

## INTRODUCTION, PURPOSES, AND SUGGESTIONS OF THE PROJECT

### The earthquake and the construction stock of Istanbul

The big earthquake that has struck the city once every 500 years throughout the history is expected to hit Istanbul.<sup>1</sup>in the near future. As it was mentioned earlier, the extent of the damage would be huge. Therefore, the best precaution would be the transfer of the population out of Istanbul. In 1994, Istanbul Nazym Planning Studies also warned about the danger that the state of present construction stock represents, and it supported this precaution too.

As it was stated in the first round-table discussion, where Seismologists and Civil Engineers participated, 80% of the population of Istanbul is residing in constructions lacking a technical project and of deficient solidity. In case of a strong earthquake, this constructions would be seriously damaged or collapse. The strengthening of such constructions is not a safe and definite solution. In the second round-table discussions, jurists and moralists clearly stated that taking precautions to prevent such a disaster is both the State and society's responsibility. In the third round-table discussions it was concluded that these needed precautions would not be realized by the present structure of the State. The transfer of the people and their businesses should be undertaken based on a rational and scientific program. Taking these points into consideration new study groups were formed and the preparation of a report by volunteer specialists was started<sup>3</sup>

Even though the danger of an earthquake in Istanbul was known, this was ignored in the building projects of the last 50-70 years. Above all, supposedly two to three story buildings were illegally transformed into 6-7 stories ones. This addition of floors was legalized by subsequent state amnesties. The use of salty sand in the concrete, which itself has a strength below the standard by the 5-6 times, and the common construction practices gave rise to the worries about the disastrous results of the potential earthquake.

Although the development of a system, which would provide previous warning of the earthquake, is positive, it is still obvious that the consequences of a disaster of such magnitude would be unbearable. The difficulties of resettling the people to new areas and recreate their work places after the disaster would be much more chaotic than if this would be done today.

The losses of the Kobe earthquake were estimated to 95-147 billions.<sup>4</sup> The damage caused in a city like Istanbul would be even higher because the building quality as well as the land quality is worse and the population is 10 million. Both the economic and humane potential losses make a preventive project a must.

### Research on the Social and Economic Relations in the Cities

It is a well-known fact that city dwellers are interconnected with very complex social and economic ties. In during the months following the Marmara earthquake people from

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<sup>1</sup>probable Istanbul earthquake and 17 August 1999 Marmara earthquake. See annex 1 "the earthquake and annex 2 "round - table discussions"

<sup>2</sup> see the distribution of the population throughout the residences of Istanbul and annex 2 "round-table discussions"

<sup>3</sup> See annex 2 "round table discussions" the details and the summaries of these discussions.

<sup>4</sup> See annex 1 "the earthquake" for the reports about the destructions Kobe and 17 August 1999 Marmara Earthquake caused

every social and economic level of the society were sent back to the cities, towns and villages where they emigrated from to earn their living. This is a perfect example to demonstrate the necessity to move the industries to the new settlements.

A survey was conducted to define the conditions under which the people would accept to move to new cities. This research pointed out that families residing, as tenants would readily move to new settlements along with their work places. Most of the families who own their own house said that they would be ready to move if the head of the family kept his job. The only families not willing to move were the ones whose income source are the rents. <sup>5</sup>

The industrialists who are aware of the risk of losing most of their employees and their establishments as a result of a big earthquake are willing to move to the new places under the condition of keeping the employees and protecting their transactions. This transfer should be done causing the least interruption to the process of production and having established facilities like Bursa, Bilecik, Eskişehir from Istanbul. A modern the infrastructure would be the main factor that would that would encourage the industry to move. <sup>6</sup>

It is essential that the project should not cause any major interruption of the industrial production. In this sense detailed researches have to be conducted regarding the choice of the population as well as the industry before deciding on who to resettle and where the cities would be situated. To be away from the danger of the earthquake is another major motivation factor for industry.

### **Transfer of the Industry<sup>7</sup>**

Apart from the facts mentioned above. additional conditions for the transfer of the industry have been summarized under the titles “hypothesis”, “criterion of performance”, “scenario”, “critical point” in the “ planning study groups” section.<sup>8</sup>

The project to transfer people along with their work places to the new cities, as a precaution to the probable earthquake, would only be possible with the assignment of land by the state and the comfort of the soft credits. Only the industrialists leaving Istanbul would benefit from these advantages. The economic and industrial facilities, which have strong bonds with each other, would be of primary consideration. The following factors are essential in the studies a) the kinds of industry which will cause external economic advantages b) minimizing of transportation costs c) constitution of a strong communication infrastructure d) decrease of initial settlement cost e) reduction of the use of energy and water. and this at the lowest cost.

The establishment of the industry in new areas would entitle the use of the new city facilities by its residents, by the management and the employees.

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<sup>5</sup> See annex 3 “Questionnaire studies”

<sup>6</sup> Özer Ertuna see annex 6 “Evaluation Articles” for an interpretation supporting this view

<sup>7</sup> This point will be discussed in details later in this report, 15

<sup>8</sup> see annex 5 “study groups”

The expansion of existent, or developing of new techno cities, Free District, and Organized Industrial District with high technology would encourage the industry to leave Istanbul. At the same time this will enable the industry to grow stronger. The scenario is to move the industry to regions with established transportation facilities such as seaports, roads, railways, and airports.. Considering this, the Haydarpaya Harbor and any others on the Marmara seacoast, which are not organized, could be transformed into an Organized Harbor Establishment. In this way the Free Districts and the Harbor, as well as the industrial cities around them would be strong focuses in the industrial sense.

It is essential to exactly plan the resettlement of the large production establishments, which have a great number of employees. The textile and the automotive industry could be two examples.

The industry should follow the free market economy system, which encourages the private initiatives. There should not be a strict connection between the city population and the industry. This would cause the population to be condemned to a specific factory and would eliminate the right of choosing other alternatives.

Before any decision can be taken, following should be done<sup>9</sup>

- . Gathering information on the performance criterions for the selection process.
- . Classification of Istanbul's industry on the basis of its quality, quantity, settlement, external economy, market, and labor.
- . Search of the replacement and the space required to move to, in the industrial and labor force context.
- . Estimating the costs of such a settlement.

The decisions should be taken both by the employees and the industry.

### **The Areas where to move to**<sup>10</sup>

The links of the industry with the areas where they would be situated in the new cities will be individually defined according to the local circumstances. In order to give an idea of this need, a preliminary analysis has been added to the report about Trakya and Central Anatolia.<sup>11</sup>

This report is a first guide about the Southeast and the necessary revisions will be made during the subsequent studies. The location of new settlements should accommodate very different construction types, lifestyle, and the need of safety. The region will require a rapid and inexpensive improvement of the architecture and technology. This fact has not been taken into consideration yet and will be considered while debating on where to establish the new settlements and their construction with modern techniques.

It is obvious that the choice of the resettling areas will not only consider the needs of the industry. The problematic concerning the hierarchy of the population of these cities is directly related to the hierarchy of the local industry. Changes in either one will necessarily

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<sup>9</sup> there is a similar definition of city behind the segregation Murat Güvenç asserts depending on the Istanbul's work site and status basis. See annex 7 "Quotations" for some parts of the article

<sup>10</sup> This subject would be discussed in detail later on, 21

<sup>11</sup> See Savmi Ersek, annex 4 "Report on Marmara and Central Anatolia"

be followed by changes in the other to allow for a smother development of the social and economic life.<sup>12</sup>

These new cities will have to assume a series of new responsibilities and functions at different social levels. Their growth should be controlled to avoid the increased management cost and need of additional investments of oversized cities. The right hierarchy of the cities making up the agglomeration will make them more functional and manageable. In the case that a new city would be established around an historical city, the identity of the historical one should be preserved.<sup>13</sup>

### **The Settlements and Hierarchy of the Cities<sup>14</sup>**

The 17 August 1999 earthquake once again underlined the necessity and the importance to build on the adequate type of soil to best protect cities from the earthquakes. In the history of Anatolia, the cities have been established on slopes and the durable places of the land. The small villages have been established on the edge of rural agricultural lands. Today, cities have to be established outside agricultural lands for the sake of the survival of the future generations as well as for the protection of the agricultural lands.

Other than the agricultural lands there are woods under the control of the Turkish State Treasury. The bordering parts of the woods are often damaged and would be appropriate for the establishment of the new cities. As mentioned before, most of these cities would be quite small or middle sized to kept a balanced hierarchy in the agglomeration. In the case that part of the woods would be damaged by the city, there must be a compromise to replant trees in other parts of the country.

### **Beauty and functionality of the new cities<sup>15</sup>**

The essential trait of a city is its being a gathering of constructions surrounded by common vacant areas. By assuming the responsibility of beautifying and organizing the city and its surroundings in a functional manner, the humanity reaches the highest rank of creation.

On account of this, Plato stated that "the greatest of all is the establishment of a city". This also points out the capability of the human being to impose his own will. A city is born when its inhabitants create architectural and artistic works with which they can identify themselves. Such a city can only be created by using people's knowledge and their capability in the outmost degree in a sensible and artistic way. This should be achieved without wasting the resources. People's primary duty is the construction of cities, which every human being will love and enjoy.

Cities should be places where it is worthwhile living, while protecting the spiritual and cultural values. The constructions are the reflection of the mentality of the people. The use of a plain but beautiful construction style, and avoiding extravaganzas, will have a

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<sup>12</sup> See Vedia Dökmeci, annex 7 "Quotations for Gradation Models discussion"

<sup>13</sup> It is known that one piece city in population there would be formed by the constructional Galaxy which consists of social, financial, and cultural establishments and facilities, is far less then metropolitans

<sup>14</sup> The details on this subject is in "Planners Study Groups" see annex 5 "Study Groups" text, annex 5 "Study Groups

<sup>15</sup> See Annex 17 "Quotations" for a text with appropriate solution concerning a similar problematic and "Center for Livable Cities"

positive impact on the present and future city-dwellers. Walking in the streets won't just be a way to go from one place to another. It will become a nice experience, plenty of pleasant discoveries.

The proper regulations, which will allow the free movement of pedestrians, would also help to economize on transportation costs and, which is most important, save the people a lot of time.

## **The Elements of the City**

A city consists of houses, culture and health facilities, administrative constructions, quarter fields, center fields, work places, little industry, production centers, and green fields in various size and qualities.<sup>16</sup>

There should be an end of the "passive green", meaning the access to the little private garden around private residences. These private pieces of land have become the objective of an exaggerated speculation. After demolishing the houses on them, money eager constructors have built unsafe apartment buildings, which are a serious hazard for people. It's important to learn to respect these private residences as family nucleus and as elements to beautify the city.<sup>17</sup>

People should be given the opportunity to choose the place where they'll live in. The cost of the construction of these new homes should be higher than what an average family can afford. This way the new residences will answer the family's needs and raise the living standards.

The new settlements have to be constructed in such a way that they'll be in conformity with the nature and the topography around them. They should also create a neighborhood atmosphere and motivate the relations between the neighbors. The constructions reflecting the industrialization of 19th century are exactly what are not wanted. The future owner of the house should participate in its construction, and have influence in determining the position of the residence and its distance to the neighbors. This also determines the closeness of the social relations. This enables each owner to be part of the construction of his new living environment.

These residential compounds will have the ideal economic and humane density, which are 200 to 400 people per hectare. The most distinguished architects, who will beautify it and leave it open to future changes, will design the architecture.

### **Light buildings with fewer stories<sup>18</sup>**

The constructions should be made up of few story and built in a plain, solid, and durable way in order to be resistant to earthquakes and degradation by time. Increases in the number of persons in the household will be accommodated adding supplements above and beside the original houses. On the other hand, adding bay windows, balconies, eaves, etc. will answer the needs of families with sufficient financial resources and at the same time improve the city's architectural beauty. These additions to the original building must done in conformity with the integrity of the house.

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<sup>16</sup> See "Principle of Towns", "Center for Livable Cities" ,Annex 7 "Quotations"

<sup>17</sup> The detailed discussions about the architecture of houses are in "Architectural study Groups" text ,Annex 5 "Study Groups"

<sup>18</sup> The detailed and more concrete suggestions in the" Engineering Study Groups" text by Mete Mutluoglu ,See annex 5"Study Groups"

The houses should be constructed with light, locally produced equipment, and cost efficient prefabricated materials resistant to earthquakes.<sup>19</sup> The labor time and cost to build the structure, facade,, windows, doors, water installation, kitchen furniture and, fixed cupboards can be reduced by 30-50% by using prefabricated materials.

Light and dry construction techniques also allow the recycling of the construction materials as well as the adaptation of the homes to future needs.

### **Dynamic Constructions Instead of Static Ones**

The construction of the new city should take into consideration the needs of new age people, with its dynamism and changeability. The transportation means and the communication systems should modern and functional, not following the 1900's Bonaparte's urbanism style, which uses roads and boulevards to trap people.

### **Horizontal Ownership of a Flat**

In addition to the facts mentioned above, another essential point is the transfer of ownership. Buildings will be subdivided to 3-5 to 25-20 and the relations of these would be in the framework of common ownership. The determination of the distance between the house gardens, the position of the houses in the neighborhoods and the rights of neighbors, will enable balanced relations in both cities and communities.

This system will also be applied in the new cities built with light and dry prefabrication techniques and with one or two, and at the most 3 story houses, depending on the local topography and climate.

### **High Architecture Standards**

Providing high quality residences to families of every social status will be the foundations for a society build on cultural and moral values. In the beginning, these new communities will have to face and solve common problems, like the maintenance of the common areas. This will encourage the community members to interact and build respect for each other.

### **The Use of Residences for Various Purposes**

The use of residences for various purposes is another factor that should consider. Using the light wall heat isolation system would provide for a quick heating of the house and thus allow saving in the heating costs.

It's obvious that all these benefits will only be possible with the cooperation of the community members under the supervision of knowledgeable people.

### **The Art of Planning and Architecture**

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<sup>19</sup> Up to the beginning of the 20th century in the Ottoman Empire's architecture all the pieces were cut according to the standards of the wood and all the architectural elements were set ready by manufacturing in the region called Tahtakale.

The limited and restricted approach to urbanism in our country, due to the interference by speculative powers, has caused the cities to be built in the most vicious and negative way. Architecture becomes a nuisance if it is comprehended and applied in the wrong way. Eliminating this approach is a primary duty.

In order to create a community with good living standards the principal goal is to construct the towns and the houses following the strongest architectural sense and offer to the architects the chance to implement their principles. For example, the standards of the constructions in Finland were set by the respected architecture, Alvor Alto. A few urbanisms were entrusted for the building of new cities and residences. The industry should manufacture the equipments needed for 80% of the city's construction in order to keep its construction at the lowest cost.

As mentioned before, the opportunity will be given to the owners to choose the technical equipments as well as the choice of the architectural finishing. Even at this stage of the construction, the sensibility of general standards should not be missed.

It is indispensable that the local communities participate in safeguarding the standards and solving to the problems that such an enterprise will generate.

New cities will acquire rich and beautiful shapes with the contribution of new generations of architects. After a short and simple education, general guidelines used to guide the local decisions. Teams made up of top-level specialized architects with each 30-50 young members will supervise the works. This team will ensure the correct completion of the new settlements by stimulating and working with the community.

### **Nearby is easy but far is hard to handle**

The participation of the people in the decision making process concerning their future houses, together with the use of simple prefabricated building blocks, which were manufactured by the local industry, will simplify the housing construction. The involvement of the industry and the usage of automation techniques facilitate the quality control and the reduction of the production costs. The easy control of the industrial process with the plain assemblage method ensures transparency and the formation of a solid and safe construction structure.

### **The Land<sup>20</sup>**

The only authority with the capacity to provide the land on which the new cities would be situated is the State. Approximately 7000 hectare (70km ) are required under the condition that the resettling density would be of 150 and 250-400 people Per hectare.

In the last 100, and especially in the last 70 years, the people have been induced to live in more densely populated areas. This by the influence of city planners, politicians, and speculators. The necessary expenses on the infrastructure of the cities, which have seen their population increased by a planning decision, are being transferred to the individuals, and more particularly to the landowners. It is obvious that the State should not promote this transfer, which will indirectly cause disproportionate distribution of wealth.

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<sup>20</sup> The details are in "Planning Study Groups" See annex 5 "Study Groups" See annex 5 "Study Groups"

## **Land Politics and Transparency**

A series of precautions should be taken to solve this big social and moral problem. If not carefully controlled, the structure of urbanization could become a chronic disease. To prevent this, an initial and important precaution against the immoral and illegal transfer of wealth could be the imposition of a homogenous order of construction in the new cities. The banning of multiple storied apartment buildings. A contract between the state and the new homeowner will clearly state the conditions under which the land is transferred.

## **Plus Value in the Cities and City Centers**

Horizontal ownership of a flat is a complementary precaution to guarantee a transparent transaction. The fact that more than one person will own the lots will prevent the attempts of speculating with the land.

Thus, the wealthy moral structures would be prevalent in the new cities instead of corrupt formations and immoral speculative powers influencing our cities, including Istanbul. However, the ownership rights on land would be offered during the sale, because its value will depend of its location as well as the construction density.

On the other hand, the cost of the goodwill of the shops in the place where the financial and commercial activity takes place, is equivalent to the market value of the previous shops. This relationship has already been examined in America. A formula was developed to determine how the costs of the rent are related to sale price of shops in commercial centers.<sup>21</sup> Firstly, the facilities that make up and profits from the shopping centers were assigned certain amount of shares proportional to their market value. In taking in account all these different factors the value of the shops will be assessed and their sale will represent an income for the city and city-dwellers. A body of people who will not benefit, whether directly or indirectly from the transaction should supervise the estimation of the value of the shops and their sale. Foundations like HABITAT will oversee the transactions.

These foundations would be the owner of the shopping centers, markets, offices, and work places. The profits left by the income from the rents will be assigned for the construction and management of social establishments. In this way, the city-dwellers would directly benefit from the social services paid by this benefits.

In the case that one million of the working people from Istanbul would move into one of these cities, and that the average income per person would be 5000 \$. Supposing that 50% of the income would be spent in the market and that the market maintenance would be 20%, then there would be a gross income of \$ 4.000 billion. Letting the rent be 5% of this income, there would be the sum of \$ 200 million to be managed by the foundation.

The contribution of specialized consultants, who'll establish the working rules of projects and their management is essential to make these commercial centers a success.

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<sup>21</sup> See Victor Guen and Larry Smith (1960) Shopping Towns USA ; the planning of shopping centers. New York .Reinhold Pub. Corp.

## **The Structure of the Population Settling to the New Cities**

Currently there is a lack of information on which parts of the population of Istanbul will have to be resettled first. Two factors will influence this decision. One is the safety of a specific neighborhood, and the other the industries which are related to the people in those neighborhoods.

According to the research conducted by the Istanbul Earthquake Study Group that is working on the map of the earthquake of 1509, the bridges of Galata and the ramparts were destroyed by the big waves caused by the earthquake. The magnitude of this risk in a future earthquake has not yet been evaluated. Another essential data is to determine the proportion the different income groups that were affected by the destructions of 100.000 building during the 17 August 1999 earthquake. One of the most important tasks of the Research Planning Groups is to investigate what sectors of the population will be affected and their links to the different industries.

Murat Guvenc predicts that both industrialist and the population working for them will be victims of the earthquake as they are mutually dependent from each other. It is also expected that most of the income groups will be affected by the destructive effect of the earthquake.

In the light of the INFO research concluding that most of the income groups expressed their willingness leaves Istanbul, whereas only a minority whose income depends on the rent of real states is not, a preliminary research should be made on the standards, the size, and the cost of new accommodation.

<sup>1</sup> See Murat Güvenç, annex 7 "Quotations"

### **PRACTICE PROGRAMME <sup>24</sup>**

The first objective of this project is to resettle 1 million people as soon as possible. However, prior to anything, a serious research and planning is required in order to bring the project to a good end.

There are a series of different alternatives on how to attain this objective.

A-1: After a 1 1/2-year preparation phase, the constructing a new city for at least 1 million people.

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<sup>24</sup> You can find the details in "Practice Studies "part. See annex:5 "Practice Groups"

A-2: To plan and construct a city of 200.000-250.000 people in 6-8 months. After this initial phase, planning and construct the next 750.000-800.000 people city, which should be done within a year.

A-3: To construct a new city for 1 million people in 6-8 months.

B-1: This alternative is preferred because of the shortage of time for the research, project studies, and planning. On the other hand, it would only be possible to proceed with the constructing in 8 months because of the unsuitable weather conditions.

B-2: By choosing this alternative, the time disadvantages due to the one-year research and planning phase could be compensated by a better organization and marketing policy.

B-3:????????? Although planning the preparation phase is the best way against the earthquake risk, it will not be still adequate for the envisagement report.

## **INSTITUTIONAL STRUCTURE<sup>25</sup>**

For this project to be a successful one it has to count with the support of the governmental institutions. Unfortunately, the slow motion of Turkey's administration will be an obstacle standing in establishing the project in a very short time.

Taking this fact in to consideration the "Istanbul Earthquake Group", which has no formal position yet, and the respectful experts that form it have decided to establish this project following the "Yap-Yönetim-Devret" model. After moving the population to new settlements, the people have to get involved in these cities public administration.

The "Istanbul Earthquake Group" will remain as an establishment that will follow the progress and implementation of the project in its various phases. It is also agreed upon, that a serious and independent organization is essential for a successful implementation of the project. The foundation which will conduct the needed research and design the will be part of a Joint Stock Corporation affiliated with the Wakf.

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<sup>25</sup> Alternative approaches about Institutionning can be found in "Institutional Practice Group" see annex:5 "Practice Group"

The responsible trust board should administrate all the income and funds for the benefit of the community.

The board will have the responsibility to provide information about the population and industries to be resettled and the locations of the new settlements. This board will also supervise the construction of the new cities and the needed industrial and communications infrastructure. The final decision power over the management of these cities will be in their hands too. They will assign the required architects to plan the new living environments at all levels.

## **THE REGION WHERE THE NEW SETTLEMENTS COULD BE ESTABLISHED**

The final decision on where the new industries should be moved to should be in the hands of the industrialists. Therefore they should be offered a series of different resettling options. This will make the trouble of moving the industries more bearable to their owners. regions. Because of the evident risk of an earthquake in the near future, the industry, the educated part of the population, and the capital will certainly recognize the growth potential that the new settlements will offer them.

The demographic migration, encouraged by the government and all the aspects of its impact in the new settlement region should be seriously examined to protect the local economical interests and socio-cultural values.

Prof. Dr. Ferhunde Özbay<sup>26</sup> declared that, after the Second World War the demographic movement that rose from the East to the West gained a new structural quality. There has been a serious population transfer from the Northern regions to the South. In addition to this statement Prof. Dr. Vedia Dökmeci<sup>27</sup> stated that the activity moving from Istanbul to Middle Anatolia region quickened the improvement of Middle Anatolia.

One example of the potential benefits of an organized migration is the following. During sixties the region with the smallest per capita income in the country was Thrace. But after implementing the right policy, this region has become one of the biggest industrial areas in Turkey. This experience points out the fact that the region also needs a safe and planned environment to improve. This includes providing the new settlement with the essential technological and cultural aspects and be an important area connecting Turkey with the Balkan States.

At one point, the condition of the industry ends up with the new settlements converting them into cities. ‘Çerkezköy’ can be considered as an example of this fact and how and the industry of Istanbul can be moved to suitable areas.

Other than the efforts made in the Middle Anatolian and Thrace regions, we should also consider the efforts that have been made for the development of the GAP region. The industry and the work power that will be resettled in the region will have an important cultural and economical impact.

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<sup>26</sup> see Ferhunde Özbay, annex annex:7 "Quatations "

<sup>27</sup> see Vedia Dökmeci,annex annex 7 "Quatations"

The development of the GAP region may improve the balance of the income distribution among the citizens of the country. Along with the improvement of the incomes, the people are going to live in a new, planned cities and this will help to increase the value of the agricultural produces. In the end, a balance between the agriculture and industry will be reached.

The development of the Southwest will create a new, healthy and enriching economical and cultural relationship between the local people and the population that will be transferred to the region from Istanbul..

Another region that would be suitable for the construction of the new cities and the transfer of the industry is the Northwest of Turkey. The new industrial settlements that will be built along the road connecting to Asia and Caucasia will certainly be a winner choice for the transfer.

Furthermore, it has been proven that Istanbul Haydarpaşa Port and most of the facilities in Marmara Sea that are called to be Ports, are uneconomical and have an irrational structure. The potential earthquake will probably destroy these facilities. Between the years 1974-1976 the World Bank showed interest in creating new regional ports. This issue should be discussed in depth because of the vital importance of these facilities. Creating new regional ports will also reduce the potential earthquake damage.

The regions suggested above could only be considered if the local governments and people give their approval. For this purpose a research about the opportunities in Thrace and Middle East region is essential.<sup>28</sup>

Urfa city was chosen to be the center of the industrialization by the 1965 East Marmara Regional Planning task. 'Diyarbakyr' city, with a population of four million was chosen to be the center of industry in the South East region. It is very important to remember that 'Urfa' city is the center of culture as well as the meeting point of many different religions. According to these facts, 'Diyarbakyr' should be the center of the industry. Consequently 'Urfa' city along with its cultural beauty will be protected and secured.

In Thrace, on the valleys of Stranca Mountains and in the North of Saray-Vize-Kyrlareli, a settlement of 25.000, 75.000, and 150.000 people can be constructed. Again, it is essential that the necessary technological and economical studies to be conducted prior to any action.

In the South, East and West parts of Ankara, where the earthquake risk is less, new galaxy city can be built. The aim is to prevent Ankara from being another wasteful mega city like Istanbul. These new galaxy cities can also established in the 'Konya' city region with its many development opportunities.

The question of transferring the industry from Istanbul to new locations is very controversial. This controversy brings out the fact that with the new industry density in the region, there will be a need for new city planning strategies.

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<sup>28</sup> see Savmi ERSEK , annex: 4 "Marmara and Mid-East Region Report"

The industrial production of Istanbul will be spread out to many different regions of country in little portions. By doing this, new and powerful establishments will develop. If we observe the strategies of England '1946-London Plan' and France 'Paris City Plans' we can appreciate the fact that the decision of choosing the specific new regions to establish the industry must be made after a careful research. This research should define the relationships among the neighboring industrial centers.

It is essential to make quick decisions about regarding all the issues raised above. Certain criteria must be established to choose the right regions to resettle the population and the industry with the least economical loss.

Unfortunately, in the world history there is no prior case where 3 million people where resettled at once. The decision of the architectural technology that will be used in the new settlements is another problem. The preferable architecture will be the kind that involves small, with a maximum of three-floored houses and buildings, which will respect the cultural aspects of architecture.

In Middle Anatolia and Thrace, wooden architectural material is widely used. There will be no problem in using wooden materials along with the steel in skeleton of a building. After the 'Varto' city earthquake the light materials were mistakenly not used anymore in construction for safety and cultural reasons. These results lead us to Middle Anatolia and Thrace.

We must soon start the research of new, strong, and durable architectural structures, which will respect the cultural and environmental aspects that have shaped the image of the Southeast.

## **LEGAL PLATFORM**

In addition to the Hayrettin Karaman's statements on Islamic Jurisprudence<sup>29</sup> and Mr. Burhan Kuzu's expressions on States, the Constitution also includes the public and individual responsibilities in safeguarding the community from possible dangers.. During the second part of the Round Table Meetings, Mr. Hayri Domaniç<sup>30</sup> also emphasized on how severe is the government's duty and responsibility about this issue in Constitutional framework

The Municipality has the power to evict and to demolish the old, unsafe or damaged buildings, including those that may collapse in case of an earthquake. These existing regulations in Turkey' Law system enables will be needed to evict the more resilient ones.

An effective law protects the process of eviction of people from constructions that are in danger of collapsing.

The demolition of the evicted buildings after their eviction is important to prevent new settlers to move in.

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<sup>29</sup> see annex: 2 "Round Table Meetings"

<sup>30</sup> "Law Practice Group " see. annex: 5 "Practice Group "

## **ISTANBUL AND ITS FUTURE**

### **The Earthquake in Istanbul and the Quality of the Construction Materials**

A series of dangerous construction deficiencies are the reason for the anxiety regarding the safety of Istanbul's building stock in case of an earthquake.

The terrifying quality of the construction materials used in the construction of most buildings. 80% of the population is living in the technically deficient, 5-8 floored buildings. The quality of the concrete used is 4 times lower than the required by the standards.<sup>31</sup>

### **Saving People from a Disaster**

We must move all the endangered people from their living places before they get buried under tons of rubble and panic spreads out.

The reason for the urgency of this project is to avoid the death of millions of innocent people. There are 3-5 million volunteers ready to resettle and make this project a reality if we are capable to move the industry with them.

It is obvious, that if this project succeeds, all the preparations for the rescue and aid after the earthquake will be efficient. As today, 80% of the population is threatened. We can diminish this number to half percent by getting the public and civil foundations involved in the rescue preparations.

### **Reducing of Istanbul's population**

The prime duty that has to be undertaken after the possible earthquake is to define the number of casualties and the reasons, which caused them if the project is successful half of Istanbul's population, will be resettled. But there will still be a large number of people living in unsafe buildings.

Without denying the difficulties that such a project will face, we have arrived that the only realistic way to save half of Istanbul's population is moving 4-5 millions of people out of the city the probable earthquake hits it.

### **Urgent Actions in Istanbul after the Earthquake**

The first effort right after the earthquake will concentrate on the rescue the people who are still alive under the rubble, and provide them with the necessary assistance. In order to be able to execute this task most efficiently, we should reorganize the city land policies. The precautions about house architecture, district participation, and city and

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<sup>31</sup>International standards for reinforced concrete is minimum 225kg resistance in 1 cm<sup>2</sup> but, % 80 of Istanbul's population lives in high buildings which can resist only 60 kg in 1 cm<sup>2</sup>

environment purity (air-noise) are very important parts of the project. Besides, we have to examine all substructures of the city and land usage projects, which are approved without considering its geophysical structure and the very special water surfaces of Istanbul. So, all the wrong decisions, which have no alternative valid option, should be freezed. Istanbul should be a global metropolis with lower construction cost as a result of a more transparent approval process.

The other important issue is to direct the State's economical and demographic policies in accordance with the well-prepared settlement projects.

This project to be successful needs the creation of a "Nation –District City Planning and Residence Councilship" which will be affiliated with the premiership and the "State Planning Organization"

In order to enlarge our cities and following the modern construction practices and the urban development plans, new avenues and large buildings are being constructed in contrast with the architecture scales of the historical city. The expansion of the cities has been promoted without venturing, scrutinizing the city's social, economical, and cultural roots. This practice cannot be considered as a development of urbanism. The same mistakes should not be done in the construction of new cities. These new cities should be a pole of attraction for people and industries and will be Turkey's pioneers of the future urbanism.

The waste of resources caused by the unorganized and non-functional cities should come to an end with the new approach to urban planning. The "New Cities " will be a new chapter of Turkey's construction history

### **The Future of Istanbul**

Since the beginning of the 20th century many architects and scientist have developed theories about the effects of a potential earthquake hitting Istanbul. Many of those theories are completely wrong and useless. It is important to foresee that in the future more theories and predictions will be developed. It is important to clarify the basic principles on how to understand the impact of a possible earthquake.

The 'Marmara Region Planning Task' was created in September 1960. Ernest Jurkat, who was one of the leading specialists of this project, had stated that the ideal population for Istanbul was 5-6 million of people.

Istanbul is a center of vital importance, which links the Turkish industry with Europe, Russia, Asia and the Black Sea region. The economic development of the city is certain due to the fact that it is in such a strategic position. Currently its large population is slowing down the city economic development.

The resettlement of 50% of the current population in other areas will decongest Istanbul, and will allow its rebirth as a modern, culturally rich, and well-organized city. The vigorous new Istanbul will become the cultural and economical center of the Balkan countries, the Black Sea Region, Asia and the Mediterranean Region, become one of the leading cities in the world.

Researches have proven that Istanbul has all what is needed to be a successful metropolis.

In order to make this project a successful one, the land policies of the new cities should be directed properly and their commercial centers should be beneficial to the public. The considerations about the architecture, district participation, and ecology in the cities (air-noise) are very important issues covered by the project.

It is also important to develop the appropriate state economical and demographic policies to be in accordance with the new settlements project. A new authority is needed to supervise all these efforts. This new authority will be the "Nation – District City Planning and Residence Councilship", which will be affiliated with the premiership and the "State Planning Organization".

### **Estimation of the Cost of Transferring the Population and the Industry<sup>32</sup>**

The expenses described in this report were specified and accepted by the volunteers. Especially, the non-existence of social rigging foundations, city trade, and culture centers and specified substructure expenses made this report a must. We have concentrated in the estimates for land and the construction of residences.

We have initially made an estimate covering the cost of resettling 1 million people to new cities.

#### **Expenses:**

. Substructure:

1. Substructure standards or outside water isolation. Expenses for international links and additional energy sources have been excluded from the main expenses estimate and are considered as an investment to be done by the private sector.
2. All calculations are made for an adequate communications infrastructure adapted to a reasonable budget.

. Social Rigging Foundations:

These are of utmost importance and will be taken into consideration in the research and the planning of the project.

. Culture and Commercial Centers of the City:

These issues will be included in the expenses of the construction of the new cities.

. New residences construction

This part of the project is addressed to all income levels. However, only 1/5 of the population, whose yearly incomes is estimated to be \$ 599,000, can afford the construction expenses. The construction expenses for the residences of the people in the lower income segment, as well as 10% of the expenses of the middle class people, will be financed by a suitable "credit" program.

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<sup>32</sup> These calculations are made in USD, because it is serviceable and permanent in a global framework.

- . The essential study, research, project planning, control, promotion, and management expenses is estimated to be 5% of the total cost.

- . **Income**

- . A. From sales of the lands

The government in compliance of its constitutional responsibilities will do the assignment of the land. After completion of the planning, infrastructure and substructure, and social rigging foundations, \$ 2 billion will be the revenue from sales of the land.<sup>33</sup> This revenue will be invested in the infrastructure, substructure, social rigging foundations, city center, and public areas.

- . B. Credits:

The biggest investment of the project will be the credits that will be in the form of a mortgage. A 100% mortgage for the low-income group and a 10% mortgage for mid level income group.<sup>34</sup>

In general mortgages will be paid back in 5 years, but there will be other credit programs available. A total credit of \$1.5 billion will be enough for this project when high-level income group is excluded.

- . C. Other Incomes:

The incomes, which will be generated by the city trade and the shopping centers, will be collected in a Wakf that will be responsible for the construction of these centers.

These surpluses will be used for public health and education, as well as supporting the less fortunate of the families.

## **Income-Expenses Table**

## **Conclusion**

The following are the main issues included in this report;

### **I**

- . The earthquake, which reoccurred every 5 centuries in the past, is expected to hit Istanbul in the next 15-30 years.
- . The life of a majority of the population is at risk if no measure is taken.
- . Although this disaster is only a possibility, we obligation to take the necessary preventive measures.
- . These measures are the State's constitutional obligation.
- . We all, but especially the State, will be responsible for lost of lives if no preventive actions are taken.
- . This enormous earthquake may also be very destructive for Turkey's economy.

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<sup>33</sup> You can find the required table in the land sales report see.annex:5 "Study Groups"

<sup>34</sup> Related table exists in the report. see. annex: 5 "Study Groups"

- . The strengthening the 5-8 floored buildings, which were constructed without any technical supervision, the required materials, and the shelters for 8 millions of people, will be a very long and an extremely expensive task.
- . The strengthening of these buildings won't guarantee their safety.

The resettlement of the population along with the industry and commercial areas has to be urgently done. In order ensure the success, a pilot research, study, planning, and practice projects are needed.

The first stage of the project will include 200.000-250.000 people;

A. Research, study and practice plan September 2000/April 2001

B. Pilot practice and construction May 2001/ November 2001

The additional 800.000 people ;

- . April 2001/ April 2002

- . April 2002/ November 2002

The project is to be executed in accordance of the following principles.

II. 1. The labor force and the industrial places should be moved to new cities for the future inhabitants.

2. The industrialist should be the actively participate in this transferring process.

3. The population will be resettled around the industrial places, keeping the labor force-industry relation balanced.

4. Suitable areas should be assigned for the industry and the residence problem should be solved for the workers. The industrial corporations, which will be moving with their workers, should draw a benefit from this process.

The interdependence of the industry and the by-industry should be considered during the transferring process.

A special study and research should be made with the collaboration of industrialists. They should also participate in the decision-making process.

7 The required studies and public surveys should be made in order to define the needs and characteristics of the new settlements.

III-The locations of the new cities:

- . Districts that have the potential to improve the industry and the infrastructure should be predetermined.

- . Improving districts such as GAP and Mid-Anatolia, and other important regions for the international trade, should be specified. A study of the improvement needed should be done in collaboration with the local public authorities.

#### IV-About Practice:

- . The government should adopt the project and assign the required lands.( 70 km<sup>2</sup> for 1 million people)
- . \$1,5 billion are needed for the implementation of the project and to finance the loans of the low and mid level income group people.<sup>35</sup>
- . The lands will be sold with the "right to build". This right to build can be transferred by inheritance or sale without any division or delay. But the non-compliance of the rules will have the consequence of terminating the contract. This way, speculative operations, which destroy the city plans, will be prevented.
- . A Wakaf in benefit the general public will administrate the income of commercial centers. The Wakf will invest the benefits in substructure and social rigging foundation.
- . The project should be established under very strict financial measures. Its final cost will be reduced if the construction materials are made by the local industry. Light and dry construction techniques will reduce the construction time and cost.

#### V. About the credits:

- . The lower income group will profit from a full credit program.
- . The credits will be reduced to 10% for the families of the mid income group and those who want additional living surface.
- . The yearly installments will amount to \$ 2000 for the low-income group.. The installments for other groups will be proportional to their income, up to 40% yearly for the highest income class (\$600.000 per year).
- . This initial draft of the project is the result of the studies of a group of experts in different fields. It only defines the main objectives to attain and the policies to follow. A detailed research, planning, and practice processes are essential for the success of the project.

#### VII. This project

- . Shall be supervised and be under the authority of a Wakf, which will conduct the necessary research.
- . The Wakaf will be submitted to a foundation;
- . The Wakaf will entrust the construction process to the construction corporations and small construction firms.
- . An accounting director will control all foundlings.

VIII. All the transactions will be done through a bank. Part of the income from the commercial centers will be used as a guarantee for the debts.

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<sup>35</sup> see. Annex:5 " Study Groups "