## CHAPTER XV.

## MEDICAL AND PUBLIC HEALTH.

To understand the Medical and Public Health problems, the picture of the district in 1958 as given by the Civil Surgeon and Senior Medical Officer is summarised. He mentions: "It is necessary to understand the river Kosi, now the river of Sorrow, her vagaries, uncertainties and devastations. It is a river of sands, much less of silt. Its catchment area is vast. On account of the slope of its bed, the currents are not only fast but furious. It has built a land of sands. Therefore the furious currents find it easy to cut the impediments on their way in absolutely no time. The sand contents are so profuse that the river can fill up, as it has actually done, a large-sized deep tank with sand up to the brim in a night's time. Consequent upon the bed getting filled up with sand during one flood, the course is bound to change in the next flood. So the people lived in constant terror, not knowing which course the river would take in the succeeding year. It is said that during the last 100 years, the river which was flowing through the heart of Purnea district, is now, by gradual changes, jumping westwards, flowing on the western border of this district.

During floods the vast tract of this district lay submerged under water. The movements of the population had to be confined to a few dry islands or higher mounds in and around the villages. The expanse of water with furious currents was so exhaustive that a boat, at great risk, crossed from one bank to the other once only in the day each way. These floods in their wake brought about difficulties in getting pure drinking water. This naturally led to insanitary conditions and infections. The still spill-water formed the breeding ground for mosquito. In face of the transport difficulties medical relief till a few years back was not even nominal. It was as difficult for the relief to reach the villages as for the villagers to seek it. The result was that corpses had to be carried by cart loads, and since cremation was impossible due to scarcity of fuel and even burning grounds, were thrown to the currents.

Necessity dictated the food habits of the people. When harvest lay decaying under water, the villagers had to fall back upon animals and fishes as their principal food. The Brahmins of this district take fish as a matter of course and Vaishnav temples are scarcely to be seen. People kept flocks of cattle to get milk, *ghee* and *dahi*. It is not a strange scene here for the rich village man to be even now in possession of 100 cows and buffaloes. Due to the primitive way of breeding and lack of proper pasturage the breed has deteriorated.

The yield of an average buffalo here is about 2 seers per day and that of an average good cow less than that of a she-goat of the western districts of North Bihar.

The months following the recession of floods were as difficult then, as they are even now for transport purposes. There being no water but mud only, neither a boat could ply nor an average bullock-cart.

The following dry months had to witness a peculiar scene due to the river Kosi. The tracks would be studded with hillocks of sands left by the river, and the pedestrian would find it difficult to wade his way. These sands had already buried green lands lost to the world for all times to come or had left a sandy soil which would refuse to grow any plant except jungles of *kans* and *pater*. It was only where the river was good enough to leave some silt that some agriculture was possible.

The excess of manganese in the contents of the river water gave it another damaging property. It is a folk lore that the river water by its contact dries up the jackfruit and mango trees. The scientific explanation is the presence of excess of manganese. Before the Kosi came to this district the area was an orchard.

It can be surmised that the Kosi in particular and the chain of rivers flowing through the adjacent district of Darbhanga in general have brough about changes in the habits and social customs peculiar to this district and the tract. Thus till a few years ago, no body dared to build a *pucca* house. The people preferred to live in hutments. The marriage ceremonies were perhaps reduced to the bare minimum, devoid of pompous processions and shows of music and light. Swimming and boating are common arts practised even by the females.

The people have devised special ways and means of living peculiar to their needs. Thus it will not be a strange scene to find a small toddler playing on the bank of a stream with a thin rope round its waist and ankles anchored to a peg in the ground, while the mother is away doing some domestic work. This precaution reducing the innocent citizen to a medieval prisoner is taken by the busy parents to prevent the child from falling into the river and being swept away by the currents.

*Evolution of public and medical health programme in this district.*

The main problem of the district in the past as in the present has been the river Kosi with all her vagaries and curses. The floods were then uncontrolled. As it was impossible to know from beforehand, which way the Kosi would flow, living was reduced to a state of undefined terror. People could hardly move out and any relief could hardly reach their homes due to communication difficulties,

which was as difficult during the flood as it was after the recession of floods. The pioneers had to take these difficulties into account to undertake suitable relief measures.

Saharsa district was till 1954 a part of Bhagalpur district. The Medical and Public Health Programme was mostly in the hands of Bhagalpur District Board. They were alive to the situation, the difficulties of communication and the prevailing high mortality. The number of District Board dispensaries were increased and gradually the Anti-Kala-azar Centres added year after year. But it was not till the area was converted into a sub-district and later into a full-fledged district that the present evolution which is still in progress has been possible.

The first massive human effort in the direction of giving medical relief to the people has been the introduction of modified Bhore's Scheme in 1947 followed by the integration of nationalised health services.

*Health and Primary Centres.*

The main feature of modified Bhore's Scheme was to open a primary centre which would consist of two Medical Officers, one of whom would be static and the other for mobile work. The static work amounted to the same type of work as was being done then or is being done now in any dispensary or hospital. For mobile work three sub-centres were provided to each main centre at a distance of about 5 miles from the main centre. The mobile doctor was required to attend to each sub-centre twice in the week. To overcome his communication difficulties, he was provided with a boat for his transport during flood season and with a bullock-cart for transport during dry season. These vehicles were also intended to serve the purpose of ambulance when and where necessary for transport of deserving patients to the main static centre, which was provided with six bedded-dieted indoor ward. For work on days, other than on the visiting days of the mobile Medical Officer, each sub-centre was staffed with one dresser, and a trained *dai*. For overall supervision of these sub-centres and to carry out the functions connected therewith one Sanitary Inspector and one Midwife were provided for each unit.

Necessary ancillary staff including one Compounder was provided. Roughly speaking the expenditure on the medicine and surgical goods has been 6 annas per indoor patient and 2 annas per outdoor patient per day and 14 annas per indoor patient per day for diet.

Naturally the sites for these centres were selected in the worst Kosi-affected areas, as they stood then in the district. In the interest of efficiency of work, the posts of the Medical Officers were made non-practising with a compensatory allowance. Both Medical and Public Health works were combined in each unit. To make the entire

scheme successful, the central organisation at the district level was also overhauled. To begin with, when this district existed as a sub-district of Bhagalpur district the medical head was the Additional Civil Surgeon. He, however, functioned independent of the Civil Surgeon of Bhagalpur and combined in himself both the Medical and Public Health works. He was therefore designated as Senior Executive Medical Officer (S. E. M. O.). Private practice was not allowed for which he was given a compensatory allowance. Later on when the sub-district developed into a full-fledged district, the post of the Additional Civil Surgeon was also converted into Civil Surgeon, who also became S. E. M. O. as before.

To make the work more successful a mobile State Dispensary was started with its office at the district headquarters. It was staffed with one Medical Officer, one Sanitary Inspector, one Compounder, one Dresser, one Driver besides other menials and equipped with a power wagon, a motor boat and a tractor. The main purpose of this dispensary was, as it is even now, to rush relief to any part of the district according to the necessity.

An important feature for the success of this scheme was transport of deserving patients from the periphery to a proper treatment centre. In the centres, this facility was provided as indicated above. But that was not by itself all sufficient. So steps were taken to provincialise and improve subdivisional hospitals and create a Sadar Hospital at district headquarters where such patients could be transported from the main centres, as these hospitals provided better facility for treatment, etc. Necessarily, therefore, these hospitals were also expanded and brought more up-to-date. In this connection there was a proposal to arrange the transport of such deserving patients to Patna or Darbhanga by air, if necessary. This proposal is yet to materialise. At present the only routes open for such transport to Patna or Darbhanga are the railways.

Full details about these centres are given in the table below:—

| Name. | Main centre. | Sub-centres. |
|---|---|---|
| 1. Nauhatta Primary Centre .. .. | Nauhatta .. | (I) Bhelahi.<br>(II) Barahi.<br>(III) Chatwan. |
| 2. Manguar Primary Centre .. .. | Manguar .. | (I) Biratnagar.<br>(II) Basanahi.<br>(III) Patharghat. |
| 3. Alamnagar Primary Centre .. .. | Alamnagar .. | (I) Phullot.<br>(II) Basbitti.<br>(III) Gangepur. |
| 4. Mahesi Health Centre .. .. | Mahesi .. | (I) Maina.<br>(II) Radhanagar.<br>(III) Sattarwar. |
| 5. Kundah Health Centre .. .. | Kundah .. | (I) Mahisarho.<br>(II) Birgaon.<br>(III) Narainpur. |

| Name. | Main centre. | Sub-centres. |
|---|---|---|
| 6. Manoharpatti Health Centre .. | .. Manoharpatti | (I) Jogia.<br>(II) Khukhraha.<br>(III) Simarah. |
| 7. Marauna Health Centre .. | .. Marauna .. | (I) Janardanpur.<br>(II) Kamrail.<br>(III) Ganorah. |
| 8. Kumarkhand Health Centre | .. Kumarkhand | (I) Israin.<br>(II) Ranipatti.<br>(III) Bhatni. |
| 9. Kumarganj Health Centre | .. Kumarganj .. | (I) Ratfauli.<br>(II) Sisauna.<br>(III) Singion. |
| 10. Thoombha Health Centre .. | .. Thcombha .. | (I) Maheshpur.<br>(II) Babhani.<br>(III) Lutapatti. |

They were primarily situated in the Kosi-affected areas but with the changing conditions of the Kosi due to the embankments of the Kosi Project, four of them now fall outside the Kosi-affected areas, as it stands at present, three by the side of the eastern embankment and three within the two embankments.

Naturally when they were started it was inevitable that they should be accommodated in hutments in view of the uncertainty and vagaries of the Kosi. In places which now fall outside the Kosi-affected areas, *pucca* structures came up out of public donations and development grants by the Government.

Each centre has its own land. Lands of some of the sub-centres were gifts.

A visit to any of these centres will reveal the unenviable conditions under which the young Medical Officers are living, cut off from society, to which they had been accustomed during their educational career and their families. Any record of the medical history of this district will be incomplete without a word of praise to these doctors who went to Saharsa district and served with their blood and sweat.

*Provincialisation of Hospitals and Dispensaries.*

In the integration of the nationalised medical scheme following upon introduction of the modified Bhore Scheme, the dispensaries of the District Board were gradually provincialised beginning with 1950. The Kala-azar centres which had sprung up in 1950 were abolished in 1956. At present except three District Board dispensaries and seven Anti-Malaria centres, the rest are State dispensaries, two with indoor beds. Thus there are altogether five Allopathic hospitals and 19 dispensaries in the district under the State besides

Health and Primary centres mentioned above. Their important features are referred to below:—

(1) *Sadar Hospital.*—This hospital was started in the year 1945, in a hired building in the *bazar* with a few indoor beds. One Medical Officer of the cadre of Sub-Assistant Surgeon was posted. It was controlled by the Civil Surgeon of Bhagalpur. It was transformed later on in 1947 into a Civil Hospital with 30 beds under an Additional Civil Surgeon posted here. With the conversion of this sub-district into a full-fledged district, since 1954, this Civil Hospital also began functioning as a Sadar District Hospital and the Additional Civil Surgeon was designated as Civil Surgeon with the power of Senior Executive Medical Officer also.

A temporary *tatti* building was constructed at the proposed site for the new building. The old hospital functioning in the hired building in the *bazar* was shifted to the new temporary building in 1951. In June, 1954 the new building was constructed.

At present it has accommodation of 91 beds and 10 T. B. beds. Subsequently many improvements have been made. An X'ray apparatus is going to be installed.

The T. B. Ward and the T. B. Clinic are under construction. A Maternity and Child Welfare Centre is functioning. A district Public Health Laboratory has been opened. A Family Planning Centre is also running.

The hospital is electrified. Water-supply is obtained from deep tube-wells. Sanitary latrines and urinals have been provided.

The plan is to give specialised treatment at the district level. Beginning has already been made by posting specialists. At present the hospital has two male doctors and one lady doctor. The Civil Surgeon is in overall charge as the Superintendent.

There is provision for three grade 'A' Nurses and two grade 'B' Nurses.

(2) *Supaul and Madhepura Subdivisional Hospitals.*—They were financed first by District Board. They were provincialised in January, 1950.

At present each has 30 beds with a Civil Assistant Surgeon (designated as Deputy Superintendent) incharge, a Second Medical Officer and a Lady Civil Assistant Surgeon.

Each of these hospitals will get a 10-bedded T. B. Ward. An outdoor leprosy shed is attached to Supaul subdivisional Hospital. The buildings at Madhepura are new. The water-supply at Madhepura is from deep tube-well.

(3) *Simrahi Bazar and Police Hospitals.*—Simrahi Bazar Hospital is still functioning in *tatti* shed with ten beds. The Police Hospital is accommodated in a barrack. Steps are afoot for construction of their permanent structures.

(4) *Provincialised State Dispensaries.*—Except for Kunauli, which has four indoor beds and Bangaon which has six indoor beds and Murliganj and Panchgachia which have indoor buildings with no dieted patients, the other dispensaries are without indoor provision. The Bhimnagar and Kanauli State Dispensaries continue to function in *tatti* sheds. A few have better structures. The rest have got permanent structures taken over from the District Board during provincialisation. Each dispensary has a provision of one Medical Officer, one compounder, one dresser, one trained *dai* besides menials.

The hospitals are at Sadar, Supaul, Madhepura, Police Line, Saharsa and Simrahi Bazar.

The State dispensaries besides the mobile at Sadar are at Bangaon, Lagma, Saur, Sahsoul, Panchgachia, Singheshwar, Murliganj, Kishanganj, Chousa, Pipra, Ganpatganj, Pratapganj, Bhimnagar, Chatapur, Tribeniganj, Koriapatty, Nirmali and Kunauli.

*Medical Relief by District Board, Saharsa.*

With the separation of this district and its growing into a full-fledged district, the District Board with its headquarters at Saharsa was formed in the year 1948.

At present the Board is rendering relief through its three dispensaries which are situated at Sonbarsa, Barail and Baluabazar and its seven Anti-Malaria centres at Karjain, Telwa, Chandrain, Bharauli, Hatwaria, Khakai and Goalpara.

The Board is rendering relief also through fifteen subsidised Ayurvedic dispensaries (at Bhaptiahi, Dhabouli, Jiwachpur, Saharsa, Ratwara, Gorpar, Kashnagar, Gurki Hat, Chatania, Sourazan, Bhatania, Giridharpatti, Pokhrama, Nayanagar and Nirmali), four Unani dispensaries (at Jaduapatti, Madhepura, Madheli and Bagheli), and six Homoeopathic dispensaries (at Puraini, Bhagawanpur, Amha, Murho, Basuli, Bhatranda).

Indigenous method for cure is still followed in the rural areas. Treatment by Homoeopathy, Kaviraji and Unani is prevalent. Most of the unqualified Homoeopaths and other quacks are also practising in the interior. Sometimes they do much harm due to their ignorance. Mostly they use allopathic medicines and injections about the use and toxicity of which they know practically nothing.

PUBLIC HEALTH AND RURAL SANITATION SCHEME.

The Sanitation and Public Health throughout the district is looked after by the District Board for the rural areas excluding Notified Area in the Saharsa Town. At present there is no District Medical Officer of Health. The Civil Surgeon is also the District Medical Officer of Health of the district. He carries out both the functions under the designation of the Civil Surgeon and Senior Executive Medical Officer.

In this scheme, a part of the cost of which is borne by the Government, the District Board has at present three Assistant Health Officers, one for each subdivision; seven Sanitary Inspectors, one for each two to three *thanas;* one Health Inspector for each *thana* and one Vaccinator for each thirty thousand population and two Disinfectors for each *thana.* The Senior Executive Medical Officer forms the head of this scheme, which functions in co-operation and co-ordination with the District Board.

The sanitary conditions of the villages still remain poor due to lack of knowledge of environmental hygiene in the population. The villages are built in a very congested manner with lack of ventilation arrangements. In every village ditches, bushes and scattered heaps of cow-dung are common sight leading to flies and mosquito nuisance. The roads are very dusty. During the rainy season the villages become much more filthy as there is no drainage system.

Arrangements for latrines do not as a rule exist in the rural areas. Villagers resort to promiscuous defecation, generally by the side of roads, ponds and the rivers. This habit forms a great factor in the spread of hookworm and other bowel diseases. Jute is allowed to rot in the water making the atmosphere very unhygienic and rendering the water very harmful for drinking purposes.

But with the opening of N. E. S. Blocks, establishment of model villages and extensive educative propaganda, a change for the better is noticeable.

As a matter of fact health education forms an important part of this programme. The State has a Health Educator and a Sanitary Inspector. The District Board runs a propaganda section with cinema shows, exhibitions and models. The National Extension Service and Community Development Blocks take active part in the education from time to time.

A resume of anti-epidemic measures taken during the years 1948 to 1957 will be found yearwise in the following table:—

| Year. | Anti-Cholera inoculation. | Wells disinfection. | Primary vaccination. | Secondary vaccination. |
|---|---|---|---|---|
| 1948 .. .. .. | 3,56,503 | 88,074 | 34,710 | 74,940 |
| 1949 . .. .. | 1,32 087 | 19 402 | 36,280 | 11,659 |
| 1950 .. .. .. | 3,16,726 | 76,717 | 39,832 | 19,848 |
| 1951 .. .. .. | 2,23,588 | 1,61,114 | 56,106 | 2.75,071 |
| 1952 .. .. .. | 1,86,824 | 1,24,162 | 46,648 | 2,65,954 |
| 1953 .. .. .. | 7,83,614 | 2,39,149 | 34,080 | 1,13,441 |
| 1954 .. .. .. | 5,85,502 | 1,99,580 | 39,628 | 3,37,454 |
| 1955 .. .. .. | 6,81,064 | 1,98,337 | 46,163 | 10.62,155 |
| 1956 .. .. .. | 6,29,828 | 2,08,950 | 33,605 | 6,63,599 |
| 1957 .. .. .. | 7,26,337 | 1,74,800 | 42,356 | 5,31,087 |

In urban areas Public Health and Sanitation is looked after by a Notified Area Committee at Saharsa and Murliganj, a Union Committee at Madhepura and Nirmali and a Union Board at Supaul.*

During the flood season special measures are taken both for cure and prevention. Now that the Kosi has been embanked on both sides, this work has become more defined but is still as strenuous as before.

A particular feature is the distribution of one village type medicine box to a group of five villages with few exceptions. These boxes contain all important medicines for first aid in the event of outbreak of any epidemic. These medicines can be easily and safely administered by the villager. To guide him printed directions are enclosed in each box. Recently a proposal has been made to provide each village with one such box.

For safe water-supply, the Public Health Engineering Department sinks temporary tube-wells according to necessity to add to the numerous existing permanent ones.

For relief, a floating dispensary is run to work in the flooded areas. Extra boats are provided to permanent treatment centres. Extra temporary treatment centres are opened at strategic points according to necessity.

According to treaty conditions, the Indian Territory has also to undertake preventive measures in the adjoining Nepal *Tarai*.

### National Anti-Malaria Programme.

It was only right that this programme should have been introduced in a malaria-ridden district like Saharsa. The nucleus was started in the year 1953. At present there is one unit with its headquarters at Bariahi, Saharsa. It has four sub-units, at Supaul, at Madhepura, at Bihariganj and at Saharsa. The *thanas* of Pratapganj, Bhimnagar and Chattapur and the northern portion of Murliganj police-station fall outside the operation of this unit because of population basis. These areas are looked after by the unit at Araria in Purnea district. But the Senior Executive Medical Officer, Saharsa has supervisory control over them. Under this scheme, Anti-Mosquito Drive, particularly against the malaria-carrying species of this place is undertaken by spraying animal and human dwelling houses with 5 per cent (100 to 200 mg.) aqueous solution of D. D. T. during the transmission period twice from May to September.

* The Union Committee and the Union Board are now substituted by Notified Area Committees.

Extensive malaria surveys were carried out in 1954 and 1957. The statistics show a fall in spleen rate from 45 per cent to 1 per cent in endemic areas and from 80 per cent to 2 per cent in hyperendemic areas, during the period 1953 to 1957.

From April 1, 1958 the National Malaria Eradication Programme has been started in the whole of the district. Under this programme extensive measures are taken. The aim was to eradicate malaria completely by 1961. Malaria has definitely gone down although not eradicated. The work has not yet been wound up.

### Kosi Project.

In spite of all these schemes, there was no guarantee of safety either to property or health due to the vagaries of the turbulent Kosi. In 1954 there was a very high flood and acute distress. To fight this menace the Kosi Project was planned in this very year. The first step was to embank the river on its two sides. On this preliminary step, other steps have followed and will follow. Naturally, therefore, the project has a colossal shape. The project has its own medical arrangement. The scheme was to have static treatment centres at Birpur, Supaul, Nirmali in this district and Ghoghardiha in Darbhanga district. Each centre has a number of sub-centres, each staffed by either a Compounder or a Dresser. Each centre has also a Sanitary Inspector and according to availability, two doctors, one for static work and the other for mobile work. The expansion of the scheme on the above lines, followed the lay out of the work of the project. They were not confined to this district only but also to the neighbouring sister district of Darbhanga and in the friendly State of Nepal. It is surmised that this scheme will continue till the life of the project and later on may have to be given a different shape according to the changed condition prevailing then.

Besides treatment and prevention in other spheres, the medical section of the project has also an Anti-Malaria Unit of its own, with its headquarters at Birpur.

### Development Plan.

Under the Development Plan in the country as a whole and in this State in particular, National Extension Service Blocks were formed, starting with the year 1954. The first Block was started in Bangaon, now shifted to Saharsa (Kahara). At present there are 21 Blocks, the details of which have been given in the text on Economic Trends and Miscellaneous Occupations.

Each Block will have a health centre with a static unit and a mobile unit. The mobile unit will have three sub-centres each with a health worker and a trained *dai*. Each Block will have two doctors, one for static and the other for mobile work and one Sanitary Inspector. Thus in principle the shape of each health centre

is the same as the one provided in modified Bhore Scheme already in operation in this district since 1947. But for the paucity of doctors and other personnel each of the sub-centres and Blocks may not have got the requisite staff.

For public health work, the unit worker is the Village Level Worker and the *Gram Sevak* of the Block. Each of them is in charge of one *Halka* of the Block. They are trained in work of vaccination, inoculation, and disinfection.

As in the field of Public Health Work several agencies are operating, namely, the District Board staff, the staff of hospital and dispensaries and the Block staff, it is absolutely necessary that they should work in absolute co-operation and co-ordination.

### Maternity and Child Welfare Programme.

At present there are three urban Maternity and Child Welfare centres—one at Supaul, one at Madhepura and one at Saharsa, and four rural ones—one at Mahesi, one at Alamnagar, one at Kumarganj and one at Bangaon. The rural institutions are attached to local medical institutions and the urban ones to local hospitals. Each centre has an Auxiliary Nurse–Midwife, in the unavoidable absence of a Lady Health Visitor, with one or more trained *dais* and menial staff.

These centres have an educative role, which is being rendered by home visits, *mahalla* lectures, individual contacts, exhibitions and cinema shows; these centres have also to do domicilliary midwifery service in normal labour cases with suitable sanitary surroundings, and also the distribution of milk and other invalid food at the main centres.

In this district there is a provision for one trained *dai* at each State dispensary, three to four at each Health and Primary centre and three at each Block Health centre. These trained *dais* have to undergo a training of six months at the subdivisional or sadar hospital. It cannot be said that they are sufficient in quality for the actual requirements. But there is no alternative as good candidates are scarcely available for obvious social reasons. Each Health and Primary centre has a provision for one midwife. There is great dearth for midwives also. The village *chamain* still dominates the stage due to superstitious beliefs of the country and respect for age old convention and gross illiteracy. To bring about an improvement in the quality of their work, a scheme of one month's training of these quacks is in force, but is scarcely availed of in the absence of any binding legislation.

The infant mortality rate has been assessed in the following table:—

| Year. | Total births. | Total deaths below one year. |
|---|---|---|
| 1949 .. .. .. | 23,441 | .. |
| 1950 .. .. .. | 15,762 | .. |
| 1951 .. .. .. | 16,845 | 533 |
| 1952 .. .. .. | 18,353 | 305 |
| 1953 .. .. .. | 21,569 | 319 |
| 1954 .. .. .. | 19,851 | 583 |
| 1955 .. .. .. | 20,279 | 518 |
| 1956 .. .. .. | 12,568 | 36 |
| 1957 .. .. .. | 13,761 | 227 |
| 1958 .. .. .. | Figures were not available. | |
| 1959 .. .. | | |
| 1960 .. .. .. | | |
| 1961 .. .. .. | | |

## Family Planning Programme.

The conception of Family Planning is of recent origin in the face of growing population of the country. It is an economic programme. Sponsored by the Central Government and taken up by the States family planning centres are springing up. One centre exists at Saharsa attached to Sadar Hospital under a grade 'B' Nurse who functions as the Lady Health Visitor. Besides clinics held with her under Lady Doctor, she has to pay home visits. The response is meagre and confined to a small section of the middle class only. The idea scarcely catches imagination with the male partners. Much more strenuous efforts are needed for adequate success. A rural centre of this type has been recommended for being set up. The Maternity and Child Welfare centres are also urged to propagate the idea of this planning. Very little work has yet been done.

### *Samaj Kalyan Bistar Parijojana.*

For the uplift of rural welfare of the females and children, including maternity and child welfare, a district unit of *Samaj Kalyan Bistar Parijojana* is functioning in this district, with its head-quarters at Kariho near Supaul, under the auspices of a Central Advisory Board at New Delhi with State branch at Patna. The unit is rendering service with a *Mukhya Gram Sevika,* one *Gram Sevika,* one craft female teacher, one trained *dai* and a mechanised

vehicle. At present this unit has got sub-centres at Lokha, Ratauli, Ghoghra and Ramnagar. Each of these sub-units has one *Gram Sevika,* one craft teacher and one trained *dai.* The aim is that each sub-centre will cater for 25 villages equivalent to 25,000 population. The lands have in most of the places been acquired by public donation. For the construction of the building the public have to contribute 12½ per cent.

It is a private body having fullest co-operation of the official agency. In due course more units are likely to spring up in this district under this project.

### Mission Hospitals.

Particular mention has to be made of the Christian Mission hospitals at Saharsa, Madhepura, Barjora, Tribeniganj, Latauna and Murliganj. These institutions are working very efficiently. Some of them have been working for decades.

### Anti-Tuberculosis Programme.

While it can be asserted that menaces like cholera, malaria, kala-azar and small-pox have been controlled, efforts are now being made for the control of tuberculosis. Each subdivision is expected to get a 10-bedded T. B. ward and a central clinic at the district head-quarters.

### Anti-Leprosy Programme.

For the control of leprosy, a survey work is absolutely essential to form the basis of any planning. The survey work has been started. A district Anti-Leprosy Association has been formed. At present the treatment is confined to outdoor work only.

### District Laboratory.

A District Laboratory has been opened at the district head-quarters where chemical analysis will be done to check adulteration. The Food Adulteration Act is in force.

### Principal Diseases.

A few years back malaria, kala-azar, cholera, small-pox, fevers and hookworm were very prevalent in the district. The mortality and morbidity rate was very high. With the opening of a network of hospitals and centres, the diseases have been brought under control. This will be evident from the tables given below:—

(*a*) Cholera—

| Year. | Attack. | Death. |
|---|---|---|
| 1948 .. .. .. | 2,400 | 1,120 |
| 1949 .. .. .. | 229 | 71 |
| 1950 .. .. .. | 3,572 | 1,564 |

| Year. | Attack. | Death. |
|---|---|---|
| 1951 .. .. .. | 51 | 11 |
| 1952 .. .. .. | 15 | 6 |
| 1953 .. .. .. | 328 | 173 |
| 1954 .. .. .. | 295 | 115 |
| 1955 .. .. .. | 17 | 5 |
| 1956 .. .. .. | 7 | 4 |
| 1957 .. .. .. | 52 | 13 |
| 1958 .. .. .. | Figures were not available. | |
| 1959 .. .. .. | | |
| 1960 .. .. .. | | |
| 1961 .. .. .. | | |

(*b*) Small-pox—

| Year. | Attack. | Death. |
|---|---|---|
| 1948 .. .. .. | 96 | 4 |
| 1949 .. .. .. | 168 | 12 |
| 1950 .. .. .. | 281 | 142 |
| 1951 .. .. .. | 1,027 | 117 |
| 1952 .. .. .. | 389 | 46 |
| 1953 .. .. .. | 44 | 5 |
| 1954 .. .. .. | 30 | 6 |
| 1955 .. .. .. | 174 | 22 |
| 1956 .. .. .. | Nil | Nil. |
| 1957 .. .. .. | Figures were not available. | |
| 1958 .. .. .. | | |
| 1959 .. .. .. | | |
| 1960 .. .. .. | | |
| 1961 .. .. .. | | |

(*c*) Other Diseases—

| Year. | Kala-azar. | Malaria. | Hookworm. | Pulmonary Tuberculosis. | Leprosy. |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1948 .. .. | 4,698 | 50,551 | 3,143 | 658 | 133 |
| 1949 .. .. | 21,501 | 88,566 | 4,184 | 1,014 | 133 |
| 1950 .. .. | 4,855 | 59,578 | 3,271 | 473 | 101 |
| 1951 .. .. | 11,202 | 67,983 | 11,019 | 2,666 | 413 |
| 1952 .. .. | 9,167 | 64,907 | 12,308 | 4,138 | 342 |
| 1953 .. .. | 6,206 | 51,045 | 11,709 | 2,254 | 446 |
| 1954 .. .. | 4,471 | 42,479 | 13,242 | 1,592 | 461 |
| 1955 .. .. | 2,620 | 29,731 | 13,180 | 1,962 | 031 |
| 1956 .. .. | 1,796 | 21,847 | 16,496 | 2,397 | 1,502 |
| 1957 .. .. | Figures were not available. | | | | |
| 1958 .. .. | | | | | |
| 1959 .. .. | | | | | |
| 1960 .. .. | | | | | |
| 1961 .. .. | | | | | |

## Vital Statistics.

From the figures given below, it will be seen that there is an excess of birth over death. The reporting agency here as elsewhere is the *thana chowkidar*. It can emphatically be said that the accuracy of these reports is doubtful. This work is now being gradually entrusted to the N. E. S. Blocks or the *Gram Panchayat* where no block exists.

| Year. | Birth. | Death. |
|---|---|---|
| 1949 .. .. .. | 23,441 | 8,751 |
| 1950 .. .. .. | 15,762 | 9,701 |
| 1951 .. .. .. | 16,845 | 7,707 |
| 1952 .. .. .. | 18,353 | 7,427 |
| 1953 .. .. .. | 21,567 | 6,479 |
| 1954 .. .. .. | 19,851 | 7,345 |
| 1955 .. .. .. | 20,279 | 6,975 |
| 1956 .. .. .. | 12,568 | 4,092 |
| 1957 .. .. .. | 13,761 | 5,445 |
| 1958 .. .. .. | Figures were not available. | |
| 1959 .. .. .. | | |
| 1960 .. .. .. | | |
| 1961 .. .. .. | | |

## SNAKES.

The commonest variety is the common Cobra. A special specie is seen during floods wading through water. It is ferocious and very aggresive. Other varieties met are the *Karait* and the Russel's Viper.

Deaths from snake bites resulting from poisoning are common. But authentic records are not available.

## DIET.

The common diet of the general mass is rice, wheat, maize, gram, *marua,* sweet potato, *khesari* and *kulthi.* The diet varies according to the social status and economic conditions.

Most of the people take only carbohydrate diet, seldom animal protein or fat except those near the Kosi river or its branches, where they get fish, milk, and eggs. Meat and fish are available but they are consumed by the more well-to-do class of people. Pure *ghee* is available in the interior and for the well-to-do class of people. Much of hydrogenated oil is used now. Green vegetables are available in plenty in rural areas, except during the flood season.

In between the Kosi embankments and also in some adjacent villages outside, most of the people live on Government relief for whole of the flood season.

Mass propaganda by the Health Department is in progress about the balanced diet and the nutritional aspect of different food.

## WATER SUPPLY.

The water-supply is from wells and tube-wells. In flood-affected areas the river also forms a source of supply. Tanks are scarce and

those that exist are not used for drinking water purposes. The sub-soil water follows the course of the slope of the land from north to south. This stratum can be tapped at depths varying from 15 to 30 feet. Water at this stratum even at places is not drinkable.

Besides the Public Health Engineering Department, the N. E. S. and C. D. Blocks have also to attend to the needs of water-supply to the population. They are doing it under the Development Schemes by sinking permanent wells and installing tube-wells according to the advice of the S. E. M. O.

### Fairs and Festivals.

*Hats,* fairs and festivals are problems for the medical staff.

On specified days in the week, *hats* are held at numerous places, where as a routine livestock are sold and purchased besides other commodities.

At Supaul a *mela* is held every year to commemorate the Indian Republic Day. It was started in year 1951.

The biggest fair of the district is held at Singheshwar Asthan, six miles away from Madhepura on the occasion of every *Shivratri.* The temple of Lord Shiva there is very old and attracts thousands of visitors every year.

At Maheshi a *mela* is held during every Durga Puja in reverence to the deity of Devi Ugra Tara. It is said to be the oldest temple, older than that of Singheshwar Asthan.

A *mela* is held at Arar Ghat on every Purnamasi (fullmoon day) of 'Push' to worship the river Kosi.

In Ramnavmi, a fair is held at Tribeniganj.

Besides these, a number of smaller fairs are held at numerous other places in the district.

The fairs of Supaul and Singheshwar are controlled by a committee consisting of official and non-official members. The public health and sanitation is looked after by the official agency assisted by the above committee working in co-operation.

The other smaller fairs were started by the then *zamindars.* With the vesting of *zamindari* in the State, the arrangements of these *melas* have passed into the hands of the Revenue Department.

The important festivals are observed in the district in the same fashion as in other sister districts. Special assemblies commonly known as *'Sabha'* are held every year preceding the auspicious marriage season. It is held at village Bangaon which is situated at a distance of 8 miles from Saharsa. The congregation of Maithil Brahmins here runs to about 10 to 15 thousands. The purpose of the festival is to finalise negotiations after selection of bridegrooms and construct healthier social ties. The medical staff have to take

various measures to keep the sites clean and see that no epidemics break out.

### Indian Medical Association.

The Bihar State Branch of the Indian Medical Association started its branch at Saharsa in the year 1954. Subsequently other branches were opened at Supaul, Madhepura and Simrahi Bazar. The membership is open to only registered allopathic practitioners.

### Special Problems.

From the above survey, it will be apparent even to the casual reader, the colossal work that was undertaken a decade back. It will be wrong to assume that the work had been finished. It may be said that only one corner has been turned.

It will be a misconception to assume that medical problems are confined to their own watertight compartment. These problems are inter-connected with those of communication, agriculture, veterinary, education, etc. The whole network of medical organisation is bound to meet a sad fate if proper communication be not available, and if people do not know or learn how to make the best use of these facilities. The nutrition level cannot improve unless the people take a balanced common diet.

The communication difficulties can be imagined when it is stated that the district possessed up till 1958 only about 75 miles of coaltarred metalled road.

The railway communications are in no way very quick or adequate. Postal, Telegraph and Telephone communications are still inadequate.

But the problem of all problems of this district is the Kosi which is now being chained and controlled. With the conquest of Kosi, the river of sorrow the face of the district in all aspects will change.