
	(a) Males	-	673,985
	(b) Females	-	663,209
15	Children, 0 – 6 yrs (2001)	-	188,674

	(a)	Males	-	97,431
	(b)	Females	-	94,243
16	% of SCs to total population (2001)		-	16.92
17	% of STs to total population (2001)		-	20.63
18	Overall literacy rate (%)		-	54.93
	(a)	Males	-	70.36
	(b)	Females	-	39.27
19	Total workers		-	559,750
	(a)	Males	-	371,425
	(b)	Females	-	188,325
20	Total main workers		-	351,689
	(a)	Males	-	299,209
	(b)	Females	-	52,480
21	Land Use Pattern (2000- 01: in ha)			
	(i)	Forest area	-	43,761
	(ii)	Miscellaneous tree crops and groves	-	796
	(iii)	Permanent pasture	-	37,544
	(iv)	Culturable waste	-	18,868
	(v)	Land put to non-agricultural use	-	46,479
	(vi)	Barren and uncultivable waste	-	13,349
	(vii)	Current fallow	-	78,255
	(viii)	Other fallow	-	17,868
	(ix)	Net area sown	-	280,527
22	Operational Holdings		-	30,590
	(a)	Small Holdings	-	7,325
	(b)	Marginal Holdings	-	19,620
23	Area under Paddy (in ha): 2000-01		-	130,527
	(a)	Total productions of paddy (qtls)	-	808,779
	(b)	Yield rate of Paddy (qtls / ha)	-	6.20
		(i) Highest (Titlagarh Block)	-	10.31
		(ii) Lowest (Belpada Block)	-	2.19
24	Health Infrastructure:			
	(a)	District Headquarter Hospital	-	1
	(b)	Sub-Divisional Hospital	-	2
	(c)	Other Hospitals	-	8
	(d)	Community Health Centre	-	5
	(e)	Primary Health Centre (Old)	-	10

	(f) Primary Health Centre (New)	-	38
	(g) Mobile Health Unit (MHU)	-	15
	(h) Homeopathic Dispensaries	-	16
	(i) Ayurvedic Dispensaries	-	29
25	Percentage of families below poverty line – BPL Census: 2002	-	61.06
26	No of Anganwadi Centres	-	1261

Annexure – 2.2

Socio-economic Profile of Kalahandi District

Sl	Item of Information		Information
(1)	(2)		(3)
1	Location		
	(a) Longitude (in Degree)	-	82^0 32' to 83^0 47' E
	(b) Latitude (in Degree)	-	19^0 8' to 20^0 25' N
2	Geographical area (sq. km.)	-	7920.0
3	No. of Sub-Divisions	-	2
4	No of Tahsils	-	7
5	No of CD Blocks	-	13
6	Municipalities	-	1
7	NACs	-	2
8	Police Stations	-	12
9	Gram Panchayats	-	273
10	Total Villages	-	2205
	(a) Inhabited Villages	-	2068
	(b) Un-inhabited Villages	-	137
11	Normal annual rainfall (in mm.)	-	1378.2
12	Total Households (2001)	-	320,624
13	No of Rural Households (2001)	-	299,942
14	Total population (2001)	-	1,335,494
	(a) Males	-	667,526
	(b) Females	-	667,968
15	Children, 0 – 6 yrs (2001)	-	217,889

	(a) Males	-	109,807
	(b) Females	-	108,082
16	% of SCs to total population (2001)	-	17.67
17	% of STs to total population (2001)	-	28.65
18	Overall literacy rate (%)	-	46.20
	(a) Males	-	62.88
	(b) Females	-	29.56
19	Total workers	-	620,590
	(a) Males	-	381,444
	(b) Females	-	239,506
20	Total main workers	-	382,050
	(a) Males	-	313,670
	(b) Females	-	68,380
21	Land Use Pattern (2000- 01: in ha)		
	(i) Forest area	-	64,271
	(ii) Miscellaneous tree crops and groves	-	2,667
	(iii) Permanent pasture	-	20,418
	(iv) Culturable waste	-	21,434
	(v) Land put to non-agricultural use	-	43,351
	(vi) Barren and uncultivable waste	-	33,151
	(vii) Current fallow	-	60,575
	(viii) Other fallow	-	16,593
	(ix) Net area sown	-	290,901
22	Operational Holdings	-	27,214
	(a) Small Holdings	-	7,697
	(b) Marginal Holdings	-	15,394
23	Area under Paddy (in ha): 2000-01	-	265,642
	(a) Total productions of paddy (qtls)	-	5,181,757
	(b) Yield rate of Paddy (qtls / ha)	-	19.50
	(i) Highest (Jaipatna Block)	-	32.17
	(ii) Lowest (Golamunda Block)	-	5.97
24	Health Infrastructure:		
	(a) District Headquarter Hospital	-	1
	(b) Sub-Divisional Hospital	-	1
	(c) Other Hospitals	-	5
	(d) Community Health Centre	-	6
	(e) Primary Health Centre (Old)	-	8
	(f) Primary Health Centre (New)	-	39
	(g) Mobile Health Unit (MHU)	-	14
	(h) Homeopathic Dispensaries	-	14

	(i) Ayurvedic Dispensaries	-	18
25	Percentage of families below poverty line – BPL Census: 2002	-	62.71
26	No of Anganwadi Centres	-	1214

Annexure – 2.3

Socio-economic Profile of Koraput District

Sl	Item of Information		Information
(1)	(2)		(3)
1	Location		
	(a) Longitude (in Degree)	-	82^0 5' to 83^0 23' E
	(b) Latitude (in Degree)	-	18^0 13' to 19^0 10' N
2	Geographical area (sq. km.)	-	8807.0
3	No. of Sub-Divisions	-	2
4	No of Tahsils	-	7
5	No of CD Blocks	-	14
6	Municipalities	-	1
7	NACs	-	3
8	Police Stations	-	21
9	Gram Panchayats	-	226
10	Total Villages	-	1997
	(a) Inhabited Villages	-	1915
	(b) Un-inhabited Villages	-	82
11	Normal annual rainfall (in mm.)	-	1521.8
12	Total Households (2001)	-	284,876
13	No of Rural Households (2001)	-	240,294
14	Total population (2001)	-	1,180,637
	(a) Males	-	590,743
	(b) Females	-	589,894
15	Children, 0 – 6 yrs (2001)	-	200,689
	(a) Males	-	101,181
	(b) Females	-	99,508

16	% of SCs to total population (2001)	-	13.04
17	% of STs to total population (2001)	-	49.61
18	Overall literacy rate (%)	-	36.20
	(a) Males	-	47.58
	(b) Females	-	24.81
19	Total workers	-	570,435
	(a) Males	-	332,014
	(b) Females	-	238,421
20	Total main workers	-	353,367
	(a) Males	-	263,223
	(b) Females	-	90,144
21	Land Use Pattern (2000- 01: in ha)		
	(i) Forest area	-	52,279
	(ii) Miscellaneous tree crops and groves	-	20,900
	(iii) Permanent pasture	-	16,149
	(iv) Culturable waste	-	12,078
	(v) Land put to non-agricultural use	-	32,211
	(vi) Barren and uncultivable waste	-	114,932
	(vii) Current fallow	-	74,114
	(viii) Other fallow	-	18,382
	(ix) Net area sown	-	240,897
22	Operational Holdings	-	138,315
	(a) Small Holdings	-	40,795
	(b) Marginal Holdings	-	63,730
23	Area under Paddy (in ha): 2000-01	-	152,442
	(a) Total productions of paddy (qtls)	-	3,450,385
	(b) Yield rate of Paddy (qtls / ha)	-	22.63
	(i) Highest (Kotpad Block)	-	29.91
	(ii) Lowest (Bandhugaon Block)	-	7.78
24	Health Infrastructure:		
	(a) District Headquarter Hospital	-	1
	(b) Sub-Divisional Hospital	-	1
	(c) Other Hospitals	-	6
	(d) Community Health Centre	-	4
	(e) Primary Health Centre (Old)	-	10
	(f) Primary Health Centre (New)	-	48
	(g) Mobile Health Unit (MHU)	-	14
	(h) Homeopathic Dispensaries	-	15
	(i) Ayurvedic Dispensaries	-	11

25	Percentage of families below poverty line – BPL Census: 2002	-	83.81
26	No of Anganwadi Centres	-	1342

Annexure – 2.4

Socio-economic Profile of Malkangiri District

Sl	Item of Information		Information
(1)	(2)		(3)
1	Location		
	(a) Longitude (in Degree)	-	81^0 22' to 82^0 25' E
	(b) Latitude (in Degree)	-	17^0 40' to 18^0 43' N
2	Geographical area (sq. km.)	-	5791.0
3	No. of Sub-Divisions	-	1
4	No of Tahsils	-	3
5	No of CD Blocks	-	7
6	Municipalities	-	0
7	NACs	-	2
8	Police Stations	-	10
9	Gram Panchayats	-	108
10	Total Villages	-	928
	(a) Inhabited Villages	-	878
	(b) Un-inhabited Villages	-	50
11	Normal annual rainfall (in mm.)	-	1521.8
12	Total Households (2001)	-	109,483
13	No of Rural Households (2001)	-	102,076
14	Total population (2001)	-	504,198
	(a) Males	-	252,507
	(b) Females	-	251,691
15	Children, 0 – 6 yrs (2001)	-	89,813
	(a) Males	-	45,315
	(b) Females	-	44,498

16	% of SCs to total population (2001)	-	21.35
17	% of STs to total population (2001)	-	57.42
18	Overall literacy rate (%)	-	31.26
	(a) Males	-	41.21
	(b) Females	-	21.28
19	Total workers	-	247,624
	(a) Males	-	141,190
	(b) Females	-	106,434
20	Total main workers	-	154,179
	(a) Males	-	114,742
	(b) Females	-	39,437
21	Land Use Pattern (2000- 01: in ha)		
	(i) Forest area	-	143,002
	(ii) Miscellaneous tree crops and groves	-	486
	(iii) Permanent pasture	-	20,679
	(iv) Culturable waste	-	15,293
	(v) Land put to non-agricultural use	-	25,314
	(vi) Barren and uncultivable waste	-	44,439
	(vii) Current fallow	-	3,998
	(viii) Other fallow	-	18,283
	(ix) Net area sown	-	115,886
22	Operational Holdings	-	66,124
	(a) Small Holdings	-	24,129
	(b) Marginal Holdings	-	20,730
23	Area under Paddy (in ha): 2000-01	-	91,871
	(a) Total productions of paddy (qtls)	-	953,932
	(b) Yield rate of Paddy (qtls / ha)	-	10.38
	(i) Highest (Khairiput Block)	-	15.01
	(ii) Lowest (Podia Block)	-	7.96
24	Health Infrastructure:		
	(a) District Headquarter Hospital	-	1
	(b) Sub-Divisional Hospital	-	0
	(c) Other Hospitals	-	5
	(d) Community Health Centre	-	3
	(e) Primary Health Centre (Old)	-	4
	(f) Primary Health Centre (New)	-	16
	(g) Mobile Health Unit (MHU)	-	10
	(h) Homeopathic Dispensaries	-	2
	(i) Ayurvedic Dispensaries	-	2

25	Percentage of families below poverty line – BPL Census: 2002	-	81.88
26	No of Anganwadi Centres	-	580

Annexure – 2.5

Socio-economic Profile of Nawarangpur District

Sl	Item of Information		Information
(1)	(2)		(3)
1	Location		
	(a) Longitude (in Degree)	-	81^0 52' to 82^0 53' E
	(b) Latitude (in Degree)	-	19^0 9' to 20^0 5' N
2	Geographical area (sq. km.)	-	5291.0
3	No. of Sub-Divisions	-	1
4	No of Tahsils	-	4
5	No of CD Blocks	-	10
6	Municipalities	-	1
7	NACs	-	1
8	Police Stations	-	10
9	Gram Panchayats	-	169
10	Total Villages	-	897
	(a) Inhabited Villages	-	880
	(b) Un-inhabited Villages	-	17
11	Normal annual rainfall (in mm.)	-	1521.8
12	Total Households (2001)	-	227,026
13	No of Rural Households (2001)	-	214,538
14	Total population (2001)	-	1,025,766
	(a) Males	-	515,162
	(b) Females	-	510,604
15	Children, 0 – 6 yrs (2001)	-	187,048
	(a) Males	-	93,588
	(b) Females	-	93,460

16	% of SCs to total population (2001)	-	14.10
17	% of STs to total population (2001)	-	55.03
18	Overall literacy rate (%)	-	34.26
	(a) Males	-	47.36
	(b) Females	-	21.02
19	Total workers	-	507,395
	(a) Males	-	290,723
	(b) Females	-	216,672
20	Total main workers	-	264,800
	(a) Males	-	215,836
	(b) Females	-	48,964
21	Land Use Pattern (2000- 01: in ha)		
	(i) Forest area	-	93,468
	(ii) Miscellaneous tree crops and groves	-	16,820
	(iii) Permanent pasture	-	6,297
	(iv) Culturable waste	-	10,454
	(v) Land put to non-agricultural use	-	17,385
	(vi) Barren and uncultivable waste	-	6,704
	(vii) Current fallow	-	32,023
	(viii) Other fallow	-	6,509
	(ix) Net area sown	-	207,806
22	Operational Holdings	-	128,074
	(a) Small Holdings	-	35,449
	(b) Marginal Holdings	-	68,602
23	Area under Paddy (in ha): 2000-01	-	153,577
	(a) Total productions of paddy (qtls)	-	2,631,368
	(b) Yield rate of Paddy (qtls / ha)	-	17.13
	(i) Highest (Umerkote Block)	-	24.90
	(ii) Lowest (Papadahandi Block)	-	13.17
24	Health Infrastructure:		
	(a) District Headquarter Hospital	-	1
	(b) Sub-Divisional Hospital	-	0
	(c) Other Hospitals	-	3
	(d) Community Health Centre	-	5
	(e) Primary Health Centre (Old)	-	5
	(f) Primary Health Centre (New)	-	37
	(g) Mobile Health Unit (MHU)	-	11
	(h) Homeopathic Dispensaries	-	13
	(i) Ayurvedic Dispensaries	-	16

25	Percentage of families below poverty line – BPL Census: 2002	-	73.66
26	No of Anganwadi Centres	-	994

Annexure – 2.6

Socio-economic Profile of Nuapada District

Sl	Item of Information		Information
(1)	(2)		(3)
1	Location		
	(a) Longitude (in Degree)	-	82^0 20' to 82^0 53' E
	(b) Latitude (in Degree)	-	20^0 0' to 21^0 5' N
2	Geographical area (sq. km.)	-	3852.0
3	No. of Sub-Divisions	-	1
4	No of Tahsils	-	2
5	No of CD Blocks	-	5
6	Municipalities	-	0
7	NACs	-	2
8	Police Stations	-	6
9	Gram Panchayats	-	109
10	Total Villages	-	659
	(a) Inhabited Villages	-	643
	(b) Un-inhabited Villages	-	16
11	Normal annual rainfall (in mm.)	-	1378.2
12	Total Households (2001)	-	122,601
13	No of Rural Households (2001)	-	116,329
14	Total population (2001)	-	530,690
	(a) Males	-	264,396
	(b) Females	-	266,294
15	Children, 0 – 6 yrs (2001)	-	84,521
	(a) Males	-	42,927
	(b) Females	-	41,594

16	% of SCs to total population (2001)	-	13.62
17	% of STs to total population (2001)	-	34.71
18	Overall literacy rate (%)	-	42.29
	(a) Males	-	58.78
	(b) Females	-	26.01
19	Total workers	-	244,360
	(a) Males	-	146,378
	(b) Females	-	97,982
20	Total main workers	-	131,561
	(a) Males	-	108,561
	(b) Females	-	22,654
21	Land Use Pattern (2000- 01: in ha)		
	(i) Forest area	-	29,521
	(ii) Miscellaneous tree crops and groves	-	1,607
	(iii) Permanent pasture	-	12,587
	(iv) Culturable waste	-	9,156
	(v) Land put to non-agricultural use	-	18,713
	(vi) Barren and uncultivable waste	-	8,653
	(vii) Current fallow	-	26,264
	(viii) Other fallow	-	7,156
	(ix) Net area sown	-	130,653
22	Operational Holdings	-	27,675
	(a) Small Holdings	-	10,520
	(b) Marginal Holdings	-	8,450
23	Area under Paddy (in ha): 2000-01	-	105,743
	(a) Total productions of paddy (qtls)	-	482,495
	(b) Yield rate of Paddy (qtls / ha)	-	4.56
	(i) Highest (Nuapada Block)	-	5.53
	(ii) Lowest (Khariar Block)	-	2.94
24	Health Infrastructure:		
	(a) District Headquarter Hospital	-	1
	(b) Sub-Divisional Hospital	-	0
	(c) Other Hospitals	-	3
	(d) Community Health Centre	-	4
	(e) Primary Health Centre (Old)	-	2
	(f) Primary Health Centre (New)	-	12
	(g) Mobile Health Unit (MHU)	-	6
	(h) Homeopathic Dispensaries	-	5
	(i) Ayurvedic Dispensaries	-	9

25	Percentage of families below poverty line – BPL Census: 2002	-	72.03
26	No of Anganwadi Centres	-	585

Annexure – 2.7

Socio-economic Profile of Rayagada District

Sl	Item of Information		Information
(1)	(2)		(3)
1	Location		
	(a) Longitude (in Degree)	-	82^0 54' to 84^0 2' E
	(b) Latitude (in Degree)	-	19^0 0' to 19^0 58' N
2	Geographical area (sq. km.)	-	7073.0
3	No. of Sub-Divisions	-	2
4	No of Tahsils	-	4
5	No of CD Blocks	-	11
6	Municipalities	-	1
7	NACs	-	2
8	Police Stations	-	12
9	Gram Panchayats	-	171
10	Total Villages	-	2667
	(a) Inhabited Villages	-	2445
	(b) Un-inhabited Villages	-	222
11	Normal annual rainfall (in mm.)	-	1521
12	Total Households (2001)	-	190,381
13	No of Rural Households (2001)	-	165,257
14	Total population (2001)	-	831,109
	(a) Males	-	409,792
	(b) Females	-	421,371
15	Children, 0 – 6 yrs (2001)	-	145,493
	(a) Males	-	73,451
	(b) Females	-	72,042

16	% of SCs to total population (2001)	-	13.91
17	% of STs to total population (2001)	-	55.75
18	Overall literacy rate (%)	-	35.16
	(a) Males	-	47.35
	(b) Females	-	24.31
19	Total workers	-	399,184
	(a) Males	-	225,367
	(b) Females	-	173,817
20	Total main workers	-	249,909
	(a) Males	-	179,932
	(b) Females	-	69,977
21	Land Use Pattern (2000- 01: in ha)		
	(i) Forest area	-	100,767
	(ii) Miscellaneous tree crops and groves	-	5,457
	(iii) Permanent pasture	-	8,309
	(iv) Culturable waste	-	8,466
	(v) Land put to non-agricultural use	-	24,192
	(vi) Barren and uncultivable waste	-	160,232
	(vii) Current fallow	-	40,320
	(viii) Other fallow	-	16,704
	(ix) Net area sown	-	138,951
22	Operational Holdings	-	100,396
	(a) Small Holdings	-	27,413
	(b) Marginal Holdings	-	52,155
23	Area under Paddy (in ha): 2000-01	-	69,443
	(a) Total productions of paddy (qtls)	-	1,106,918
	(b) Yield rate of Paddy (qtls / ha)	-	15.94
	(i) Highest (Padampur Block)	-	26.05
	(ii) Lowest (Muniguda Block)	-	11.42
24	Health Infrastructure:		
	(a) District Headquarter Hospital	-	1
	(b) Sub-Divisional Hospital	-	1
	(c) Other Hospitals	-	3
	(d) Community Health Centre	-	11
	(e) Primary Health Centre (Old)	-	11
	(f) Primary Health Centre (New)	-	58
	(g) Mobile Health Unit (MHU)	-	12
	(h) Homeopathic Dispensaries	-	9
	(i) Ayurvedic Dispensaries	-	16

25	Percentage of families below poverty line – BPL Census: 2002	-	73.02
26	No of Anganwadi Centres	-	1001

Annexure – 2.8

Socio-economic Profile of Sonepur District

Sl	Item of Information		Information
(1)	(2)		(3)
1	Location		
	(a) Longitude (in Degree)	-	83^0 27' to 84^0 15' E
	(b) Latitude (in Degree)	-	20^0 30' to 20^0 10' N
2	Geographical area (sq. km.)	-	2337.0
3	No. of Sub-Divisions	-	2
4	No of Tahsils	-	4
5	No of CD Blocks	-	6
6	Municipalities	-	1
7	NACs	-	2
8	Police Stations	-	7
9	Gram Panchayats	-	96
10	Total Villages	-	959
	(a) Inhabited Villages	-	808
	(b) Un-inhabited Villages	-	151
11	Normal annual rainfall (in mm.)	-	1443.5
12	Total Households (2001)	-	115,533
13	No of Rural Households (2001)	-	107,292
14	Total population (2001)	-	541,835
	(a) Males	-	275,601
	(b) Females	-	266,234
15	Children, 0 – 6 yrs (2001)	-	77,259
	(a) Males	-	39,275
	(b) Females	-	37,984

16	% of SCs to total population (2001)	-	23.62
17	% of STs to total population (2001)	-	9.78
18	Overall literacy rate (%)	-	64.07
	(a) Males	-	80.30
	(b) Females	-	47.28
19	Total workers	-	236,980
	(a) Males	-	149,776
	(b) Females	-	87,204
20	Total main workers	-	148,695
	(a) Males	-	121,737
	(b) Females	-	26,958
21	Land Use Pattern (2000- 01: in ha)		
	(i) Forest area	-	18,153
	(ii) Miscellaneous tree crops and groves	-	5,242
	(iii) Permanent pasture	-	9,769
	(iv) Culturable waste	-	10,654
	(v) Land put to non-agricultural use	-	19,046
	(vi) Barren and uncultivable waste	-	3,130
	(vii) Current fallow	-	15,639
	(viii) Other fallow	-	12,358
	(ix) Net area sown	-	90,616
22	Operational Holdings	-	72,566
	(a) Small Holdings	-	18,653
	(b) Marginal Holdings	-	39,794
23	Area under Paddy (in ha): 2000-01	-	103,409
	(a) Total productions of paddy (qtls)	-	2,038,197
	(b) Yield rate of Paddy (qtls / ha)	-	19.71
	(i) Highest (Binika Block)	-	35.04
	(ii) Lowest (Birmaharajpur Block)	-	6.72
24	Health Infrastructure:		
	(a) District Headquarter Hospital	-	1
	(b) Sub-Divisional Hospital	-	0
	(c) Other Hospitals	-	3
	(d) Community Health Centre	-	4
	(e) Primary Health Centre (Old)	-	2
	(f) Primary Health Centre (New)	-	17
	(g) Mobile Health Unit (MHU)	-	7
	(h) Homeopathic Dispensaries	-	4
	(i) Ayurvedic Dispensaries	-	12

25	Percentage of families below poverty line – BPL Census: 2002	-	73.02
26	No of Anganwadi Centres	-	416

Annexure - 3.1

List of 90 Mobile Health Units under RLTAP in KBK Districts

Sl	District	Sl	Block	Dist Sl	MHU Sl	Name of MHU
1	2	3	4	5	6	7
1	Balangir	1	Balangir	1	1	Balangir
	Blocks -14	2	Bangamunda	2	2	Bangamunda
	MHU - 15	3	Agalpur	3	3	Agalpur
		4	Khaprakhol	4	4	Khaprakhol
		5	Patnagarh	5	5	Patnagarh
		6	Titilagarh	6	6	Titilagarh
		7	Belpara	7	7	Belpara
		8	Guduvela	8	8	Guduvela
		9	Saintala	9	9	Saintala
		10	Tureikella	10	10	Tureikella
			- do -	11	11	Mahakhanda
		11	Deogaon	12	12	Bandhapaada / Arjunpur
		12	Loisinga	13	13	Loisinga
		13	Muribahal	14	14	Muribahal
		14	Puintala	15	15	Puintala
2	Kalahandi	1	Narla	1	16	Narla
	Blocks -13	2	Parla (Junagarh)	2	17	Parla (Junagarh)
	MHU - 14	3	Kalampur	3	18	Kalampur
		4	Koksara	4	19	Koksara
		5	Bhawanipatna	5	20	Bhawanipatna
		6	Dharamgarh	6	21	Dharamgarh
		7	Jaipatna	7	22	Jaipatna
		8	Karlamunda	8	23	Karlamunda
		9	Kesinga	9	24	Kesinga
		10	Golamunda	10	25	Golamunda
		11	M Rampur	11	26	M Rampur
		12	Th Rampur	12	27	Th Rampur
			- do -	13	28	Mahulpatna
		13	Biswanathpur	14	29	Biswanathpur (Lanjigarh)
3	Koraput	1	Koraput	1	30	Koraput
	Blocks -14	2	Jeypore	2	31	Jeypore
	MHU - 15	3	Boriguma	3	32	Boriguma
		4	Dasmanthpur	4	33	Dasmanthpur
			- do -	5	34	Koel
		5	Boipariguda	6	35	Boipariguda
		6	Kotpad	7	36	Kotpad
		7	Laxmipur	8	37	Laxmipur
		8	Nandapur	9	38	Nandapur

		9	Bandhugaon	10	39	Bandhugaon
		10	Kundra	11	40	Kundra
		11	Lamataput	12	41	Lamataput
		12	Narayanpatna	13	42	Narayanpatna
		13	Potangi	14	43	Potangi
		14	Similguda	15	44	Similguda
4	Malkangir	1	Malkangir	1	45	Malkangir (Pandripani)
	Blocks - 7	2	Korkunda	2	46	Korkunda
	MHU - 10		- do -	3	47	Chitrakunda
		3	Kalimela	4	48	Kalimela
		4	Khairaput	5	49	Khairaput
		5	Kudugulugumа	6	50	Kudugulugumа
			- do -	7	51	Jodambo
			- do -	8	52	Janbai
		6	Podia	9	53	Podia
		7	Mathili	10	54	Mathili
5	Nawarangpur	1	Dabugaon	1	55	Dabugaon
	Blocks - 10	2	Nawarangpur	2	56	Nawarangpur
	MHU - 11	3	Umerkote	3	57	Umerkote
		4	Jharigaon	4	58	Jharigaon
		5	Kosagumuda	5	59	Kosagumuda
			- do -	6	60	Kalegaon
		6	Papadhandi	7	61	Papadhandi
		7	Raigarh	8	62	Raigarh
		8	Tentulikhunti	9	63	Tentulikhunti
		9	Chandahandi	10	64	Chandahandi
		10	Nandahandi	11	65	Nandahandi
6	Nuapada	1	Nuapada	1	66	Nuapada
	Blocks - 5	2	Khariar	2	67	Khariar
	MHU - 6	3	Komna	3	68	Komna
			- do -	4	69	Bhella (Sunabeda)
		4	Sinapali	5	70	Sinapali
		5	Boden	6	71	Boden
7	Rayagada	1	Rayagada	1	72	Jemadeipentho
	Blocks - 11	2	Kasipur	2	73	Kasipur
	MHU - 12		- do -	3	74	Tikiri
		3	Muniguda	4	75	Muniguda
		4	Padmapur	5	76	Padmapur
		5	K Singpur	6	77	K Singpur
		6	Chandrapur	7	78	Chandrapur
		7	Gunupur	8	79	Jaganathpur
		8	Bissamcuttack	9	80	Bissamcuttack
		9	Gudari	10	81	Gudari
		10	Kolnara	11	82	Kolnara
		11	Ramanguda	12	83	Ramanguda
8	Sonepur	1	Sonepur	1	84	Sonepur
	Blocks - 6		- do -	2	85	Khalliapali
	MHU - 7	2	Binka	3	86	Binka
		3	Turva	4	87	Turva
		4	Birmaharajpur	5	88	Birmaharajpur
		5	Duguripalli	6	89	Duguripalli
		6	Ullunda	7	90	Ullunda
	Total	80		90	90	

Annexure - 4.1

Detection and Treatment of Malaria Cases through MHUs

Sl	District	Total MHUs	During 1998-99			During 1999-00			During 2000-01		
			Slides Collected	+ve Cases	% of +ve Cases	Slides Collected	+ve Cases	% of +ve Cases	Slides Collected	+ve Cases	% of +ve Cases
1	2	3	4	5	6	7	8	9	10	11	12
1	Balangir	15	19175	3252	17%	6347	573	9%	8289	801	10%
2	Kalahandi	14	11054	819	7%	14462	1254	9%	15051	1422	9%
3	Koraput	15	11498	3073	27%	10929	1700	16%	1957	262	13%
4	Malkangir	10	4562	2737	60%	7201	5184	72%	12407	6203	50%
5	Nawarangpur	11	411	212	52%	876	252	29%	952	311	33%
6	Nuapada	6	NA	NA	-	NA	NA	-	4326	1758	41%
7	Rayagada	12	5514	929	17%	9848	1997	20%	14263	1709	12%
8	Sonepur	7	1995	244	12%	4799	357	7%	12782	779	6%
	Total	90	54209	11266	21%	54462	11316	21%	70027	13245	19%

Annexure - 4.1 (contd …….)

Sl	District	Total MHUs	During 2001-02			During 2002-03			During 2003-04		
			Slides Collected	+ve Cases	% of +ve Cases	Slides Collected	+ve Cases	% of +ve Cases	Slides Collected	+ve Cases	% of +ve Cases
1	2	3	13	14	15	16	17	18	19	20	21
1	Balangir	15	9145	903	10%	9849	671	7%	7875	574	7%
2	Kalahandi	14	14475	1176	8%	14645	1249	9%	20412	1669	8%
3	Koraput	15	9441	887	9%	16473	1320	8%	14684	2629	18%
4	Malkangir	10	11559	6704	58%	15916	8435	53%	19231	12884	67%
5	Nawarangpur	11	6479	574	9%	7922	637	8%	7866	714	9%
6	Nuapada	6	5081	1487	29%	6488	4134	64%	9780	1282	13%
7	Rayagada	12	13531	1511	11%	12412	1271	10%	14142	1694	12%
8	Sonepur	7	8092	344	4%	8127	388	5%	6412	451	7%
	Total	90	77803	13586	17%	91832	18105	20%	100402	21897	22%

Annexure - 4.1 (contd …….)

Sl	District	Total MHUs	During 2004-05			During 2005-06			Total (8 years')		
			Slides Collected	+ve Cases	% of +ve Cases	Slides Collected	+ve Cases	% of +ve Cases	Slides Collected	+ve Cases	% of +ve Cases
1	2	3	22	23	24	25	26	27	28	29	30
1	Balangir	15	8856	598	7%	10986	620	6%	80582	7992	10%
2	Kalahandi	14	23528	2313	10%	18891	1453	8%	132518	11355	9%
3	Koraput	15	21774	4487	21%	22014	2547	12%	108770	16905	16%
4	Malkangir	10	16609	10795	65%	15373	10453	68%	102858	63395	62%
5	Nawarangpur	11	7956	590	7%	7622	614	8%	40084	3904	10%
6	Nuapada	6	8292	3000	36%	10913	5218	48%	44880	16879	38%
7	Rayagada	12	16908	2021	12%	21089	3265	15%	107707	14397	13%
8	Sonepur	7	4477	445	10%	3740	322	9%	50424	3329	7%
	Total	90	108400	24249	22%	110628	24492	22%	667823	138156	21%

Annexure - 4. 2

Patients Treated through the MHUs during the Period 1998-99 to 2005-06

Sl	District	Total MHUs	Patients Treated during 1998-99								Patients per MHU
			TB	Malaria	Leprosy	Diarrohea	ARI	Scabies	Others	Total	
1	2	3	4	5	6	7	8	9	10	11	12
1	Balangir	15		19175		NA	NA	NA	NA	19175	1278
2	Kalahandi	14		11054		NA	NA	NA	NA	11054	790
3	Koraput	15		3013		16285	8089	NA	NA	27387	1826
4	Malkangir	10		4562		3823	5778	3737	8300	26200	2620
5	Nawarangpur	11	81	596	37	8711	7252	9152	56501	82330	7485
6	Nuapada	6		NA		NA	NA	NA	NA	NA	NA
7	Rayagada	12		5514		6451	7163	NA	40765	59893	4991
8	Sonepur	7		898		1672	3654	2439	15877	24540	3506
	Total	90	81	44812	37	36942	31936	15328	121443	250579	2784

Annexure - 4.2 (contd …….)

Sl	District	Total MHUs	Patients Treated during 1999-00								Patients per MHU
			TB	Malaria	Leprosy	Diarrohea	ARI	Scabies	Others	Total	
1	2	3	13	14	15	16	17	18	19	20	21
1	Balangir	15		6347		NA	NA	NA	NA	6347	423
2	Kalahandi	14		14462		NA	NA	NA	NA	14462	1033
3	Koraput	15		1700		31374	7878	20327	NA	61279	4085
4	Malkangir	10		7201		4205	7201	3983	45206	67796	6780
5	Nawarangpur	11	129	7611	47	13952	16570	22103	102681	163093	14827
6	Nuapada	6		NA		NA	NA	NA	NA	NA	NA
7	Rayagada	12		9848		5872	11693	NA	49720	77133	6428
8	Sonepur	7		2286		2029	3933	4128	17605	29981	4283
	Total	90	129	49455	47	57432	47275	50541	215212	420091	4668

Annexure - 4.2 (contd …….)

Sl	District	Total MHUs	Patients Treated during 2000-01								Patients per MHU
			TB	Malaria	Leprosy	Diarrohea	ARI	Scabies	Others	Total	
1	2	3	22	23	24	25	26	27	28	29	30
1	Balangir	15		8289		NA	NA	NA	NA	8289	553
2	Kalahandi	14		15051		NA	NA	NA	NA	15051	1075
3	Koraput	15		262		19981	5945	11779	NA	37967	2531
4	Malkangir	10		12407		1389	10387	4960	52376	81519	8152
5	Nawarangpur	11	119	8754	25	17596	17211	24191	112977	180873	16443
6	Nuapada	6		1048		5	NA	NA	NA	1053	176
7	Rayagada	12		14263		8008	24635	NA	87509	134415	11201
8	Sonepur	7		4518		4271	12166	8253	57754	86962	12423
	Total	90	119	64592	25	51250	70344	49183	310616	546129	6068

Annexure - 4.2 (contd …….)

Sl	District	Total MHUs	Patients Treated during 2001-02								Patients per MHU
			TB	Malaria	Leprosy	Diarrohea	ARI	Scabies	Others	Total	
1	2	3	31	32	33	34	35	36	37	38	39
1	Balangir	15		9145		NA	NA	NA	NA	9145	610
2	Kalahandi	14		14475		NA	NA	NA	NA	14475	1034
3	Koraput	15		887		7090	9538	13928	NA	31443	2096
4	Malkangir	10		11559		3663	15387	9836	48376	88821	8882
5	Nawarangpur	11	264	15911	119	11617	12670	24124	112944	177649	16150
6	Nuapada	6		949		18	NA	NA	NA	967	161
7	Rayagada	12		13531		8694	26424	7684	96740	153073	12756
8	Sonepur	7		4410		5432	10883	8356	61444	90525	12932
	Total	90	264	70867	119	36514	74902	63928	319504	566098	6290

Annexure - 4.2 (contd …….)

Sl	District	Total MHUs	Patients Treated during 2002-03								Patients per MHU
			TB	Malaria	Leprosy	Diarrohea	ARI	Scabies	Others	Total	
1	2	3	40	41	42	43	44	45	46	47	48
1	Balangir	15		9849		NA	NA	NA	NA	9849	657
2	Kalahandi	14		14645		NA	NA	NA	NA	14645	1046
3	Koraput	15		1320		9555	29538	29045	NA	69458	4631
4	Malkangir	10		15916		7306	31822	14298	62376	131718	13172
5	Nawarangpur	11	214	9474	117	12417	22613	28514	130208	203557	18505
6	Nuapada	6		6488		75	NA	NA	NA	6563	1094
7	Rayagada	12		12412		7554	22588	8106	96848	147508	12292
8	Sonepur	7		4378		7398	15354	8782	63598	99510	14216
	Total	90	214	74482	117	44305	121915	88745	353030	682808	7587

Annexure - 4.2 (contd …….)

Sl	District	Total MHUs	TB	Patients Treated during 2003-04							Patients per MHU
				Malaria	Leprosy	Diarrohea	ARI	Scabies	Others	Total	
1	2	3	49	50	51	52	53	54	55	56	57
1	Balangir	15		7875		NA	NA	NA	NA	7875	525
2	Kalahandi	14		20412		NA	NA	NA	NA	20412	1458
3	Koraput	15		2629		11049	33598	22584	NA	69860	4657
4	Malkangir	10		19231		5396	31298	13150	63272	132347	13235
5	Nawarangpur	11	311	10956	141	6988	23064	16464	135275	193199	17564
6	Nuapada	6		9780		108	NA	NA	NA	9888	1648
7	Rayagada	12		14142		9559	33590	10100	111381	178772	14898
8	Sonepur	7		3966		5791	11154	7811	54834	83556	11937
	Total	90	311	88991	141	38891	132704	70109	364762	695909	7732

Annexure - 4.2 (contd …….)

Sl	District	Total MHUs	Patients Treated during 2004-05								Patients per MHU
			TB	Malaria	Leprosy	Diarrohea	ARI	Scabies	Others	Total	
1	2	3	58	59	60	61	62	63	64	65	66
1	Balangir	15		8856		NA	NA	NA	NA	8856	590
2	Kalahandi	14		23526		NA	NA	NA	NA	23526	1680
3	Koraput	15		4487		8349	25563	23463	NA	61862	4124
4	Malkangir	10		16609		9386	39973	23793	78339	168100	16810
5	Nawarangpur	11	69	7755	42	6921	22779	18259	126486	182311	16574
6	Nuapada	6		8292		140	NA	NA	NA	8432	1405
7	Rayagada	12		16908		9663	36920	18914	113599	196004	16334
8	Sonepur	7		4757		4378	11402	9515	53571	83623	11946
	Total	90	69	91190	42	38837	136637	93944	371995	732714	8141

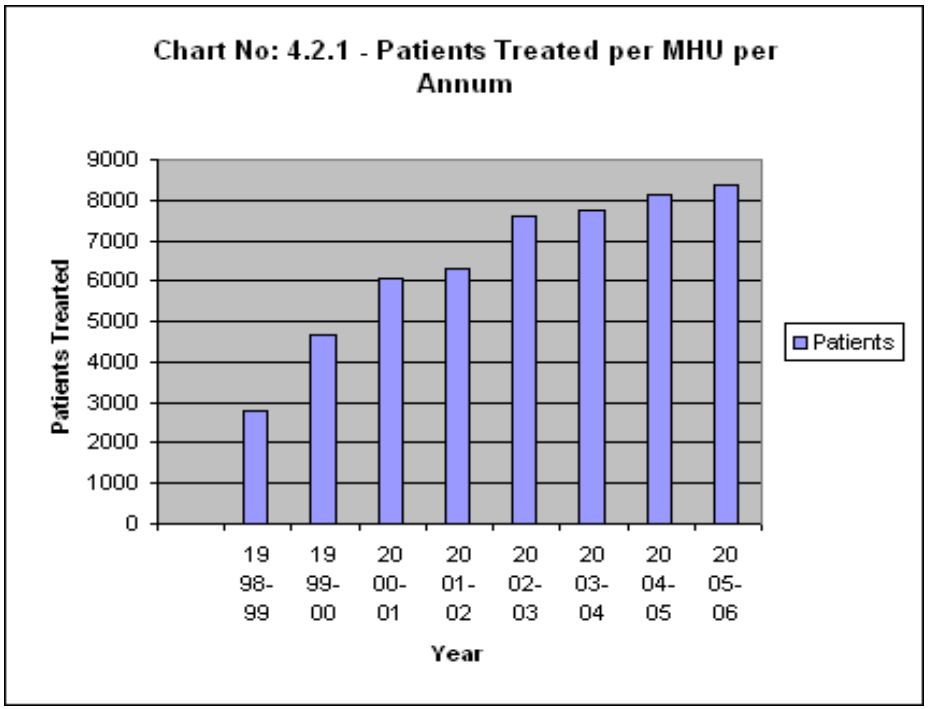
Annexure - 4.2 (contd …….)

Sl	District	Total MHUs	Patients Treated during 2005-06								Patients per MHU
			TB	Malaria	Leprosy	Diarrohea	ARI	Scabies	Others	Total	
1	2	3	67	68	69	70	71	72	73	74	75
1	Balangir	15		10986		NA	NA	NA	NA	10986	732
2	Kalahandi	14		18891		NA	NA	NA	NA	18891	1349
3	Koraput	15		2547		9855	24999	22639	NA	60040	4003
4	Malkangir	10		15373		6869	31309	6290	71308	131149	13115
5	Nawarangpur	11	55	9496	78	7022	23411	19514	179083	238659	21696
6	Nuapada	6		10913		14	NA	NA	NA	10927	1821
7	Rayagada	12		21089		12397	39701	30906	105696	209789	17482
8	Sonepur	7		3924		4066	8481	8387	49333	74191	10599
	Total	90	55	93219	78	40223	127901	87736	405420	754632	8385

Annexure - 4.2 (contd …….)

Sl	District	Total MHUs	Patients Treated during 1998-2006 (8 years)								Patients per MHU
			TB	Malaria	Leprosy	Diarrohea	ARI	Scabies	Others	Total	
1	2	3	76	77	78	79	80	81	82	83	84
1	Balangir	15		80522		NA	NA	NA	NA	80522	5368
2	Kalahandi	14		132516		NA	NA	NA	NA	132516	9465
3	Koraput	15		16845		113541	145148	143765	NA	419299	27953
4	Malkangir	10		102858		42037	173155	80047	429553	827650	82765
5	Nawarangpur	11	1242	70553	606	85224	145570	162321	956155	1421671	129243
6	Nuapada	6		37470		360	NA	NA	NA	37830	6305
7	Rayagada	12		107707		68198	202714	75710	702258	1156587	96382
8	Sonepur	7		29137		35037	77027	57671	374016	572888	81841
	Total	90	1242	577608	606	344397	743614	519514	2461982	4648963	51655

Year	Patients
1998-99	2784
1999-00	4668
2000-01	6068
2001-02	6290
2002-03	7587
2003-04	7732
2004-05	8141
2005-06	8385

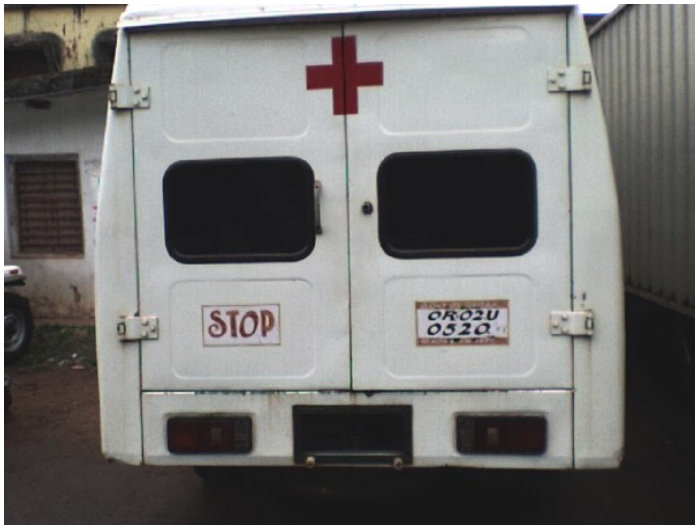


Photographs Relating to Mobile Health Units

MHU in front of CDMO Office at Koraput

MHU about to leave on a round

Sight view of a MHU of Nabarangpur District



Back view of a MHU

Investigator Collecting Information in Dabugaon Block
from MHU Staff

Investigator Discussing at Dasmantpur Block Office
with MHU Doctor