

FIVE-YEAR PLAN
OF
POST-WAR DEVELOPMENTS
IN THE
PUBLIC HEALTH DEPARTMENT, UNITED PROVINCES

*(A first draft prepared by the Director of Public
Health, U. P.)*



ALLAHABAD:
SUPERINTENDENT, PRINTING AND STATIONERY, UNITED PROVINCES, INDIA
1944

Five-year plan of post-war developments in the Public Health Department

(1) *Provision of safe water-supply in villages.*—(a) According to the Census report there are 102,388 villages in the United Provinces and it may be presumed that 30 per cent. of them will require *pakka* drinking water wells. The cost of one such well will be roughly Rs.1,000 under post-war conditions. For approximately 32,000 wells the total cost will be Rs.3,20,00,000. This is too large an amount to be provided by Government. But it is suggested that this sum may be advanced to villagers as interest-free loan under section 16 of the United Provinces Village Sanitation Act and rule 4 of the rules framed by the Provincial Government under section 20(2)(b). The period of recovery of the advance, viz., two years, as at present laid down, may have to be extended in certain circumstances. As no actual expenditure will be entailed on Government by this scheme nothing is included in the summary of the cost given at end of this note.

It is understood the Rural Development Department have a scheme of constructing wells as part of their programme of Rural Development. This will no doubt be continued. The scheme contained in this note, will be reduced to the extent that Rural Development Department provide funds.

(b) It may also be considered whether in villages in which state tube-wells are located it will be possible to lead away, by properly covered pipes, some of the water from such wells to a masonry reservoir to supply the want of a well. To prevent waste, such reservoirs can be fitted with not more than two taps of the type which release water only on pressure.

(2) *Malaria control units.*—Malaria is not only a major cause of mortality in the United Provinces, but perhaps the biggest single cause of the deterioration of health. No scheme of post-war reconstruction can exclude a large scale drive against it. The ordinary health organisation in districts cannot undertake the required measures as, apart from the special training required for this work, continuity of effort is necessary which cannot be provided by the regular district health organisations owing to epidemics and pressing administrative business for which routine work has to be postponed. It is necessary to create separate units within the local health organisations for dealing exclusively with malaria. The ideal would be one unit for each district or 48 for the province, but the cost will be very large. Twenty units for the province are accordingly recommended. The estimate prepared by the Malaria Institute of India for one such unit is Rs.30,000. The cost of 20 would thus be Rs.6,00,000 (*recurring*).

(3) *Maternity and child-welfare.*—Maternity and child-welfare schemes although at present existing in many towns and some rural areas, are not properly organised. There is also a demand for nursing in people's homes for which the available personnel is meagre. For more effective domiciliary midwifery service, which may contain the nucleus of a nursing service to be availed of by people on payment, it is necessary to standardise staff and

equipment for standard groups of population. The following is the model organisation for an urban unit of 50,000 :

	Rs.
(i) One medical woman; medical graduate with the qualification of Maternity and Child-welfare, on Rs.200—400, with conveyance allowance of Rs.30 per mensem	3,960
(ii) Two health visitors on Rs.50—75, with conveyance allowance of Rs.25 per mensem	2,100
(iii) Two public health nurses on pay of Rs.60—90 with conveyance allowance of Rs.25 per mensem	2,400
(iv) Two certified midwife (assistant midwives) on Rs.25—40 plus conveyance allowance of Rs.10 per mensem	1,020
(v) Ten trained <i>dais</i> on pay of Rs.15—20 per mensem	2,100
(vi) Contingencies, drugs, rent of clinic, servants, etc.	5,000
	<hr/>
	16,580
Recurring for initial equipment	2,000

In rural areas although each unit should serve a population of 50,000, the staff has to be differently organised. A model unit should comprise as follows :

	Rs.
(i) One medical woman; a medical graduate with the qualification of Maternity and Child-welfare, on Rs.200—400, with conveyance allowance of Rs.50 per mensem	4,200
(ii) Eight health visitors with nursing qualifications: pay Rs.65—105 with conveyance allowance of Rs.30 per mensem	11,040
(iii) Nine trained <i>dais</i> : pay Rs.15—20 per mensem	1,890
(iv) Contingencies, drugs, rent of clinic, servants	5,000
	<hr/>
	22,130
Non-recurring for initial equipment	2,000

It is not possible to cover each town and all parts of a rural area by model units of this kind, but the provision of one at each of the ten larger towns, and one in each district will ensure great improvement in the standard of work which the smaller centres in the towns and villages (which will continue to function) will eventually copy. The recurring cost will be Rs.12,28,000 and excluding the existing expenditure on maternity and child-welfare in areas to be covered by these units, it will be Rs.11,80,000. The non-recurring expenditure on equipment will be Rs.1,16,000.

(4) *Water-works in small municipalities.*—Out of 86 municipalities, only 27 have water-works at present. It is desirable that important towns with population of 50,000 and over, named in Appendix I to this note, should have protected water-supply. It is difficult at present to prepare an estimate of the cost for each place, as this will depend on whether a natural source of supply is available, or whether deep tube-wells will have to be sunk, and whether cheap hydel power will be available to work the wells. Government will have to subsidise such works, but in no case should this exceed 50 per cent.

Extension of electricity for lighting will be in demand in the post-war period requiring establishment of power houses for areas outside the Hydro-electric grid. In Muttra an original demand for electricity for purposes

of lighting alone was later combined into a joint project for electric and water-works. The feasibility of doing the same at other places requiring establishment of water-works should be kept in view.

(5) *Drainage schemes for towns.*—Concurrently with water-works it will be necessary to provide drainage schemes as excess water will cause insanitation. It is impossible to give an estimate of the cost, but if Government accept the principle of aiding municipal boards for water-works and drainage, the Superintending Engineer, Public Health Department, can prepare rough estimates for a joint project for such towns as may be able to meet half the cost.

(6) *Increase in the number of travelling dispensaries.*—Permanent strength of such dispensaries is 26. As their primary work is medical relief in epidemic areas, this number is inadequate. There should be a total of 100 for the province. The cost at Rs.3,445 per dispensary per annum, will be Rs.2,54,930 recurring and Rs.1,48,000 non-recurring for the 74 additional units.

(7) *Establishment of an Industrial Hygiene section in the Provincial Public Health Department.*—The industry in the province is already raising questions of housing, occupation, disease and welfare which can only be dealt with by a separate bureau, whose special care is the study of this subject. Industrial Hygiene will claim much more attention in the post-war period, and a section under this department with an assistant director of public health in charge will be essential. The average cost of establishment of such a bureau will be Rs.19,000 recurring and Rs.3,000 non-recurring.

(8) *Establishment of a Nutrition section in the Provincial Public Health Department.*—This has been stressed by the Government of India in their letter no. 29-6/43-H, dated December 20, 1943. The estimated cost of such an organisation for a province, as worked out by the Nutrition Research Laboratory under the Government of India is Rs.61,000 recurring and Rs.55,000 non-recurring per annum.

(9) *Increase in the number of sanitary inspectors in rural areas.*—At present there are 213 sanitary inspectors in the rural areas of the province, at the rate of one per tahsil, plus one or two extra in some places. This works out to one inspector for approximately $2\frac{1}{2}$ lakhs of the population. Considering the nature of duties required to be performed by them, viz., general sanitation; disinfection of water-supplies and dwellings, other anti-epidemic measures including vaccination and inoculation; collection of samples of adulterated food, and verification of vital statistics, one inspector to a tahsil is much too small. One to each police circle would be more in accordance with actual needs. There are 818 police circles in the province. The proposal will thus mean 605 additional appointments. The average cost of one inspector in the scale of Rs.50— $2\frac{1}{2}$ —75, together with his fixed travelling allowance of Rs.25 per mensem and leave salary and contingent charges, is Rs.1,150 per annum. For the additional 605 appointments it will be Rs.6,95,750.

(10) (a) *Provision of infectious diseases hospitals.*—There are 22 towns in the United Provinces with population of 50,000 and above of which 14

only have properly equipped hospital for the treatment of cholera, small-pox, plague, and other infectious cases. The remaining eight, viz., Bareilly, Meerut, Moradabad, Saharanpur, Farrukhabad, Amroha, Sambhal, and Budaun should have similar hospitals. Municipal boards will require assistance for the establishment of these. It is difficult to say what the cost of construction and equipment will be during the post-war period, but if the suggestion is generally approved, negotiations may be started with boards as to the financial assistance actually necessary in each case and an estimate of the total grant required from Government may be framed in the light of the board's replies.

(b) In towns with population of less than 50,000 but over 10,000, detached infectious blocks may be constructed in accordance with the general scheme approved in G.O. no. N/143/V.H.E.1/1942, dated July 6, 1942. There are 111 such towns of which regular infectious diseases hospitals or similar detached wards exist in eleven. The remaining 100 places named in Appendix II would require such blocks assuming that each of them has a hospital or dispensary. At the estimated cost of Rs.5,000 for each, the total cost will be Rs.5,00,000.

(11) *Appointment of medical officers of health in towns.*—Under rule 1 of Chapter VIII of the Municipal Manual, all towns with income of Rs.50,000 and above are required to employ medical officers of health. For several years it has not been possible to make such appointments although 23 towns have now come within the limit. In 19 more important of these mentioned in Appendix III it is desirable to make the appointment as soon as possible. Officers to be appointed will be of the Subordinate Public Health Service, Grade I, in the usual scale of Rs.150—5—200—10—300, and the cost would be Rs.51,300 on the average per annum.

(12) *Extension of the school health service.*—(a) Wholetime school health officers are at present employed in 13 of the larger towns only. In other places health of scholars is being examined by municipal or district medical officers of health. For efficient school health work it is necessary to have wholetime officers in the towns of Dehra Dun, Muzaffarnagar, Aligarh, Muttra, Farrukhabad, Mirzapur, Jaunpur and Azamgarh. The cost of these eight appointments, in the scale for the Subordinate Public Health Service, Grade I, of Rs.150—5—200—10—300 would be Rs.27,000 recurring including conveyance allowance, orderly and contingent expenses, and Rs.4,000 non-recurring for equipment.

(b) It is essential to attach a central school clinic to each such place, but this would not entail any cost on Government as the expenditure should be met by the levy, as usual, of a medical fee from the students.

(c) The amount of school health work in the towns of Lucknow, Benares, Cawnpore, Allahabad, and Agra is too heavy for a single officer to carry out. It is necessary to provide additional officers of the grade of Subordinate Public Health Service at each of these places. The cost of these five appointments in the scale of Rs.150—5—200—10—300 would be Rs.16,500, including contingent and other expenses.

(13) *Appointment of women school health officers in six larger towns.*—A scheme of health examination of the scholars in girls' schools was sanctioned by Government some years ago for the towns of Lucknow, Benares, Cawnpore, Allahabad, Agra and Bareilly, but it could not be enforced owing to unavailability of women doctors. The scheme may be given effect after the war. The average cost, as already approved, will be Rs.21,000 recurring and Rs.3,500 non-recurring on equipment.

(14) *Subsidised scheme of a mid-day meal at all secondary schools.*—A proper mid-day meal is most essential for scholars as they at present become too exhausted to follow instructions in the later school periods. The need has also been emphasised by the Central Advisory Board of Health and also by the Central Board of Education, and is being considered in many provinces. A centralised feeding scheme of a proper kind cannot be maintained wholly by recoveries from scholars. The main types of school meals should be prescribed. Assuming that this comes to two annas per day, the cost for 200 working days of the school session would come to Rs.25. It is suggested that Rs.12 at Re.1 per month be recovered from the scholars and Rs.13 per scholar per year be given by Government as subsidy.

The scheme should be limited to secondary schools and intermediate colleges for boys and girls. It has not been possible to ascertain the enrolment in these institutions. If the suggestion is approved in principle, an estimate can be prepared by the Director of Public Instruction.

(15) *Increase in the number of assistant medical officers of health in the larger districts.*—One assistant medical officer of health only is employed in the rural public health service in each district, except in Basti, Azamgarh and Garhwal, which have two, and Gorakhpur which has three. With the increase in the number of sanitary inspectors and travelling dispensaries suggested in items 8 and 5, and expansion of rural public health work in other directions, it will be necessary to create self-contained sub-divisions in districts in which owing to size or unsatisfactory communication, it is difficult to control the more distant parts from headquarters. Such districts are Agra, Moradabad, Cawnpore, Allahabad, Jhansi, Hamirpur, Mirzapur, Naini Tal, Almora, Kheri and Fyzabad. An extra assistant medical officer of health will be necessary in each of these. The cost of these eleven appointments in the usual scale for the Subordinate Public Health Service, Grade I, of Rs.150—5—200—10—300 will be Rs.40,000, including the usual complement of orderly, travelling allowance and tour charges, and a non-recurring expenditure on tents, etc. of Rs.11,000.

(16) *Appointment of additional medical officers of health for larger towns.*—Owing to increase in the amount of public health work in towns it is proving difficult for one medical officer of health to carry out all the work. It is suggested that in all towns with population of 100,000 or more, an additional medical officer of health of the grade of Subordinate Public Health Service, Grade I, may be appointed. There are eleven such towns, viz., Cawnpore, Lucknow, Agra, Benares, Allahabad, Bareilly, Meerut, Moradabad, Aligarh, Shahjahanpur and Saharanpur. The cost of these appointments will be Rs.29,700.

(17) *Appointment of two more assistant directors of public health.*—The large expansion in public health work envisaged in the above scheme will require close supervision to ensure necessary results. There are at present four assistant directors of public health for general public health duties. Two more would be necessary allowing not more than eight districts under each. The cost of the two additional appointments will be Rs.36,000 recurring and Rs.6,000 non-recurring.

(18) *Expansion of the Public Analyst's Department.*—At present an average of ten thousand samples only can be examined in a year in the Public Analyst's laboratory, which works out to an average of four samples per month for each town or village area where the Act is in force. This is much too small to prove deterrent. Samples taken from each area must be at least five times the present number. The examination of 50,000 samples a year will however be beyond the capacity of a single laboratory. Subsidiary laboratories to serve groups of districts should therefore be opened at four other places in the province. The cost of four such laboratories will be Rs.1,44,000 recurring. Nearly the whole of this sum will be covered by fines to be realised in cases which result in conviction. There also will be a non-recurring expenditure of Rs.40,000 for the initial equipment and supplies.

(19) *Establishment of (a) Tuberculosis clinics, and (b) Leprosy and venereal diseases clinics at each district hospital.*—These will be taken up by the Inspector General of Civil Hospitals, who will furnish an estimate of cost. They have been mentioned in this note as their preventive aspect concerns this department.

(20) *Tuberculosis sanatoria.*—There is only one sanatorium for the whole province which is quite inadequate for its requirements. The large educative effort being made for the control of this disease can only be effective if facilities for segregation and treatment under proper conditions are provided. The establishment of one sanatorium of 100 beds is therefore strongly recommended for each headquarter town of a division. Estimate of cost can be provided by the Inspector General of Civil Hospitals.

The above is only provisional note, as the future organisation of the Public Health Department and its inter-relation with Medical and other departments is being considered by the Health Survey and Development Committee appointed by the Government of India for shaping the post-war policy of these departments.

The estimate of cost of these proposals is given in Appendix IV.

APPENDIX I

List of the more important towns with population of 50,000 and over which should have water-works

- | | |
|-------------------|------------------|
| (1) Bareilly. | (4) Farrukhabad. |
| (2) Shahjahanpur. | (5) Gorakhpur. |
| (3) Saharanpur. | (6) Etawah. |
| | (7) Budaun. |

APPENDIX II

List of towns where detached infectious blocks may be constructed in existing hospitals and dispensaries

- | | |
|---|--|
| <p style="text-align: center;">Saharanpur</p> <p>(1) Deoband.
(2) Roorkee.
(3) Gangoh.</p> <p style="text-align: center;">Muzaffarnagar</p> <p>(4) Muzaffarnagar.
(5) Kairana.
(6) Kandhla.
(7) Shamli.
(8) Khatauli.</p> <p style="text-align: center;">Meerut</p> <p>(9) Hapur.
(10) Ghaziabad.
(11) Sardhana.
(12) Mawana.
(13) Baraut.</p> <p style="text-align: center;">Bulandshahr</p> <p>(14) Khurja.
(15) Bulandshahr.
(16) Sikandrabad.
(17) Dibal.
(18) Jahangirabad.
(19) Shikarpur.
(20) Siana.</p> <p style="text-align: center;">Aligarh</p> <p>(21) Hathras.
(22) Atrauli.
(23) Sikandra Rao.</p> <p style="text-align: center;">Muttra</p> <p>(24) Kosi.</p> <p style="text-align: center;">Agra</p> <p>(25) Firozabad.</p> <p style="text-align: center;">Mainpuri</p> <p>(26) Mainpuri.
(27) Shikohabad.</p> <p style="text-align: center;">Etah</p> <p>(28) Kasganj.
(29) Soron.
(30) Etah.
(31) Jalesar.</p> <p style="text-align: center;">Bareilly</p> <p>(32) Aonla.
(33) Faridpur.</p> | <p style="text-align: center;">Bijnor</p> <p>(34) Najibabad.
(35) Nagina.
(36) Bijnor.
(37) Kiratpur.
(38) Sherkot.
(39) Chandpur.
(40) Seohara.
(41) Nahtaur.
(42) Dhampur.</p> <p style="text-align: center;">Budaun</p> <p>(43) Sahaswan.
(44) Ujhani.</p> <p style="text-align: center;">Moradabad</p> <p>(45) Chandausi.
(46) Hasanpur.</p> <p style="text-align: center;">Shahjahanpur</p> <p>(47) Tilhar.</p> <p style="text-align: center;">Pilibhit</p> <p>(48) Pilibhit.
(49) Bisalpur.</p> <p style="text-align: center;">Farrukhabad</p> <p>(50) Kanauj.</p> <p style="text-align: center;">Fatehpur</p> <p>(51) Fatehpur.
(52) Bindki.</p> <p style="text-align: center;">Jhansi</p> <p>(53) Lalitpur.
(54) Mau.</p> <p style="text-align: center;">Jalaun</p> <p>(55) Konch.
(56) Orai.
(57) Kalpi.
(58) Jalaun.</p> <p style="text-align: center;">Hamirpur</p> <p>(59) Mahoba.
(60) Rath.</p> <p style="text-align: center;">Banda</p> <p>(61) Banda.
(62) Karwi.</p> <p style="text-align: center;">Mirzapur</p> <p>(63) Ahraura.</p> |
|---|--|

Ghazipur

- (64) Ghazipur.
- (65) Reotipur.
- (66) Gahmur.
- (67) Sherpur.

Gorakhpur

- (68) Gaura Barhaj.
- (69) Deoria.

Basti

- (70) Basti.
- (71) Mehndawal.

Azamgarh

- (72) Mau.
- (73) Azamgarh.
- (74) Mubarakpur.

Naini Tal

- (75) Haldwani-Kathgodam.
- (76) Kashipur.
- (77) Jaspur.

Almora

- (78) Almora.

Lucknow

- (79) Malihabad.

Unao

- (80) Unao.

Rae Bareli

- (81) Rae Bareli.

Sitapur

- (82) Sitapur.
- (83) Khairabad.
- (84) Laharpur.
- (85) Biswan.

Hardoi

- (86) Shahabad.
- (87) Hardoi.
- (88) Sandila.
- (89) Mallawan.
- (90) Bilgram.
- (91) Pihani.

Kheri

- (92) Lakhimpur.

Fyzabad

- (93) Tanda.

Gonda

- (94) Bahrapur.

Bahraich

- (95) Bahraich.
- (96) Nanpara.

Sultanpur

- (97) Sultanpur.

Partabgarh

- (98) Bela.

Bara Banki

- (99) Nawabganj.
- (100) Rudauli.

APPENDIX III

List of the more important towns with income of Rs.50,000 and over which should have medical officers of health

- (1) Roorkee.
- (2) Ghaziabad.
- (3) Bulandshahr.
- (4) Khurja.
- (5) Firozabad.
- (6) Mainpuri.
- (7) Etah.
- (8) Kasganj.
- (9) Bijnor.

- (10) Banda.
- (11) Orai.
- (12) Ballia.
- (13) Azamgarh.
- (14) Almora.
- (15) Unao.
- (16) Rae Bareli.
- (17) Hardoi.
- (18) Lakhimpur.

- (19) Gonda.

APPENDIX IV

Provisional estimates of cost of the proposals

	Recurring		Non-recurring
	Rs.	Rs.	
(1) Provision of safe water-supply in villages..	..	..	To be provided out of Government loans.
(2) Malaria control units	6,00,000	..	
(3) Maternity and child-welfare	11,80,000	1,16,000	
(4) Water-works for smaller towns .. ..	..	..	Not known.
(5) Drainage schemes for towns .. ..	..	..	Ditto.
(6) Increase in the number of travelling dispensaries	2,54,930	1,48,000	
(7) Industrial Hygiene section in the Provincial Public Health Department	19,000	3,000	
(8) Nutrition section in the Provincial Public Health Department	61,000	55,000	
(9) Increase in the number of sanitary inspectors in rural areas	6,95,750	..	
(10) (a) Provision of infectious diseases hospitals in selected towns with population of 50,000 and over .. ..	..	..	Not known.
(b) Construction of infectious blocks in existing hospitals and dispensaries in towns over 10,000 and less than 50,000 in population .. ..	..	5,00,000	
(11) Appointment of medical officers of health in towns	51,300	..	
(12) (a) Appointment of school health officers in eight towns	27,000	4,000	
(b) Appointment of additional school health officers in five larger towns	16,500	..	
(13) Appointment of women school health officers in six towns	21,000	3,500	
(14) Subsidised scheme of mid-day meals at secondary schools .. ..	..	..	Not known.
(15) Increase in the number of assistant medical officers of health in larger districts	40,000	11,000	
(16) Appointment of additional medical officers of health for larger towns	29,700	..	
(17) Appointment of two more assistant directors of public health	36,000	6,000	
(18) Extension of Public Analyst's branch	*1,44,000	40,000	*Will be covered by additional income from fines. Estimate to be provided by Inspector-General of Civil Hospitals.
(19) Tuberculosis, venereal diseases and leprosy clinics .. ..	..	..
(20) Tuberculosis sanatoria .. ..	..	..
	<u>31,76,180</u>	<u>8,86,500</u>	

Statement of the probable approximate cost of improving the water-supply and drainage of the seven important towns of the United Provinces

Serial no.	Name of town	Population as per 1941 Census	Estimated cost as per existing schemes		Probable approximate cost making an allowance of 30 per cent, on pre-war rates		Remarks
			Water-supply	Drainage	Water-supply	Drainage	
1	Bareilly ..	180,526	Rs. ..	Rs. *22,24,031	Rs. 7,50,000	Rs. 29,00,000	*A comprehensive drainage scheme amounting to Rs.22,24,031, was prepared in 1919. A Water Supply Co. had offered in 1939 to put up water-works for Bareilly.
2	Budaun ..	52,077	..	..	2,50,000	..	A surface drainage scheme has already been carried out.
3	Etawah ..	53,114	1,74,712	..	2,50,000	2,00,000	Water-supply scheme amounting to Rs.1,74,712 has been prepared by the Executive Engineer, Well Boring Operations Division, Public Health Department, Cawnpore, in 1936, but no work was done.
4	Farrukhabad ..	59,580	2,25,200 (forecast of cost).	75,000	3,00,000	1,50,000	Drainage scheme amounting to Rs.75,000 was prepared in 1901 by Mr. W. B. Gordon, Sanitary Engineer to Government. A forecast of cost for water-supply amounting to Rs.2,25,200 was prepared in 1938.
5	Gorakhpur ..	84,650	†3,46,374	†3,44,501	4,50,000	3,00,000	†The preliminary proposal for water-supply was prepared in 1927. A comprehensive drainage scheme amounting to Rs.3,44,501 was prepared in 1931. A portion of it has been carried out and the remaining portion should be undertaken after the war is over.
6	Saharanpur ..	105,622	..	6,17,685	5,00,000	9,50,000	A comprehensive drainage scheme amounting to Rs.6,17,685 (exclusive of contingent and centage charges) was prepared in 1917.
7	Shahjahanpur..	105,817	..	‡11,95,915	5,00,000	15,50,000	‡A forecast of cost for drainage work was prepared in 1928.

F. D. TUNNICLIFFE,
Superintending Engineer,
Public Health Department, United Provinces.