Note on Visit to Bangladesh
3-9 October 1973

Dr D.A. Henderson

1. Status of Smallpox at present

Presently, between 100 and 150 cases are being recorded weekly, a figure estimated over all to be perhaps 20% of the true total. However, surveillance throughout the country is vastly improved over a year ago to the extent that case counts in perhaps one-third of the sub-divisions are essentially complete and reasonably so in perhaps another third. There are still, however, a number of sub-divisions (e.g. those in Barisal, Rangpur and Patuakhali Districts, Madaripur Sub-division in Faridpur District), believed to be moderately heavily infected but, where surveillance is as yet limited to virtually non-existant. In addition, scattered areas are present throughout the country which will be inaccessible until early November and some are known or suspected to be infected.

Chittagong Division, (25% of the country's population) is clearly approaching the point of interruption of transmission. Only those foci are known at present and all are being vigorously contained. These include one thana in Noakhali, one in Comilla and a focus of 21 cases in Jaintiapur in north-east Sylhet which was discovered only on 7 October. Five surveillance teams are operative and one additional team will be formed this month.

In Dacca Division, the greater metropolitan Dacca area appears to have stopped transmission in May although there are still occasional introductions from endemic areas. Eighteen two-men surveillance teams are screening the area. In the District itself (10% of the national population), there are only 10 known active foci. Surveillance in Dacca

District is generally good. Tangail District has only one remaining infected thana. In Mymensingh District, 8 of 42 thanas are infected and although the cities are free, endemic foci are probably moderately widely dispersed in these thanas. Faridpur District, except for Madaripur Sub-division, appears now to have few infected foci and has a good surveillance team. Madaripur Sub-division, virtually inaccessible at this point, is however extensively infected and poses a real threat to nearby Dacca and Dacca District.

Rajshahi Division presents a much less satisfactory picture than the other two divisions with Dinajpur District the only one of the five Districts where transmission has been essentially interrupted. Rangpur District, as has been the case for two years, is a major headache but endemic foci are scattered throughout all of the remaining Districts. Surveillance, however, has improved significantly in recent months and a generally better quality of work on the part of health staff is in evidence. Six surveillance teams will be operative in this division by 1 November.

Khulna Division presents a varied picture. Barisal District, with poor health staff and difficult transport problems, undoubtedly has many foci and Patuakhali District, with even more formidable transport problems, is almost an unknown entity. Jessore District is a problem with a comparatively ineffective surveillance team and other problems in the health structure. On the bright side, good progress has been made in Kushtia and Khulna Districts and infected foci in both are limited in size and extent.

2. Prospects for the next smallpox season

Contrasted to a year ago, prospects for the interruption of transmission during the coming year have altered radically:

1. Vaccination immunity is undoubtedly better as a result of last spring's special campaign although various fragmentary observations would suggest improvement would have to be characterized as moderate rather than major.
2. The non-Bengali camps which played a notable role in smallpox dissemination last year have all been vaccinated and most are under some form of satisfactory surveillance.
3. Migration because of food shortages, which was a major problem in 1972-73, should be sharply curtailed to virtually nil this year - The November rice harvest being expected to be one of the largest in history.
4. A great many foci present before the monsoon have terminated spontaneously - this having been facilitated by an exceptionally long monsoon period.
5. The SE programme itself has matured and stabilized.

   Reporting from sub-division level is now virtually complete each week and reports from thana to sub-division level are approaching the 90% mark.

   Fourteen surveillance teams have been trained and most are working effectively . Eleven more will be in position by 1 November.

   Ten WHO staff (compared to two last year) will be in the field this autumn - supplementary expatriate assistance is also being provided by two volunteers.

   Vehicles, motorcycles and bicycles are in generally adequate supply although some problems in riverine transport are still present.

More staff within the health service structure are aware of and cooperating with the programme.

Locally produced smallpox vaccine is consistently of good quality and is in ample supply. The vaccine stock is 7 500 000 doses - approximately a 6 months reserve supply.

The programme targets are as follows:

	Interruption of transmission by
Chittagong Division	1 December
Dacca Division	1 January
Rajshahi Division	1 March
Khulna Division	1 May

3. Strategy and disposition of staff

National medical officers and WHO consultants will each have responsibility for surveillance and containment of outbreaks in defined geographical areas and will supervise and monitor the work of District surveillance teams. The work will be coordinated with SMMOH, who for the present, will continue to serve as the principal focal point below the national level for reporting and supervision of activities.

As a first priority, surveillance teams will assist local staff in initial containment of each outbreak (say 1 to 2 days) and will pay repeat visits at intervals of not less than two weeks until six weeks after onset of the last case. The teams will be responsible for providing a written summary report on each outbreak and, monthly, will provide a day by day tour report indicating the nature of their activities. A continuing, planned active search for cases will be conducted except when they are occupied with containment activities. In addition, every effort will be made to ensure that either a national medical officer or a WHO consultant visits every outbreak on one or more occasions as a further check on the activity.

The primary thrust of the strategy, therefore, is to assure, to the extent possible, containment of all known outbreaks. Detection of new foci will depend in part on local staff (who will need to be encouraged constantly to do this), as well as active search by the teams. Active search, for the present, will stress more extensive geographic coverage at the expense of detailed search in given areas. As a possible stimulus for reporting in low incidence areas, a 50 taka award will be offerred to any health worker reporting the first case in an outbreak in Chittagong and Noakhali Districts. If the scheme proves of benefit, this award will be offered to health staff in other low incidence Districts.

Some special measures would seem desirable to assure that appropriate emphasis is directed toward the elimination of known foci. One of the most effective schemes of which I am aware is that which has been employed by Dr Zikmund in Orissa. At state level, he and the programme officer maintain a list of all known infected villages. These are checked at regular intervals by himself and the state teams to determine whether containment has been successful. The village is considered to be infected for 6 weeks after onset of the last case at which time a final check is made and the village appropriately deleted from the list. As a further evaluation of success in containment, he determines the number of villages in which cases were detected more than 15 days after containment measures were begun. As I recall, he and the state programme officer this year appraised more than 200 outbreaks, in only 9 of which were cases detected after 15 days. By maintaining this line listing of outbreaks in this manner, he can tell at any point in the precisely how many "active" foci are still present. This serves as a guide to work and priorities. Something of this sort might profitably and effectively be utilized by each of those officers responsible for

III. Drs Ward, Arif Rahman	Dacca	2	(Sale)
	Tangail	1	
	Mymensingh	2	Lewis
	Khulna	1	Smith
IV. Drs Arnt, Panna	Kushtia	1	
	Jessore	2	
	Faridpur	1	Rangaraj
V. Mr Miner	Barisal	2	Koplan
	Patuakhali	1	

4. Notes on special problems

4.1 Activities until 25 October will inevitably continue to be restricted to some degree because of fasting. However, if all 25 teams begin work immediately after this date, the problems occasioned by loss of productivity during this period should be able to be overcome.

4.2 Training of all thana health staff will take place in each thana for some period of 4 weeks (2 weeks classroom, 2 weeks field) between November and January. This inevitably will reduce temporarily the already limited surveillance provided by these workers but conceivably could eventually improve the quality of surveillance and level of vaccination immunity. Surveillance teams will not participate in the training in any way unless there is an outbreak of smallpox in the area; in which case, workers receiving training will assist the teams in outbreak control as part of their field training. The disruption to the programme occasioned by those training sessions will certainly be problematic but doubtfully serious.

4.3 Reporting under the new system is intended such that each thana (400 in all) will submit a comprehensive detailed report on activities (family planning, smallpox, malaria, TB etc. activities) direct to Dacca each week. The delays in preparation and submission of

reports and eventually, compilation of data in Dacca could prove extremely damaging to the smallpox surveillance scheme. At least through December, smallpox reports will continue, as at present, to be submitted through the SDMOHs (who will be extended for at least one year). Eventually, the only reasonable solution for smallpox reporting may be by special weekly postcards directly to Dacca with copy to the SDMOH and District. (Problem to be further studied by Drs Foster and Ward).

4.4 The difficulty of assuring that all cases detected by surveillance teams are properly reported by the sub-divisions will undoubtedly be compounded with the active functioning of more teams. A few instances are known in which teams found outbreaks, informed the SDMOHs but later discovered the cases were not included in the regular sub-division reports. This has been a problem in other countries. Invariably, the only workable solution has been for the responsible medical officers to follow closely case incidence in their areas and where deficiencies were found to simply request directly to national headquarters correction of the data so as to reflect accurately the smallpox incidence. Where efforts have been made to insist on submission of corrected reports from sub-divisions levels, for example, failure and frustration have been inevitable.

4.5 Customs clearances are proving difficult as the government has now assumed the function of UNROD. The 100 motorcycles ordered in May, have now been in Chittagong for fully 3 weeks. The Secretary assures this will be dealt with immediately.

4.6 Appointment of new staff is similarly a problem because of recent restrictions on hiring - 10 new drivers for the surveillance teams being needed urgently. Again, the Secretary assures immediate special exemption.

4.7 Five launches suitable for sleeping 3 to 4 people are neede about one week per month for five different areas. Where these might be obtained on loan or on a rental basis is not yet clear. Some additional funds may be required, however.

4.8 Provision for vaccination of expatriate persons was checked on-site and now seems to be very well handled. This, however, will need to be checked at regular intervals as the machinery for such a routine habitually seems to deteriorate over time and with increasing numbers of persons involved. One group from Pakistan arriving on 2 October was found not to have been checked for vaccination - forms for those leaving Pakistan provide no space for notation of smallpox vaccination having been performed. (This I shall take up with appropriate Pakistan officials.)

4.9 Some additional funds for local costs are very urgently needed. Dr Ward had requested an increase of $10 000 in subsidies at the time of his last visit to SEARO and $5 000 was verbally agreed to by Dr Rama Krishnan. No official note in confirmation has been received in Dacca. In addition, the RD was said to have verbally agreed to providing $3 500 for emergency repair of vehicles but again, nothing in confirmation has been received. Thus $8 500 of $13 500 requested is believed to have been agreed to but, in fact, it would appear to me that the amount required is $15 000 (taking into account boat rental and more surveillance teams than were originally forecast).