CHAPTER VIII

VERTICAL LEPROSY ERADICATION PROGRAMME AND THE TECHNO-ORGANISATIONAL LINKAGES AMONG THE SIX PROGRAMMES

From the selected five integrated programmes discussed in the previous chapter, we now go to the sixth programme of leprosy in Purulia. The vertical structural disposition of the National Leprosy Eradication Programme (NLEP) makes it a rather isolated venture. We discuss the programme in the same chosen framework of inputs, throughputs, and outputs to bring out its internal linkages.

The second section of the chapter explores the existing and possible technical cum organisational and managerial-administrative linkages, specifically between the six selected programmes of F.P., Immunisation and MCH, and Malaria, Diarrhoea, T.B., and Leprosy.

8.1 THE NATIONAL LEPROSY ERADICATION PROGRAMME (NLEP) IN PURULIA

Purulia was one of the two, first districts (along with Wardha in Andhra Pradesh) in India where an alternate organised activity against leprosy was undertaken, because it was one of the two most hyper-endemic districts. The said venture was the Multi Drug Regimen Project (MDRP) which was started with the joint efforts of the Central and State Governments and voluntary organisations. Assistance for the project came from the WHO and the Swedish International Development Authority (SIDA). As a result, Multi Drug Therapy (MDT) has been in operation in Purulia since February 1982.

The personnel in position in this district at the beginning of the NLEP, for the previously existing National Leprosy Control Programme, were inadequate for the new version of the programme, both in terms of their existing strength and training. Thus, Medical Officers,
Supervisors, and paramedical workers already trained in leprosy control were brought in from other districts. The few already trained personnels in Purulia were the only ones to be included in the team for the MDT project.

The majority of the existing personnel who were untrained were to run the earlier monotherapy treatment activities. Thus, along with MDT a parallel system of leprosy treatment by monotherapy was also continued. These dual lines of treatment caused considerable confusion and overlap. Also, initially only the multi-bacillary (MB) patients were considered for MDT and the paucibacillary cases (PB) were included for MDT at the fag end of the intensive phase of the MDRP in 1985. This discriminatory approach posed further difficulty.

The intensive phase of the multi-drug project in Purulia lasted from February, 1982 to March, 1985. From April, 1985 to March, 1991, the maintenance phase of the project was implemented. Since April 1991, the district has been categorised as only endemic and not hyper endemic. The NLEP in its present form of implementation, in the district, is under the CMOH, but is run vertically, independent of the other programmes and services. It also has an infrastructure independent of the BPHCs, PHCs, and subcentres.

THE INPUTS

In this subsection we discuss the infrastructure, personnel and, technological resources used for the NLEP.

Personnel - Under the post of the CMOH, this programme is headed by the District Leprosy Officer known in Purulia as the Zonal Leprosy Officer (ZLO). At the district office, below the post of the ZLO, there were the posts of one District Health Educator (DHE) equivalent to the rank of a Social Welfare Officer (SWO), one Senior Non-Medical Supervisor (Sr. NMS), one physiotherapist, one statistical assistant, one laboratory technician, clerks, and one driver. Except for the physiotherapist all the posts were filled. The post of statistical assistant was filled
with a paramedical worker (PMW) deputed from his original posting at Manbazar Leprosy Control Unit. He is an ex-leprosy patient with grade-I deformity.

Below the Zonal Leprosy Unit, there were 5 Leprosy Control Units (LCU) at Purulia town, Hura, Raghunathpur, Manbazar, and Balarampur. One urban leprosy centre (ULC) and a Temporary Hospitalisation Ward (THW) both at Raghunathpur, and two leprosy clinics at Kakdiha and Baabazar (tribal clinic) complete the infrastructure of Government leprosy units in Purulia.

However, among the above, the THW and the two leprosy clinics were not functional. The LCUs had different staffing patterns as the two at Manbazar and Raghunathpur were under non-plan sanction and the other three LCUs at Purulia Sadar, Balarampur, and Huda were under plan sanction and were also upgraded units. Among the non-plan units, the posts of NMS had been abolished at Raghunathpur and instead posts of Health Assistants (HA) had been increased.

In the non-plan units apart from one post of medical officer in each, there were four non-medical supervisors, eighteen health assistants, one physiotherapist, one laboratory technician, one driver and twenty Group D staff and a clerk. In the plan units the difference in the sanctioned posts was that there were twenty health assistants and two non-medical supervisors instead of the previously stated combination. The number of Group D staff was also less and in lieu of twenty there were only six.

Each unit should have a laboratory for diagnostic tests, but two of the five LCUs, at Huda and Balarampur did not have any. There was one sanctioned post of laboratory technician for every LCU including at Balarampur, except for Huda LCU which had a post of pharmacist instead. There was a central district laboratory at the Sadar LCU which was started in 1982 with the multi-drug therapy project.
DISTRICT PURULIA

COVERAGE AREAS OF 8 LCUs

Kms.

N

RANCHI

JHALDA

JOIPUR

BAGHMUNDI

BALARAMPUR

BARABAZAR

SINGHBHUM

BURDWAN

DHANBAD

SANTALDI

RAGHUNATHPUR

PARA

KASHIPUR

HURA

LCU HURA

LCU MANBAZAR

LCU RAGHUNATHPUR

LCU BALARAMPUR

LCU (SADAR), PURULIA

GMLF BALARAMPUR

TLM JHALDA

ADRA LEPROSY PROJECT

MAP 8.1
Presently, three laboratory technicians of the Zonal Leprosy Unit, Sadar LCU, and Balarampur LCU were posted at this laboratory as there was no laboratory at the Zonal unit either. These three technicians worked for the three units at Huda, Balarampur, and Purulia.

Apart from the ZLO there were 6 sanctioned posts of medical officers, 14 posts of non-medical supervisors and 96 para-medical workers for the NLEP in Purulia. The strength of in position M.O.s kept changing from time to time as they are shifted to or from the NLEP to the general health services. Most of the in position personnel in position were trained in NLEP by the Leprosy Mission, Purulia. Virtually, half the numbers of M.O.'s remained in position and lab. technicians were in position, physiotherapists were non-existent and the Temporary Hospital Ward was absent.

Each of the Government and non-government LCUs and the other functional units (urban units) had separate catchment areas (Map 8.1), the population size covered by each were also different (Table 8.1.1).

Table 8.1.1: Coverage of Government Leprosy Units, Purulia

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of Unit</th>
<th>Area covered (blocks)</th>
<th>Population covered ('91 census)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>LCU, Sadar, Purulia</td>
<td>Purulia-I and II, and Para</td>
<td>3,73,416</td>
</tr>
<tr>
<td>2.</td>
<td>LCU, Huda</td>
<td>Huda and part of Kashipur</td>
<td>2,34,630</td>
</tr>
<tr>
<td>3.</td>
<td>LCU, Raghunathpur</td>
<td>Raghunathpur-I (part) and II, Nefuria and Santuri</td>
<td>2,57,272</td>
</tr>
<tr>
<td>4.</td>
<td>LCU, Manbazar</td>
<td>Manbazar-I and part of II, Puncha</td>
<td>2,74,607</td>
</tr>
<tr>
<td>5.</td>
<td>LCU, Balarampur</td>
<td>Part of Barabazar, Arsha, Bandwan, and part of Manbazar II</td>
<td>2,53,147</td>
</tr>
<tr>
<td>6.</td>
<td>ULC, Raghunathpur</td>
<td>Raghunathpur municipality area</td>
<td>19,217</td>
</tr>
</tbody>
</table>

Source: ZLO's office, Purulia.
As seen from Table 8.1.1, the total coverage of the government units was a population of 14,12,289 i.e., 63.5 percent of the total population of the district. The rest 36.5 percent population of Purulia was covered by the non-governmental units.

There were four non-governmental units and two hospitals undertaking anti-leprosy activities in the district (Table 8.1.2). The population size covered by these units was 7,98,674. The two leprosy hospitals were: (i) Purulia Leprosy Home and Hospital (The Leprosy Mission or TLM), Purulia with a bed capacity of 240, and (ii) Nava Kustha Nivas, Purulia with 212 beds.

Table 8.1.2: Coverage of Non-governmental Leprosy Units in Purulia

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of Unit</th>
<th>Area covered</th>
<th>Population covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>ULC (TLM), Purulia</td>
<td>Purulia municipality</td>
<td>91,967</td>
</tr>
<tr>
<td>2.</td>
<td>TLM, Jhalda</td>
<td>Jhalda I, II, and Joypur blocks</td>
<td>3,14,917</td>
</tr>
<tr>
<td>3.</td>
<td>Gandhi memorial Leprosy Foundation, Balarampore</td>
<td>Bagmundi, part of Barabazar and Balarampore blocks</td>
<td>2,77,552</td>
</tr>
<tr>
<td>4.</td>
<td>Adra Leprosy Project</td>
<td>Parts of Kashipur and RN Pur blocks</td>
<td>1,14,238</td>
</tr>
</tbody>
</table>

ULC(TLM) = Urban Leprosy Centre (The Leprosy Mission)
TLM, Jhalda = The Leprosy Mission, Jhalda.
Source: ZLO’s Office, Purulia.

Among the NGOs mentioned, the Leprosy Mission has been doing pioneering work in Purulia. It not only provided with partial funds for the NLEP in the district, but also imparted training to the government personnel of the programme. The Leprosy Mission Home and Hospital on the outskirts of Purulia town was established in 1891 and at present the ULC, Purulia and the 240 bedded hospital were two of the various units it accommodated. The hospital was the local referral centre for the NLEP and had facilities for reconstructive surgery,
physiotherapy, ophthalmological surgery etc. The Mission also manufactured and sold various types of microcellular rubber (MCR) footwear for leprosy patients. To sum up, we can say that the infrastructure, coverage, and services available both from the government and non-government sectors for the NLEP in Purulia, were better than for the other programmes.

**Technology** - The technology used are discussed in two groups: (i) diagnostic, and (ii) curative.

(i) **Diagnostic technology:** Other than the clinical diagnosis of leprosy patients done by the PMWs, NMSs, and MOs, the diagnosis of leprosy and its types were based upon the microscopic examination of skin smears of suspected patients. The bacteriological index was noted following the Ridley scale. The essential technologies required for the smear examinations were: (i) glass slides, (ii) scraping knives, (iii) stains, and (iv) microscopes.

The slides were either bought by the ZLO from Calcutta or were supplied by the DRS. Mostly, the slides had to be purchased because those supplied by the DRS were supplied from the Central Medical Stores, Calcutta and their quality was not always assured. The scraping knives were supplied by the DRS, again indented from the Central Medical Stores, Calcutta. The knives were supplied in two parts, of the handles and the blades. More often than not the handles and blades were of different sizes and skin smears could not be taken.

The reagent for staining the smears was bought and supplied by the ZLO from Calcutta from time to time. During the field work, it was observed by the researcher that once the reagent was bought personally by the ZLO from Calcutta, on a visit to the Directorate for a meeting. The reagent when put to use was not functioning properly and all smears were giving negative results under the microscope. It was then decided in a monthly meeting that the laboratory technician of Zonal Leprosy Unit was to be delegated to procure good quality reagent from Calcutta.

The microscopes used were either of mono-ocular or binocular types of Olympus (Indian or Japanese) make. All the units have at least one microscope in working order. The Purulia Sadar Unit's laboratory had six microscopes with it. In 1995, out of the six microscopes four
(two mono-ocular and two binocular) were in working condition. The maintenance of microscopes were done with the TLM funds.

The other hindrances with the smear examinations were: (i) there was virtually no cross checking of the skin smears (re-examination of 10 percent of the smears was the norm). The main reason for lack of cross-checking of the slides was the non-availability of a laboratory at the Zonal Leprosy Office. The technician sanctioned for this laboratory worked in the Sadar unit’s laboratory and examined slides for Huda LCU, and (ii) the follow-up smears usually showed dotted or broken bacilli which were confused by the technicians as viable bacilli and were diagnosed as relapse cases.

Thus problems were observed at the lab. testing and equipment procurement levels for which while the ZLO used his personal efforts, there was actually no organisational means of regular supplies.

(ii) Curative Technology - The medicinal regimens are used in Purulia were the monotherapy and the multi-drug therapy (MDT). As mentioned earlier, all leprosy cases were not inducted into MDT at the beginning of the multi-drug project. Since January, 1986, dapsone monotherapy was discontinued excepting for those who had specific contra-indications for the multi-drug regimen. Once these patients were grouped under monotherapy they continued to remain so, unless deleted from therapy.

The regimens used were - (a) monotherapy with 100 mg. of Dapsone daily for six months for PB cases, (b) multi-drug therapy - this was different for the PB and MB cases. For PB cases, Rifampicin-600 mg and Dapsone-100 mg once a month pulse doses and Dapsone-100 mg daily, both continued for 6 months. The MB cases were treated with a combination of Rifampicin-600 mg, Clofazimine 100 mg, and Dapsone-100 mg, once a month pulse doses for 24 months along with Dapsone 100 mg and Clofazimine 50 mg daily, for the same period.
In both MB and PB cases, the pulse doses were to be administered under supervision of the programme personnel but this was not always so, as will be discussed later in this section. The other problems with the treatment of patients were: (i) Once a patient completed a course, he or she was released from treatment (RFT) which did not ensure cure, (ii) drug consumption was not checked regularly on home visits or preclinic contacts, (iii) the follow up of RFT cases, once every year for 2 years in PB cases and 5 years in MB cases was difficult, and (iv) reactions due to therapy and complicated cases were referred to the Leprosy Mission Hospital but not followed-up afterwards.

**Vehicles with the NLEP** - The importance of vehicles for district’s supervision of the LCUs and for the LCUs to conduct their circuits and for drug distribution cannot be over emphasised. The prescribed norm was that there should be one vehicle at the ZLO’s disposition and one vehicle each with the LCUs. Vehicles were enough in number since the start of the MDRP as SIDA had donated six jeeps for the purpose. At present, there were seven jeeps with the NLEP, of which two had been supplied by SIDA and five were from the State Health Transport Organisation (SHTO).

On 30.4.1995, out of the seven jeeps four were in running condition of which two were made roadworthy after major repairs, using the Leprosy Mission's fund. Among the rest of the three jeeps, one was on repair and the other two (put with Balarampur and Huda LCUs) were lying road due to need of major repairs, the funds for which were not available. Over-all the position of the vehicles of the NLEP in Purulia on March, 1995 has been similar since 1991.

**THE THROUGHPUTS**

In this subsection first the procurement and distribution of anti-leprosy medicines is described, then the supervisory and managerial processes are taken up for discussion, and finally, the larger system’s influence on the programme is deliberated upon.
Procurement and Distribution of Technology - The problems of procurement from Calcutta, and the availability of microscopes and stains has been mentioned in the diagnostic technology subsection. The medicines for the programme were allotted to the CMOH by the Dy. Director (Leprosy), Calcutta and stored at the District Reserve Stores (DRS). There was no store of the ZLO in existence in Purulia.

The ZLO's interests in and abilities to supervise the distribution of medicines to the LCUs were minimum. So, this work was entirely left to the storekeeper in-charge of the DRS. As a result, the MOs of LCUs mostly requested their indents directly to the DRS, bypassing the ZLO. Thus, the control of the ZLO over the peripheral medical officers was reduced.

There was a procedure, on paper, that the indents should be recommended by the ZLO but in actual practice this was rarely followed. The storekeeper-in-charge of DRS also did not mind getting the extra authority of acting as the ZLO in supplying the anti-leprosy medicines. Therefore, the Zonal Leprosy Officer did not perform his role of an administrator in this vital function of the supplies of medicines.

As a result, there was no system of regular drug supply to the units. Such supplies were based on the M.O.s and the Storekeeper's (DRS) decisions. No checks on stocks and consumption of the procured medicines was done by either the DRS or the ZLO. The availability of the medicines at the units was irregular and incomplete.

Personnel Administration - The NLEP was a prescribed vertical programme with its personnel working solely for leprosy control. The non-medical supervisors and paramedical workers or health assistants and other leprosy staff were assigned antileprosy work only. However, in the case of the medical officers of the five LCUs, their posting and transfer was linked with the the general health services.

Often a M.O., LCU either deputed or given additional charge of a nearby vacant PHC or BPHC. This intra-district repositionings were done by the CMOH.
The ZLO's post was filled by the State Directorate on the recommendation of the CMOH.Interestingly, this researcher could witness the changeover of ZLOs in Purulia during the fieldwork. The previous ZLO received a transfer order from the Directorate in 1993. Keen to go to his new post in Calcutta, he kept requesting the CMOH to release him from the ZLO's responsibilities. But, the CMOH wanted a replacement before releasing the transferred officer. This officer had connections in the State ministry and had got his transfer order specially made from the Directorate for immediate release. So, an immediate replacement was searched for within the district officers.

The medical officer of Kakdiha upgraded SHC was the senior most in the district and yet just a M.O. He was also a native of the district as the CMOH, and both were on good terms. But, the M.O. had a reputation of being least active and interested in the health programmes including the NLEP. Nevertheless, he was appointed to the ZLO post after both the CMOH and the ex-ZLO convinced him repeatedly that this post will be beneficial for him in terms of status and authority.

He took charge in January 1994, and consulted the CMOH on every single decision to be taken, as the ZLO. Moreover, though trained recently at the Leprosy Mission for one month, the knowledge and interests of the ZLO in the programme were below the expectations of his subordinates. Thus, the programme's personnel's postings particularly of the M.O.s, its supplies of medicines, and its various managerial decisions had to be taken by the CMOH and not the ZLO.

However, none of the medical officers posted as M.O., LCUs or even the ZLO wanted to continue with the NLEP. Like in the case of the National TB Control Programme, the NLEP doctors used these programmes' posts as temporary recluses and at the very first opportunity left for the general health services. There were no future incentives or career prospects for the
medical officers in these programmes. Sixteen doctors had left their NLEP posts prematurely since 1989.

Concurrently, the general health service’s personnels never showed any interest in leprosy. The stigma of leprosy still continued and it was quite strong among the health services personnels also. According to the NLEP supervisors and workers, the general health services personnel needed to be educated and made more aware about the problem of leprosy.

**Training of Personnel** - As mentioned in an earlier subsection, most of the personnels of the NLEP were trained. Every year the Dy. Director (Leprosy) asked for the list of personnel in the district to be trained and it was sent by the district’s leprosy office on its own also. All leprosy trainings in the district were imparted by the Leprosy Mission Home and Hospital in Purulia town.

The Mission had two training programmes of one and three months’ durations. For the district’s NLEP personnels from the government health services, it imparted the one month’s training. The personnel to be trained were decided by the District Leprosy Society, particularly by the CMOH in consultation with the ZLO. Moreover, since these training programmes were conducted by the Mission at least twice a year, any person newly inducted into the programme got trained within a period of six months.

**Health Education on Leprosy** - This very important component of the NLEP was however, neglected in Purulia. Since the end of the maintenance phase of the MDRP, in 1989, health education of the affected population has been on the wane. Lack of funds, initiatives on the part of the officers, and lack of any pressure from the State, all contributed to the virtual absence of any health education.

The Social Welfare Officer or District Health Educator (DHE) at the Zonal Leprosy Office either accompanied the ZLO on his field visits and did some minimum health education
work or, sat idle at the district office. There were no funds for him to make separate field visits or for any substantial health education.

The voluntary organisations, namely, the Leprosy Mission, the Gandhi Memorial Leprosy Fund, and the Adra Leprosy Project carried out health education in their respective coverage areas. In a recent meeting (held in January, 1995) of the District Leprosy Society (discussed later), the Superintendent of the Leprosy Mission, Purulia, volunteered to undertake leprosy health education activities in the district (see Appendix VIIe). The absence of any involvement in the NLEP, of the District Media, Education and Information Cell under the Dy.CMOH-III (discussed elaborately in Chapter VI) was noteworthy.

The Gandhi Memorial Leprosy Foundation working in Balarampur block carried out health education on leprosy by collecting funds from the local population and the involvement of the Panchayats. At the monthly meeting on 21.2.1995 at Purulia office, it was decided that all leprosy units will strengthen their educational activities and also funds for such activities shall be sought from the fund of the District Leprosy Society.

**Targets of the Leprosy Programme** - Unlike the F.P. and Immunisation programmes, the targets for the NLEP given by the State, did not have much significance. As a matter of fact, the given yearly targets were much lower than the previous performances. For example, for the year 1993-94 and 1994-95 the targets for case detection and discharge were 500 and 1500, and 400 and 1000 respectively. The actual achievements were 4000 and 4000 and 3551 and 4945 for the years 1994-95 and 1993-94 respectively. So the Zonal Leprosy Office distributed targets to the 5 units under it, on the basis of the average of their past three year's performances.

At the units, the medical officers and the senior-most non-medical supervisors had decided that on an average there should be 4 new cases inducted under treatment per month per sector. This target will give approximately 50 cases inducted under multidrug therapy in one year from one sector. Each unit's area was divided into 15 to 20 sectors.
Circuits and Drug Distribution Points (DDPs) - The basic principle followed for the delivery of the NLEP services was that of both active and passive case detections and treatment. A team from the respective LCU, including the medical officer and the NMS at the unit, started early in the morning on a predecided route called the circuit which touched on two, three or, four predecided points in the villages.

Here, skin smears of suspected patients were taken and medicines were also distributed to detected cases. These meetings were also used for health education, contact surveillance, and follow up activities. One such Drug Distributin Point was touched upon at least once a month. (Appendix VIIa gives an example of a circuit schedule of LCU, Purulia, Sadar). Apart from the circuits, outpatient services were given at the LCUs.

(g) Supervisory Visits of the ZLO - Supervision of the delivery of services at the units and the DDPs was considered one of the most important managerial function of the ZLO. Supervisory visits of the ZLO however, had deteriorated in Purulia since the new ZLO tookover in the beginning of 1994. His visits to the LCUs and DDPs were mostly decided by the visits of the District Consultant of NLEP who came to Purulia from Calcutta for a week every month.

The ZLO was found to be on tour to the peripheral units on an average on fifteen days in a month. His visits were also more to the Hura and Manbazar LCUs which did not have any medical officer in-position. Appendix VIIb gives a schedule of ZLO's visits of March 1995. But his visits were both managerially and technically least effective due to his lack of competence and interest in the programme.

Surveillance of Leprosy in Purulia: Before being declared a hyper-endemic district in 1982, Purulia had a leprosy prevalence rate of 17.5 cases per 1000 population, on the basis of the official annual records. In early 1982, an independent survey of leprosy cases was conducted by GRECALTES (a Calcutta based organisation providing expertise in leprosy) in Purulia. This epidemiological sample survey showed a prevalence rate of 33.75 cases per 1000 population.
in the district. But officially this prevalence rate of Leprosy was not considered and the crude prevalence rate was followed.

There were no surveys undertaken at the end of either the intensive or maintenance phases of the Multi Drug Regimen Project in Purulia. On the basis of cases detected, the prevalence rate had fallen to around 2 cases per 1000 population of Purulia, in 1995. Nevertheless, a Group Survey cum Health Education Programme was conducted by the LCU (Sadar) in February and March 1995. This survey was undertaken on the initiatives of the medical officer in charge of the Sadar LCU, at that time.

About 61,523 persons from the unit’s coverage area were examined in the survey. 41 villages in 20 leprosy sectors were covered under this survey cum education programme. The survey was done by the unit’s personnels. A total of 340 active cases of leprosy were detected which gave a prevalence rate of 5.5 cases per 1000 population. Such a significantly higher prevalence rate than that shown by the underlined the magnitude of the hidden number of leprosy cases in the district. It should be mentioned here that according to Government prescribed strategies, the NLEP is to be merged with the Multipurpose Health Scheme in districts with prevalence rates less than 1.5 cases per 1000 populations.

Monthly Meetings of the NLEP

The Schedule for monthly meetings was not strictly followed either at the Zonal Leprosy Office or at the LCUs. Often, the monthly meetings of the Zonal Office and the Sadar LCU were merged together. At times, they were held separately also. For example in 1994 only 5 monthly meetings were held at the district office. In 1995 till May, 4 meetings were held every month except in the month of March.

The attendances in these meetings were much less than required. For example, in the meeting held on 14.5.95 in the Zonal Leprosy Office, the following personnel were present: the District Consultant (NLEP); ZLO; M.O.s of 2 LCUs; M.O. of Gandhi Memorial Leprosy Fund
(Balampur); the Director, Adra Project; a Senior M.O. of the Leprosy Mission; 8 non-medical supervisors; one paramedical worker; and one laboratory technician (of Sadar LCU). The attendance picture remains almost similar in the monthly meetings with at least one representation of each of the voluntary organisations, but, much less representation from the government units.

From the scrutiny of the available minutes of some of the meetings held in the past, it was noted that the units present in the meetings got their performances of the previous month reviewed and their problems were discussed.

Among the problems discussed were the problem of vehicles with the LCUs, lack of transport facilities for the non-medical supervisors, almost no health education activities by the units as well as the district, poor detection of new cases, highly irregular reporting from the units to the district, no school surveys being undertaken, sensitivity of patients to Dapsone not done properly, reactions due to therapy were not observed properly, bacteriological tests for the follow-up of deformed cases were also not done.

The problem of no special surveys for case detection and follow-up, was often repeated in these meetings. However, there was hardly any significant change in the situation despite the long drawn problems repeated in almost every meeting. The interests of the CMOH or the District Leprosy Society in these problems are marginal as we show in the next subsection.

The Larger System: In this subsection we will discuss three components of the environment which influenced the NLEP services in Purulia the most. These were the influences of the State Directorate, the District Leprosy Society, and the role of the voluntary organisations.

Influences of the State Directorate: As described earlier, the State Directorate supplied the medicines for the programme and also provided for the salaries of the NLEP personnel. The yearly targets for case detection and discharge were also given by the State albeit these targets

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were not followed. The monthly, quarterly, and yearly performance reports and infrastructural position of the NLEP were also monitored by the State.

The unique feature of the NLEP in Purulia as regards the influences of the State was the involvement of the State and District Consultant in the programme's activities. As has already been mentioned, this consultant was effectively involved with Purulia's leprosy programme. He attended almost every monthly meeting at the district office. As a member of the District Leprosy Society, he participated in its meetings and, made supervisory visits to the units and drug distribution points on at least 5 days in a month.

A retired expert on leprosy, his knowledge and experience augmented the Status of the programme to its workers substantially, and also boosted their work performance. It can be assumed that, the significant role of the Consultant in the programme encouraged the CMOH to put an incompetent person as the head of the leprosy programme in the district (the in-position of ZLO).

The District Leprosy Society: Another unique feature of the NLEP apart from its structural verticality and, perhaps because of it, was the District Leprosy Society. This society was formed in the year 1989-90. The order came from the Additional Director General (Leprosy), New Delhi to the District Leprosy Officer to form the society. The reason for such a body at the district level was to send NLEP funds directly to the district from the Central Government Directorate bypassing the State Government (Appendix VIIc) as the State could not release funds to the districts in time. So, the Central assistance, meagre as it was, was given to the district directly.

The society had a Governing body for taking decisions (Appendix VIIId) which included the District Magistrate, the Dy. Director (Leprosy), the CMOH, the District Consultant (Leprosy), the District Leprosy Officer, and representatives of the voluntary organisations working for the NLEP. The Governing body of the society met every 3 months to monitor the
progress and problems of the NLEP in Purulia. Appendix VIIe gives the minutes of a meeting of the District Leprosy Society. But, the funds allocated to the society in recent years have been very meagre and it could only be used for some health education and rehabilitation activities.

The role of the Voluntary Organisations: As described earlier, the voluntary organisations gave substantial coverage to the district’s leprosy population, 36.5 percent to be exact. The names of the involved organisations and their units for service delivery have been discussed earlier. The extra inputs in terms of health education on leprosy given by some of these organisations was also noted earlier.

Apart from the above, the role of the Leprosy Mission (TLM) has been more than substantial in Purulia. This organisation not only provided for one urban leprosy Centre (at Purulia) and a Leprosy Control Unit (at Jhalda) but also delivered superspecialised surgical and rehabilitative services through the Home and Hospital on the outskirts of Purulia town.

The Mission also donated funds to the District Leprosy Society for vehicle repair, maintenance, and fuel which varied from Rs.1 lakh to Rs.3 lakhs annually. It gave orientation trainings to the NLEP personnel in the district. In 1995, the Mission volunteered to undertake health education activities for Leprosy eradication in the district also. However, there was no control of the Government authorities or the Society over the activities of the voluntary organisations.

THE OUTPUTS

The outputs of the NLEP are assessed in terms of cases detected; cases inducted under treatment; cases released from treatment and; the trends of the prevalence, child case and, deformity rates for the period of 1982-83 to 1995 i.e., for the period of the MDRP in Purulia.

To restrict the sizes of the tabulated data we have totalled the figures in different categories for the period of 1982-83 to 1989-90. The data for the later period of 1990-91 to
1994-95 have been shown yearwise. The figures shown are for the entire district i.e., including the performances of the voluntary organisations.

**Case Detection**: The most vital component in service delivery could be taken to be the detection of new cases on the basis of which the other activities of treatment and cure and also the estimation of active case load were done.

**Table 8.1.3: Case Detection Under NLEP in Purulia**

<table>
<thead>
<tr>
<th>Years</th>
<th>New cases detected</th>
<th>Case detection rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MB</td>
<td>PB</td>
</tr>
<tr>
<td>1982-83 to 1989-90</td>
<td>9,243</td>
<td>36,154</td>
</tr>
<tr>
<td>1990-91</td>
<td>1,323</td>
<td>2,878</td>
</tr>
<tr>
<td>1992-92</td>
<td>1,184</td>
<td>2,571</td>
</tr>
<tr>
<td>1992-93</td>
<td>1,228</td>
<td>2,704</td>
</tr>
<tr>
<td>1993-94</td>
<td>1,176</td>
<td>2,375</td>
</tr>
<tr>
<td>1994-95</td>
<td>1,225</td>
<td>3,330</td>
</tr>
<tr>
<td>GRAND TOTAL</td>
<td>15,379</td>
<td>50,012</td>
</tr>
</tbody>
</table>

Source: ZLO's office, Purulia.

As seen in Table 8.1.3, the case detection has decreased over the years, reducing the prevalence rate along with. If we take into consideration the prevalence rate of 33.75 cases per 1000 population as found out by the independent survey conducted by GRECALTES in 1982, then, the case load in 1982 in Purulia was 62,566 cases approximately. The increase in the number of cases over the last thirteen years must have been quite substantial for the total number of cases to be much more than 65,391 (detected) as shown in Table 8.1.3.

Even if we consider the latest Group Survey estimate of a prevalence rate of 5.5 cases per 1000, the present case detection rates were low. Thus, we can say that despite all efforts of the District Leprosy Society, the voluntary organisations, the District Leprosy Consultant, and
the personnel of the NLEP the achievements in terms of the detection of cases remained below 50 percent.

(b) Treatment of the Detected Cases: As seen from above the number of leprosy cases detected were less than half the actual case load of the district. The treatment of these detected cases was not 100 percent either. The percentage of newly detected cases inducted under multidrug therapy (MDT) was around 83.5 (Table 8.1.4). The efficiency of the NLEP services therefore, got further reduced due to this gap in inducting all detected cases under therapy. The influences of irregular supplies of medicines, lack of regular district level supervision and insufficient health education along with shortage of on-road vehicles and the disinterest of most of medical officers in the programme, all contributed to such low achievements in service delivery.

Table 8.1.4: Yearwise Induction of Newly Detected Cases under MDT, NLEP in Purulia

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of detected cases inducted to MDT</th>
<th>% of inducted to detected cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MB</td>
<td>PB</td>
</tr>
<tr>
<td>1990-91</td>
<td>1125</td>
<td>2476</td>
</tr>
<tr>
<td>1991-92</td>
<td>1030</td>
<td>2262</td>
</tr>
<tr>
<td>1992-93</td>
<td>1042</td>
<td>2134</td>
</tr>
<tr>
<td>1993-94</td>
<td>1005</td>
<td>1948</td>
</tr>
<tr>
<td>1994-95</td>
<td>955</td>
<td>2598</td>
</tr>
<tr>
<td>TOTAL</td>
<td>5157</td>
<td>11418</td>
</tr>
</tbody>
</table>

Source: ZLO's office, Purulia.

Cases Released from Treatment (RFT) - The leprosy cases inducted under treatment were released from treatment when they completed the prescribed course of 2 years or were discharged otherwise viz., death, defaulter, self healed or referred for treatment of reactions etc. The data on RFT numbers was confusing when analysed yearwise as cases on treatment from
previous years were also carried over into the subsequent years. So, we took the total number of cases detected since 1982-83 and the total number of cases released from treatment since then till 1994-95 to get an estimate of the treatment completion rate. The figures given below were provided by the ZLO's office, Purulia.

The total number of cases detected from 1982-83 to 1994-95 were 65,391. The total number of cases released from treatment as completed treatment since 1982-83 to 1994-95 were 53,664. Therefore, the percentage of RFT cases was 82.0.

(d) Child Case Rate - This indicator was considered to be indicative of the progress of the leprosy eradication activities. The reasoning followed in the use of child case rates as compared to the total number of cases was that if the proportion of child cases showed a steady increase over the years then the programme was considered to be effective. The relative decrease in the number of adult cases was the positive sign for the programme's effectivity.

Table 8.1.5: Yearwise Proportion of Child Cases of Leprosy in Purulia from 1990-91 to 1994-95

<table>
<thead>
<tr>
<th>Year</th>
<th>Total cases detected</th>
<th>No. of child cases</th>
<th>% of child to total cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990-91</td>
<td>4201</td>
<td>793</td>
<td>18.9</td>
</tr>
<tr>
<td>1991-92</td>
<td>3755</td>
<td>676</td>
<td>18.0</td>
</tr>
<tr>
<td>1992-93</td>
<td>3832</td>
<td>761</td>
<td>19.9</td>
</tr>
<tr>
<td>1993-94</td>
<td>3551</td>
<td>756</td>
<td>21.3</td>
</tr>
<tr>
<td>1994-95</td>
<td>4555</td>
<td>1059</td>
<td>23.2</td>
</tr>
</tbody>
</table>

Source: ZLO's Office, Purulia.

From Table 8.1.5, it is seen that the proportion of child cases was on an increasing trend from 18.9 in 1990-91 to 19.9 in 1992-93 and 23.2 in 1994-95. However, given the poor detection rates, the trend has to be interpreted cautiously.
(e) **Deformity Rates** - Another important indicator of the efficiency and effectiveness of the programme of NLEP is the rate of Grade II and above deformities among the detected cases.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total no. of cases detected</th>
<th>Grade II or above deformity</th>
<th>Deformity percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990-91</td>
<td>4201</td>
<td>97</td>
<td>3.3</td>
</tr>
<tr>
<td>1991-92</td>
<td>3755</td>
<td>71</td>
<td>2.7</td>
</tr>
<tr>
<td>1992-93</td>
<td>3832</td>
<td>65</td>
<td>2.7</td>
</tr>
<tr>
<td>1993-94</td>
<td>3551</td>
<td>42</td>
<td>1.7</td>
</tr>
<tr>
<td>1994-95</td>
<td>4555</td>
<td>82</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Source: ZLO's office, Purulia.

Table 8.1.6 shows the trend of deformed patients, which first decreased from 3.3 percent in 1990-91 to 1.7 in 1993-94 and then increased to 3.5 in 1994-95 denoting the fact that early case detection has lapsed in the last year than the previous years.

**Social Rehabilitation of Deformed Lepers**

The deformities caused by leprosy still made the patient socially crippled in Purulia. Cured leprosy patients with deformities who have been accepted as normal by the society, for example, the PMW working as statistical assistant in the District Leprosy Office, were rare.

There were three bastis or settlements in Adra, Balarampore and Jhalda blocks, set up by ex-leprosy patients. The population numbers of these bastis have not been estimated.

It seemed that in these bastis or colonies the population comprised of 30 percent of ex-leprosy patients and the rest 70 percent were their children. Interestingly, for Census surveys, manning of polling stations in the bastis, and even for motivation and acceptance of family
planning methods, the NLEP personnel were asked to do these works as no other staff of the health services or otherwise was ready to enter these settlements.

**Salient Features of the NLEP in Purulia**

Though a vertical programme, the NLEP was integrated with the other programmes at three points in (i) the CMOH was the overall in-charge of the programme in the district as was the case with the other programmes, (ii) quite strikingly the medicines and equipments of the NLEP were procured and distributed by the District Reserve Store without much involvement of the present ZLO, and (iii) the M.O.s of LCUs were shifted from and to the general health services and usually the PHC/BPHC posts of M.O.s were given preference for filling up than those of the LCUs.

Moreover, as observed during the field work the ZLO's managerial inputs into the programme's activities were minimum. The five government units (LCUs) were not coordinated and supervised in a systematic manner. The control of the ZLO over these units was least as the units did not have to depend on him for their salaries, medicines and equipments, posting of personnel, or expert guidance. The other district level activity which could have been used as a linking measure, that of health education by the district office, was also neglected. Thus, the units kept functioning without any control by him and independent of him.

In the programme achievements, the first and foremost activity of case detection was reduced to half of its required efficiency. However, the treatment and cure of these less number of detected cases was over 80 percent. The deformed cases were treated exclusively by the Leprosy Mission. Rehabilitation of ex-leprosy patients by the public services was absent.

The district authorities then, had an ambiguous role in the programme. For a vertical programme the CMOH held the ropes and encouraged outside assistance rather than strengthening the district level supervision, coordination and, supportive activities for the NLEP.
8.2 TECHNO-ORGANISATIONAL LINKAGES BETWEEN THE SIX SELECTED PROGRAMMES

The structural-functional linkages and separations among the six programmes discussed, got intermingled by the inter-programmatic linkages of transport, training, health education, procurement and distribution of technology and, recording and reporting activities. The complications of more linkages further the intricacies of the web of points of interactions between the programmes. Among these, the linkage of transport was the most critical as it influenced the techno-organizational linkages between the six programmes. We discuss these latter linkages below:

First, the linkages of the programmes with the curative services need to be mentioned. All the programmes were dependent on the curative services for the treatment of complications, reactions, and severe cases. Moreover, for the programmes of CSSM, Malaria, Tuberculosis and Diarrhoea particularly, the curative centres had a significant role in terms of disease surveillance, recording and reporting of diagnosis and treatment and, thus in planning and management for better programme service delivery. But, such emphases were minimum in existence in Purulia's Health Services.

Second, as seen in the structural linkages and separations, the Multipurpose Health Scheme, though envisaged as an integrated package of service delivery, yet, such comprehensive services particularly of the five linked programmes, were not being implemented. The multipurpose nature of programmatic and service activities of the personnel's had not been actualised either. Therefore, there had been minimum optimisation of the health services personnel's work. This aspect was also noticed in some of the technical linkages between the programmes.

Third, the technological linkages are discussed under three groups of diagnostic, preventive and curative technologies:
(i) **diagnostic linkages** - three programmes were dependent on microscopic examination of slides, viz., Tuberculosis, Malaria and, Leprosy. Since the leprosy programme was vertical and separate from the multipurpose scheme but will be merged into it on the lowering of the endemicity of leprosy, we take up its linkages along with.

Attempts have been and were being made by the State, district and, block level medical officials to get sputum slides for TB and blood slides for Malaria to be examined by the same laboratory technicians but to minimum effect. As discussed in the previous chapter, the technicians preferred to call themselves malaria technologists and examined only blood slides for malaria. The neglect of sputum slide examinations not only hampered confirmation of case detection of the TB programme but also discouraged new patients from coming to the BPHCs and PHCs for diagnosis and treatment.

Posts of lab. technicians were vacant with BPHCs whereas the nearby LCUs had lab. technicians in position. Integrated laboratories for the three programmes of TB, Malaria and, Leprosy could solve the problems of shortage of technicians with BPHCs as well as non-existence of laboratories with LCUs.

(ii) **preventive linkages** - the activity of insecticide spray to kill vectors of diseases like malaria, filaria, encephalitis and, dengue-haemorrhagic fever particularly with malathion or biological insecticides can be done together. Such a link if implemented can curtail enormous man-hours for workers and supervisors, expenditures on transport and, optimise activities of procurement and distribution of the insecticide and supervision by the district level officers.

(iii) **curative linkages** - Rifampicin was used for the treatment of both Tuberculosis and Leprosy. The dosages were 600 mg. monthly for leprosy and 450 mg. daily for tuberculosis. The supply of 150 mg. tablets of Rifampicin can prevent many duplications in procurement and distribution of the medicine to both TB and leprosy patients. However, there are areas which need further-
investigations, as to the relationship of TB to Leprosy etc. and relationships between other communicable diseases.

**Fourth**, on the managerial and administrative aspects, a totally integrated Multipurpose Health Programme could merge the different programme officers and supervisory officers at the district level. This would reduce the number and duplication of supervisory visits by these officers to the peripheral centres for individual programmes, separately. For example the Dy.CMOHs can supervise all integrated programme activities at the BPHCs, PHCs and, subcentres in one visit. Similarly, the supervisory officers for health education, statistical information and reporting, public health nursing, malaria and diarrhoea can assess all programme performances in single visits. To optimise the work-time of these officers, it is essential to implement this link from the district level down to the blocks and below.

With the discussion of this last group of linkages between the six Health and Family Welfare Programmes, we go to the final chapter where an overall discussion on the Public Health Services System in Purulia will be deliberated upon and the conclusions of this study, arrived at.