

WORLD HEALTH ORGANIZATION
REGIONAL OFFICE
FOR THE EASTERN MEDITERRANEAN



ORGANISATION MONDIALE DE LA SANTÉ
BUREAU RÉGIONAL
POUR LA MÉDITERRANÉE ORIENTALE

SEMINAR ON SMALLPOX ERADICATION
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SMALLPOX IN THE EASTERN MEDITERRANEAN REGION

by

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During the 1950s, with the exception of Yemen, where no information was available, all of the twenty-two countries of this Region were reporting the presence of smallpox in varying degrees.

The number of cases reported annually ranged from the highest number ever of 84 000 in 1956, with a fatality rate of 75%, i.e. 60 000 deaths, to the lowest number of 1000 cases in 1964.

As the bulk of cases in the Region is reported from Pakistan, the whole pattern of annual incidence follows more or less the pattern of that country, showing a peak every seven or eight years and some seasonal variations. Last year (1968), some 12 300 cases were reported in the Region, 90% of which originated from Pakistan, approximately 6% from Afghanistan and 3% from Ethiopia. The remaining 1% was reported from the Sudan, Southern Yemen and Oman. East Pakistan has reported over 5 cases per 100 000 population, West Pakistan, Ethiopia and Sudan between 0.5 and 5 cases per 100 000 population. It should be noted however that over 65% of 253 million population of this Region are in fact residing in endemic areas and thus subject to the permanent risk of infection.

This year, so far 3 500 cases have been reported from the Region and it is expected that this figure would increase to over 4 000 by the end of the year, a substantial reduction of one third of the number of cases reported last year, and the lowest figure shown during the last four years. This is probably due to the cyclical pattern of smallpox in Pakistan after the epidemic experienced early in 1968.

But the actual number of cases ought to be much higher than the ones reported because much is yet to be achieved regarding the development of the reporting systems in some endemic countries of the Region. In most cases the recorded number represents only 1/10 of actual cases occurred. Furthermore, it is envisaged that the recorded number of cases will rise during the next year or so as with the eradication programmes getting a firmer grasp, the reporting system is bound to improve. This phenomenon

was observed in fact in most of the endemic countries during the first years of their eradication programmes. Iran in 1956, and Iraq in 1957, recorded the highest number of cases at the very beginning of their eradication activities; later on as mass campaigns progressed, the number of cases sharply decreased.

Only five countries from the Region have so far reported the presence of smallpox this year: for the first nine months of 1969, Pakistan accounted for 87%, Afghanistan 3%, Ethiopia 5%, Sudan 4% and Yemen 1% of the reported cases.

With the exception of Ethiopia, the above countries have been engaged in active eradication programmes. In addition, some countries at high risk of reintroduction of the disease, such as Saudi Arabia, Somalia and Southern Yemen, have also initiated smallpox eradication programmes.

Among these countries, Afghanistan, Pakistan, Saudi Arabia, Somalia, Sudan and Yemen, are in fact in the first year of their attack phase; Southern Yemen is still in the preparatory phase. Many important points are still under ~~negotiations~~ **in Ethiopia**; ~~however preliminary discussions~~ will be carried out next month, and it is hoped that by next year, Ethiopia may also join in the global smallpox eradication programme.

Naturally, in the course of the years, smallpox has been reintroduced in some of the non-endemic countries; sporadic cases have been seen; epidemics have developed; however the surveillance activities in existence have successfully contained the epidemics thus preventing smallpox from re-establishing itself.

Other countries of the Region, having been free from smallpox for the last three years, but still at risk of imported cases, and possibly of epidemics, are engaged in smallpox vaccination activities; some through basic health services and some through multiple antigen administration. It is probable that the immunity level in some of these countries is rather low and that the number of effective primary vaccinations does not correspond with the number of newborns, thus leaving quite a few susceptibles accumulating each year.

In Ethiopia, during last year, the number of primary vaccinations recorded was only 1% of the total newborns. This percentage in Cyprus is 20%, in Jordan 30% and in West Pakistan 50%; only Sudan and UAR show comparable figures between recorded vaccinations and number of newborns. No information on this matter is available from the other countries of the Region because no breakdown of primary vaccination is recorded.

For the year 1968, 63 million vaccinations have been recorded in the Region which make up for the 25% of the total 253 million population of this Region.

This high number of vaccinations, if effective, should be quite sufficient considering that all except five of the countries of this Region are presently smallpox-free, and, if done in a logical way, the whole of the population could be covered every four years.

Unfortunately, 100% of all vaccinations in Cyprus, Jordan, Southern Yemen, and 85%-95% of all vaccinations in the populated countries of West Pakistan, Iran and UAR, were in fact performed with glycerinated vaccine, a product **the use of which is no longer recommended**; others use freeze-dried vaccine which is totally or partially produced locally and which is of uncertain stability. Only Afghanistan, Libya, Saudi Arabia, Somalia and Sudan obtain a good quality of freeze-dried vaccine from outside sources. This should lead us to believe that the number of vaccinations resulting in immunity is much lower than the recorded number of vaccinations in the Region.

It is very unfortunate to report that to-date in spite of tremendous efforts, none of the laboratories from this Region are producing freeze-dried smallpox vaccine which meets WHO standards as regards potency and stability.

This is posing a serious problem and the utmost cooperation is required from the member countries to attain the standards set by WHO regarding the quality of the vaccine.

To cope with this deficiency, practically all smallpox vaccine production laboratories in the Region, located in Addis Ababa, Amman, Baghdad, Cairo, Dacca, Damascus, Murree and Teheran, have been provided with consultants of variable durations; supplies and equipment have either already been provided or provision is under process. Fellowships have been awarded to Ethiopia, Iran, Iraq, Jordan, Pakistan and Tunisia to this effect. Batches of vaccine have been tested in WHO Reference Laboratories and there are hopes that by next year, something will be achieved, and, that a few if not all of these laboratories, will be able to produce a vaccine of good potency and stability.

On the other hand, in order to minimize the chances of spread of the disease from the point of origin, surveillance activities have been strengthened. In all endemic countries full time surveillance teams have been established and trained to cope immediately with any outbreaks and carry out containment measures. This activity however has yet a long way to go because it was initiated just recently. Out of about 30 000 reported cases during the last three years, only 1000 cases were epidemiologically investigated; this is too low a figure to be considered of any epidemiologic importance.

It is certain that with the mechanism created now, during the coming years the proportion of investigated cases will rise appreciably aiming at 100% investigation on all reported cases.

Presently surveillance teams have been created in East and West Pakistan, Afghanistan, Saudi Arabia, Sudan, Southern Yemen and Yemen Arab Republic, to cope with the epidemiological investigation of all suspected and confirmed cases of smallpox.

In countries where no smallpox is present, this is being done through the basis health services or by organized surveillance at Central level. We have by no means reached the level which could ensure early

notification and action, and I hope that we shall be able to re-emphasize in this Seminar, the need for more effective measures which could be adopted immediately where and when necessary.

The development of laboratory diagnosis for smallpox is still in its initial stage. Facilities and trained personnel exist only in a few countries which are capable of performing virus isolation in the chorio allantoic membrane of chick embryo , which at present is the most reliable method of diagnosis.

Only 209 suspected cases during the last three years were subjected to laboratory diagnosis in this Region. As eradication programmes will progress and the number of cases will decrease appreciably, each single suspected case will become very important and laboratory diagnosis should develop accordingly.

I have tried my best to reflect a true picture of the smallpox situation in this Region. You will agree with me that it is not a very encouraging one but there are many evidences that conditions are in fact changing rapidly and we hope to achieve our goal in a not too distant future.

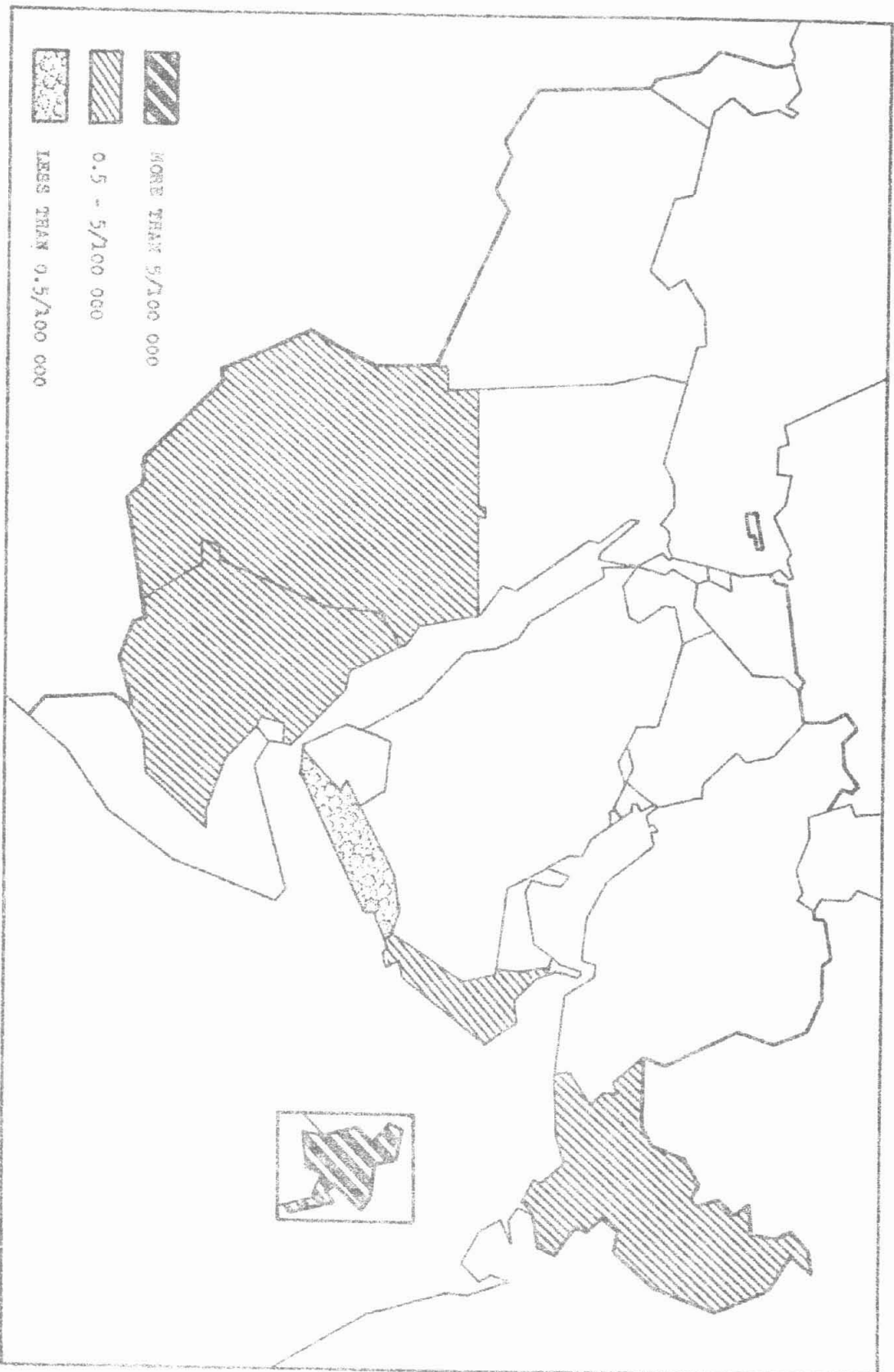
One should not forget that financial resources and manpower are still limited and administrative and logistic problems are in existence in several countries of the Region. Therefore our programmes should be shaped not only according to the need but also within the limits of available facilities.

Success is within reach and the task is not really a difficult one; all it needs is understanding and the cooperation of all those concerned, most of whom are present in this room.

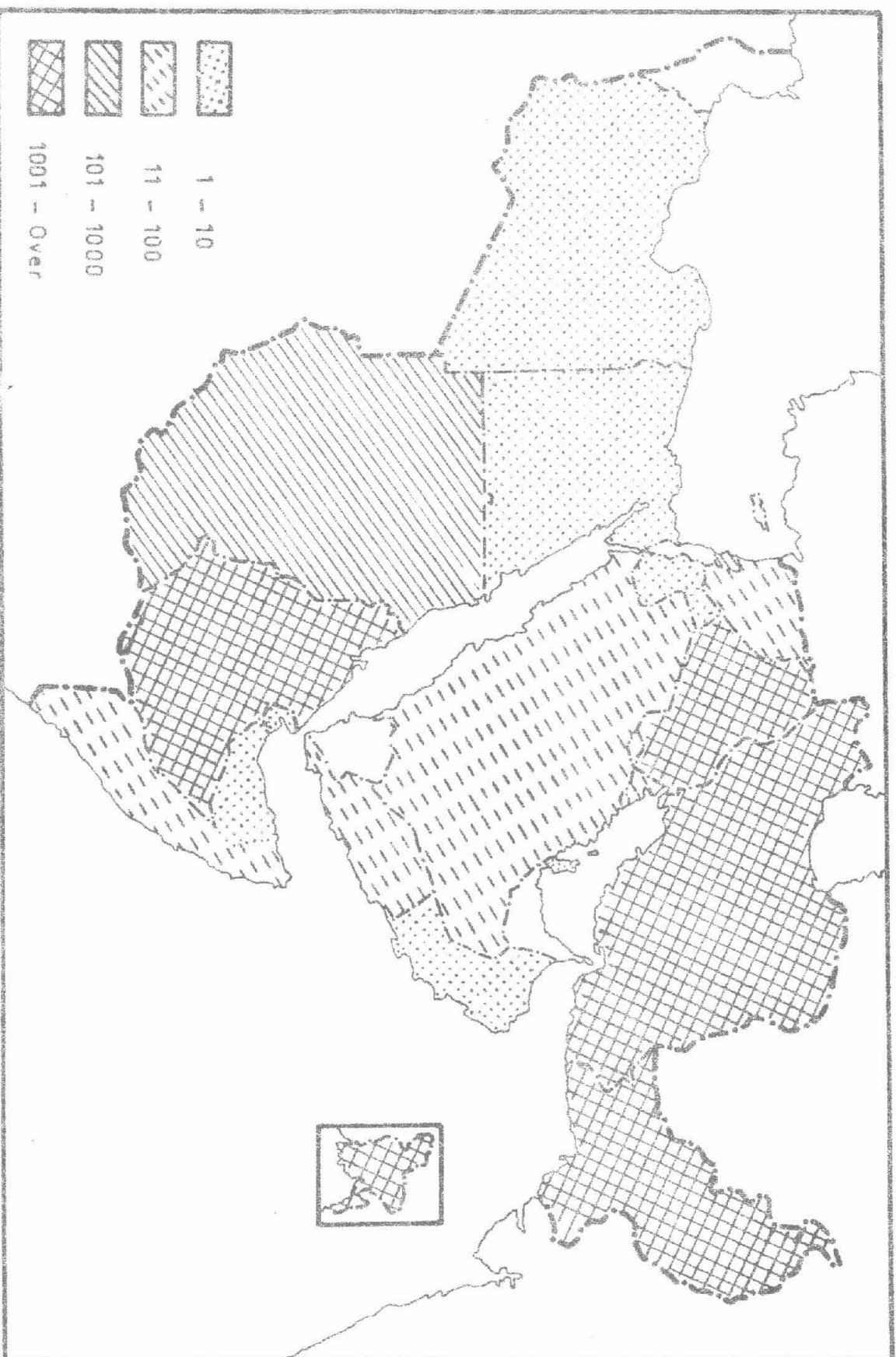
SMALLPOX INCIDENCE IN THE EASTERN MEDITERRANEAN REGION

1968

CASES PER 100 000 POPULATION

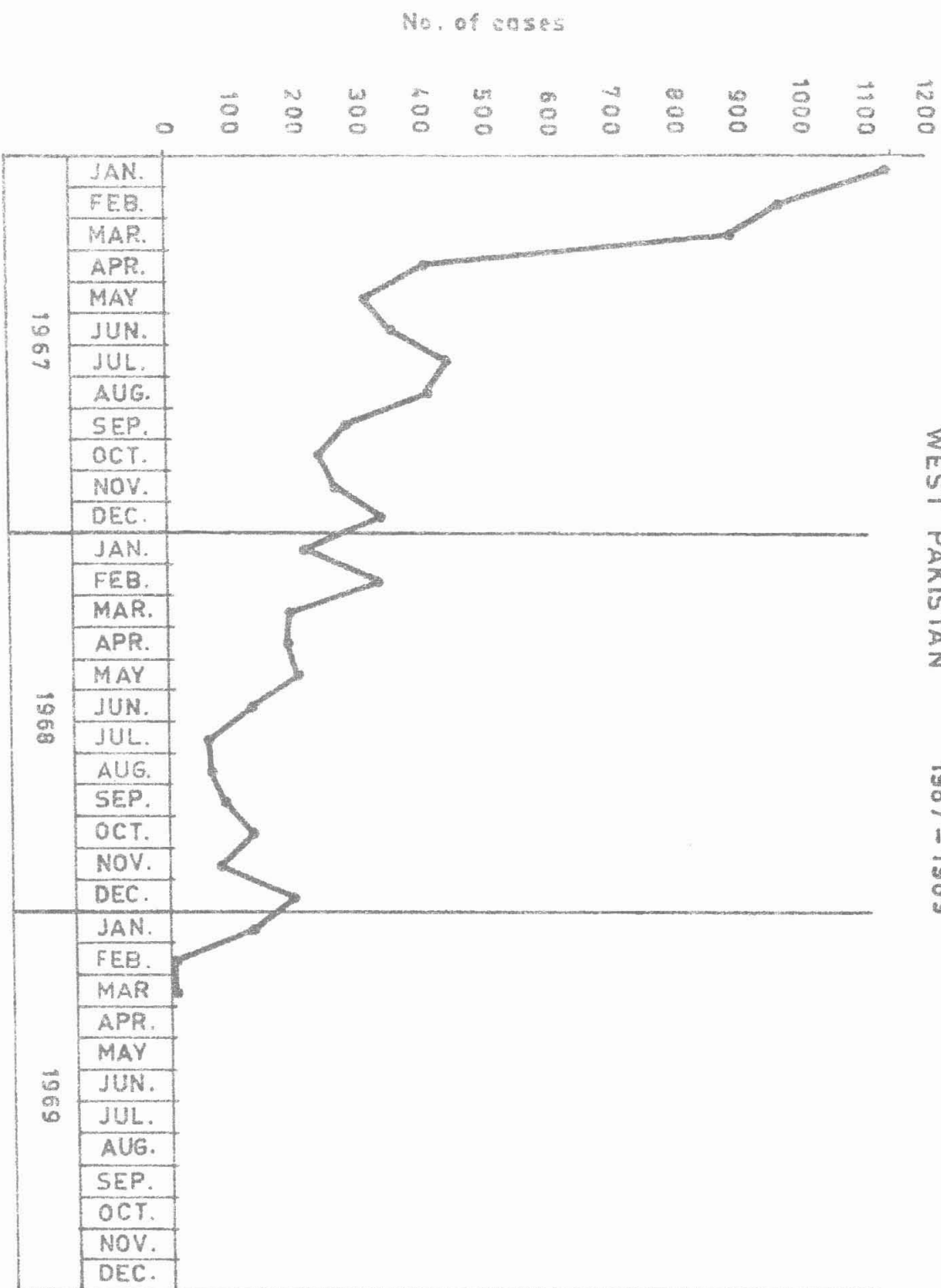


GEOGRAPHICAL DISTRIBUTION OF SMALLPOX CASES WHO - EASTERN MEDITERRANEAN REGION 1957



REPORTED CASES OF SMALLPOX BY MONTH

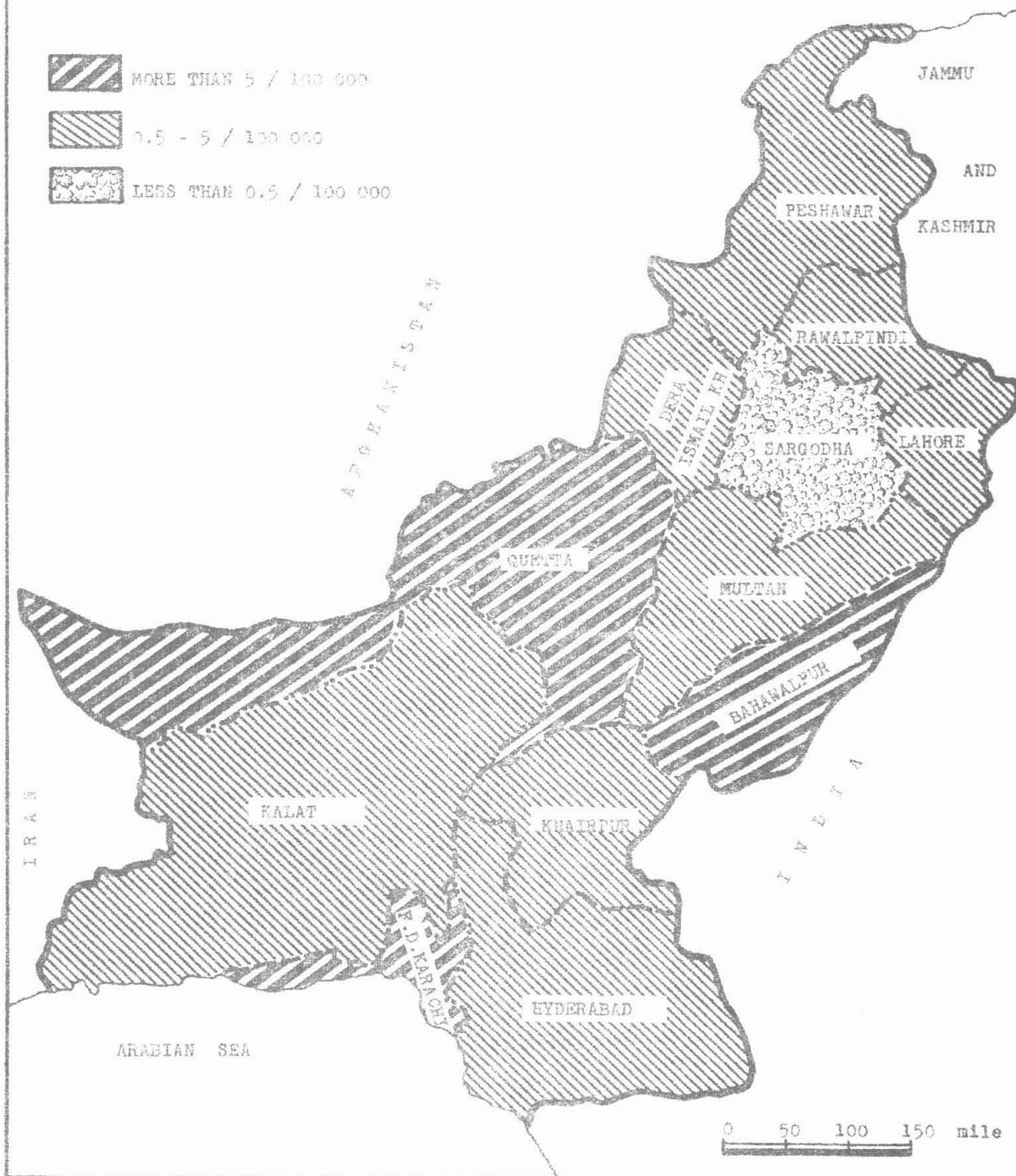
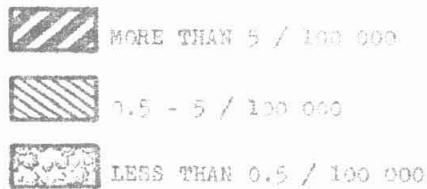
WEST PAKISTAN 1967-1969



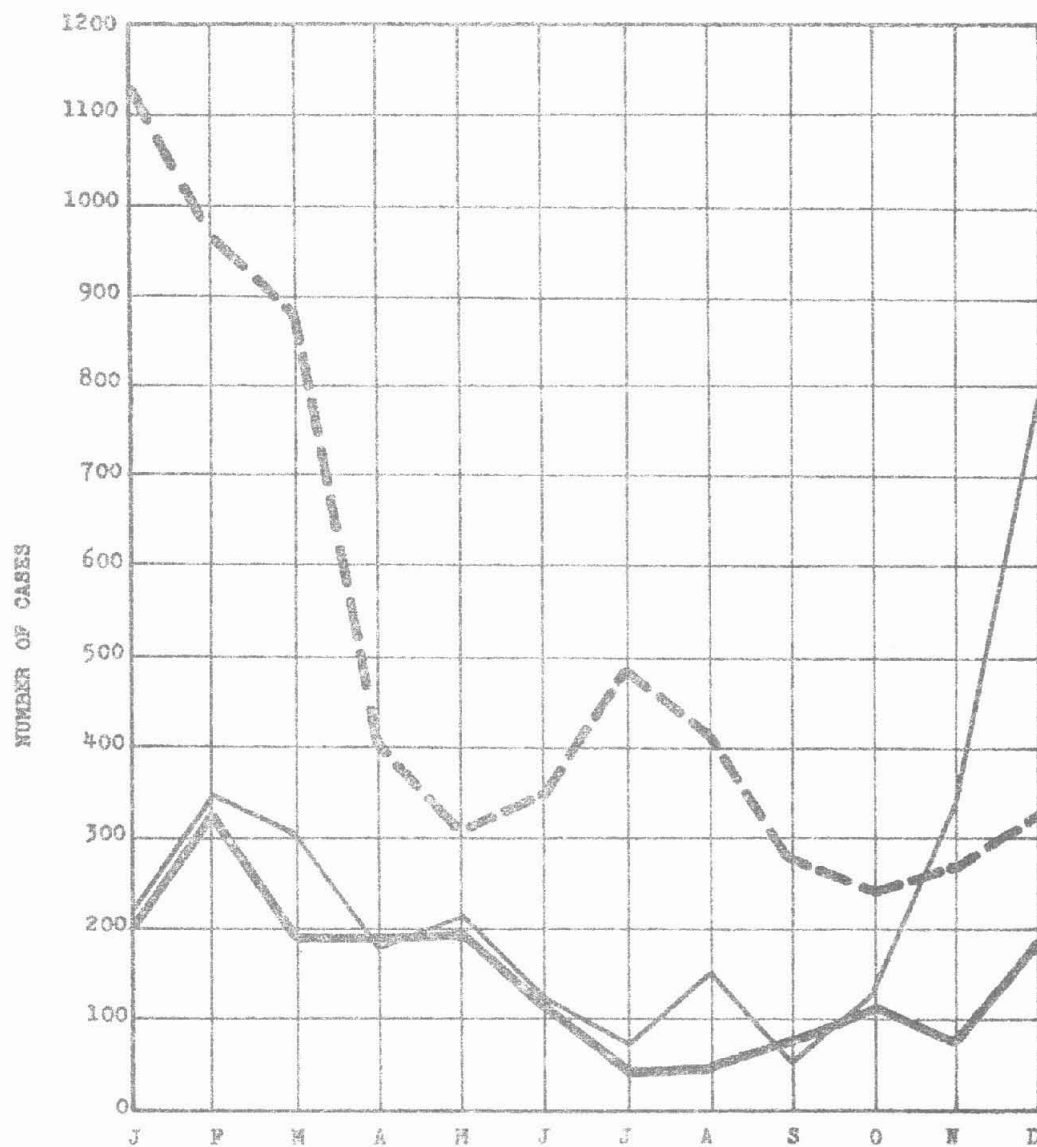
SMALLPOX INCIDENCE 1968

WEST PAKISTAN

CASES PER 100 000 POPULATION



SMALLPOX MONTHLY REPORTED CASES WEST PAKISTAN 1966 - 1967 - 1968

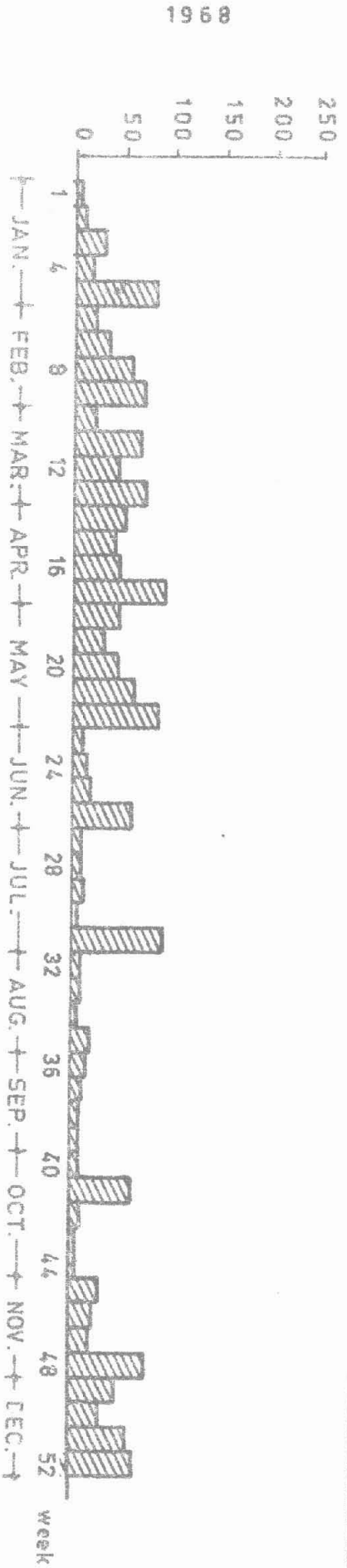
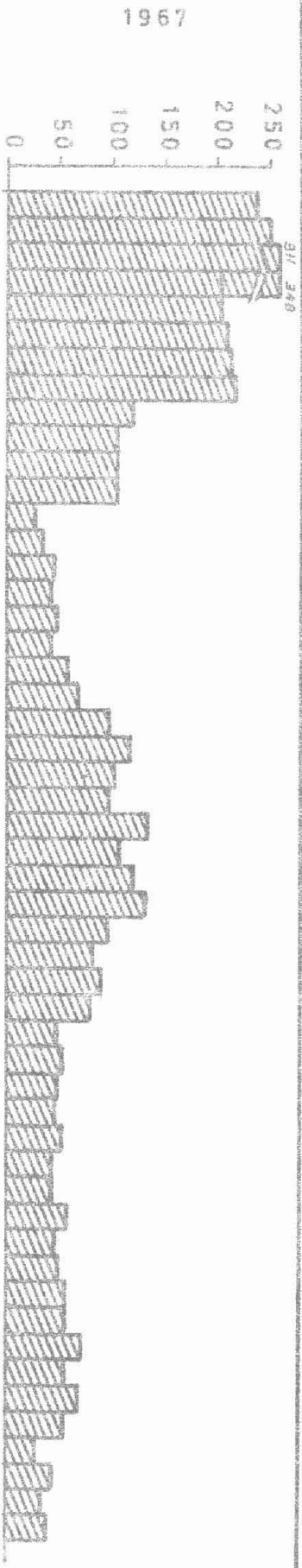
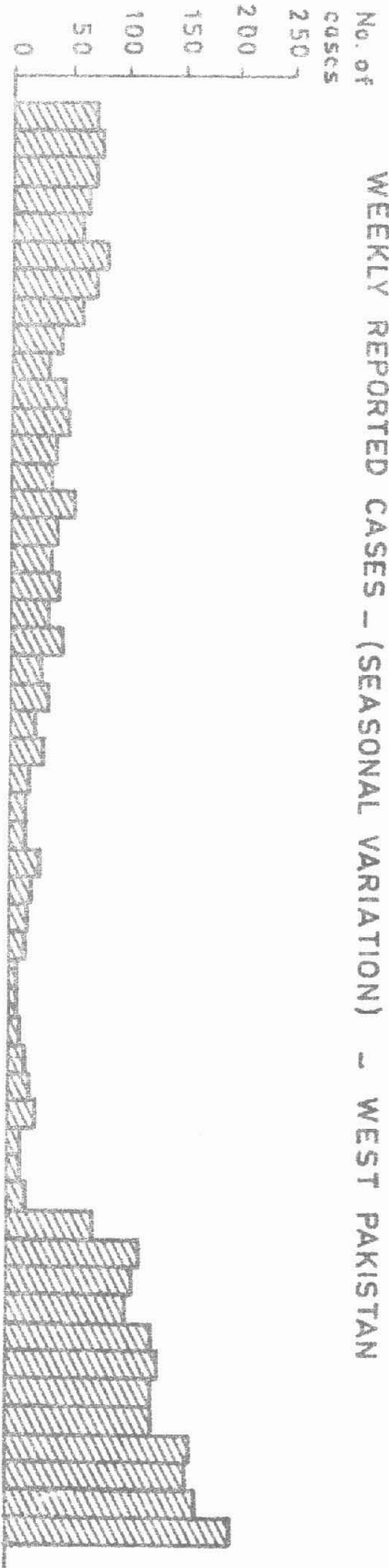


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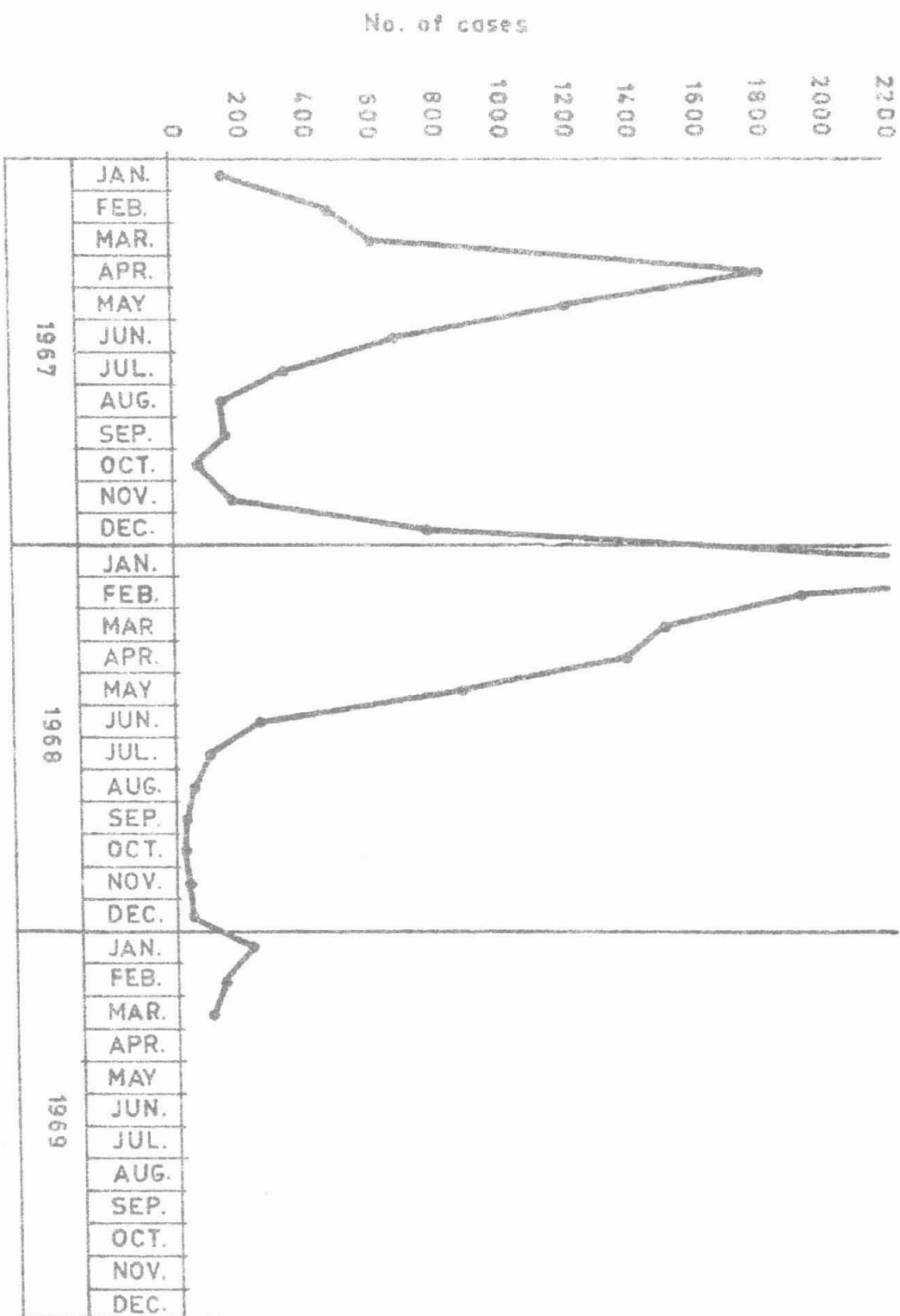
SOURCE: HEALTH DEPARTMENT, CIVIL SECTION, LAHORE

SMALLPOX

WEEKLY REPORTED CASES - (SEASONAL VARIATION) - WEST PAKISTAN



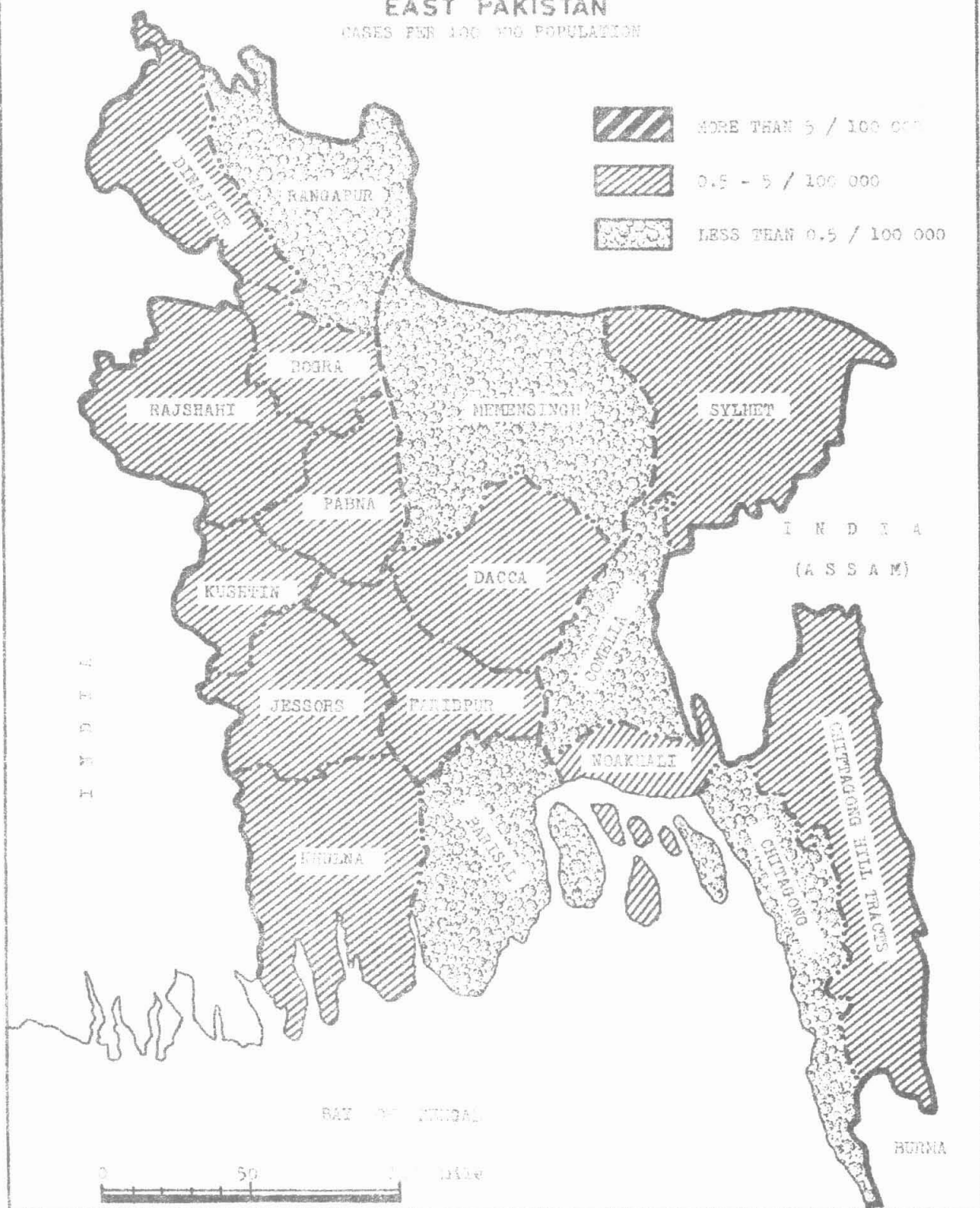
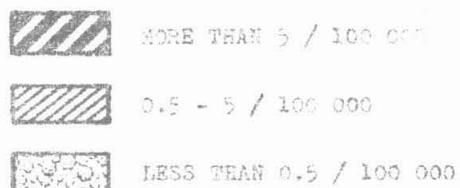
REPORTED CASES OF SMALLPOX BY MONTH EAST PAKISTAN 1967 - 1969



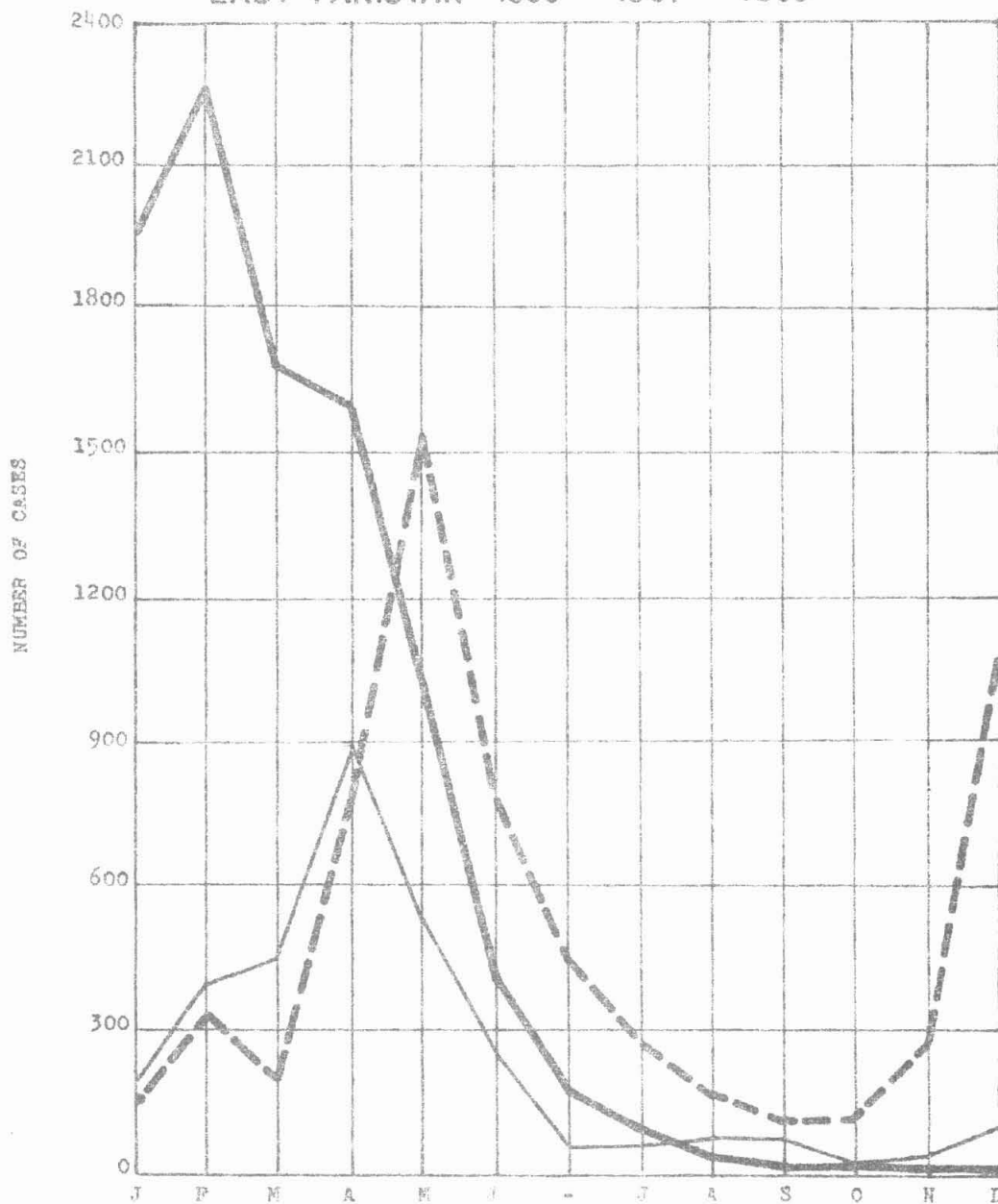
SMALLPOX INCIDENCE — JUNE 1968 — MARCH 1969

EAST PAKISTAN

CASES PER 100 000 POPULATION

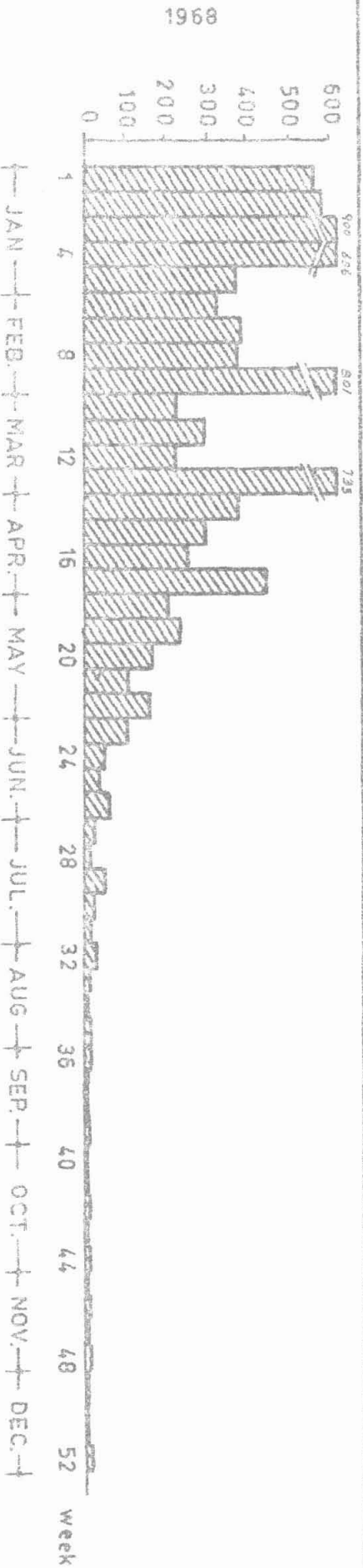
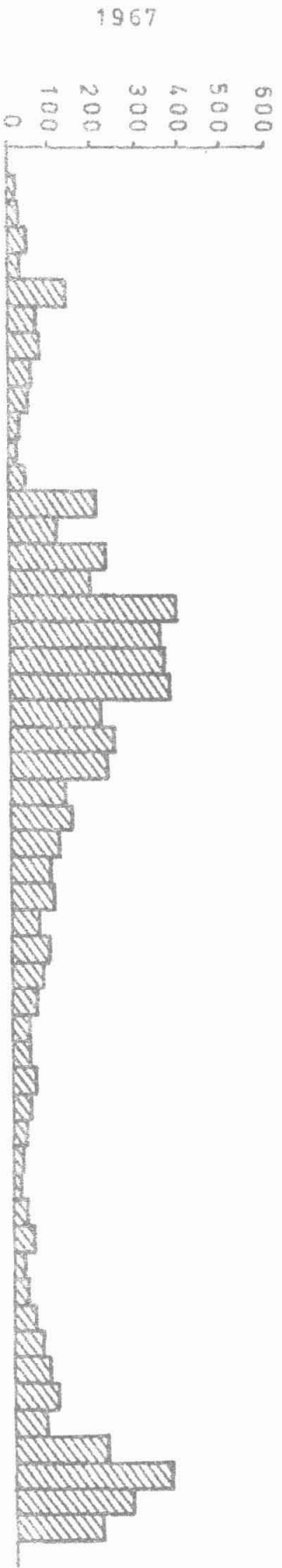
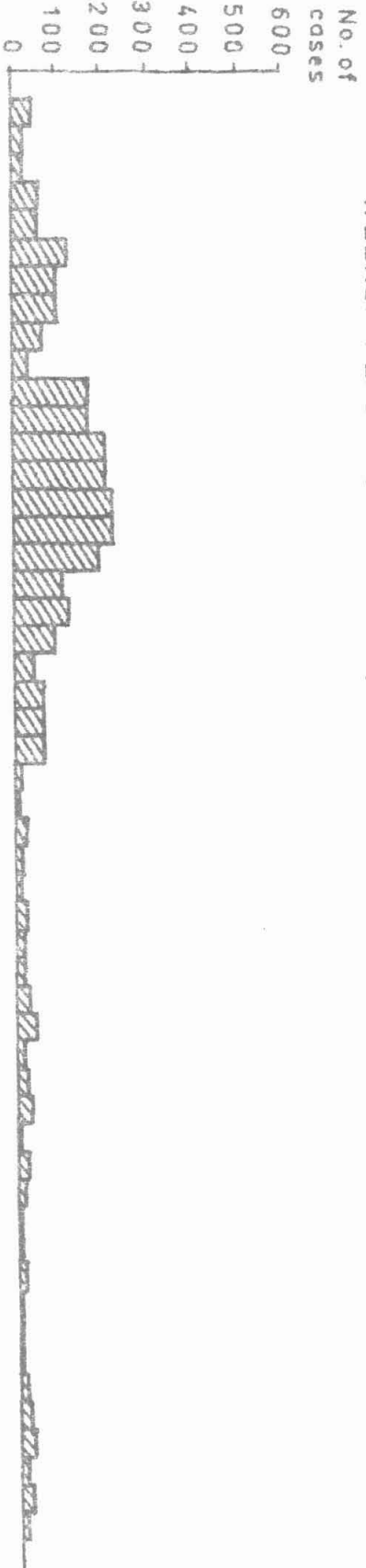


SMALLPOX
MONTHLY (FOUR-WEEKLY) REPORTED CASES
EAST PAKISTAN 1966 - 1967 - 1968

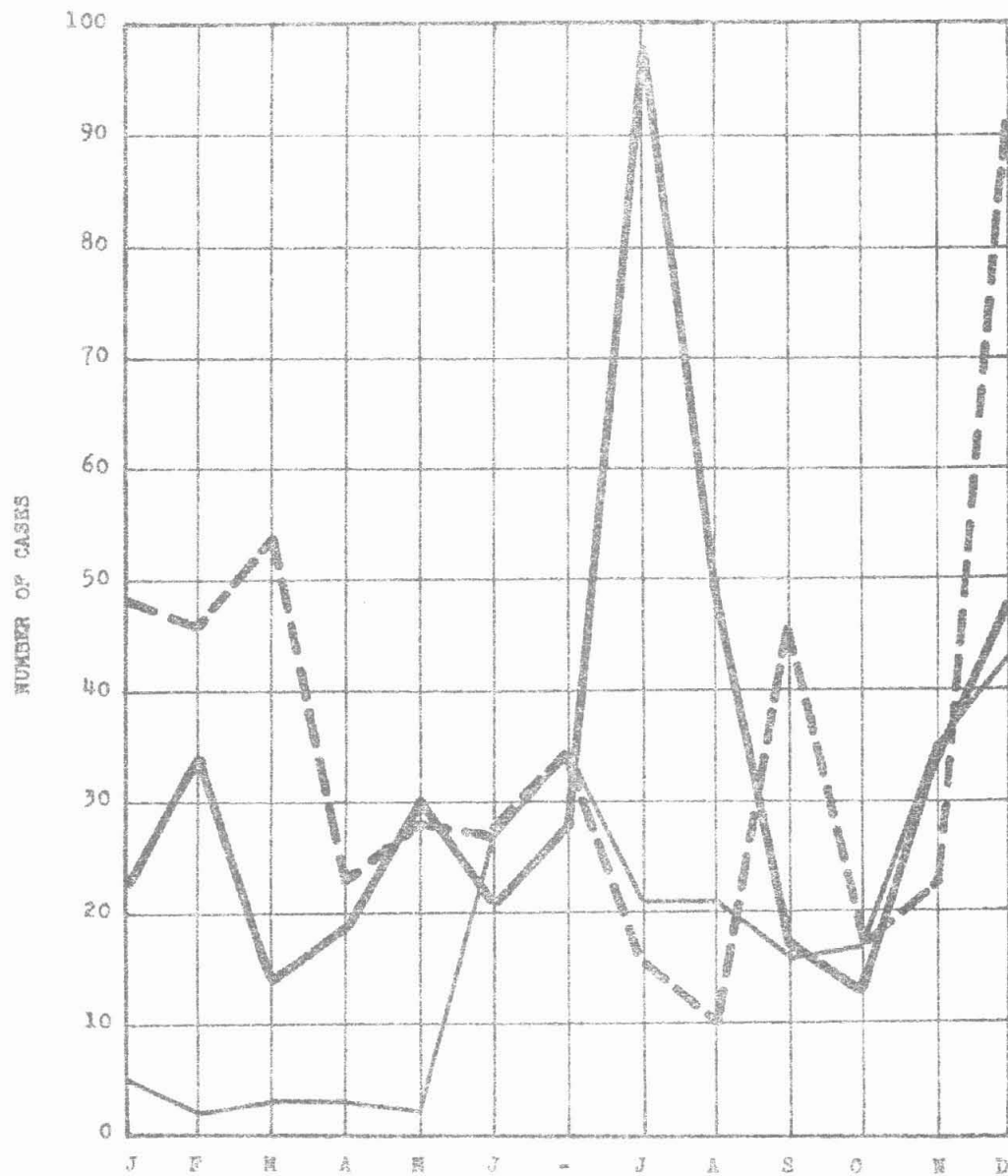


— 1968 SOURCE: WEEKLY EPIDEMIOLOGICAL RECORD NO.8/1969.
 - - - 1967 SOURCE: WORLD HEALTH STATISTICS REPORT VOL.21, NO.4, 1968.
 — 1966 SOURCE: EPIDEMIOLOGICAL AND VITAL STATISTICS REPORT VOL.20, NO.4, 1967.

SMALLPOX WEEKLY REPORTED CASES - (SEASONAL VARIATION) - EAST PAKISTAN



SMALLPOX
MONTHLY (FOUR-WEEKLY) REPORTED CASES
ETHIOPIA 1966 - 1967 - 1968



———— 1968 SOURCE: WEEKLY EPIDEMIOLOGICAL RECORD NO.8/1969.

- - - - 1967 SOURCE: WORLD HEALTH STATISTICS REPORT VOL.21, NO.4, 1968.

———— 1966 SOURCE: EPIDEMIOLOGICAL AND VITAL STATISTICS REPORT VOL.20, NO.4, 1967.

SMALLPOX

No. of cases

WEEKLY REPORTED CASES - (SEASONAL VARIATION) - ETHIOPIA

