

IMPRESSIONS OF HEALTH AND ENVIRONMENT IN BARODA CITY

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A cursory survey of the environment of a city at any point of time might reveal a variety of adherent diseases. Some of them lie dormant in certain localities but are capable of outbursts in the form of epidemics when prevailing environmental conditions are favourable. On the other hand, some might have been rendered harmless and ineffective with the disease-bearing organism getting mutated and weakened. Seasonal and other variations of the environment do have a bearing on certain diseases, so much so that some of them are harboured and sustained while others are starved out. Spatially, too, studies made of different localities of a city, might reveal variations in the environment.

The environment obtaining in any city at any time is related to the health of its population in direct as well as indirect ways. In the direct way, it affects or influences the disease-prone or weak units which might set off a chain linking more and more unaffected people by passing on the disease to them. On the other hand indirect ways might include the vectors and the carriers of the disease like animals, insects, besides humans who themselves remain unaffected.

It would appear that at any given time, the environment of a city is found as a concoction of elements that go to make it. That the environment is changing continuously cannot be overemphasized.

THE CONSTITUENTS OF THE ENVIRONMENT

City environment is known for spinning a web of certain relationships (Fig. 1). This web has for its strands the element of population consisting of the healthy, the diseased and the disease-prone individuals, interwoven with a complex of built-in conditions of the geographical environment, that is, the physical, biological and socio-cultural (Fig. 2). The web twitches as the pattern of relationships arranges and rearranges ceaselessly. This is seen, for example, in the population that flows into the city (even while a certain proportion of it leaves the city) and congeals into large or small dots or spreads over certain areas and finally merges with the already permanently embedded section. Such activity generating adjustments involve stresses and strains in the environment the quality of which is reflected in the health found in the city.

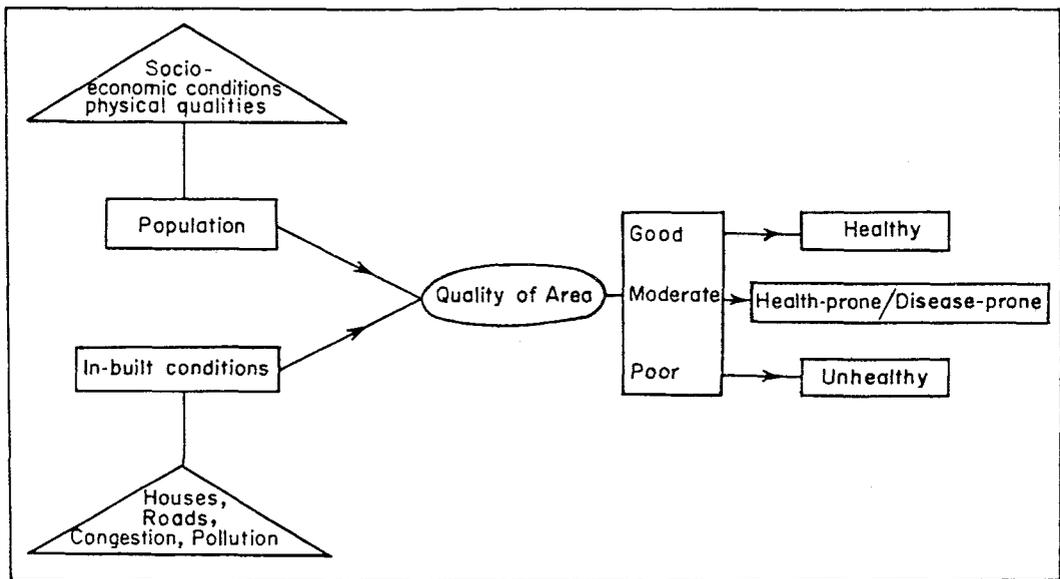


Fig. 1 : Relationship in the Evolution of the Quality of an Area in a City

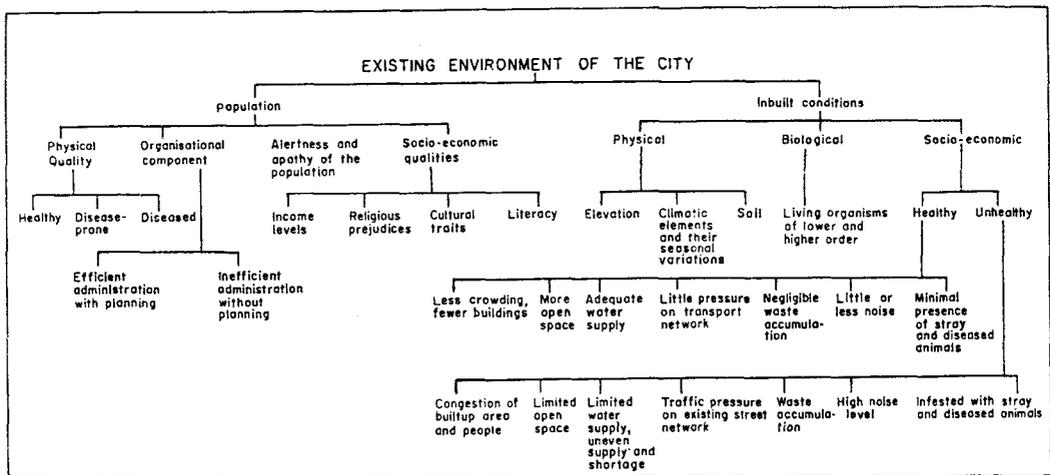


Fig. 2 : Variables Determining the Quality of an Area within a City

The character and quality of the environment plays a significant role in determining whether the nature of relationships promotes healthy living with minimum of diseases, and is conducive to happiness of the city dwellers.

UNHEALTHY CONDITIONS OVER-CROWDING

The social and economic conditions in a city combine to create an artificial

environment comprising mohallas, busties, and chawls. Building activity tends to reduce open space and bring about changes in the skyline. Tall buildings and dilapidated structures stand cheek by jowl, providing a striking contrast. This leads to overcrowding even in the periphery which was once planned for space, perhaps for the elite of the city. Very little of it might remain as such areas are drawn in from their isolation and bound more closely to the city proper (for example Alkapuri, Race Course in Baroda).

TRAFFIC CONGESTION AND POLLUTION

The bustle on the roads and streets in the peak hours appear to shrink the roads suddenly. Vehicles churn up dust or splash dirty water while they emit fumes and smoke unconcernedly. The buses moving along the city roads with their loads of commuters not only allow communicable diseases to spread among the commuters, but also can help convey and deliver them to every stage on the route and to the final destination.

Another source of pollution are the chimney stacks of various industrial establishments or discharge effluents from their drains, as is the case with the numerous chemical industries of Baroda.

RECEDING OPEN SPACE

The open spaces — playgrounds, parks, gardens, water pools — have hardly a chance to restore the health giving freshness to the city dwellers, for they too are overcrowded and often crowded out of existence as the pressure on them becomes telling, making them lose their revitalizing nature. Concrete structures take the place of space for trees; drives occupy the green; the park gradually is transformed into a 'mela' or fair ground which surges with humanity during regular fairs. The areas around the parks are intruded by housing activity. As contact with the rest of the city is essential for much housing colonies, the park has to lend itself to regular thoroughfare through its portals for noisy vehicular traffic; adding to the pollution. The Sayaji Garden in Baroda has thus been mutated.

Gone are the times when the beautiful, peaceful water bodies were used for recreation like swimming and boating. They have become easy spots for the disposal of waste material and serve the purpose

of washing clothes. It is amazing that they still exist and retain token functions although they are all but cesspools for harbouring disease. The Sur Sagar in Baroda is a case in point.

ENCLOSED PUBLIC PLACES

The enclosed arenas like the theatres and the cinema houses and the areas around them are best equipped spots where disease can be dispensed to the unwary crowds that surge in then to escape the tensions of city life. Besides, the stale, smoke-filled air, the vermin, like bed bugs, mosquitoes, and cockroaches lodged in the crevices of the seats inside the halls are conducive to the transfer of diseases.

ORGANISATIONAL LAPSES

Administrative and other organisations that strive to maintain better environmental conditions, being unable to keep pace and keep track of the direction in which undesirable and dangerous elements lurk, soon start showing signs of weakness and start offering only token resistance to the conditions of overwhelming odds against them. They become helpless, being inadequately funded, under-staffed, and with misdirected or misplaced priorities, for whatever reasons, leading to delays which ultimately leads to the deterioration of the quality of the city environment reflected in the health and disease found there.

STRAY ANIMALS

The stray cattle roaming the main streets and bye lanes and market places, the uncontrolled stray dog population everywhere are among the finishing touches given to a city picture. The numerous pigs let loose in the city, with perhaps no other aim but to use them as scavengers, is an instance of medieval methods the administration is reduced to employing. It indicates

the helplessness of such bodies in charge of maintaining the city clean. But pigs are associated with diseases just as much as the unchecked dog population is with potential rabies and other diseases.

EXTRANEIOUS ELEMENTS

That the city has its complement of population which daily moves in and out of it and in doing so draws the strands of its relationships with the city to areas outside the city limits, cannot altogether be ignored. The areas immediately outside the railway station and the pavements are camping grounds for the destitute and the transient. Beggars are choosers of the city they adopt. Actually the people who have no choice are the rest of the city dwellers. The begging community particularly the diseased from amongst it, should be the deep concern of the city authority. Those suffering from diseases such as leprosy could be systematically treated and rehabilitated instead of being left to their own devices, lest contagion spreads. The University Road pavements have become veritable camping ground for lepers.

APATHY OF THE CITY POPULATION

The citizens rarely attempt to unwrap the daily routine in which they are swaddled. Thus, being unwary, they have neither the time, nor the inclination to note certain changes in their midst which are insidiously working to cause them ill-health, disability or even death. It might take a flood, acute shortage of water, a road accident, an epidemic, or an instance of pallling smoke or fumes from nearby industrial establishments to jolt the citizens for a brief time into protests. Then the agitating citizens subside into their day to day affairs, often without caring whether their efforts to improve the quality of the city environment bear fruit.

THE QUALITY OF AREAS IN BARODA

In order to investigate the quality of areas within the city of Baroda, a group of five geography graduates* moved around the entire city and recorded their observations. The points of observation were grouped under the following heads : (1) quality of houses, (2) quality of roads, (3) degree of congestion, (4) level of pollution, and (5) economic status of the population. These parameters were subdivided into various characteristics each of which was given a score. The scores for each of the parameters were computed for individual areas. Initially, the city area was subdivided into ninety six units, which, on the basis of similarity of conditions, were grouped into seventeen zones. For each zone, the deviation from the average score for all areas was calculated and the percentage deviation from the average was mapped to indicate the quality of the areas (Fig. 3).

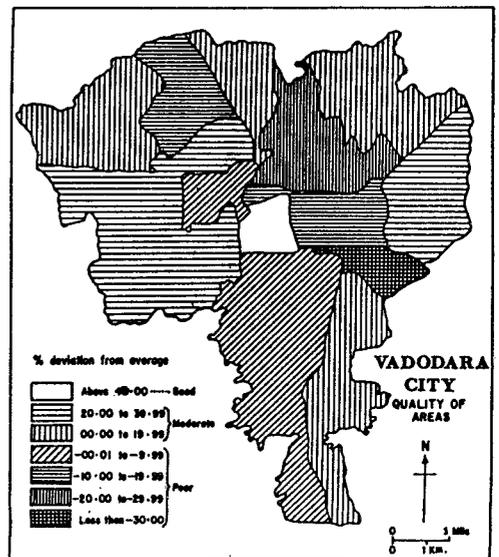


Fig. 3 :

* The survey was done by Ashok Kumar Srivastava, Anita Thomas, Shobha Gadgil, Devi Sahni and Umeshkumar Joshi.

MODE OF CLASSIFICATION

The quality of the areas was then classified as good, moderate, and poor. This was done somewhat arbitrarily by grouping all areas having a percentage deviation below zero, as poor. The remaining areas were arranged in descending order and the first quartile was calculated. All areas below the lower quartile were grouped as moderate, and those above as good.

DRAWBACKS

The obvious drawback of this type of analysis based on observations is that it becomes subjective, representing the perception of a few individuals. The data is not adequate for statistical tests. However, it has the value of providing the starting point for testing the relationships that emerge in a study of medical geography at the micro-level.

Another disadvantage in this analysis is that it gives the quality of the area for only a given point of time, disregarding the changes that might occur in the quality at various seasons as well as at different stages in the life of the city.

A third handicap is that it has been necessary to generalise the conditions over broad areas owing to the lack of data such as the number of households and the population figures for the required units. Therefore, deviations from the average conditions, within the seventeen broad zones, that might result in locally bettering or worsening the prevailing conditions, could not be brought out. This can however be done when studying the actual diseased cases in their given environment.

QUALITY OF AREAS AND DISTRIBUTION OF DISEASES

The hypothesis on which the study is based is that the quality of an area will be

reflected in the distribution pattern of diseases or vice versa. This hypothesis can best be tested if the incidence of all diseases in a city are taken into consideration and related to the quality of areas.

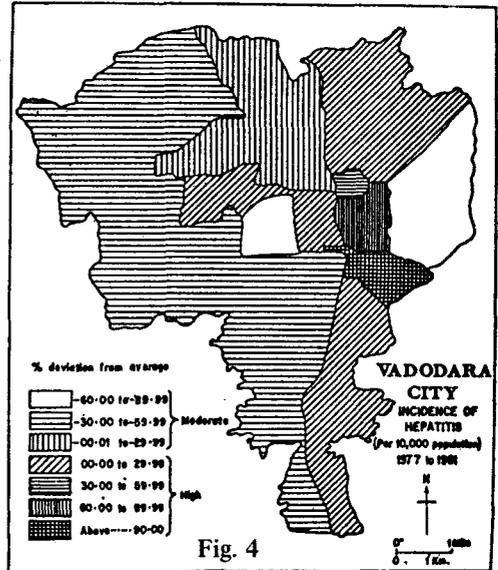


Fig. 4

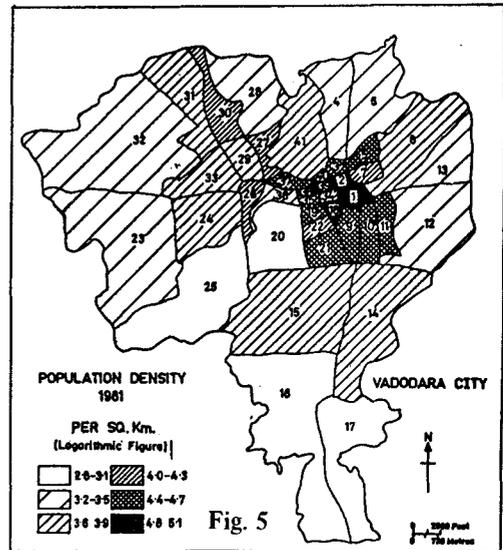


Fig. 5

Fig. 4 shows the incidence of infectious hepatitis in Baroda for the period 1977 to 1981, based on data collected from the Infectious Disease Hospital, Baroda. The method adopted to group the areas of incidence into high, moderate, and low, matches

the method adopted for grouping the areas according to quality.

An examination of the two maps alongwith a map showing the population density of Baroda (Fig. 5) shows some interesting features. For instance, it has been found that no area in the city has low incidence of infectious hepatitis. Even the best area, namely, the Palace Compound in the heart of the city, has moderate incidence, although it happens to be the area of lowest number of cases. The peripheral parts of the city are of moderate quality, the exception being the GIDC industrial area in the south west, which is poor quality. Most of these areas are found to have moderate incidence of infectious hepatitis.

The poorest quality areas are in and around the walled city with a lopsided extension towards the east and north. These also coincide with the highest densities of population. Incidence of hepatitis is high in most of these areas.

This exercise, which was taken up merely as an illustration, has revealed that the quality of areas, by and large, are well-

reflected in the distribution pattern of infectious hepatitis in Baroda. A perfect fit in the relationship cannot be expected as each disease has its individual conditions of occurrence and spread.

CONCLUSION

Quality of areas, as has been noted, is a product of the interaction and interdependence of various physical, biological and socio-economic factors. Distribution of diseases is conditioned to a great extent by the nature of these interactions. So a study of the quality of areas becomes fundamental if urban health problems are to be tackled successfully. Such a study may provide the answer to several pertinent questions in medical geography, such as (1) what is the relation between the quality of an area and a disease occurring frequency; (2) endemic diseases at a given point of time and the type of area which provides a setting for them; (3) what relationships keep the quality of city areas balanced; (4) what is the quality of the area at the juncture where endemic diseases are transformed into epidemics. These and other similar problems need further investigation.

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