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Today, Japan is well known all over the world as a nation which has, in the past 20 years, achieved high speed economic growth. The Gross National Product of Japan is second for noncommunist nations, following the USA. High rise blocks are appearing in all large cities, high speed trains run from city to city competing with each other. Japanese cities are growing in every way and keeping pace with modern times.

On the other hand, with economic growth of the past 20 years, there have been many drawbacks: air and water pollution, the destruction of natural resources, diseases caused by mercury poisoning, the most serious being *minamata*. In addition, in spite of the high level of economic growth, people's living conditions remain very poor. Because of the small size of houses and the low quality of the environment, children do not know how to play, the elderly look hopelessly for a place to live and several families commit suicide every year because they cannot pay back the money they owe.

Housing problems are having a deep impact on contemporary Japanese society. It is not too much to say that housing is of the greatest importance because it affects the whole of life in every way; for instance, health, security and culture. Children grow up there, family life goes on there and the greatest part of human life is spent there. Housing is related to human life day in and day out and is the most important basis for the development of the total human personality in society.

Healthy housing is also a foundation of democracy. Housing that does not provide space for contemplation does not allow for the growth and development of individuality. Without this, democracy cannot be developed, and instead people tend to follow the crowd and any whim of fashion. A national character in which an individual cannot do anything by him or herself but needs the group to survive and exist does not go well with independence. The fact that democracy is only successful on the surface, but has not been able to take root in Japan, seems to be related to the poverty of housing.

Housing not only contributes to the development of man physically and mentally, but also contributes to the growth of culture and human morals. For example, when a patient with symptoms of nervous instability buys a car, these symptoms decrease. The reason is that he has found a room where he can be alone. The increase of cars in America is due to the fact that they are essential for getting from place to place. This is not so in Japan where they serve as an escape from cramped

quarters. The release that many Japanese people feel when they go for a drive reflects this.

Likewise flourishing coffee houses and motels being built everywhere enable the Japanese people to find a way to expand their psychological and physical space and they reduce their frustrations by driving out into the open spaces. The fashion of building cultural centers and the success of the travel boom in Japan today are likewise supported by people's desire to escape from their small living quarters.

Through the stress of commuting, the businessman often stays in town to drink, or goes to a nightclub before returning home, plays a pinball machine or relaxes in a sauna bath. Or on a crowded rush-hour train, he may relieve stress and forget the time and discomfort by reading a girly magazine or sports page. At home he will use an air-conditioner to improve the ventilation in his low quality crowded quarters filled with furniture, appliances and all kinds of new gadgets.

The stand-up snackbars, instant foods and the so-called family restaurant industry are booming in Japan, because the people do not have enough time to eat at a leisurely pace. In this way, as they cannot have a calm living space at home, they cannot help being active outside their home. I have come to the conclusion that this is one of the main reasons why they become workaholics.

If culture reflects the times, the conditions of modern Japanese culture reflect the housing poverty of urban dwellers and have resulted in a whole succession of "housing poverty-related industries." This has made a gaudy and at times illusionary "affluent" consumer civilization. A forest of buildings of all types which contain the consumer culture embodies the modern Japanese urban civilization. Behind all of this is housing poverty which destroys man's humanity and has resulted in a culture which is poor in spirit. This should be called "a housing poverty culture."

In spite of this, housing in Japan is not considered a problem by politicians and administrators. Everyone tends to agree that Japan is suffering from housing poverty. In opinion surveys, it is frequently mentioned: "we would like to see the housing problem solved." But there has never been a movement to make the government take action. At election time, none of the parties makes an issue of housing. The trade unions fight hard for wage increases, but neither they nor anyone else have a housing policy. With housing poverty being such a serious problem, one has to wonder why the people do so little to demand reform!

I think housing is disregarded for the following reasons: The Japanese people do not realize how important housing is, and how it can improve their life style. Though they fight to rid their towns of pollution, they disregard a

better way of living in their homes. All the Japanese people have become so completely accustomed to low housing standards that they seem almost satisfied. Housing conditions in Japan may be described in terms of "overcrowded housing," "long-distance commuting," "environmental destruction" or "slavery to pay one's way through life"; this situation ignores human rights. However, the influence of housing conditions on man and society has not been concretely shown.

As a further reason, it may be due to the "home-ownership" policy of the government. In Japan, the postwar reconstruction has depended mainly on its people. Wartime air raids destroyed the Japanese houses of rich and poor alike. At the end of the war, the citizens were all in the same boat. In due course, however, housing reconstruction made some progress. Some people bought the houses they rented, while some black-market profiteers built sumptuous estates. In prewar Japan, 80 percent of the houses were rented. This increased after the war, because of the Land and House Rent Control Ordinance coupled with the postwar inflation. So houses were built for those who could afford them. Many houses were built soon after the war: 500,000 in 1947, and 720,000 in 1948. Most of them were privately built. In 1950, aid was given for the building of private houses and this postwar trend remains unchanged even now.

It depends on the political conditions. The Japanese government has been conservative, after the Second World War, except for one year. The Liberal Democratic Party, which is a rightwing conservative party, has been very keen to subsidize big industries, particularly key industries like steel, electricity and chemicals, but has not been very interested in improving people's living conditions or the environment. In Britain, for example, the ratio of public ownership of housing is about 32 percent whereas in Japan it is only 6.9 percent, with an average floor space of only 400 square feet.

The Japanese Economic White Paper of 1980 emphasized that we must recognize that Japan is one of the most advanced nations of the world. This is true of economics and industry but less so of welfare. The result is that the less living space people have, the more they are likely to cut themselves off and become defensive as a result of staying in the same house, without relationships or concern for others.

However, because small houses have an isolating effect on the personality, the people are unable to recognize the housing problem. Furthermore, based on the present independent home-oriented housing policy, which places the responsibility for securing housing on the individual, each person has to go out and find his own place, no matter how meager. In due course he will face the reality of today's housing shortage and other conditions. Instead of blaming the government he will blame his own inability and become resigned.

When those who live in far away small houses were asked if they were satisfied or dissatisfied with their housing, 42 percent said they were satisfied, while 49 percent said they were not but could not help it. Only 9 percent clearly expressed their dissatisfaction. In spite of the fact that it is impossible for them to live the life of a human being, they seem content as long as they have a roof over their head and a little land.

Houses in the suburbs, however badly built, are bought up. However, within the context of owning one's own home, the Japanese people have come to ignore environmental conditions and overall housing poverty. Even if many people own their own home, housing quality will not be improved. Rather urban space will become unplanned, confused and dangerous. And yet the healthy desire of the Japanese people for housing has been eroded from every angle. I think we must say it is "suppressed." The Japanese people must soon recognize the reality that human dignity is being damaged by living in such degrading housing conditions. It is from this, I think, that the development and reformation of housing policy and city planning in Japan will eventually emerge.

High rents and cost of housing

The price of land and housing has gone out of the reach of the average citizen. The average price of a house in 1977 in the sphere of Japan's three largest cities (Tokyo, from 30 to 50 kilometers from its center; Nagoya, from 30 to 40 kilometers in radius, and Osaka, from 20 to 40 kilometers out in all directions) was: for an independent house (86 square meters in area) 20,550,000 yen (about \$82,000), and for a unit in a medium to high rise building (66 square meters of floor area) 16,960,000 yen (about \$68,000). The income of the average worker was 3,650,000 yen (about \$14,500). If possible savings and loans are added, this figure becomes 10,560,000 yen (about \$42,500). This is only 51.4 percent of the amount needed for the detached dwelling and 62.6 percent for the apartment dwelling unit.

In light of this kind of reality, the Urban Development Association (made up of 28 railway real estate companies) reports that "In the future, it will be difficult for the wage earner's financing capacity to be increased such as to close the gap between housing costs and the worker's income. It is of course indispensable to use financial and tax systems to increase the wage earner's ability to purchase, but first the most important thing to do is to reduce the cost of land and house itself."

The growing difficulties of the family budget

The prices of goods continue to rise constantly as do taxes, but wages do not keep up, making living difficult. Especially when the rent, which takes a relatively large share of the budget, increases, the pressure becomes very great for the rental housing sector. Looking at the growth in the price index in the past for each item in the budget, the cost of rent, land and education has greatly outstripped the rise in income. Thus, for a family with a child of school age, rising rents and prices of goods make life extremely difficult. And so if corners aren't cut here and there, it is impossible to make ends meet. If the budget is in difficulties, it will tend to be more difficult to meet the housing cost.

Looking at the cost of education in Japan, in prewar days, high school and college expenses were able to be paid by only one social stratum (the wealthy), but today both high school and college education are a common part of the education of most people. You seldom see people give up paying school costs in order to live in better housing. There are limits to the extent that one can save on food costs, and it is almost impossible to

avoid some expense for clothes if one lives in the city. Thus, the only shift in expenses possible is in that of housing costs, which is the one to suffer in the three basic expenses of food, clothing and shelter. However, no matter how small a home one tries to live in, there is a minimum expense which must be met! Thus the family budget has little room for adjustment.

For people living in the city, the impact that housing expenses have on the family budget is large. In order to pay rent, it becomes necessary for both husband and wife to work, as well as to lead a frugal life. In the case of those living in independent homes, if the wife doesn't work along with her husband (who we assume to be an average wage earning office worker) it becomes next to impossible to pay back borrowed money.

Home ownership that does not improve life

Home ownership does not necessarily lead to a better life. In a survey of the owners of small houses built on sites of less than 100 square meters each in the suburbs of Tokyo, 57.5 percent had moved from private rental facilities. Comparing the housing standard between where they lived before and now, they now had 3.8 rooms where they had 2.6 before (a rise in standard of 75.9 percent), they now had a total of 20.2 mats (364 square feet) compared with 13.8 mats (230 square feet) before (an 83.9 percent increase) and now 99.4 percent had a bathtub room in their house where only 48.1 percent had one before (a 52.4 percent increase). However, commuting time now is 64 minutes compared to 44 minutes before (a decline in standard of 58.4 percent), and they now pay back their loans at a rate of 28,600 yen (about \$115) a month, whereas they paid a monthly rent before of 11,400 yen (\$45) (a decline in standard of 79.6 percent). (The survey was carried out in April, 1974.) Yes, the size and content of the facilities had improved, but new problems such as commuting distance and debts had developed.

Looking at the consciousness of the people toward changes in the standard of housing, 33.6 percent answered that they were satisfied while 66.4 percent said they were not. The reasons for their dissatisfaction were: "the housing lot is too small" (38 percent), "the house is too small" (19 percent), "lack of a hospital or medical facilities" (21 percent), "inconvenient for commuting to work or school, or shopping" (33 percent), "too much money needed to repay loans" (45 percent). For 43 percent of the people this amounted to more than 25 percent of the family budget, and for 27 percent, it was more than 30 percent of the budget.

In 1970, 25.3 percent of people who rented private homes received public capital loans whereas in 1978, this proportion dropped to 19 percent. However, for those who owned independent homes, the percentage increased from 20.7 percent in 1970 to 33.4 percent in 1978.

Those who said they needed a house loan gave as their reasons: "the house was old" (19.1 percent rising to 28.3 percent over this eight year period), "house is too small" (26.5 percent to 41.1 percent). These figures show that the public capital loans are being used by those who rebuild their own houses (the rate of reconstruction was 18.2 percent in fiscal 1972 and 28.0 percent in 1978) and

by those who move from apartment houses. The number who get out of private rental housing has tended to decrease, because of the difficulty of repaying the money. This means that it has become difficult for tenants of private rental houses to move out of them. No matter how much one can borrow at low interest, the cost of building an independent house is too high.

The severity of road pollution

Recently built major roads and expressways destroy the housing environment. Every day the newspapers print complaints about the severity of automobile pollution from the suffering people who live along those roads. "Automobile noise causes headaches and stomachaches in 40 percent of the cases while disturbing the sleep of half. A large rally and demonstration against road pollution on the Loop Road No. 7 were held by 3,000 people whose patience had run out." This was reported in the *Mainichi Newspaper* on February 12th, 1975. The *Yomiuri Paper* reported on the same day that the inhabitants along the loop road in question had had enough of the continuing hell of exhaust gases, that they were angry and frustrated, that they had reached the limit of their suffering with asthma, that there was an asthma sufferer in every house and that medical costs were so heavy.

The following are the results of a survey of the conditions of 1,559 people living in ten housing areas along the Osaka-Kobe Expressway conducted by the Osaka branch of the New Architectural Technicians' Group in 1973. Those households influenced in some way in their daily life by the expressway amounted to an average of 95 percent of the total. About 61.6 percent can't sleep, 61.4 percent suffer from their laundry getting dirty when hung outside to dry, 59.6 percent do not receive radio or TV programs clearly. Insomnia brings severe physical and mental harm. The expressway also affects thinking, work and study and makes spoken voice and telephone inaudible. The dwellers along the expressway also suffer from the glaring sodium light bulbs of the road; fears of calamities; staying in darkened unhealthy rooms; cigarettes, empty bottles and dust falling from the road; and withering flowers in their gardens. In short, the presence of the expressway affects life as a whole. There are also those compelled to speak in a loud voice, unable to appreciate music, keeping the windows closed to keep the dust out and spending the summer in poorly ventilated indoor space.

About 75 percent of those living along the expressway point to road pollution as a cause of damage to their health. Soreness of the eyes, nose and throat is attributed to exhaust gases by one household in three. More than 24 percent of the families see the bronchitis and asthma in their families as clear symptoms of the gas. Ringing in the ears and headaches must be, by the same percentage, attributed to noise and vibration as well as car exhaust gas. These factors work together to "reduce strength and make one more susceptible to sickness" in 20.4 percent of the cases, "feeling irritated and touchy" in 38.3 percent of the households, and are reflected in damage to both physical and mental, ie total health. In addition, the inhabitants claim that it is terrible when they are sick in bed, that their children become hard of hear-

ing, and easily bleed at the nose, that their blood pressures become higher, and that every member of their family suffers from digestive disorders, etc. Raised expressways influence a larger area, and if there is high rise housing in that area, the people on the upper floors suffer greater damage. Interference with radio and TV signals is considerable even at a distance of 100 meters away, and the same goes for the dirtying of laundry hung out to dry. There is almost no reduction in damage to health within a distance of 100 meters from the road.

Because many expressways in Japan pass right through existing housing areas, many facilities come into their proximity. In this survey, eight elementary and senior high schools are located beside the road, so the impact and damage caused by the noise is terrible affecting both classes and studies as well as the school life of the pupils and students. Disruption of classes and lowering of students' study ability and grades are the common impacts in all eight schools. Morning outdoor assemblies and outdoor gym classes cannot be done properly. The teachers get irritated when their lectures cannot be heard and tire easily. In the summer, in particular, the fourth floor rooms that face the expressway virtually cannot be used for classes. Vibration influences scientific experiments, and the students suffer from sore eyes and throats.

As for nursery schools and kindergartens which usually occupy small sites and must use both indoor and outdoor space, the damage is particularly great. There is no quiet time, and since those in charge always have to speak in a loud voice to be heard, the small children get embarrassed. Many of these children have asthma or throat and nose inflammations. Those facilities right next to the road are endangered by the exhaust gases and falling objects. Since the volume of traffic is large on the expressway, crossing it is very dangerous for the children coming in the morning and going home later. The effort needed by those in charge to run safe and educational nursery school or kindergarten programs under such conditions is more than the normal amount, which results in their physical and mental exhaustion.

In medical facilities along the highway, the effect on the patients is particularly severe, since the sleep and quiet so necessary for recovery from illness cannot be had. Operations are also interfered with, and doctors and nurses are easily irritated. The beds near the windows or walls facing the expressway cannot be occupied, and the number of out-patients is declining. As a result of this kind of health damage, over one third of those citizens living in the vicinity of the highway say "I have lost my desire to live here since that road was built."

In Japan in 1950, there were 400,000 vehicles, but in 1978, this figure increased 80 times to 32 million. The number of people living along the roads is now above 20 million.

The shift to long distance commuting

Deterioration of the environment of the central city, high land prices and high rents have forced people to move to the suburbs from which they have to travel in packed commuter trains for long distances and for a long time. This is the form of modern city life. This creates physical

Table 1
The loss of time for living caused by commuting time (big city workers)

Working time plus round trip commuting time	Life activities reduced or lost
Over 10.5 hours	Housework, self-study, bath time, going to the lavatory, health care
» 12.5 »	Reduction of sleeping time to 8 hours
» 14.5 »	» » 7 »
» 16.5 »	» » 6 »

and mental stress and causes a financial burden, a waste of time and various influences on daily life.

According to Mr Sachikichi Numajiri of the Labor Science Research Institute, the loss in heat resulting from a two hour round trip during the crowded rush hours to and from work is some 409 calories. If it's not so crowded, this loss may be reduced to 237 calories. The work of an ordinary salaried office worker results in consumption of some 740 calories a day. In comparison long distance commuting uses more than half this number of calories. In addition to changing trains, going up and down stairs and running for buses and taxis are themselves "heavy" work before the worker arrives at his job, and before he arrives home. These efforts have no small influence on both his work and his life.

The long distance commuter doesn't have enough free time for leisure, cultural or social activities. The metropolitan area dweller comes to know only the route connecting his home and his place of employment. This lack of free time is not only associated with activities outside the home, but at home too he has to greatly reduce the time for reading the newspaper or magazines. In the end, even the time he spends eating, taking a bath or arranging his personal belongings (the minimum time needed for living) will be cut. It's a race with time every day.

According to Mr Hajime Saito of the same research institute, the relationship of commuting and working time and time for living is shown in table 1. If ten hours a day (including overtime) are spent on working at the office and if the round trip commuting time is more than 30 minutes, a part of a person's rest and recovery time will be eaten into; and if two and a half hours are spent on commuting, one's sleeping time will be shortened. He writes that many problems are related to one-way commuting time that exceeds one hour; thus it is desirable to keep commuting (one-way) time to under 45 minutes.

There are a large number of other problems associated with long commuting times. For instance, one of the major goals of the labor movement is to reduce working time, but even if labor time is shortened, if commuting time is increased, the actual time spent in relation to the job is not shortened substantially, cancelling out the benefits gained by the reduction. Furthermore, long distance commuting can reduce or eliminate the time a father (and mother) has to spend with their children. A police investigator points to this as a cause of increasing juvenile delinquency.

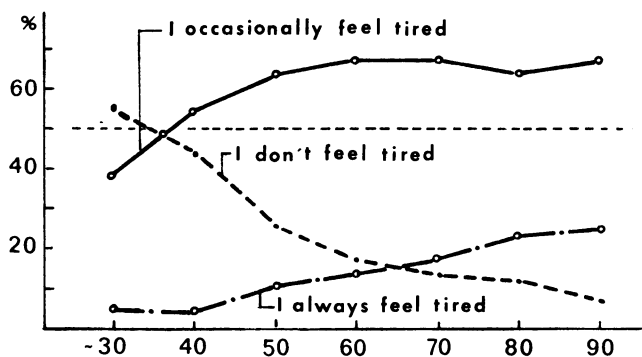


Fig. 1: Amount of fatigue related to time spent commuting.

Commuting fatigue and work-related accidents

According to a survey of 2,067 office worker commuters living in Tokyo wards, 80 percent of those who commute said they "felt tired," with women emphasizing that the fatigue they feel when they get home is just awful. Half of those who said they felt tired said they felt well again after a night's rest, 35 percent answered that they "recover only after taking a day off," and 15 percent said they don't recover even after taking a day off." In other words, 50 percent of those who said they felt tired continue to build up fatigue.

Next, those who said they "felt the influence of fatigue at the office" amounted to 28 percent. If the time spent on commuting back and forth to the office exceeded 40 minutes, those who complained of fatigue increased (fig. 1). It was found that a commuting time of one hour was the limit.

Thus, fatigue from commuting is connected with work-related hazards. Mr Kiroyuki Karino of the Labor Science Research Institute points out that if the body is weakened by commuting-related fatigue, it becomes impossible to cope with dangerous conditions at the factory. Modern factory workers do not work with their bodies only, much judgmental work related to inspection of meters and gauges is involved. If the body is weak, one is less careful, and this can easily lead to accidents.

Workers in the large cities are not treated as human beings, but rather as "manpower," being conveyed from morning to night. This is a kind of modern "slave ship." However, many office workers have become so used to the long distance commuting that they have to do everyday, that they are forgetting the "inhumanness" of it all.

Damage to the health of women by commuting

Long distance commuting has a particularly large influence on female workers. There has been a remarkable increase in female workers in Japan recently. In 1970, there were 10,860,000 whereas by 1977, the number had increased to 12,420,000. Especially, the number of married working women increased from 41.4 percent in 1970 to 59.5 percent in 1977 according to the Prime Minister's Statistical Bureau report *Survey of Labor Power*.

The fatigue suffered by women workers is intense. For instance, in a survey of 791 women elementary and

junior high school teachers in Osaka city, only about one third of those in their 20s said they thought they were healthy, while 25.1 percent of those over 40 said they were going to the hospital regularly, 21.4 percent answered that they were on regular medication, and 43.1 percent said they didn't think that they were well. Over 50 percent felt symptoms of fatigue such as tired eyes, dizziness, getting dizzy when standing up suddenly, headaches, uneasiness, feelings of irritation, shoulder, back and neck stiffness and weakness in the legs. When the causes were inquired about, answers given included too much work to do, lack of time to rest, no time to take a holiday as well as long commuting time and rush hour congestion. Particularly this last reason was emphasized by middle aged and older women workers.

A long time spent on a train results in the effects of vibration and crowding causing physiological pressure and external force as well as mental stress. In addition, climbing station steps also takes its toll. During the rush hour, a pregnant women can't very well take her time going up and down the stairs. Including those at home, climbing up to 100 steps per day results in 10.4 percent miscarriages or stillbirths, while climbing more than that causes the number to rise to 19.2 percent.

In a survey conducted by Mr Harumasa Takemura, the chief of the Tokyo Mothers' and Children's Hospital on married working women, it was shown that if commuting time exceeds one hour, especially compared with one hour of only walking, anemia and poison symptoms are seen, which often result in abnormal births or other birth defects.

In a survey conducted by students at the Midwife School attached to Tokyo University, 63 percent of those who spent up to 30 minutes commuting had pregnancy and/or birth abnormalities; the figure was 79 percent for those who commuted 30 to 50 minutes, and 100 percent for those commuting over 50 minutes. Examination of these figures in relationship to the presence or absence of the rush hour, the number was 77 percent for those who traveled during the rush hour and 66 percent for those that did not.

Mr Hiroshi Honda writes that housing and transportation conditions as well as types of work and working time should receive attention as the causes of harming mothers' health. Women should be able to do work that they want to and enjoy doing, but with today's transportation conditions being what they are, the related danger to pregnant women is extremely great.

Long distance commuting fatigue is not limited to physical aspects, but it also has an influence on mental activities. It can cause a loss of the desire to improve one's housing or area conditions, because one spends all one's time going back and forth between the home and the office.

At the International Women's Year Conference held in Mexico in 1975, it was declared that "women should be more active in society, and men should be more active in the home," but it was also noted how it was actually possible for working men to participate in PTA and other community activities. As long as the condition of the long distance commuter who is at home only during the evening, is not changed, it won't be easy for him to actively participate in local area activities after he comes home.

What is the purpose of urban planning?

Urban planning in Japan has not thought of the city as a space for human living. It has been planning for the economy and industry, and it has given priority to public investment. Urban land space is limited so if economic uses are given priority, uses related to daily living are suppressed. When expressways, high rise buildings, high rise apartments or other large scale facilities are built in housing areas, the housing there as well as the environment are destroyed.

The city is a place where man lives his life, so housing is fundamental. City planning must be centered on making a suitable living environment for man. Providing suitable housing for man won't be realized if it isn't carried out hand in hand with city planning designed for human living with consideration for existing problems like commuting. Up to now city planning and housing policy have been considered separately in Japan because the basic concept of the city as a place for human living and a planning system based on this concept have been lacking.

Villages under urban siege

Yoram Bar-Gal

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Introduction

According to Clout (1972), four processes may turn a village into an urban settlement: emigration from the city to the village (suburbanization), villagers commuting to the city, villages used as holiday resorts, and "second homes" in a village owned by city dwellers.

A village under the influence of these processes is subject to what may be termed "urban pressure." The urban pressure is expressed by various phenomena, for example: a rise in the price of land, introduction of non-agricultural functions, increase in construction in the village region. All these phenomena belong to the area of physical-space (JOHNSON, 1974; LASSEY, 1977). In the area of social demography, there may be changes in the structure of the population and its employment, and in the area of the ideology of values, there may be changes in opinions, ambitions and life styles of the village population (BERLER, 1973).

One of the areas always subject to urban pressure is the area termed in the literature the "rural-urban fringe" (PRYOR, 1968). In these regions one can find villages termed "metropolitan villages" (MASSER et al, 1965). In villages of this type there are two populations side by side — the original village population and next to it a population of city dwellers that have emigrated to the village. The village population usually has a wide age profile and a low rate of population growth, while the intruding population is young and dynamic. In addition to changes in the population, changes in the settlement itself have been reported from various places around the world. The system of services in the village changes,

and in fact this system is taken over by the services of the nearby city (PAHL, 1970).

One can distinguish two main stages in the development of villages in the rural-urban fringe — the first stage is decline of the village, and the second stage is rejuvenation by its transformation into an urban suburb.

Problems of research

In Israel, as in other places in the world, urbanization of villages is not a new phenomenon but rather has been going on for some tens of years. During this time, villages have become large towns; this phenomenon was usually investigated only after the villages became urbanized (GONEN, 1976; EFRAT, 1976).

Very little attention has been paid to the processes taking place in villages found in the rural-urban fringe, before they become urbanized. Among all the villages found in the rural-urban fringe, there is one group that may be termed "villages under urban siege." These villages: 1) preserve their character as independent settlements, 2) are adjacent to urban areas, 3) have access roads passing through a city (see fig. 1). Such villages differ from villages that have already become suburbs. Pahl (1970), in his investigation of Hertfordshire, describes the processes characterizing villages that have become urban suburbs. Similar processes, such as the intrusion of a new population into a village, may be found in settlements such as Kfar Shmaryahu near Herzliya or 'Omer near Beer Sheba. In our research, such villages were removed from the population investigated. Only those villages remained which met the three criteria mentioned above. There are a total of 20 Jewish villages in Israel that can be defined in the category of "villages under urban siege," for example — Ganey 'Am, Gibton, Kfar Bialik, Gilil-Yam and others (see fig. 2).