SETTLEMENT POLICIES, TOWN PLANNING, HOUSING CONSTRUCTION,
AND PROTECTION OF THE ENVIRONMENT
IN THE
GERMAN DEMOCRATIC REPUBLIC

Report for HABITAT

UN Conference on Human Settlements

Vancouver, Canada, 1976

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# 1. Socio-Political and Economic Foundations and the Social Polioy Programme of the German Democratic Republic for an Advanced, Socialist Society

The German Democratic Republic is a socialist state of workers and farmers. All efforts of the socialist society and state are focused on the well-being of man and happiness of the people.

The German Democratic Republic pursues a policy of peace and international détente in close alliance with the USSR and the other countries of the socialist community and in accord with the progressive forces throughout the world.

The firm alliance of the working class with the class of cooperative farmers, the members of the intelligentsia and the other strata of the people, the socialist ownership of the means of production, the management and planning of the socialist development according to the latest findings of sciences form the basis of the socialist society.

All political power derives from the working people in towns and villages. The National Front organization expresses the national alliance of all popular forces. It embodies parties and mass organizations led by the Socialist Unity Party of Germany, the party of the working class, joining efforts for the development of state and society. The citizens of the GDR exercise their political power through democratically elected representative bodies.

The socialist society, relying on the systematic dynamic development of the national economy, provides all conditions required for the full enjoyment of fundamental human rights as laid down in the GDR Constitution. It encourages all citizens to develop their individual capacities and to participate in government at all levels. It guarantees the right to employment, housing, education, health, equality of men and women, and the promotion of the younger generation.

The main task of the advanced socialist society is the persistent improvement of physical and oultural living standards for all citizene through high growth rates in production, greater effectiveness of technical and scientific progress and continued growth of labour productivity. This is the policy which determines the major trend of this country's national economy.

All taske relating to human settlements, including structuring of the settlement pattern, protection of the environment, town planning, housing construction, and building production are integrated within this policy.

#### 1.1. Relations in production and productive forces

The GDR covers an area of some 108,000 sq. kilometres and its population is close to 17 million, including a working population of about 7.9 million, among them 3.9 million women.

Exploitation of man by man has been abolished. Unemployment has been eliminated. Work has assumed the nature of creative socialist activity. Growing harmony and even merger of the individual's interests with those of society as a whole provide for a unity which has come to be the strongest force in building socialism.

The national economy of the GDR is based on the socialist ownership of the principal means of production. It develops in conformity with the economic laws of socialism on the basis of socialist relations in production and the purposeful implementation of socialist economic integration.

Some 95 per cent of the industrial production of goods and roughly 78 per cent of the building production are carried out by nationally-owned interprises. About 86 per cent of the agricultural area are used by coeperatives and about seven per cent by state farms. All forms of land speculation have been abeliahed. Allocation of land for construction is permitted only with due consideration of the interests of society.

The national economy of the GDR is based on socialist planning. The economic potential and efficiency of the GDR has steadily grown since the time of its foundation back in 1949. The national income produced in 1974 accounted for 134,800 million marks and was 6.1 times that of 1949. It went up by 6,700 million marks from 1972 to 1973 and by another 8,400 million marks from 1973 to 1974.

The investment total grew from 2,900 million marks in 1949 to 38,600 million marks in 1974.

Fixed assets in the GDR's economy were worth roughly 550,000 million marks in 1974, which was more than twice the figure of 1949. Industrial production went up eight times and building production seven times in the same period. The annual output of oement was increased from about one million to 10.1 million tons.

Such sizeable economic growth was achieved mainly through the rise in labour productivity which went up by a factor of 5.9 in the period under review. Progress in science and technology and strong emphasis on the education, training, and upgrading of the working population have largely contributed to that growth.

The GDR, throughout its history, has strongly relied upon unselfish assistance rendered by the Soviet Union and has drawn considerable benefit from cooperation with all fraternal socialist countries, particularly in the framework of socialist economic integration.

The scope of social and economic achievements can be assessed in a realistic way only by comparing it aigenst the background of the GDR's point of departure, i.e. the heritage left to it by capitalism. In World War Two some 45 per cent of the industrial potential, 70 per cent of the power plants, more than one third of the urban housing stock, many town centres, and a palpable proportion of that part of the infrastructure located in areas which now are territory of the GDR were destroyed. The general situation was characterised by a dramatic disproportion of both the economic and demographic structures.

Complete reconstruction was required in all fields and facets of government, economy, social welfare, culture, and education. As a whole, the evolution of the GDR has been a success, demonstrating that socialism is an adequate approach to overcoming the heritage of capitalism, achieving a dynamic upswing of the economy, without crises and unemployment, and to steadily improving the living standards of the people.

#### 1.2. The social policy programme

Economy in the GDR serves to ever better satisfy the growing physical and cultural needs of the people. Economic progress is closely associated with steady expansion of leisure, real income, and social services for the people.

The five-day-working week, with 42 or 43 3/4 working hours, was introduced in 1967. Real income has continuously grown, on account of rising wages and the expansion of services financed from public funds. For example, the average monthly wage earned by a construction worker or white-collar worker in the building industry went up from 300 marks in 1949 to 922 marks in 1974. In retail trade the turnover increased, from 1949 to 1974, by a factor of 5.7. Commodity prices, including basic foodstuffs, rents, and public transport rates, remained low and stable throughout that time.

Any improvement in economic efficiency and yield must result within the shortest possible time in palpable improvement in general living standards. This idea has been declared a policy concept and is fully reflected in the social policy programme of the GDR. As decided on principle by the Eighth Congress of the Socialist Unity Party of Germany, the goals established by that programme are now in the process of successful implementation.

The programme provides for measures to improve every-day life in all spheres, including supplies, services, rise of wages and old-age pensions, better working conditions for women workers, particularly mothers of dependent children, assistance for young couples and big families, as well as favourable terms for holidays and recreation in general. Important action has been taken to expand services in public health and education as well as to stimulate intellectual life, cultural activities and sports.

The constant improvement in general living standards and the enrichment of intellectual and cultural life are important stimuli for raising labour productivity as well as for increasing quantity and improving quality of production.

Housing construction is one of the most important elements in the social policy programme. The resulting task now established for and by this society is to achieve step-wise remedy of social and regional housing disorepancies, as historically generated in the era of capitalism.

The purposeful eradication of social injustice in this field, which resulted from the paet, this is a project feasible only after the working class has taken power and implementable only in advanced socialiem. The eame point has been made much earlier by Prederick Engels in his well-known publication "On the Housing Problem".

The decision has been taken for a definite solution by 1990 of the housing problem as a social problem throughout the GDR. During the five-year plan period, from 1976 through 1980, 750,000 dwellings are to be built or modernised. The completion or modernisation figure envisaged for the period from now to 1990 is somewhere between 2.8 million and three million dwellings, these are 45 to 48 per cent of the existing housing stock. The general orientation given for that period includes more and better services and amenities in housing areas. Major environment programmes are being included in the five-year plane and annual economic plans and carried out.

1.3. Human settlements - major trends of national policies, governmental control, and state planning, and involvement of the general public

The major purpose of all national policy in the context of human settlements is to provide optimum conditions for everyday life for all, favourable working conditions, good housing, and all prerequisites needed for recreation in the natural and built-environment.

Here are some of the most important factors of the GDR's reality to achieve the above purpose:

- (a) socialist ownership of the most important means of production as well as land use in the best interest of society, with land speculation being ruled out;
- (b) planned socialist economy as well as state control and planning of the settlement network, environment control, town planning, housing construction, as well as the building and construction materials industries;
- (c) allocation of a sizeable portion of the national income to financing socio-political action, including complex housing construction and subsidies for stable and low house rents.

These factors actually make up the basis on which policies are planned and carried out with all associated interconnected and coordinated measures relating to the problem of human settlements at national, regional, and local levels, in the capital, in counties, cities, and villages. Measures, in this context, are taken to maintain existing building stock and to complete new construction for industrial production, agriculture, housing, services, all sorts of public buildings, and elements of the infrastructure.

Long-range economic programmes, five-year plans, and annual plans have incorporated complete sets of tasks for the development of settlements in general as well as of towns and villages and their functional correlations, of housing construction and problems relating to the protection of the environment. All these aspects are included in the long-range programmes and balanced up against each other. Such balancing is essential to making the policies work under the conditions of practice by providing all the means necessary for implementation, such as manpower, construction materials, machinery and other equipment as well as services. Much of it has to come from the building industry and through cooperation with other sectors.

National control and planning of developments in the field of human settlements are linked to individual responsibility for

control and planning at regional, local or company level. Millions of people are actively involved in control and planning of social processes also in this field.

Policy propositions go to Parliament, the People's Chamber of the GDR, and are made valid law. The Council of Ministers of the GDR has been appointed by the People's Chamber to guide the country's national economy and other facets of society. The State Planning Commission, the Ministry of Building, and the Ministry of Water Resources and Environment in cooperation with other national agencies have a mandate by the Council of Ministers under which they are responsible for all national policies and their implementation in the field of human settlements. They control the drafting of bills and the preparation of long-range, medium-range and annual plans and other policy rules. They have to supervise implementation.

Legislation thus provided constitutes the basis on which the various levels of local government will make independent decisions on all matters of relevance to the residents of their areas.

Social developments in a given area are under the control of the local government bodies which are all appointed from among elected assemblies. Those developments may be long-term decisions on optimum use of regional resources, coordination of local development with company policies, general planning of urban development, complex housing construction, and local building activities. Management and planning decisions taken by local government are usually prepared with the cooperation of committees attached to the local assemblies, political parties, trade unions and public and professional associations, such as the GDR's Engineers Organisation (KdT) or the GDR Federation of Architects (BDA), Sculptors' and Painters' Union of the GDR as well as widest sectione of the general public. Many citizens are directly involved in decision-making and preparation relating to human cettlements through their own cooperation with housing estate committees of the National Front, part-time building committeee in housing areas, and part-time environment delegates.

Plans and programmes for long-range improvement of settlement networks and for urban development are discussed at public meetings of the local assemblies, and, in addition, wide publicity given to them in the mass media and at meetings of local residents. Proposals resulting from such public discussions are carefully considered by competent state authorities. Such practice has greatly added to the efficiency of planning and ensured democratic control over the implementation of goals in urban planning that are of interest to society as a whole. Every citizen has the right to make his contribution to the preparation and implementation of plans by working out ideas and putting them before the policy-making bodies. Every citizen is thus given a real chance of democratic participation in the development of his own city, viliage, and environment in general.

A mation-wide competition movement has been instituted by the Estional Front of the CES under the slogan "Join Earls for More Beauty of Cities and Country!" This movement is the channel through which most various initiatives by all strate of the population take effect. The movement comes to bear, for example, through house committees or factory crews, popils or students who undertake to construct, repair, improve or maintain flats, playgrounds, school buildings, sports and recreation compounds or public gardens in voluntary work without pay in their leisure-time. There are many villages where the sevement has led even to the construction of roads, walks, and water supply installations.

The accievements made by the citizens of the GDR in the framework of this movement between 1971 and 1974 are worth over 3,000 million sarks.

In the CR, there is one nation-wide integrated policy for the development of harms settlements relating primarily to the following items:

(a) <u>National settlement policies</u> for the purpose of karmonions, proportionally planted development of settlements and their correlations, improvement of social and technological infrastructures, environment control, stepwise eradication of existing discrepancies between urban and country life by some effective distribution of productive forces and optimum use of resources;

- (b) national town planning policies for complex trial renewal, with a view to developing and improving bossing and working conditions, supplies and services, medical care, and facilities for cultural activity, and entertainment, also with the view to optimising the conditions for production, municipal engineering, and transport, all in a healthy and beautiful environment emjoyed by all people, which must be based on progressive urian structures in full harmony with the changes in industrial activity and human habits;
- (c) mational housing policies for effective implementation of the housing construction programme up to 1950, with the view to allocating to each family a modern, low-cost flat in full agreement with the family's demand, with preferential treatment seing given to the housing protlems of the working class, cooperative farmers, and big families, to retuce further the historic social and regional disproportions in housing, and to grainally bring the housing and dwelling standards in old housing areas closer to those in new housing estates;
- (d) national building policies for effective implementation of all items of the immer settlement programs through intensification and further industrialisation of building production, improvement of the physical and technological basis for the building and construction materials industries, with additional empassis being laid on research, design, standardisation, and staff admention.

## 2. Settlement Policy

The GIR has 7,600 towns and rural communities. Its average population density is 156 residents per equ. Mileseure. The administrative setup of the GIR is based on 15 counties including Berlin, the capital, as an independent county, with 219 urban and rural districts.

#### Population in towns and rural communities

	Number	Percentage of whole population
Big cities with more than 100,000 in- habitants, including Berlin, GDR	13	23.5
capital (1,1 million)  Medium-sized cities, between 20,000 and 100,000 inhabitants	101	22.6
Smaller and country towns, between 2,000 and 20,000 inhabitants	981	29.3
Villages, up to 2,000 inhabitants	6,549	24.6

The share of the urban population has gone up from about 67 per cent in 1946 to 75 per cent in 1974.

The territorial structure of the GDR is characterised by a dense network of big and medium cities and villages as well as transport routes and other infrastructural services.

The settlements, however, are unequally distributed over the territory of the GDR. Population density is comparatively low in the northern part of the country, whereas the centre and south are characterised by agglomerations. More than one third of the GDR population, producers of 50 per cent of the country's industrial output, live in the southern and central region of the GDR which constitutes the seventh part of the territory.

Population density figures of more than 2,500 residents per squ.kilometre are reached in Berlin, GDR capital, and in the large agglomerations of Halle, Leipzig, Karl-Marx-Stadt, and Dresden.

After the end of war, the GDR had to cope with grave discrepancies regarding the regional distribution of productive forces and an inadequate infrastructure. Some of these disproportionalities of the past has been remedied by socialist settlemet policies.

#### 2.1. Fundamentals of national settlement policies

The following policies have been adopted by the Government of the GDR for settlement and long-range planning and integrated management and control of all activities to provide a rational settlement structure:

I. The development of the settlement structure, i.e. of regional distribution of localities and their correlations is to provide to residents in all areas of the GDR steadily improving conditions for a continued elevation of living standards. All citizens must have in their own settlement or within tolerable distance highly differentiated choice of jobs, a complete range of all infrastructural services relating to housing, commodity and other supplies, health care, cultural activity, entertainment, education, recreation, and sports, as well as sound conditions in terms of environment.

II. Structuring of settlements must be such that it will be conducive to intensification of production and research, persistent reinforcement of socialist relations in production, and effective use or regional resources and working assets, all with the view to providing better prerequisites for efficient operation of large factories, industrial groups, industrialised units of agricultural production, research centres, better transport networks, as well as more dependable facilities in the context of water resources, power supply, post, and telecommunication, all for high-quality service at minimised investment and operation expenditure.

III. Programmed settlement policies shall controll the process of urbanisation, reducing in a stepwise manner major gaps between urban and rural areas which hinder full progress of socialist production and socialist ways of life, while helping to avoid trends towards excessive urban growth.

National settlement policies are put into practice as part of the system of national economic planning and the resulting regional planning programmes. Harmonisation of sectorial with regional developments is a key formula for implementation.

Specific methods as well as economico-mathematical cartographic and other procedures and techniques have been devised for planning and prognostication of settlement systems. Electrenic data processing is also applied.

## 2.2. Development of the settlement system

The immediate post-war years saw a strong concentration of potentials on reconstruction of the settlement network and on restoration of its functionality. The foundations of society for progress in the way of planned proportionate progress of the settlement network were entirely changed for the good by nationalisation of the most important industries, the democratic land reform, and, more recently, the large-scale voluntary unification of the peasantry in agricultural cooperative farms.

Much had to be done in a bid to remedy sectorial and regional disproportions in the context of the GDR's national economy. Therefore, in the first phase of settlement action industries, mainly for base materials and power generation, were built up. That line of industrialisation had to be accompanied by the selective construction of new towns (Eisenhüttenstadt, Hoyerswerda, Schwedt, and Halle-Neustadt). Some of the existing cities were considerably enlarged, for example, Rostock, Jena, Gera, and Neubrandemburg. For the time being, strong attention is being given to elevating Berlin, the GDR capital, to the level of a real socialist metropolitan centre. This priority task is being tackled with the support of all other regions of the GDR.

From the early seventies, intensification has been adopted as the major concept for more and better social production. The conclusion drawn from that concept by settlement designers - with due consideration of expected growth of population, high urbanisation, and strong density of settlements - is that orientation should be geared to more intensive use of existing settlements, without further substantive expansion of the big cities, and the construction of additional new towns.

The call for improvement of industry, agriculture, urban life, and conditions on the countryside implied the demand for

more and better facilities and even networks of the infrastructure.

Big thermal power stations on the basis of soft-coal, the most important source of energy of the GDR, nuclear power stations, and peak-load stations were built to meet growing demands for energy. The power supply network was enlarged, and the composite networks for oil and natural gas were connected to the energy systems of the USSR and other CMEA countries.

More than 30 dams and long-distance water supply systems have been completed to improve water supplies in the last 20 years. The re-use factor of flowing water is twice to three times as high as in comparable industrial countries, which leads to an extremely strained situation. Sometimes, in dry periods, the water of some rivers is used five times. More localities have been connected to sewage treatment plants, from about 37 per cent in 1960 to 46 per cent in 1974. The discharge into open waters of insufficiently purified industrial waste water has been reduced by eight per cent since 1971. Most of the new sewage treatment plants have been conceived for joint use by housing areas and industries.

The average annual growth rate of networks has been 1,800 km throughout the GDR.

The transport and traffic load is undergoing tempestuous growth. Existing transport networks, therefore, are planfully expanded, with particular attention being given to commuter traffic. Priorities, in this context, are the national railroad network, the national motorways, some important regional highroads, the seaport of Rostock, and the airport of Berlin-Schönefeld.

## 2.3. Cities and villages

All urban and rural planning is geared to establishing a network of settlement centres which should be in full agreement with the present position reached by the productive forces and with socialist life today. It will be a network which is based on existing settlements. The cities of the macrostructure are of crucial importance to the settlement network as a whole on

account of their function in economy and society. They are big efficient centres of the working class, social life, commodity production, research, as well as of highly specialised and complex services of the infrastructure. The macrostructure of the settlement network, therefore, is a subject of national planning. This macrostructure in the GDR includes Berlin, the capital, the big cities of Leipzig, Dresden, Karl-Marx-Stadt, Halle, Magdeburg, Rostock, Erfurt, Potsdam, Gera, and Schwerin, as well as a number of fast growing medium-sized towns in industrial and agricultural priority areas, such as Cottbus, Frankfurt/Oder, Neubrandenburg, Suhl, Dessau, Zwickau, Greifswald, and Jena.

The connections between the macrostructure cities will be improved mainly by expansion and improvement of highways, railroads, power lines, and other services. It is a purpose of macrostruc ure policy to bring about a situation in which all macrostructure cities come into tolerable reach of the majority of GDR citizens, with not exceeding one hour travel by public transport between those cities, on the one hand, and smaller home places, on the other.

The cities of the macrostructure will be given differentiated treatment, in line with the territorial structure of the GDR. Intensive urban development has been planned for the agglomeration areas of Karl-Marx-Stadt, Dresden, Leipzig, and Halle. In this context, it will be necessary to ensure higher utilisation of existing jobs by working more shifts and qualitative improvement of the social infrastructure.

Intensive and, to some extent, extensive development of big cities and some selected medium-sized cities will be the policy decided for the northern regions of the GDR with less urbanisation and more widely scattered cities.

The smaller towns and villages are included in the development of settlement centres.

Industrial units of crop processing and food production and other branches were set up or expanded in a number of smaller towns along with general intensification of production. Holiday centres are being developed in some of them which are located in suitable landscapes.

Socialist renewal of the agricultural sector and its gradual transition to industrialised production patterns is the very basis on which to overcome excessive fragmentation of the rural settlement scene. Small towns and large villages, for example, are developed to the level of settlement centres. Cooperation between several agricultural cooperative farms or between cooperatives and state farms has proved to be an adequate approach to intensification of agricultural production in general and crop farming in particular. So-called inter-farm associations have been created. Villages and small towns have merged into larger communities, so-called municipal corporations. By pooling and joint use of resources better living conditions can be achieved especially where the populations of small localities are concerned. In 1974, more than ten per cent of the GDR population lived in such municipal corporations.

It has become quite a common practice that several village councils pool their municipal funds for joint treatment of projects that would otherwise go beyond the capacity of one village, for example, maintenance and improvement of housing and services, expansion of health centres, road building, maintenance, and repair, cultural activity, entertainment, low-distance recreation areas, and sports facilities.

Much is done by the councils of these municipal corporations to encourage cooperation between factories and farms, improvement of social life in both towns and villages, initiatives of the general public and their movement "Join Hands for More Beauty of City and Country", and other activities. This is their specific contribution to building socialist patterns of life on the country-side and to narrow the gap between rural and urban conditions.

#### 2.4. Protection of the environment

Planned, systematic, and purposeful use and enhancement of the natural environment and efficient protection of landscapes and the man-made environment against all sorts of detrimental interference - this is the major purpose and substance of the socialist environment policy pursued in the GIY. Environment policy is primarily intended to help providing better living and working conditions for man as well as optimum conditions for the social reproduction process.

Neglect of environment in the capitalist era had resulted in severe damage to the natural environment particularly in the agglomeration areas which had developed at that time. Even now the consequences of this situation become apparent in considerable shortcomings in sewage treatment, control of air pollution, disposal of industrial waste, and reclamation of abandoned lignite mines and devastated adjacent areas.

In the GDR, the stepwise elimination of these damages as well as protection and improvement of the environment are carried out on the basis of the following policy concepts:

- (a) establishment and preservation of adequate proportions between protection of the environment and industrial as well as regional development; interconnection of industrial rationalisation schemes with aspects of environmental control;
- (b) concentration of resources on working-class centres in agglomeration areas and on big cities together with enforcement of a certain hierarchy and sequence of investments, depending on urgency and potential benefit to society;
- (c) preservation, regeneration, and enhancement of natural resources and landscapes together with coordination of different forms of economic uses, with the view to ensuring multiple land use;
- (d) development and introduction of closed production cycles as well as methods and technologies by which environmental damage can be ruled out as early as in the actual production process, while ensuring maximum benefit of available resources and materials for national economy as a whole:
- (e) operation-to-capacity of purifying plants and their upduting to maximum efficiency.

All applicable GDR legislation provides for an orientation to the effect that environmental control is a joint responsibility of the entire society, governmental bodies at all levels, business, institutes, organisations and associations, and the general public. It is systematically and planfully included in the nation's economic policies and programmes. Socialist property and nation-wide planning and management of the national economy throughout the GDR were the foundations on which substantive action could be taken against the pollution of the biosphere and for an improvement of the general environment, despite remarkable rise, at the same time, of industrial and agricultural production. Steps towards environmental control were successfully taken particularly when new factories were opened or in the context of complex urban renewal or plant modernisation.

The following results have been achieved so far or prepared in certain areas of environmental control:

- (a) Land devastated by open-cut soft coal mining has been systematically reclaimed, and since 1968 the amount of annually reclaimed land has been exceeding the loss of land on account of new open cuts. Reclamation of agricultural area and its improvement in terms of high and stable soil fertility are given priority in the GDR to make up for the low relative agricultural area as a whole (0.37 ha per inhabitant). (See also "Planned Landscape" model of the GDR prepared for HABITAT.)
- (b) Surface waters are planfully rehabilitated on the basis of complex programmes for complete river catchment areas. Further deterioration of water condition could be stopped in many waters despite remarkable rise in industrial and agricultural production. A change for the better could be introduced concerning the development of some of the river areas.
- (o) Air pollution was successfully tackled by achieving reduction in industrial dust emission and decline in local emission figures resulting from exhaust gas. Connection of many singlestove users to centralised district heating systems was greatly conducive to that change.

The dust load on agglomeration areas was brought down by something between four and seven per cent. High-rise stacks (up to 300 m) were set up and techniques for  $SO_2$  precipitation devised in an attempt to reduce airborne sulphur dioxide in agglomeration areas.

- (d) By-pass roads were completed to relieve urban centres from excessive traffic noise, and no-traffic zones in new housing areas or along with the renewal of old towns.
- (e) All localities with more than 2,000 residents have been connected to organised waste disposal systems for no-damage removal and disposal of municipal and industrial waste. Waste deposits and dumps have been provided well off the localities and carefully chosen on the basis of long-range disposal programmes and with due consideration of hydrological aspects. Stringent rules apply particularly to sites on which toxic waste or oil-contaminated soil is to be disposed. Abandoned dumps are reclaimed and re-incorporated in town planning. Industrial waste products are increasingly used as secondary raw materials, for example, power station ash and furnace slag as aggregates and binders in the building industry.

Large areas outside settlements with widely untouched landscapes are kept as National Parks on the basis of the National Environmental Policy Act of the GDR. The natural preserves in the GDR cover 18,000 sq.km (some 18 per cent of the national territory). They are used selectively as weekend or holiday centres.

## Policy of Complex Urban Renewal

3.1. Principles of town planning and allocation of building land

There are over 1,000 towns and cities in the GDR. Most of them have grown in the course of centuries. Both in layout and architecture they are true reflections of the changes in productive forces and society at large. Grave discrepancies were inflicted upon the urban areas in the age of capitalism due to unrestrained profiteering which implied anarchic siting of industries, commerce, and trades with all its disastrous consequences in terms of pollution and crowding together of the working classes in derelict quarters, on the one hand, and the advent of suburban residential areas for the privileged and city business zones, on the other.

The fundamental changes with regard to productive forces and social conditions that have taken place in the socialist GDR have created the prerequisites for urban renewal in terms of structure and layout, elimination of contradictory urban structures that used to be typical of capitalism, and stepwise removal of the historic discrepancy resulting from the coexistence in the towns of privileged areas, the so-called "district for the rich", and neglected areas, the "district for the poor". The conditions have been created for a gradual restructuring of towns, big and small, to provide equally good conditions for all in terms of housing, jobs, education, and recreation.

It is that very social change which has rendered possible planned use of national resources and land use for the benefit of society. Therefore, much better urban planning has become possible with better clusters, housing areas, and services and with a new type of art and architecture as an integral component of town planning.

These social changes have been a point of departure for the People's Chamber, 1950, to pass a Reconstruction Act to which "16 Principles of Town Planning" are annexed.

This Act has become the legal basis for planful urban planning and renewal, taking into consideration that the city is the most important site of human settlement, activity, and culture. The Reconstruction Act provided for the possibility to implement a planful development of urban areas by giving priority to the interests of society and by abolishing the bounds set by the private ownership of land.

Due to the fact that the interests of society and those of the citizens are in agreement, any land required for the planful construction of residential areas, social facilities, industrial plants, traffic routes, and city centres is purchased from the owner, with the transaction throughout being based on amicable negotiation. Customary local prices controlled by the state are paid in compensation for the land.

If no agreement on the purchase of the land is reached, the Reconstruction Act stipulates that the required land is transferred from private to state ownership. The former owner then receives a compensation of the same amount and on the same terms, as is paid, when land is purchased by an authority acting on behalf of the state.

In exceptional cases, if for example the authorities claim private built plots for planful urban renewal, this act provides for the possibility to exchange them against other built plots of the state.

The policy guidelines on the efficient use of land, laid down in the Constitution, and the legal regulations on the official sanctioning of all purchases and sales of land, the right of pre-emption of the state, the possibility to transfer private land to nationally-owned land as well as the possibility to confer the right of beneficial use of nationally-owned land for the construction of individual homes to interested citizens have put an end to any land speculations in the GDR.

Here are the principal goals in national town planning (see 1.3.):

- (a) Renewal or restructuring of towns, as part and parcel of the national settlement system, with optimum utilisation of existing building substance and due consideration to natural, economic, and historic aspects;
- (b) widest possible improvement of urban structures, with optimum solutions for housing, industrial, and recreation areas, due attention to suburbs and surrounding areas, efficient municipal engineering and other services, optimisation of traffic, concentration of building density for the greatest possible intensity of land use, shortening of journeys within the city, and favourable conditions for industrialised construction processes;

- (c) development of sound housing areas and networks of community centres with stepwide removal of existing disproportions regarding housing quality and density, supplies, and engineering services:
- (d) modernisation of centralised industrial areas with high accommulation of capital investment and introduction of new industrial areas, with particular attention to be given to the design and completion of installations and services which can be jointly used by industries and housing areas or at least by several enterprises and due care for the environment;
- (e) good architectural design of the built environment in general, including clusters, streets, squares, public parks and gardens, and other open spaces, all in harmony with given land-scapes and by using paintings, sculptures, and historic buildings.

#### 3.2. The recent history of urban planning

Low-cost restoration to functionality of destroyed or damaged industries and dwelling houses as well as municipal installations used to be the first and foremost priority in the immediate postwar period. The first remarkable ensembles of apartment houses were designed in 1950. They included new houses on sites in Berlin, such as Weberwiese and Karl-Marx-Allee, Lange Strasse in Rostock, and the Ring area of Leipzig. Site operations started at the same time for the new town of Eisenhüttenstadt on Oder, the first job to which the principles of socialist town planning were applied on a general basis.

The growing demand for industrial and housing structures brought two requirements into the foreground: planful proportionate development of cities and increase of efficiency of construction through industrialisation of building activity. A large-scale programme for an industrialisation of the building sector was introduced 1955 and ushered in another phase of urban renewal and expansion.

The new town of Hoyerswerda was started in 1956, and the large-scale use of industrialised construction methods on all sites produced new insighte and philosophies on how to devise an

efficient urban structure. The second stage of Karl-Marx-Allee in Berlin was started three years later and resulted in a new quality of complex housing construction, panel assembly designs of eight-storey and ten-storey dwelling houses.

A grave deficit of housing space and the conditions of industrialised construction which developed in response to that deficit, were motive forces for the construction of large housing
areas on partially developed grounds, but also on undeveloped
grounds, for example, in Berlin-Johannisthal, and Rostock-Reutershagen. In cases where urban expansion proved to be vital for
coping with high concentrations of industry and industrial labour,
town planners resorted to new grounds outside existing cities as,
for example, in Rostock - Lütten Klein, Halle-Neustadt, and Neubrandenburg-Ost.

The reconstruction and renewal of war-damaged centres in Berlin, Leipzig, Dresden, Karl-Marx-Stadt, and Magdeburg, was tackled with more impetus after 1960. As a general principle. apart from social buildings, also apartment houses were built and integrated into the centres of the cities. The new project. again, gave rise to new standards in complex planning, design, and site processes. The results were basic changes regarding new coherent areas in the city, road routing, traffic, and services. The areas between Marx-Engels-Platz and Alexanderplatz and Leninplatz in Berlin and of Prager Strasse in Dresden are illustrative examples. In the context of urban centre renewal, sizeable funds have been allocated to the restoration and preservation of important monuments of art and architecture, for example, Zwinger in Dresden, the State Opera House in Berlin, the Gardens of Sanssouci in Potsdam, the Cathedral of Megdeburg, and the memorial sites in Weimar.

#### 3.3. Urban structure and general plan

The structure of a city is made up of a colourful variety of interconnected, interacting, and interdepending urban functions.

The urban structure is composed by a number of geographical units dimensioned and generally geared to provide adequate ser-

vices for the general public. These units constitute the city's industrial, housing, mixed, and recreation areas.

The housing estate with every-day supplies and services attached within reach is the basic unit of a city. It is connected to one or several schools. Kindergartens and creches are attached to the estates, depending on size. The borough ushally is the next higher unit in a medium-sized or big city.

The following hierarchy of community centres has been gradually accepted by town planners for the design of towns and housing areas:

- (a) Centres with all every-day supplies and services for between 4,000 and 20,000 inhabitants (to be reached by walking within 10 min. max.);
- (b) centres with supplies and services frequently required between 20,000 and 60,000 inhabitants (to be reached by walking within 20 min. max.):
- (c) centres with all supplies and services to meet every-day, frequent, and less frequent demands of over 60,000 inhabitants (30 minutes maximum on foot);
- (d) urban centres with facilities important to the city as a whole, depending on the size of town and its function in a given settlement network.

The existing industrial sites are characterised by high accumulation of capital investment and, therefore, treated as stable elements of the urban structure. Better conditions are being provided for larger, interconnected industrial areas along with more intensification and extended reproduction on the basis of long-range urban planning. Industries with detrimental effect to environment are gradually shifted out of town. Mon-molesting industries are being incorporated in mixed areas or arranged in favourable relation to existing housing areas.

Action is being taken to cope with considerably growing urban traffic, to reduce travelling time and to improve safety.

The measures to be taken in stages, depending on demands and potentialities, comprise i.a.:

- (a) coordination of types of traffic;
- (b) expansion of public transport networks;
- (o) modernisation of existing traffic systems (express bus linee, off-the-road trams, separate express trains);
- (d) improvement of arteries, thoroughfares, side roads, and spaces for stopping traffic (urban freeways, express ways, access roads, outdoor and indoor oar parks);
- (e) by-passes, peripheral roads, and off-centre intercepting oar parks to relieve centres and housing areas from excessive vehicular traffic; pedestrian areas by separating vehicular from pedestrian traffic;
- (f) arrangement of open spaces and parks close to selected stops and transfer points of local transport, railway lines, motorways, airports, etc.

While preferential treatment is given to the continuous improvement of efficient means of public transport available at low rates, serious problems are gradually appearing on the horizon due to the rapid growth and expansion of individual oar ownership, with grave repercussions being expected to road development, garage potential for maintenance and repair, and the availability of spaces for stopping traffic. The area already now required for flowing and stopping traffic in new housing areas has reached the alarming order of 22 to 24 per cent of the total area available for all uses. Urban and transport planners are trying hard to find solutions to meet both the implications of traffic growth as well as the demands of the individual resident and national economy.

Exacting demands on the development of municipal engineering are likely to result from steadily rising living standards and, more particularly, from the dimensions of the national housing programme.

District heating units (including heating plants and thermal power stations) have been completed and opened on all larger housing construction sites. More than 90 per cent of all new flats

have been connected to district heating, including hotwater supply.

Most of the wiring and piping used for the above services have been installed underground in large collector ducts or in the basement of the housing structures. Lower assembly expenditure, the use of prefabricated components with greater safety, and improved technological supervision and monitoring are some of the benefits.

The identity of many an urban structure will essentially depend on given topographic factors, such as the existence of foreets and waters, and the natural landscape as a whole. Suitable landscapes are being developed for weekend tours or improved and connected to points of public transport, and their natural beauty will be carefully preserved. Open spaces in town serve primarily recreation and rest after work. They are arranged in convenient reach of housing areas.

The Chemical Workers' Town of Halle-Neustadt has been subject of many years of long-range planning and design accompanied by comprehensive studies on the optimisation of urban structures. Important findings were gathered with regard to research and development, technology and economy, social services, and local government practice. Today, much of that experience is applied in the reshaping of town structures, services, and centres (see also "Malle-Neustadt - Chemical Workers' Town" model of the GDR prepared for HABITAT).

In the GDR, the general plan is the major tool in planful long-range development of human settlements. The general plan is based on long-range demographic data, economic and social targets for the future of the whole town and its districts as derived from the national settlement policy, as well as on analytical predictions on possibilities for local development and rationalisation. It has proved to be an adequate instrument of the planner who tries to harmonise local conditions, national site distribution policies regarding productive forces, sectorial demands, and local government interests. The general plan is always coordinated with the general transport plan and the plan for the

development of engineering eervices.

Town planning usually ie carried out in the following three stages:

- (a) periods of at least 30 years each for identification of basic trends of urban development;
- (b) long-range planning periods of approximately 15 years to draw up complex town planning schemes;
- (c) five-year terms, coinciding with five-year plan periods, for the new construction or renewal projects (investments).

From the general plans all schemes and schedules are derived for the actual construction of towns.

On the basis of a general concept for the care and preservation of monuments and works of art in the GDR, many towns have, in addition to their general plan, a master plan for art and architecture in the community centres and housing estates. The preservation of monuments and creation of new works of art are planfully financed from the national budget.

General plans of construction are being put into practice primarily on undeveloped sites in peripheral areas, and integrated into the existing town structure, to avoid demolition of existing housing substance. Plans are being worked out and preparations made for large-scale renewal of old-age building areas in urban centres for a period after 1980. Those future projects will call for solutions to a number of complex problems, for example:

- (a) shifting of uneconomic and obsolete jobs;
- (b) preservation of historic roads and squares;
- (c) development of appropriate projects and technologies for industrialised construction in old town areas.

General plans have been worked out for 200 towns of the GDR. General planning is increasingly updated by means of electronic data processing, using ad-hoc devised memory systems for the storage and retrieval of town planning data.

#### 3.4. Architectural design

The architecture of human settlements in the GDR is determined by the socio-economic and humanistic goals of socialist society. By uniting convenience, technical standards, economy, and artistic shape, architecture is to contribute to accomplishing man's cultural and aesthetic demands on environment in harmony with social conditions. It will thus promote human values as aspired for a socialist personality.

Public institutions and local government as well as city designers, and architects try to meet the following demands related to the architectural design:

- (a) harmonisation of the city with its natural environment:
- (b) incorporation in city design of existing valuable building substance, the so-called architectural heritage;
- (c) construction of architectural foci to visualise urban centres:
- (d) arrangement of impressive clusters of well-spaced buildings including green areas.

All that should be done with careful attention given to experiences in the field of architecture that have grown in many centuries of man's history and continued development of national and local traditions.

The incorporation of sculptures in environmental designs has become a characteristic feature of architecture of the GDR. Integrated into the town structure, these works of art are given wider publicity, while the artistic expression of architecture is deepened.

The centres of Berlin, Dresden, Karl-Marx-Stadt and Magdeburg as well as some new housing areas such as Rostock-Lichtenhagen, Erfurt-Johannisplatz, and the Salvador Allende-Viertel in Berlin are good examples of the stepwise implementation of these efforts of city designers, architects, public and local governments in the GDR.

The process of industrialisation of building activity with its quantity production of standardised components and system

structures has added to the difficulty to fight monotony and to impart attractive architecture to industrialised jobs. Nevertheless, there can be no doubt that the future of architecture will be inseparably linked to industrialised construction.

The possible variety of architectural design under the conditions of technological progress will be enriched and expanded by many factors, higher technological standards of industrialisation, invention of new techniques to produce variable components, combination of different methods of industrialised construction, new colourful eye-catching construction materials, and the advent of more flexible design methods.

#### 4. Housing Policy and Housing Construction Programme up to 1990

#### 4.1. Principles of housing policy and rent control

People in the GDR have radically changed in a quarter of a century's socialist development. Their increased demands for education and a meaningful use of leisure time add new aspects to the problem of providing adequate housing. Not at least this results from more leisure time. Thus, in socialist society the solution of the housing question has become a new priority within the totality of living conditions which the working people have created by their own growing effort and performance. Fundamental aspects of providing the physical basis for a socialist way of life are determined by the construction of housing, related services, as well as urban renewal and rural development. Adequate housing facilities are of great importance to happiness in family life. active participation in socialist work and manifold involvement in other activities of society. Good, convenient, in all respects adequate housing for all citizens rather than choice flats for a small minority, this is the essence of the housing policy in socialism.

Remarkable sums were and are being allocated to housing (see 1.3.) from the national budget, partly as subsidies and partly as loans. The total was roughly 21,000 million marks in the five-

year plan period from 1971 to 1975. More than 200,000 million marks will have to be set aside from the national income in the forthcoming three five-year plan periods for a definite solution to the housing problem in the GDR. It will be necessary also to improve the efficiency of the building sector by continued industrialisation and intensification of site operations, to conceptualise city design, and to enhance the system of technological preparations for actual production as an approach to higher yield of investments.

Housing construction (1971-1975) is undertaken in the following three forms:

(a) state projects	57 per cent
(b) cooperative projects	38 per cent
(c) private congrete femily houses	5 per cent

The percentage of cooperative housing construction is planned to go up to 45 per cent and that of private separate family houses to ten per cent.

State projects are financed from the national budget with capital being provided to cover the expenses of investment preparations, development of sites, purchase of real estate, movement of present users, and land use fees. State credits are granted for actual construction of housing and public buildings.

Construction under the responsibility of workers' housing cooperatives will be financed partly from the cooperatives' budgets and from State credits which, as a rule, amount to 85 per cent of the construction cost total. Individual residence projects are stimulated mainly for working-class and big families. If required, they receive State credits up to the cost total. Interest and redemption services will be dimensioned to constitute a financial burden not greater than that of a rent for a comparable flat.

The principles of price control and price stability have been stringently observed in the GDR. The percentage of rents in income, therefore, has continuously dropped. For the new construction or modernisation of one square metre of dwelling

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area and its operation, heating excluded, costs in the GDR about three marks per month have to be allocated from the state budget. Monthly rent per squ.metre is between 0.80 and 1.25 marks, that is one third of the net cost. The other two thirds are borne by the national budget. The average rent in the GDR now accounts for approximately four per cent of the average family income, this level is brought down further for big families which receive extra allowances.

#### 4.2. Review of housing construction achievements

Housing construction started off with the reconstruction of war-damaged buildings. Some 1.6 million dwellings were constructed or modernised, between 1949 and 1974, which improved the housing situation of over four million citizens, one quarter of the GDR's population. The general housing deficit was considerably reduced. Today, the GDR has 6.35 million dwellings or 376 dwellings for every thousand inhabitants. Some 28 per cent of the housing substance are state-owned, ten per cent cooperative, and 62 per cent individual property (1971).

In the course of socialist renewal of cities and their centres, a gradual transition took place to the construction of new, self-contained housing areas complete with schools, kindergartens, crèches, and other services. Whereas in 1955 only eighty places were available in crèches for every thousand children of the age group concerned and 281 in kindergartens, the respective figures for 1974 were 403 places in crèches and 804 in kindergartens.

This has greatly activated equality of women in employment.

Nevertheless, the housing conditions still leave many open problems. The quality of housing substance in the GDR still suffers from shortcomings, some of them being sizeable:

- (a) excessive obsolescence of existing housing stock, the average age of housing being 58 years;
  - (b) insufficient sanitary installations in many dwellings;
- (c) regional discrepancy and disproportionality regarding the composition of the housing substance, its general structure, occupancy, and number of dwellers per unit area.

More than one third of the GDR's housing substance does no longer meet social requirements, on account of obsolescence, poor sanitary and mechanical equipment, inadequacy of social amenities, and unsatisfactory environment. Those shortcomings are most strongly concentrated and overlapping in the "working-class districts" built during the capitalist era, for example, in Prenzlauer Berg of Berlin, Ostvorstadt of Leipzig, and Brühl of Karl-Marx-Stadt.

The average size of new dwellings is 56 sq.m effective floor area for an average household of 2.7 persons.

The average cost price of a new dwelling of that type was 31,300,- marks in 1974.

Great efforts have been made in recent years with a view to enhancing housing quality and sanitary standards in agreement with the dwellsrs' demands. The following figures (percentage of new housing construction totals) may be indicative to the achievements made in this context:

Installations in	newly	built	flats	1960	1970	1974
Central heating		7	of the same of	8.9	73.8	90.9
Hot water	-1:		17.5	98.8	98.5	
Bath or shower	**	No.	1 45 - 3	99.1	99.3	100.0

The proportion between different dwelling sizes, i.e. dwellings with one, two, three or more rooms, is decided on the basis of the demographic setup in a given urban or rural area. In new housing areas and expansion projects of existing localities efforts are being made to use the size of flats as a tool to obtain a mixture in agreement with the overall demographic setup in the GDR. Attention is also given to providing special flats for residents in advanced age or disabled persons.

## 4.3. Housing construction programme up to 1990

The housing construction programme for the forthcoming period from 1976 through 1990 is a priority item in the social policy programme of the GDR. After general food supply has been

successfully ensured and high-quality consumer goods production is developing, housing construction remains the field where maximum efforts must be taken by the society as a whole. The housing construction programme is based on comprehensive analysis of both existing housing substance and general housing conditions.

The completion of between 2.8 million and three million dwellings, by the new construction or modernisation, is envisaged in the programme for the above period between 1976 and 1990. Between 1976 and 1980 some 550,000 new and 200,000 modernised dwellings are to be completed to turn-key condition. That will mean improved housing conditions for 2.1 million people by 1980.

Average dwelling size will grow from 56 sq.m at present to 58 sq.m in 1980, and the flats will be fitted with modern heating systems and easy-care interior finishes. It is planned to raise the standard of total expenditures per dwelling unit, including expenditures for the development of sites and for the construction of social facilities in the housing areas, to 106 per cent, i.e. to 58,000 marks.

The housing construction programme is tackled as a unity of new construction, modernisation, and maintenance, all for the purpose of providing better housing for the greatest possible number of dwellers both in urban and rural areas. Coordination of new construction, modernisation, and maintenance will also enable more effective utilisation and development of the entire housing substance, including services, as well as more efficient planning and management of the reproduction process.

Up to 1980 a hundred new dwellings will go along with 35 modernised old dwellings which will be equipped with up-to-date facilities, such as indoor W.C., bath or shower, extended electric installations, and, in some cases, modern heating systems: Average expenditures for modernisation of a flat will be increased from 14,000 marks in the present five-year plan period to 18,000 marks in the period from 1976 to 1980. Modernisation or rehabilitation schemes usually take between three and four months during which period the dwellers will be accommodated with no additional charges in what is called dwellers' hotels or in new dwellings.

Modernisation projects are not restricted to single buildings. They will include, as a rule, clusters of buildings or complete roadsides. In a number of towas, such as Wismar, Weimar and Görlitz, complete reads or even beroughs were made attractive centres of public life by seams of modernisation.

Housing construction, in terms of the social policy programme, is conceived as a whole complex of decisions and activities, which provide for the design and construction of creches, kindergartens, schools, homes for oldrage pensioners, health facilities, supermarkets, community centres, as well as recreation and sports areas. Housing construction carried out under such concept will have an immediate impact upon the realisation of other important elements in the social policy programme of the GDR.

The following services (envisaged number of users) will be provided for every thousand inhabitants in the framework of complex housing construction and depending on local demographic structures:

crèches	15 – 25
kindergartens	42 - 56
polytechnical secondary schools	150 - 180
gymnasiums and other sport halls	70 - 90
school meals	40 - 42
supermarkets	110 sq.m selling area
restaurants	14 - 20
repair and maintenance services	40 - 50 sq.m area
medical outpatient centres	0.5 - 1 doctor*
community and civic centres	5 - 10
homes for sick and aged people	4 - 8

An orientation has been given to planners and builders to the effect that services should be designed to some sort of timesharing use by different categories of users, in order to maximise economic and social benefits. Suitable projects should be concentrated on community centres.

<sup>\*</sup> Respitals excluded; CDR mean figure is one medical doctor for 540 inmabitants.

WBS 70 is the name of a housing system series and an important factor in housing construction. A comparatively small number of quantity-prefabricated variable components can be used for dwelling houses with differing numbers and arrangements of flats and rooms within one dwelling layout as well as for various kinds of services, such as crèches, kindergartens, WBS 70 assemblies provide for saving of material, more possibilities for labourintense finishing operations in the process of prefabrication, and a wider range of architectural designs and adjustment of buildings to urban environment.

WBS 70 has been worked out in congruity with parameters agreed on by all CMEA member countries. It has been successfully tested on experimental structures sponsored by Bauakademie der DDR and the National Housing Construction Groups of Berlin and Neubrandenburg (see model prepared by GDR for HABITAT under the heading of "Planned Solution to the Housing Problem in the GDR").

A prescribed cost pattern provides for subdivided spending on complex housing construction, with 60 per cent of the funds being allocated to blocks of flats, 18 per cent to public buildings and services, and 22 per cent to road building, public utilities, and landscaping of open urban spaces. To secure the most efficient development of sites and municipal engineering for the new residential areas as well as the fast construction of apartment houses and social facilities along the lines of industrialised building methods, efforts are made to concentrate housing projects on a limited number of sites and to secure sufficient preliminary work for town planning.

Many of the concepts have already been worked out for larger projects of complex housing construction which are earmarked for completion by 1980. One of them is the new housing area of Berlin-Biesdorf, the largest coherent housing project so far tackled in the GDR, with 35,000 dwelling units and services for some 100,000 dwellers now living in other parts of the GDR capital.

# 5. Building Policy for the Implementation of Tasks Regarding Human Settlements

#### 5.1. Principles of building policy

Planful satisfaction of the country's demand for building production and construction materials, improvement of labour productivity and site efficiency, as well as reduction of building expenditures, consumption of material, and construction time are the priority tasks of labour in the building sector.

Industrialisation together with increasing intensification of production, high-economy use of material, and activation of the building workers' initiatives in socialist competition are the most important approaches taken for higher effectiveness of the building activity.

The opening of large national companies of the building and construction materials industries provided the basis for industrialisation of building in the GDR.

Industrialisation in building has been characterised by the following features:

- (a) transformation of building sites into assembly sites backed up by an efficient construction materials industry and by prefabrication capacities for quantity production of components with widest possible degree of completion;
- (b) mechanisation and rationalisation of operations and introduction of cyclic and line work;
- (c) standardisation and system design of components according to CMEA-agreed modular system as well as application of prepared designs and unitised system projects;
- (d) development of building research and adequate translation of research results into field practice;
  - (e) persistent upgrading and further education of builders;
- (f) streamlining of management and planning activities to the needs of industrialised production.

Conventional masonry, using material recovered from debris, was almost the exclusive approach taken to construction immediately after the war. On the countryside, some emphasis was laid under the land reform construction programme on clay structures.

The transition from conventional, craft-oriented building activity to industrialisation was initiated in 1955, with widest advantage being taken of experience gained earlier by builders in the USSR. The portion of dwellings erected by industrialised methods has grown from 32 per cent in 1960 to 80 per cent in 1974. The first position is held by large panel assembly construction with roughly 67 per cent of the new housing total, as this has proved to be the most productive approach.

Industrialisation has greatly encouraged large nationally owned building enterprises to fully utilize their potentials for distribution of activities, specialisation, and cooperation. Production continuity has been successfully improved, mainly on account of less dependence on, for example, adversary impact of weather during the winter season.

Replacement of conventional building by industrialisation associated with building workers' initiatives within the socialist emulation movement has resulted in considerable reduction of labour cost, weight, and consumption of materials for both building construction and civil engineering. While more than 2,000 man-hours used to be required in 1950 to complete one dwelling in conventional brick construction, only 840 hours on average are needed today for one dwelling completed by panel and line assembly processes, of which about 250 hours are consumed by prefabrication. Now, a total of only 600 hours was reached by introduction of the new WBS 70 system in Berlin and Meubrandenburg.

## 5.2. Developments in building production

Some 600,000 people work for the building sector of the GDR (construction materials industry excluded). The gross product of building accounted for about 30,600 million marks in 1974 or 8.7 per cent of the GNP.

The building sector of the GDR includes the production of most common construction materials, prefabrication, the building industry proper with assembly, building installations, maintenance, design, town planning, as well as building and urban research. All activities of the building sector are under the supreme sponsorship of the Ministry of Construction.

Two thirds of the building production are based on large nationally-owned companies specialised in industrial and housing construction or other fields. They have their own research, design, prefabrication, transport, and assembly capacities. Large production plants of industry and agriculture as well as technical services of infrastructure are built by companies of industrial, special or agricultural construction.

The housing construction companies are general contractors to local government for the completion of housing areas with all necessary services. They usually have about 5,000 working people on their pay-roll. About eighty per cent of national housing production depend on their prefabrication plants.

Smaller nationally-owned building enterprises at district and local level, local builders' cooperatives, and private building craft workshops, the latter working mainly on maintenance jobs, are the other categories of enterprise in the building industry of the GDR.

Smaller production plants as well as part of dwelling houses and social facilities for agricultural production cooperatives are constructed by building craft groups and building labour teams of these cooperatives.

The application of unified technical and economic principles and standards in design, construction and maintenance is controlled by the Ministry of Construction.

Socialist transformation of the building sector and industrialisation of building processes have considerably improved working conditions in this field, for instance, through replacement of manual work by mechanical operations. A new type of building worker, class conscious and comprehensively educated, has emerged. The agreement between his individual aspirations and interest of society is reflected in the movement of innovators and rationalisers which was actively supported by over 25 per cent of all building workers in 1974. They have worked out many new ideas, in cooperation with company and design engineers, for an acceleration of techno-scientific progress, high-economy use of material, and improvement of job comditions throughout the building industry.

Working-class innovators are closely integrated with their company's techno-scientific programme through contracts signed between them and their management and the widest possible application of innovators' proposals is guaranteed. Innovators' initative is stimulated by various means, among them mandatory rules under which they must be given a fair share in profits gained from their innovation. The benefit drawn by the building sector from that kind of innovation was 216 million marks in 1974.

The growth figures planned for 1976 to 1980 against the present position of 100 per cent are 136 to 138 per cent for the building production, 140 to 142 per cent for construction materials and prefabrication including the production of 14 million tons of cement, and 129 to 130 per cent for labour productivity throughout the building sector.

These exacting targets are to be achieved on the basis of an integrated techno-scientific policy in building through intensification of production, activation of labour initiative, and the following, more specific, measures which are conceived to cope with to techno-scientific progress:

- (a) reinforced utilisation of local raw and secondary materials;
- (b) rationalisation and development of lightweight materialsaving designs and techniques, accompanied by decreased unit consumption of materials and increased quality in terms of performance:

- (c) rationalisation and upgrading of technologies in prefabrication, with more intensive use of existing and completion of new prefabrication plants;
- (d) rationalisation and reinforced mechanisation of site processes on the basis of effective technologies;
- (e) increased application of system designs on the basis of standardised and system-oriented carcass and finishing variants.

#### 5.3. Developments in research and design

Progress in research and undelayed translation of results into site practice are essentials to achieve full success of planning and field action also in the sphere of human settlements. They are decisive, last but not least, for growing efficiency throughout the building sector and capital investment industry. Roughly 80 per cent of the planned growth in building output are to be achieved by accelerating techno-scientific progress by 1980. Analysis and prognosis are major research contributions to long-range decision-making on human settlements. The responsibilities borne, in this context, by research institutes and all necessary action for adequate application of research results are summarised in the local and enterprise "Plans of Science and Technology".

Research in the fields of town planning, housing construction, public works, industrial construction, civil engineering, building technology, sanitary engineering, construction materials, and building economy is sponsored by the Building Academy of the GDR (Bauakademie der DDR) the national centre of building research, as well as by several institutes attached to schools of building and design. Research activities are undertaken in cooperation with the Research Division for Regional Planning in the State Planning Commission as well as with several specialised institutes attached to Ministries, and with planning offices, and R & D centres at regional level and in building enterprises.

Research bodies are expected to offer direct assistance and consultancy services on major planning schemes and site jobs to local government and other authorities that may be clients to builders.

The results obtained from research are applied to practice mainly via real projects. In this context, project designers are considered as some sort of trustees of considerable assets. It is their duty to try to optimise design solutions for maximum effectiveness of investments and to stimulate industrialisation of building. Comparison of different variants and public contests are used to find optimum solutions in regard to economy, design and architecture.

The building sector of the GDR has some 30,000 designers. Abouth fourty per cent of them are women.

Issues relating to the settlement network are planned by regional planning offices, while all planning of city design is under divided responsibilities of regional or local town planning offices which are supervised by regional or local architects.

Most of the building design, including system design, is undertaken in national design companies attached to building combines. Design practice is steadily activated and improved by persistent use of ready-made system designs as well as by specialisation and more rationalised design technologies, including catalogue design and documentation compiled by electronic data processing.

Builders in the GDR keep abreast of latest national and international developments and achievements by an elaborate system of techno-scientific information (Bauinformation). (See also GDR documentation for HABITAT, "The System of Building Information in the GDR".)

## 5.4. Training and qualification of personnel

Training and qualification of personnel in the fields of human settlements is part and parcel of the general system of socialist education in the GDR. Training is undertaken for the purpose of educating socialist personalities with a sound professional and wide general knowledge who will be capable of taking part in the social development, of getting readily acous-

tomed to changing conditions and tasks and of practising their own profession in a teamwork spirit, with due consideration of other partners' and professions' requirements.

The techno-scientific revolution with its tempestuous forward movement of technologies calls for thorough post-graduate upgrading and persistent self-study. The building sector of the GDR has a large number of well trained specialists. Some 68 per cent of all manpower in the building sector of the GDR are skilled ed labour. One in ten builders has graduated from university or a below-university school of technology.

Many boys and girls take up building as a desirable career.

About 34,000 school leavers, i.e. almost 15 per cent, have chosen vocational training in a building trade in 1974. Skilled-worker training is offered at vocational training schools, apprentice shops, and on the sites. Full apprenticeship is two years for leavers from the tenth grade or three years for eighth-grade leavers.

Higher education is offered at universities and technical colleges in the form of full enrolment, correspondence courses or evening classes. The latter two categories are primarily destined for experienced and proven workers. The ratio between full enrolment, correspondence courses, and evening classes, in numbers of students, was 11.5: 4.5: 1 in 1974.

The same facilities of higher education are available to those who wish to specialise in certain fields of urban planning, architecture, engineering, and economics. University education for them comes to five years, with three-year courses are offered by technical and engineering schools.

An Institute of Socialist Management exists in Leipzig where in regular intervals courses for further education of top-level managerial staff in the building sector are being held. The same staff can enroll for postgraduate training in urban planning and design at a specialised institute attached to the College of Architecture and Construction in Weimar.

All workers of the building industry have facilities for further qualification available through their own companies or courses under the auspices of the Engineers' Organisation of the GDR ("Kammer der Technik") and Architects' Union of the GDR ("Bund der Architekten").

## 6. International Cooperation in the Field of Human Settlements

International economic and techno-scientific cooperation has proved to be essential also in the context of habitat problems. It has been helpful in intensifying production and accelerating techno-scientific progress.

Representatives of the GDR have been actively involved in cooperation on human settlements with a number of special agencies of the UN system, including the ECE Committee for Housing Construction, Building, and Planning, the Administrative Council of UNEP, UNESCO, and WHO.

Solving tasks of settlement planning, protection of the environment, town planning and housing, the GDR has been maintaining multilateral and bilateral cooperation with all member countries of the Council of Mutual Economic Assistance in the framework of socialist economic integration, especially in the CMEA Standing Commission on Building. Here are some important lines of that cooperation:

- (a) elaboration of theoretical concepts for human settlements, environment, urban planning, and housing construction;
- (b) prognostication for preparing trends of building activity and of the position taken by the building sector within national economy;
- (c) introduction of modern technologies for the production of construction materials, designs, and structures;
  - (d) unitisation of standards and design rules;
- (e) preparation of an international system for techno-soientific information.

GDR experts have been assigned to several developing countries as town planners, designers, advisers or training supervisors, site agents, and skilled workers under agreements at governmental level. Some of them work in voluntary orews of the "Free German Youth" organisation delegated on the basis of friendship agreements.

The GDR is supporting the Democratic Republic of Vietnam in the design and reconstruction of Vinh, a town completely destroyed during the war.

Nationals of many developing countries are receiving training at vocational schools, technological institutes, and universities of the GDR to become skilled workers, engineers, economists, and researchers in a variety of disciplines of the building technology, housing construction, city design, environmental control, and planning.

A great deal of experience has been built up in more than 25 construction years in the GDR. Much of it is of relevance to human settlements.

Experience has been gathered with regard of policy issues relating to the socialist system, such as general enhancement of productive forces and relations in production, national economic management and planning, and active democratic involvement of the general public.

Other experience has been of relevance to more specific issues of human settlements, such as stepwise elimination of discrepancy between urban and rural living, use of building ground
to the benefit of society, long-range programming of solutions
to the housing problem, industrialisation of building activities,
improvement of building research, and education of personnel.

The GDR is ready to use the framework of international cooperation to offer its experience on human settlements to other countries. The GDR also takes a keen interest in receiving more information on experience gained elsewhere and in learning from others nations' findings.

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Annex

## Selection of statutory rules Reference date: 31. 12. 1975

### Acts and laws

- Verfassung der Deutschen Demokratischen Republik (Constitution of the German Democratic Republic) vom 6. 4. 1968 in der Fassung des Gesetzes zur Ergänzung und Änderung der Verfassung der DDR vom 7. 10. 1974 Gesetzblatt (GBl.) Teil I S. 432
- Gesetz über den Ministerrat der DDR (Law on the Council of Ministers of the GDR) vom 16. 10. 1962 (GBL. I S. 253)
- Gesetz über die örtlichen Volksvertretungen und ihre Organe in der DDR (Law on the local representative assemblies and their organs in the GDR) vom 12. 7. 1973 (GBl. I S. 313)
- Gesetz über den Fünfjahrplan für die Entwicklung der Volkswirtschaft der DDR 1971 1975 (Law on the five-year plan for the development of the national economy of the GDR during the period from 1971 to 1975) vom 20. 12. 1971 (GBl. I S. 175)
- Gesetz über den Volkswirtschaftsplan 1975 (Law on the national economic plan of 1975) vom 19. 12. 1974 (GBl. I S. 567)
- Gesetz über den Aufbau der Städte in der DDR und der Hauptstadt Berlin (Law on the building of towns in the GDR and of the capital, Berlin) - Aufbaugesetz - vom 6. 9. 1960 (GBl. I S. 965)
- Gesetz über die planmäßige Gestaltung der sozialistischen Landeskultur in der DDR (Law on the systematic implementation of socialist environmental policy in the GDR) Landeskulturgesetz (Mational Environmental Policy Law) vom 14. 5. 1970 (GBl. I S. 67)
- Gesetz über den Schutz, die Nutzung und die Instandhaltung der Gewässer und den Schutz vor Hoohwassergefahren (Law on the protection, utilization, and preservation of lakes and rivers and on flood protection) - Wassergesetz (Water Protection Law) vom 17. 4. 1964 (GBl. I S. 77)
- Gesetz über die Anwendung der Atomenergie in der DDR (Law on the use of nuclear energy in the GDR) - Atomenergiegesetz (Muclear Energy Law) - vom 28. 3. 1962, (GBl. I S. 47)

- Bergbaugesetz der DDR (Mining Law of the EDR) vom 12. 5. 1969 (GBl. I S. 29)
- Gesetz zur Erhaltung der Denkmale in der DDR (Law on the care and preservation of monuments in the GDR) Denkmalpflegege-eetz vom 19. 6. 1975 (GBl. I S. 458)
- Zivilgesetzbuoh der Deutschen Demokratischen Republik (Code of civil law of the German Democratic Republic) vom 19. 6. 1975 (GBl. I Mr. 27 S. 465)

#### Policy Directives

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- Direktive des VIII. Parteitages der Sozialistischen Einheitspartei Deutschlands zum Fünfjahrplan für die Entwicklung der
  Volkswirtschaft der IDR 1971 1975 (Directives of the Eighth
  Congress of the Socialist Unity Party of Germany on the fiveyear plan for the development of the national economy of the
  GDR during the period from 1971 to 1975) vom 19. 6. 1971, Dokumente des VIII. Parteitages der SED, Berlin 1971, S. 42
- Dae Wohnungsbauprogramm der DDR für die Jahre 1976 1990 (Housing construction program of the GDR for the period from 1976 to 1990), 10. Tagung des Zentralkomitees der SED, vom 2. 10. 1973, Berlin 1973

## Decrees, Guidelines, and other Legislation

- A) Town planning, settlement planning, integrated housing conetruction
- Bekanntmachung der 16 Grundeätze des Städtebaus (Promulgation of 16 principles of town planning and renewal) vom 15. 9. 1950, GBl. S. 153
- Deutsche Bauordnung von 1958 (German building code of 1958)
- 1. und 2. Durohfthrungsbestimmung sum Aufbaugesets (First and second implementary regulation on the Reconstruction Act) vom 24. 1. 1953, GBl. S. 170, und vom 29. 9. 1972, GBl. II S. 641
- Durohfthrungsbestimming sur Verwirklichung der Grundeätze für die Planung und Leitung des Prosesses der Reproduktion der Grundfonds auf dem Gebiet des komplexen Wohnungsbaus (Implementary regulations for the principles of planning and management of the reproduction process of fixed assets in the field of integrated housing construction) vom 30. 6. 1972, GBl. II S. 499
- Verordnung über die Standortverteilung der Investitionen (Deoree on the distribution of investments) vom 30. 8. 1972, GBl. II S. 575

- Verordnung tiber die Baubilanzierung (Decree on the keeping and balancing of accounts in the building sector) vom 3. 6. 1971, GBl. II S. 449
- Verordnung über die Aufgaben, Rechte und Pflichten der volkseigenen Betriebe, Kombinate und VVB (Decree on the tasks, rights,
  and duties of the nationally-owned enterprises, combines, and
  administrations of nationally-owned enterprises) vom 28. 3.
  1973, GBl. I S. 129, in der Fassung der Änderungsverordnung
  vom 27. 8. 1973, GBl. I S. 405
- Verordnung über die General- und Hauptauftragnehmerschaft (Regulations for general and main contractors) vom 12. 10. 1971 (GBl. II S. 609) in der Fassung der 2. Verordnung vom 16. 8. 1972, GBl. II S. 563
- Anordnung über die stadttechnischen Anlagen und Versorgungsnetze für den komplexen Wohnungsbau (Decree on technical services and municipal engineering in integrated housing construction) vom 4. 5. 1972, GBl. I S. 328
- Anordnung über die Ausstattung der Wohnungen im volkseigenen und genossenschaftlichen Wohnungsbau (Decree on installations in dwellings in the field of national and cooperative housing construction) vom 10. 7. 1973, GBl. I S. 389
- Verordnung über die Arbeiterwohnungsbaugenossenschaften (Decree on workers' housing construction cooperatives) vom 21. 11. 1963 in der Passung der 3. Änderungsverordnung und der Bekanntmachung der Neufassung vom 23. 2. 1973, GBl. I S. 109
- Musterstatut für Arbeiterwohnungsbaugenossenschaften (Model statute of workers' housing construction cooperatives), ebenda, S. 112
- Anordnung über die Begutachtung von Vorbereitungsunterlagen für Maßnahmen der Reproduktion der Grundfonds (Decree on the examination of preliminary records on measures for the reproduction of fixed assets) vom 31. 8. 1971, GBl. II S. 565
- Verordnung über die Staatliche Bauaufsicht (Decree on the State Board of Building Control) vom 22. 3. 1972, GBl. II S. 285
- Achte Durchführungsverordnung zum Vertragsgesetz Wirtschaftsverträge im Rahmen der Reproduktion der Grundfonds (Eighth implementary regulation on the contractual law economic contracts in the context of the reproduction of fixed assets) vom 12. 1. 1972, GBl. II S. 53
- Verordnung über die Finanzierung des Baus volkseigener Wohnungen und des Baus staatlicher Einrichtungen (Decree on the financing of national housing construction and of the construction of state facilities) vom 15. 12. 1970, GBl. II S. 764

- Anordnung über die staatliche Förderung dee durch LPG, VEG, GPG und deren kooperative Einrichtungen finanzierten Wohnungsbaue (Directions for the state assistance to housing construction financed by agricultural production cooperatives, nationally-owned farms, horticultural production cooperatives and their bodies) vom 2. 10. 1972, GBI. II S. 687
- Verordnung über die Förderung dee Baus von Eigenheimen (Deoree om the aesistance to the construction of private homes) vom 24. 11. 1971, GBl. II S. 709
- Verordnung über die Finanzierung dee Baus von Eigenheimen der Bürger (Decree on the financing of the construction of private homes of the citizens) vom 15. 12. 1970, GBl. II S. 722, in der Faseung dem2. VO vom 19. 2. 1973, GBl. I S. 101
- Anordnung über finanzielle Regelungen für den Brwerb von Eigenheimen und von Grundetücken zum Bau von Eigenheimen (Deoree on financial regulations for the purchase of private homes and of plots for the conetruction of private homee) vom 30. 1. 1973, GB1. I S. 102
- Statut des Minieteriums für Bauwesen (Statute of the Minietry of Building) vom 4. 9. 1975, GBl. I S. 682

#### B) Protection of the environment

- Verordnung zum Schutz des land- und forstwirtschaftlichen Grund und Bodens und zur Sicherung der sozialietischen Bodennutzung (Decree on the protection of agricultural land and foresty and on the beneficial use of land in the GDR) Bodennutzungsverordnung vom 17. 12. 1964, GBL. II S. 233
- Verordnung über die Einführung einer Bodennutzungsgebühr zum Schutz des land- und forstwirtschaftlichen Bodenfonds (Decree on the imposition of a duty for the beneficial use of land to preserve agricultural land and forests) vom 15. 6. 1967, GBl. II S. 487
- Durchführungsverordnungen zum Landeskulturgesetz (Implementary regulations of the law on the preservation of nature)
  - DVO Schutz und Pflege der Pflanzen- und Tierwelt und der landechaftlichen Schönheiten (DVO - Protection and care for flora and fauna and for natural beauties) - Naturschutzverordnung - vom 14. 5. 1970, GBl. II S. 331
  - DVO Ersohließung, Pflege und Entwicklung der Landschaft für die Erholung (DVO - Care and development of rural amenities for recreation of the people), vom 14. 5. 1970, GBl. II S. 336
  - 5. DVO Sauberhaltung der Städte und Gemeinden und Verwertung von Siedlungsabfällen (DVO - Cleaning-up of towns and villages and disposal of municipal waste), vom 14. 5. 1970, GBI. II S. 339

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- 4. DVO Schutz vor Lärm (DVO Noise control), vom 14. 5. 1970. GB1. II S. 343
- 5. DVO Reinhaltung der Luft (DVO Control of air pollution) vom 17. 1. 1973, GB1. I S. 157
- Verordnung zum Atomenergiegesetz Einrichtung von Schutzgebieten (Regulations of the law on the use of nuclear energy - Restricted areas), vom 28. 3. 1963, GB1. II S. 151
- Beschluß über durchzuführende Maßnahmen an industriellen Absetzanlagen, Halden und Restlöchern zum Schutz der öffentlichen Sicherheit in der Volkswirtschaft (Decision on measures to be taken to improve clarifying basins, waste-heaps. and abandones mines for the protection of public security in the national economy) - Auszug - vom 14. 4. 1967, GBl. II S. 255
- Anordnung über die Wiederurbarmachung bergbaulich genutzer Bodenflächen (Directions for the reclamation of areas which were used for mining) - Wiederurbarmachungsordnung vom 10. 4. 1970. GB1. II S. 279
- Anordnung über den Schutz und die Reinhaltung der Wälder (Directions for the protection and care for forests) vom 11. 3. 1969, GB1. II S. 203
- Anordnung über die Bewirtschaftung von Wäldern, die für die Erholung der Werktätigen von großer Bedeutung sind (Directions for the care and use of forests which are of large importance to recreation of the working people), vom 8, 10, 1965, Gbl. II S. 773
- Anordnung über die Rekultivierung bergbaulich genutzter Bodenflächen (Directions for the recultivation of areas which were used for mining) - Rekultivierungsanordnung - vom 23. 2. 1971, GB1. II S. 245
- Local government, socialist democracy, involvement of the general public, working and living conditions
- Beschluß über die Zusammensetzung der Räte der örtlichen Volksvertretungen in der DDR (Decision on the composition of the councils of local representative assemblies in the GDR) - Auszug - vom 28. 2. 1974, GBl. I S. 189
- Gemeinsamer Beschluß des Sekretariats des ZK der SED und des Ministerrats der DDR über Maßnahmen zur Förderung der Initiative der Werktätigen im individuellen Wohnungsbau (Joint decision of the Secretariat of the Central Committee of the SED and the Council of Ministers of the GDR on measures to be taken to stimulate the activities of the working people in private housing construction), vom 6, 6, 1972, GBL, II S. 395

- Verordnung über die Verantwortung der Räte der Gemeinden, Stadtbezirke, Städte und Kreise bei der Errichtung und Veränderung von Bauwerken der Bevölkerung (Decree on the responsibilities of the councils of villages, boroughs, towns, and districts in the construction and modernization of building stock of the population), vom 22. 3. 1972, GBl. II S. 293
- Verordnung über die Gestaltung der Vertragsbeziehungen zwischen den Räten der Städte und Gemeinden und den Betrieben zur weiteren Verbesserung der Arbeits- und Lebensbedingungen der Werktätigen (Decree on the contractual relations between councils of towns and villages and enterprises for the further improvement of working and living conditions of the working people), vom 17. 7. 1968, GBl. II S. 661
- Richtlinien für die Planung und Finanzierung gemeinsamer Maßnahmen zwischen den Räten der Städte und Gemeinden und den Betrieben und Kombinaten für die Entwicklung sozialistischer Arbeits- und Lebensbedingungen im Territorium (Guidelines for the planning and financing of joint measures to be taken by councils of towns and villages and enterprises and combines to improve socialist working and living conditions in the respective areas), vom 8. 7. 1971, GBL. II S. 463
- Verordnung zur Verbesserung der Wohnverhältnisse der Arbeiter, Angestellten und Genossenschaftsbauern (Decree on the improvement of housing conditions of workers, salaried employees and cooperative farmers), vom 10. 5. 1972, GBl. II S. 318

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