

**The Study on the Master Plan for  
The Development of the City of Astana in  
The Republic of Kazakhstan**

**Final Report  
Volume II: Main Report**

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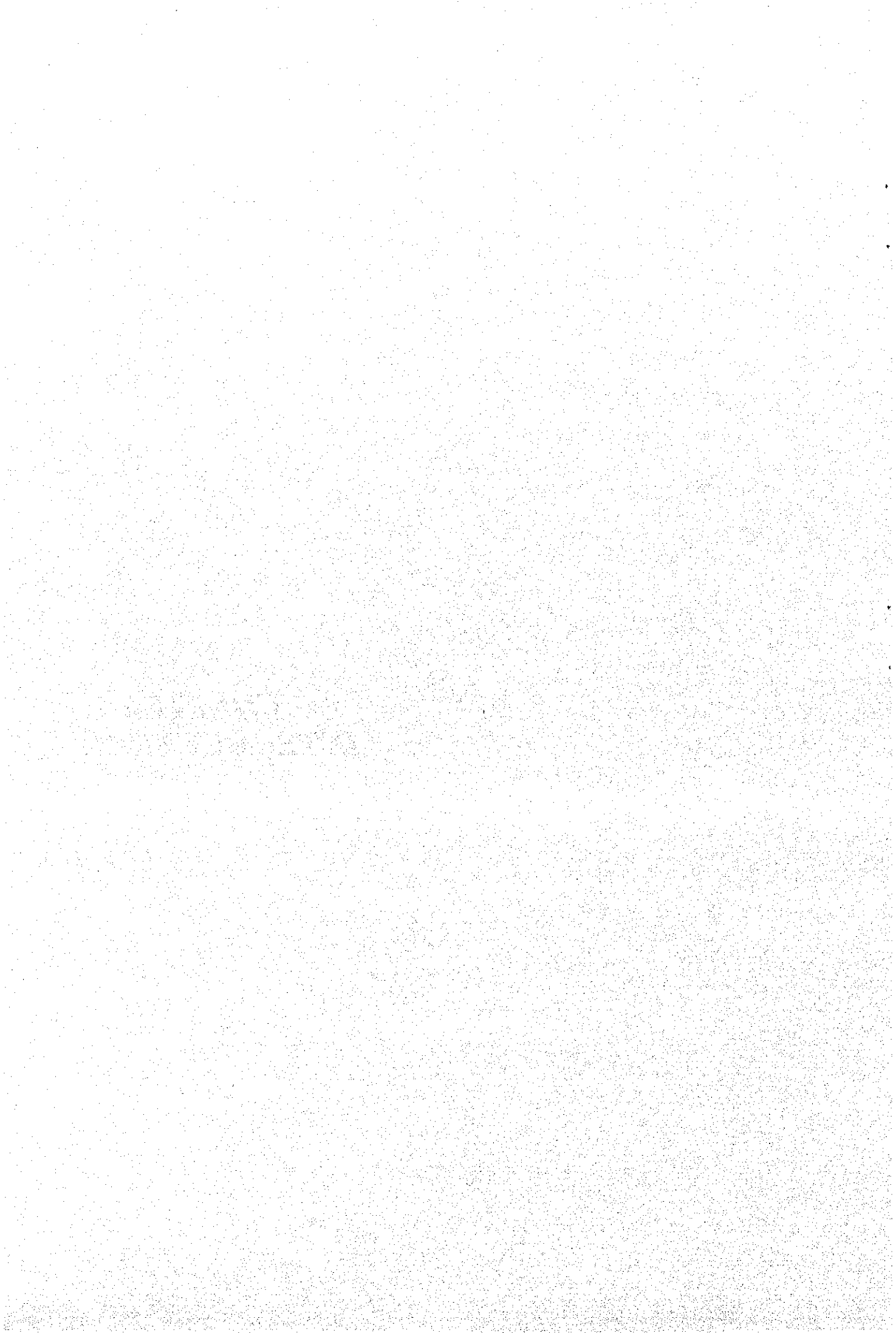
- Annex 1 Scope of Work for the Study on the Master Plan for the Development of City of Astana in the Republic of Kazakhstan  
(5<sup>th</sup> October, 1999)
- Annex 2 Minutes of Meeting on Scope of Work for the Study on the Master Plan for the Development of the City of Astana in the Republic of Kazakhstan  
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- Annex 13 Minutes of Meeting for the Study on the Master Plan for the Development of City of Astana in the Republic of Kazakhstan  
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- Annex 15 Decree of the Government of the Republic of Kazakhstan on Some Aspects of the Master Plan for the Development of Astana City  
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- Annex 16 Agreement between Ishim Basin Water Management Department and Study Team on Water Resources, flood control and water supply of Master Plan  
(25<sup>th</sup> January, 2001)

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- Annex 18 Order of the Prime Minister of RK No 22-p on Creation of the Working Group on Consideration of the Draft Master Plan for the development of the City of Astana  
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- Annex 19 An Official Letter from Ministry of Natural Resources and Environment Protection of the Republic of Kazakhstan on City Development Corporation  
(14<sup>th</sup> May, 2001)
- Annex 20 Summary Conclusion of Overall Urban Planning Expertise No. 20114/2001 on the Project "Master Plan for the Development of the City of Astana"  
(14<sup>th</sup> May, 2001)
- Annex 21 Resolution of the *Maslikhat* of the City of Astana on the Master Plan for the Development of the City of Astana  
(23<sup>rd</sup> May, 2001)
- Annex 22 Minutes of Meeting for the Study on the Master Plan for the Development of City of Astana in the Republic of Kazakhstan  
(24<sup>th</sup> May, 2001)



# **CHAPTER 1**

## **INTRODUCTION**



## CHAPTER 1 INTRODUCTION

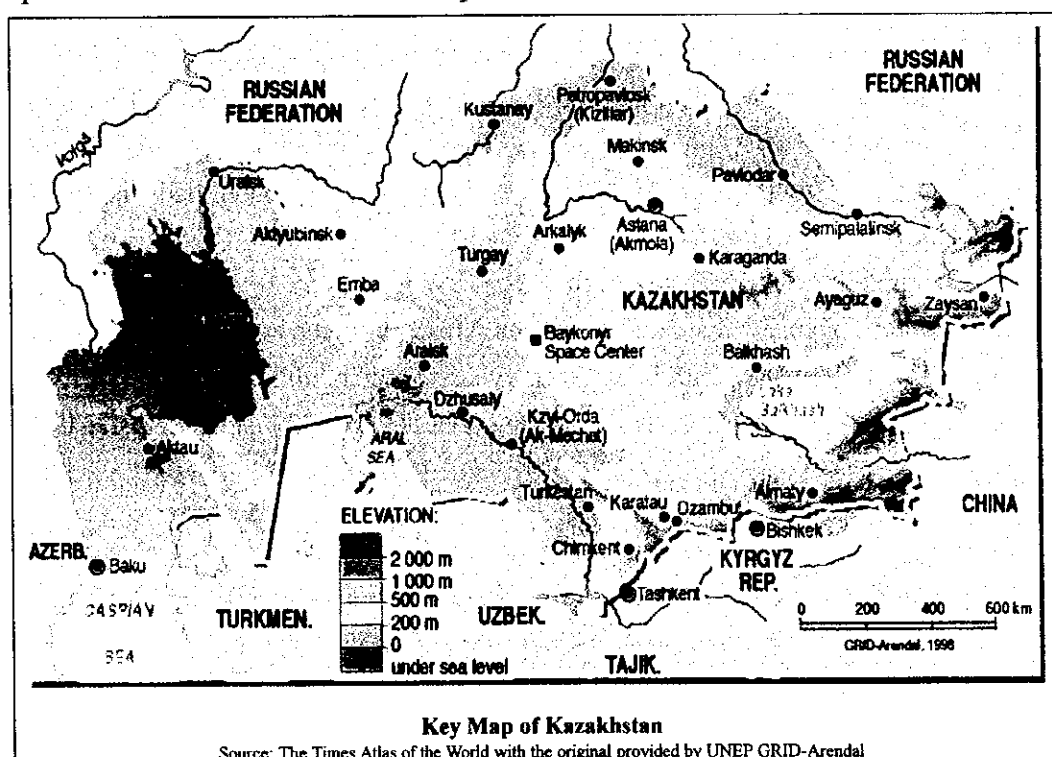
### 1.1 Introduction

#### 1.1.1 Capital Transfer in 1997

In December 1997, the Government of the Republic of Kazakhstan<sup>1</sup> officially announced that the new capital of the republic was to be Astana City (then called Akmola).

The city was famous in the Soviet era as the center city of the Virgin Land Scheme aimed at boosting wheat production in the Kazakhstan steppe. The infrastructure was duly constructed well above the average standard.

Astana City is located in the central part of the republic, which was a clear advantage over the former capital, Almaty which is located too close to the rim of the republic to the southeast. Astana City is situated in the Middle Asia steppe along the Ishim River, and the topography here is part of the Kazakhstan low hill zone with gentle slopes. Astana finds itself in the central part of the republic with good access to all the major cities of the republic by rail and road, which was part of the considerations for the capital transfer.



<sup>1</sup> In this report, the spelling of the republic "Kazakhstan" is adopted. For its derivative form, Kazakhstani will be used throughout the report.

### 1.1.2 After Capital Transfer

The official move of the nation's capital to Astana came as a surprise. Earliest coverage of the transfer by international media was tinted with disbelief. One article denoted, "The world may not yet believe it, but on the wind-blown, dirt-strewn streets of Akmola, this is no time for doubters."<sup>2</sup> This disbelief was offset only when the republican ministries and agencies started to move in to Astana shortly after the official move.

At the time of the announcement, the city was a regional industrial town with a population of 270,000. Since the announcement, construction of buildings, offices and infrastructure were accelerated so that most of the central government agencies and organizations would quickly be moved from the former capital, Almaty, to the new capital. Soon afterwards, offices and housing complexes were quickly built. By now most of the central government agencies and organizations have finished the move.

The city has grown very fast, with a large population influx, which amounted to about 50,000 in the three years from 1997 to 1999. Construction of offices and residential complexes is still in progress, making Astana as a fast-growing "boom" town of the republic.

The new capital is gradually transforming itself to be a real capital. Besides Ministries and Agencies, a new museum opened in 2000. Two theaters, one opera and ballet, the other drama, opened recently housed in refurbished historic architectural pieces. A supermarket and shopping center also started operation in Astana. Astana is changing, and changing fast. One international media denoted, "Midway between Russia's Arctic seas to the north and the Indian subcontinent to the south, between Moscow to the west and Beijing to the east, Astana is truly remote. But three years on, it is already beginning to feel like a capital."<sup>3</sup> Figure 1.1.1 depicts some of the present images of Astana.

### 1.1.3 Master Plan of Astana

In 1998, an international competition for the design of the new capital was conducted by the Government of Kazakhstan in which 40 internationally renown architects and urban planners were invited to participate. The entry prepared by Kisho Kurokawa of Japan was awarded the first prize. The entry presented an overall development system of Astana based on Kurokawa's architectural and

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<sup>2</sup> RFE/RL, "Kazakhstan: Waiting For Nazarbayev In His New Capital", Akmola, 14 October 1997.

<sup>3</sup> Times of Central Asia, "Kazakhstan's Capital Slowly Comes of Age", September, 14, 2000.

urban planning thoughts represented by *Symbiosis*, *Metabolism* and *Abstract Symbolism*.

In the following year, the Government of Japan adopted the master plan of Astana as a study to be conducted under its grant-basis official development program. In October 1999 the Scope of Work for the Master Plan of Astana City was agreed upon, signed by the Japanese and Kazakhstan sides, and became the basis of the present Study.

The Study Team for the Master Plan (hereafter called M/P Team), headed by Dr. Kurokawa was dispatched to Astana in February 2000 to commence the work. It became known at the time of the Inception Meeting that the formulation of a separate master plan was in progress entrusted by Astana Municipality to a Saudi group. The Saudi master plan was officially approved as the Master Plan of Astana by a Government decree in February 2000 with a few conditions to follow up.

This incident created a situation whereby the M/P Team had to consider the Saudi master plan as the existing master plan. This entailed the adoption of the crucial plans, particularly of the new city center area in the left bank of the Ishim, and consolidation of the ideas and plans of both groups. In April 2000, the proposed land use plan of M/P Team, prepared in consideration of the above, was basically approved in the Progress Meeting creating a renewed basis for the Master Plan of Astana.

This report, entitled Final Report, discusses and reveals the planning frameworks and proposal of future land uses, together with major issues, forecast of future demand and proposed development schemes of infrastructures of Astana City.

## 1.2 Objectives

The purpose of the Study on the Master Plan for the Development of the City of Astana in The Republic of Kazakhstan (hereafter called the "Study") comprises the following objectives.

- (1) To formulate a Master Plan for the development of Astana City to the year 2030 in order to support its function as a new national capital and to improve the quality of life of the residents,
- (2) To conduct Feasibility Study for the priority project proposed under the Master Plan, and

- (3) To strengthen the institutional capacity of both Central and Municipal Governments through technology transfer to counterpart personnel in the course of the Study.

### **1.3 Study Area**

The Study Area, as stipulated in the Scope of Work, encompassed the boundary of Astana City with an area of 258 km<sup>2</sup> as of 1st January, 2000, as shown in the attached Figure.

On 8th August, 2000, a Presidential decree was issued with regard to the administrative boundary of Astana City. The decree stipulates that the boundary was expanded to 710 km<sup>2</sup> by newly including parts of Tselinigrad and Shortandy rayons totaling 452 km<sup>2</sup>. The Study Area has therefore been adapted to the new city boundary accordingly. Figure 1.3.1 presents the old and new city boundaries.

### **1.4 Authority**

The Study is executed based on the "Scope of Work for the Study on the Master Plan for the Development of the City of Astana in the Republic of Kazakhstan (S/W)", agreed upon between the Ministry of Foreign Affairs, Agency for Strategic Planning and Reforms, Capital Development Corporation and the City of Astana and Japan International Cooperation Agency (hereafter called "JICA") of Japan, and signed on 5th October, 1999 in Astana (Annex 1, Annex2).

The Capital Development Corporation (hereafter called "CDC") and the City of Astana are the executing agencies of the Study and also the coordinating bodies in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study, as stipulated in the Scope of Work.

JICA selected a study team composed by Kisho Kurokawa Architect and Associate, Nippon Koei Co. Ltd., and International Development Center of Japan to conduct the Master Plan (hereafter called M/P Team), and dispatched it to RK. On 8th February, 2000, a meeting was held in Astana to discuss the contents of the Inception Report. The objectives, approaches and methodologies of the Study were basically understood by the Kazakh side, as shown in "Minutes of Meeting for the Inception Report Meeting for the Study on the Master Plan for the Development of City of Astana in the Republic of Kazakhstan", agreed upon and signed by respective parties on 9th February, 2000.

On 15th April 2000, the Scope of Work for the Feasibility Study for water supply and sewerage (hereafter called "the Feasibility Study") was signed by the Kazakhstan and Japanese sides, whereupon the Feasibility Study was incorporated as an integral part of the Master Plan<sup>4</sup>. A separate team was composed to conduct the Feasibility Study (hereafter called F/S Team).

## **1.5 Progress of the Study**

The Study was commenced in February 2000 as a technical cooperation program financed by a grant aid of JICA. Figures 1.5.1 and 1.5.2 shows the schedule and the flow chart of the study, as presented and agreed upon at the time of Inception meeting. The study basically followed the schedule and procedures. The following are major events of importance in the course of the Study.

### **1.5.1 Official Meetings**

#### **(1) Inception Meeting**

The Inception Meeting for the Study was held in Astana, based on the stipulation in the S/W, on 9th February, 2000, immediately after the mobilization of the Study Team to Astana. The Inception Report was prepared and submitted to the meeting. The meeting was attended by Vice President of JICA, Mr. Izumi, the Study Team, and a number of representatives of the relevant organizations and agencies. Active exchange of the ideas was made by the attendants of the meeting.

The discussion centered on, among others, the relationship of the JICA Master Plan and the then on-going master plan by a Saudi group, provision of necessary data and information to M/P Team.

The Minutes of Meeting (Annex 3) confirming that both the Kazakh and Japanese sides agreed upon the following;

- The Kazakhstan side understood and basically agreed with the objectives, approaches and methodologies of the Study.
- The Kazakh side expressed their request to take into consideration the existing master plans, to which the Study Team responded positively, so as not to waste the efforts put into the previous work.
- The Kazakh side expressed their hope to accelerate the progress of the Study and shorten the period necessary for the selection of the urgent

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<sup>4</sup> For the Feasibility Study on Water Supply and Sewerage, Final Report has been submitted to RK.

project for F/S. Meanwhile, the Study Team would take into consideration the four (4) pre-F/S reports worked out previously by CDC.

The Minutes of Meeting was signed by the concerned authorities on 9th February, 2000.

(2) Decree of Government of RK relating to Master Plan of Astana

On 14<sup>th</sup> March, 2000, a Decree of the Government of RK was approved of and issued by Prime Minister Tokayev (Annex 4) in conjunction with the present Master Plan of Astana by JICA Study Team in progress. The Decree stipulated the following;

- To take into consideration the plan of works for the study on Master Plan for Astana City Development, agreed upon by the Scope of Work signed on October 5, 1999.
- Ministries, agencies and organizations of RK within their authorizations to take measures on providing assistance to *Akim* and CDC in solving issues related to the implementation of the work.

(3) Progress Meeting (1)

The Progress Meeting for the Study was held in Astana, based on the stipulation in the S/W, on 12<sup>th</sup> April, 2000. The primary purpose of this meeting was to discuss the selection of the priority project for Feasibility Study to be financed also by a grant aid from JICA.

Another important issue in the Progress Meeting was the coordination of the JICA Master Plan in conjunction with the master plan conducted by a Saudi group, which had been approved by the Government of Republic of Kazakhstan in February 2000.

The Minutes of Meeting (Annex 5) confirming that both the Kazakh and Japanese sides agreed upon the following major points;

- The future land use plan prepared by M/P Team was in principle accepted. The Kazakhstan side expressed appreciation to the work done by the JICA Study Team. In specific locations, however, conflicts were pointed out with regard to on-going and approved construction. Problems pertaining to the relocation of *datcha*'s and a village were also pointed out. Such conflicts were to be considered by the Study Team for modification and adjustment of the future land use plan in the course of the Study.



- The Feasibility Study to be conducted by JICA would cover the sectors of water supply and sewerage, combining the urgent projects of the both sectors.
- The comments expressed in the Progress meeting with regard to the Master Plan and Feasibility Study were to be discussed and considered in the course of the Study carefully.

The Minutes of Meeting was signed by the concerned authorities on 14th April, 2000. On the same occasion, the Minutes of Meeting for the Scope of Work of the Feasibility Study for water supply and sewerage of Astana was signed.

**(4) Progress Meeting for M/P and Inception Meeting for F/S**

A meeting to discuss the progress of the Master Plan and the Inception Report of F/S was held on 25th July, 2000. The future land use plan proposed for the Progress Meeting mentioned above, and modified based on the comments received in and after the meeting was further modified, and subjected for close examination by the Department of Architecture and Urban Planning of Astana City. With regard to the Master Plan, the following major points were agreed upon in the Minutes of Meeting (Annex 6);

- The future land use plan which was prepared by M/P Team at the Progress Meeting in April and modified as per comments received in and after the Meeting, was accepted by the Kazakhstan side. The Kazakhstan side expressed appreciation to the work done by the JICA Study Team.
- The Kazakhstan side requested JICA that the gas supply plan be prepared under the Master Plan, and the possibility of introduction of incineration be studied as part of the solid waste management plan of the Master Plan. JICA later agreed with this request.

**(5) Terms of Reference for Master Plan of Astana Development**

Based on the regulation in RK, the Terms of Reference for Master Plan of Astana Development (Annex 7) was signed by the concerned parties. The TOR was approved of by Vice Premier of RK, Mr. Akhmetov on 27<sup>th</sup> July, 2000.

(6) Presentation at the Architect Union of Kazakhstan

At the end of September, Dr. Kurokawa visited Kazakhstan and delivered a presentation at the Architect Union of Kazakhstan on the philosophy and conception of the Master Plan of Astana. Heated discussion followed the presentation, and based on the discussion a Minutes of Meeting (Annex 8) was signed on 27th September, 2000, which states the following;

- To approve the creative ideas and principles for the development of the Master Plan of the City of Astana;
- To agree with the principal solutions for the planning structure and territory zoning;
- To recommend the Official State Expertise to take into consideration the resolutions of the present discussion at time of examination of the Master Plan Project.

(7) Instruction of President Nazarbayev

On 30<sup>th</sup> September, 2000, President Nazarbayev of RK met with Dr. Kurokawa to discuss the Master Plan and the Study Team's plan for the new administrative and business center of Astana City. President Nazarbayev conveyed his approval to the Study Team's plan on the new administrative and business center of Astana City, and instructed the Study Team to hold a meeting with the Department of Architecture and Urban Planning of Astana Municipality, together with prominent architects in Astana to have detailed discussion on the subject.

The meeting was held on the following day, 1st October, 2000, at the Presidential Palace of RK. Discussion centered around the relationship between the Study Team's plan and the existing master plan by a Saudi group. It was clarified that the street structures and all the buildings now under consideration have been adopted in the Study Team's plan. Minutes of meeting (Annex 9) was signed on the same day, which stipulates in essence the following;

- To agree with the conceptual scheme of the new center of Astana City proposed by the Study Team,
- To note the tenders have been held and nowadays design and preparatory construction works on a number of facilities in the new city center area carried out under the current (Saudi group's) master plan.

- Draft plan of the new city center development proposed by the Study Team will have a substantial effect upon implementation of the plans
- Considering the newly appear circumstances, the pre-design proposal document (as specified in the M/M) shall be submitted for approval to the Department by the end of October, 2000.

Based on the M/M, President issued an instruction (Annex 10) addressed to the concerned authorities that an integrated construction policy in Astana City is to be provided based on the present document. The Study Team immediately started to prepare the specified documents in accordance with the documents and information provided by the Department. The pre-design proposals were submitted to and received by the Department on 31<sup>st</sup> October.

**(8) Official Letter from Construction Committee and ASA on Water Demand**

Concerned organization and agencies participated in a series of serious discussion on the future projection of water demand of drinking and technical water uses. Based on the constructive debate that took place, an official letter (Annex 11) was issued by Construction Committee under the Ministry of Energy, Industry and Trade of RK on 23<sup>rd</sup> November, 2000, addressed to Feasibility Study Team. This letter, signed by the chairman of the committee and addressed to Feasibility Study Team, basically accepted the revised water use rates of water use.

- Proposed, revised water use rates which include water consumption for household drinking needs, water consumption by commercial and public organizations, are within the framework of the standard requirements SNiP 2.04.02-84.
- Committee thinks that there is no need for coordination of the above-mentioned water use rate with the Construction Committee.

ASA then confirmed the above in an official letter (Annex 12) dated 28<sup>th</sup> November, 2000.

**(9) Interim Meeting for M/P and F/S**

On 30th November, 2000, a meeting to discuss the Interim Reports of the Master Plan and F/S was held in Astana. JICA Study Team presented the District Plan for the new government and business center of the left bank of the Ishim River and discussed. The following are the major points agreed upon in the Minutes of Meeting (Annex 13).

- The contents of the Interim Report were basically approved by the Kazakhstan side. The comments and opinion expressed in the Meeting shall be duly considered in the course of the Study and be integrated in the Draft Final.
- Kazakhstan side basically approved the District Plan prepared by the Study Team for the new government and business, based on the Instruction by President of RK. Efforts shall be made to minimize the modifications on the infrastructures designs and tender works already committed by Astana City.
- The Kazakhstan side requested JICA to expand the Study Area to the new boundary of City. JICA will consider this request.
- Organizations and agencies are once again requested to provide relevant data and information.

**(10) Agreement with Department of Architecture and Urban Planning**

Based on the pre-design proposals in item (7) above, a series of discussion was held between the M/P Team and Department of Architecture and Urban Planning. In the course of discussion, minutes of meeting was signed by the both parties confirming the below;

- To agree with the Conceptual Scheme of the new center of Astana City, proposed by JICA Study Team
- To place the President's Residence on the left bank of Ishim River;
- To take notice of the announcement of JICA Study Team to agree with the new center engineering infrastructure projects designed earlier by municipal organizations and to consider them in further work;
- To accept ground elevation, designed by the city, with respect to tendered streets #1 and #2 and adjacent blocks considering flood protection and Ishim riverbed improvement measures being recently undertaken by the city municipality;
- To locate the Ministry of Foreign Affairs and Ministry of Defense within the proposed Green Belt on condition that the continuation of the Green Belt proposed and agreed upon by the both parties will be guaranteed. As for the Circle District it will pertain to the competency of the designer and will be settled during the next stage of detailed design;

- To accept the concept of the Color Management Plan of the new City Center. In the implementation of the plan consideration needs to be made for specific large buildings.

The minutes of meeting (Annex 14) was signed on 1<sup>st</sup> December, 2000.

**(11) Decree by Government of RK**

On 9<sup>th</sup> January, 2001, the Decree No. 23 of the Government of RK "On Some Aspects of the Master Plan for the Development of Astana City" (Annex 15) was issued. This decree issued and signed by Prime Minister, stipulated the following;

- To approve basic decisions of the Draft Master Plan and Feasibility Study for water supply and sewerage systems development projects of Astana City developed by JICA Study Team
- For the Ministry of Finance together with the Ministry of Economy and Trade of the Republic of Kazakhstan and CSC "Capital Development Corporation" (on concordance) to take proper measures for holding negotiations with the Japan Bank of International Cooperation (JBIC) in order to obtain special Yen loan for implementation of the project on water supply and sewerage systems development in Astana City.

The Decree took effect on the day of the signing.

**(12) Agreement with Ishim Basin Water Management Department**

With regard to the issues related to water resources and water management of the Master Plan, Study Team and Ishim Basin Water Management Department (IBWMD) under Water Resources Committee had a series of discussion and exchange of constructive ideas for the betterment of the Master Plan. On 25<sup>th</sup> January, 2001, an agreement (Annex 16) was reached and the representatives of both parties signed the Agreement, which stipulated the following

- Both parties agreed with the modified water balance as presented in the Progress Report (2), which incorporated revised sanitary flow, infiltration loss and taken into consideration the water consumption flow for the areas downstream of Astana which reflected the comments from IBWMD duly.
- Study Team revised the flood protection plans where the basic principles are (i) flood regulation in Vyacheslavsky reservoir, (ii) temporary storage

in the low lying area upstream of Astana City, and (iii) river improvement in Astana City, which was agreed upon by both parties.

- No substantial change would be required on the water demand projection, as this estimation had already been accepted by both Construction Committee and *Astana Su Arnasy* (ASA).
- No disagreement exists in major points related to the above, presented in Progress (2) report.

**(13) Meeting on Progress Report (2) of M/P and Draft Final Report of F/S**

Progress Report (2) was prepared to present the outline of contents of the upcoming Draft Final Report in advance. The meeting was held in Astana on 29<sup>th</sup> January, 2001, concurrently with the meeting on the Draft Final Report of Feasibility Study. Master Plan Team presented the summary of the report, which included the major conclusions and proposals on the social, urban planning and infrastructures planning conducted for this Master Plan. The following are the major points agreed upon.

- The contents of the Progress Report (2) were basically approved of by the Kazakhstan side. The comments and opinion expressed in the Meeting shall be duly considered in the course of the Study and be integrated in the Draft Final Report
- Kazakhstan side basically approved the District Plan prepared by the Study Team for the new government and business center of the left bank of the Ishim River, following the Instruction by President of RK on 1<sup>st</sup> November, 2000, and the Minutes of Meeting agreed upon and signed by the Study Team and Municipality on 1<sup>st</sup> December, 2000.

Minutes of Meeting (Annex 17) was signed by relevant organizations, which stipulated the above points.

**(14) Order by Government of RK on State Expertise**

On 11<sup>th</sup> April, 2001, the Order No. 22-p of the Government of RK "On Creation of the Working Group on Consideration of the Draft Master Plan for the Development of the City of Astana" (Annex 18) was issued. This order instructed to form a working group on review of the Master Plan, stipulated the working group, together with the republic state enterprise, State Expertise to engage in the expertise process of this Master Plan. Plan.

**(15) Conclusion of Ecological Expertise by Environmental Protection Committee**

On 14<sup>th</sup> May, 2001, the Environment Protection Committee under the Ministry of Natural Resources and Environmental Protection of RK issued a conclusion of State Ecological Expertise on this Master Plan (Annex 19). The document concluded the following;

- The requirements of the Law, "On Environmental Protection" and "On State Ecological Expertise" of RK, SNiP B.1.7-97 and the relevant regulation (RND 03.02.01-93) were duly taken into consideration in this Master Plan
- On this basis the State Ecological Expertise approves the Master Plan by JICA

**(16) Summary Conclusion on Overall Urban Planning Expertise**

On 14<sup>th</sup> May, 2001, the Working Group formulated by the order mentioned in (14) above issued "The Summary Conclusion of Overall Urban Planning Expertise" on this Master Plan (Annex 20). Major conclusions of this document are the following;

- The designers of the Master Plan conducted a large scope of work, and succeeded in introducing new positive features of formation of basic goals and targets in to domestic practice (in RK).
- This Master Plan is superior to the existing Master Plan by Saudi Bin Laddin Group in form and contest, in theoretical and technical levels of development
- This Master Plan meets the requirements in Terms of Reference (as mentioned in (5) above)
- For implementation of the basic ideas of the Master Plan it is necessary to prepare sectoral schematic plans and programs on engineering, transportation, social and cultural infrastructures
- The Master Plan by JICA Study Team is recommended for approval

**(17) Resolution of *Muslikhat* (City Congress) of the City o Astana**

On 23<sup>rd</sup> May, 2001, *Maslikhat* of the City of Astana signed a resolution Ref. No. 100/19-II On the Master Plan for the Development of City of Astana (Annex 21), which stipulated;

- To submit the Master Plan to the Government of RK for approval

- Comments of the State Expertise will be considered before the final approval by the Government
- To propose to Government to assign Akimat as authorized agency for the implementation, further development, making amendments of the Master Plan and performance of the guidelines on urban development

(18) Meeting on Draft Final Report of M/P

Draft Final Report was prepared to present the overall outputs of this Master Plan. The meeting was held in Astana on 23<sup>rd</sup> May, 2001, concurrently with the meeting of *Muslikhat*. The following are the major points agreed upon.

- The Kazakhstan side agrees upon the contents of the Draft Final Report of the Mster Plan
- The participants of the meeting agrees with the submission of the Draft Master Plan to the Government of RK for approval
- The participants of the meeting agrees that for the implementation of the Master Plan, *Akimat* of City of Astana must make measures to prepare sectoral plans and programs in respective areas

Minutes of Meeting (Annex 22) was signed by relevant organizations, which stipulated the above points.

### 1.5.2 Seminars

As part of the program for transfer of technology stipulated in S/W, Study Team conducted 13 seminars on specific issues relating to the Master Plan. Study Team considers the seminar as an excellent occasion for exchanging ideas and hearing opinions and proposals from the Kazakhstan side.

(1) Seminar on Population and Economic Growth Forecast

The seminar was conducted on 4th May, 2000, on the issue of population and economic growth forecast of Astana up to 2030. The main speaker was Mr. Yasuyuki Kuroda, Social and Economical Expert of the Study Team.

The population growth forecast combined with the analysis of the economic development scenario of the city for Astana was discussed. The population forecast with the projected population of 800,000 in 2030 was discussed in this seminar, and later adopted without any further comments.



**(2) Seminar on Institutional Framework for the Development of Astana City**

The seminar was conducted on 18th May, 2000, on the issue of institutional framework for the development of Astana City. The main speaker was Mr. H. Okuda, Urban Institutional and Administrative Expert of the Study Team. The seminar was intended as a discussion seminar, with a focus on exchanging different views about the institutional arrangements for the development of Astana.

**(3) Seminar on Plans for Development of Water Supply and Water Resources**

The seminar was conducted on 6th July, 2000, on the issue of development of water supply and water resources.

In the first part of the seminar where the main speaker was Mr. S. Osaka, Water Supply Expert of the Study Team, the water demand projection of Study Team was explained to the audience, together with the justification for the projection and comparison with previous projections. In the second part, the main speaker, Mr. T. Abe, Water Resources Expert of the Study Team, explained the Study Team's assessment of the water balance up to the year 2010 and 2030.

Various comments and opinions were heard in this seminar, which the Study Team considered duly in the course of the Study. In particular, the water demand projection of the Study Team, which had been substantially lower than the Kazakhstan SNIP in effect, has then been adjusted and agreed upon in the subsequent sessions.

**(4) Seminar on Plans for Development of Sewerage and Flood Protection**

The seminar was conducted on the same day as the previous seminar, 6th July, 2000, on the issues of plans for development of sewerage and flood protection of Astana City.

In the first part of the seminar, the speaker Mr. M. Fujii discussed various possibilities of final discharging of the treated waste water in conjunction with the planned drying up of Taldy Kol Reservoir in the future. In the second part, the speaker, Mr. H. Tsuta, discussed basic principles and alternative plans of protection of the city from flooding.

**(5) Seminar on Land Use Planning**

The seminar was conducted shortly on 27th July, 2000, on the issues of land use planning of Astana City. The speaker, Mr. H. Cheriex, Land Use Planner of the Study Team, discussed the team's justifications and details of

the land use planning, which explicate the future land use plan accepted in the Progress Meeting for M/P and Inception Meeting for F/S on 25th July, 2000.

The justification of the land use planning was well received by the audience without any comments. A few important comments, however, were made with regard to the forestation in and around the city and planning of industrial area north of the city. The Study Team responded that these important issues shall be considered in the due course of the Study, and discussed in detail in separate seminars to come.

**(6) Seminar on Telecommunication**

The seminar was conducted by Mr. Y. Tanii, the telecommunication expert of the Study Team, on 24th August, 2000, on the issue of the development scheme of telecommunication network in Astana City. After the introduction on the present telecommunication situation of Astana City, the development scheme according to the population framework of the Master Plan was explained in detail with mentioning of the proposed facilities to be introduced in the future.

**(7) Seminar on Electricity and Heat Supply**

The seminar on the development of heat and electricity supply was conducted on 25th August, 2000 by Mr. K. Iwai, the Electric and Heat Supply Expert of the Study Team. Here, the present characteristics of supply and demand of electricity and heat were briefly presented, followed by a detailed explanation on the future development scenario of electricity and heat supply in accordance with the development scenario of the Master Plan. The issue was further discussed in detail with the parties concerned after the presentation.

**(8) Seminar on Environmental Impact Assessment**

The seminar on EIA was conducted on 15th September, 2000, with the main speaker Mr. Phisenko, Environmental Expert of the Study Team. The seminar focused on the contents and methods of EIA, which is scheduled to be conducted in the 2nd Field Study period. A few questions relating to the basic data to be used were asked, and continuing cooperation for sharing essential data was requested.

**(9) Seminar on Regional Planning**

On 19th September, 2000, the seminar on the regional planning was conducted. The main speaker was Mr. Yamane, Regional Planner of the

Study Team. It was clarified at the outset that the JICA Master Plan itself would focus on the areas within the city bounds, although a wider regional strategy and prospect to support the city would also be essential. The seminar concerned with a region comprising Akmola *Oblast*, Astana Municipality and Karaganda *Oblast* (AAKR). First the present conditions, including the advantages and constraints of the region were analyzed. Based on the analysis, the speaker revealed the development strategies for AAKR in the overall, regional and sectoral terms. Finally, the proposed projects and measures proposed by the Study Team were discussed in detail.

Comments received at the time of the seminar included prospects of financing of the proposed projects, confirmation of data utilized for the analysis and coordination with the already approved regional strategies.

**(10) Seminar on Transportation**

The seminar on transportation planning was conducted on 25th September, with the speaker, Mr. Nakamura, Transportation Planner of the Study Team. The seminar focused on the procedures and results of the traffic demands and directions for the transport development planning, including the analysis of the issues of transportation planning in Astana and sectoral planning directions on networks, roads, parking and public transport.

The comments centered around the type and characteristics of the proposed LRT, which shows a strong interest in this type of mass transit in Astana.

**(11) Seminar on Solid Waste Management**

The seminar on waste management planning was conducted on 22nd December by Mr. Soeda, the Solid Waste Planner of the Study Team. The seminar focused on the projected generation volume of waste and the use of landfill site until 2010 in consistency with the feasibility study conducted by a Spanish Team, Equip Tecnic Santandreu S.A. The seminar also introduced future waste management options such as incineration, gasification, RDF, and compost.

Various comments and questions were received from the audience on topics such as the segregated disposal of waste, recycling, scavenging mammals on the street, etc., where adequate response was provided by the speaker to the satisfaction of the audience.

### (12) Seminar on Gas Supply

The seminar was conducted on 18<sup>th</sup> January, 2001, on issues of gas supply planning in Astana city up to 2030. The main speaker was Mr. Yoshinobu Kato, Gas Supply Planner of the Study Team.

Mr. Kato explained the advantages and disadvantages of a gas supply project both from the environmental and economic points of view, and presented general layout and development plan of city gas pipeline in Astana. Comments received at the seminar were on the estimation of unit gas supply cost and other energy costs, and confirmation of progress of gas transmission pipeline project from Russia to Astana.

### (13) Seminar on City Greenery

The seminar was conducted on 19<sup>th</sup> January, 2001, on issues of city greenery planning in Astana City up to 2030. The main speaker was Mr. Shigeru Sai, City Greenery Planner of the Study Team.

Mr. Sai made the presentation of current status of greenery in Astana, and greenery guideline for Astana up to 2030. After the presentation, the subject of proposed species of trees/bushes for the greenery was discussed, and the base data of the presentation was confirmed.

## 1.6 Organization of Final Report

The Final Report is composed of three volumes; Volume-1 Summary, Volume-2 Main Report and Volume-3 Supporting Report. This is Volume-2 Main Report.

The Main Report is prepared in English and Russian based on the stipulation in the Scope of Work to clarify the planning framework for the Master Plan, and major conclusions of infrastructures planning and engineering protection. It also presents cost estimate, results of the economic analysis, the findings and proposals of urban administration and organizational issues for capital development, and regional development planning for Astana and its hinterland.

The Main Report is composed of the following 11 Chapters in all.

*Chapter 1* shall give an introduction of the Study, clarifying the objectives; Study Area; the authority and progress of the Study, and the organization of the Report.

*Chapter 2* shall present the basic concepts and socio-economic frameworks for the development planning. Description in this Chapter includes the present socio-economy conditions, the population and economic planning framework, financial framework and the social framework.

*Chapter 3* shall present the basic concepts and frameworks for urban and architectural planning. This Chapter comprises the basic concept of the Master Plan, the historical background, the present conditions of urban Planning, architecture and land use, urban planning framework, district planning for New City Center, townscape guidelines, transportation and city greenery planning.

*Chapter 4* shall present the approaches for the infrastructure planning and discuss the issues in the present conditions, basic concepts, major tasks and outline of improvement with regard to the respective sectors of relevant infrastructure improvement.

*Chapter 5* shall discuss the basic concept, major tasks and outline of planning of engineering protection, including the flood protection, surface water drainage and the present preliminary directions of groundwater drainage.

*Chapter 6* shall discuss major environmental issues that could accrue from the development of Astana, framework for protection and preliminary assessment of environmental impact.

*Chapter 7* shall discuss the implementation program and cost estimate.

*Chapter 8* shall discuss the results of financial considerations and results of economic analysis.

*Chapter 9* shall discuss the issues pertinent to the urban administrative and organizational issues pertinent to the development of the capital, and provide a proposal for appropriate arrangement and enhancement for effective implementation of the capital development. This Chapter also analyzes and provides proposals on the promotion of investments for financing the development.

*Chapter 10* shall discuss the outline of the regional planning aspect, in which the potential and constraints of Astana City shall be assessed in view of wider regional context. Development policy and strategy for development and promotion of economic activities necessary for Astana and its surrounding areas shall be discussed.

*Chapter 11* shall present the conclusion of this study, together recommendations for immediate actions.

## 1.7 Organization of The Study Team

The organization of the Study Team consists of the Study Team under the direction of JICA and JICA Advisory Committee, located in JICA headquarters in Tokyo.

### Study Team

- |   |                                  |
|---|----------------------------------|
| 1) Team Leader  | Dr. Kisho KUROKAWA               |
| 2) Deputy Team Leader/Urban Planner I                 | Koji YAMADA                      |
| 3) Urban Planner II                                   | Serie I. RUSTAMBEKOV             |
| 4) Regional Development Planner                       | Haruo YAMANE                     |
| 5) Social and Economical Expert                       | Yasuyuki KURODA                  |
| 6) Land Use Planner                                   | Hank CHERIEX                     |
| 7) Deputy Team Leader/Architectural Planner I         | Tadao SHIBATA                    |
| 8) Architectural Planner II                           | Yuji MAKABE                      |
| 9) Transportation Planner                             | Akio NAKAMURA                    |
| 10) Water Resource Planner                            | Takatsugu ABE                    |
| 11) Water Supply Planner                              | Shin-ichi OSAKA                  |
| 12) Sewerage Planner                                  | Masayuki FUJII                   |
| 13) Drainage and Flood Control Planner                | Hideo TSUTA                      |
| 14) Electric and Heat Supply Planner                  | Yoshiaki NOMURA/<br>Kenichi IWAI |
| 15) City Gas Supply Planner                           | Yoshinobu KATO                   |
| 16) Telecommunication Planner                         | Yoshio TANII                     |
| 17) Solid Waste Planner                               | Shungo SOEDA                     |
| 18) City Greenery Planner                             | Shigeru SAI                      |
| 19) Forestation Specialist                            | Victor GRIBOV                    |
| 20) Environment Expert                                | Phisenko ARKADIY                 |
| 21) Natural Environment and<br>Hydrogeological Expert | Masao HIGUCHI                    |
| 22) Urban Institutional and Administrative Expert     | Hiro OKUDA                       |

- |                    |                                  |
|--------------------|----------------------------------|
| 23) Cost Estimator | Kiyohito YAMAZAKI                |
| 24) Interpreter    | Yukichi GOTO/<br>Hiromi WATANABE |
| 25) Coordinator    | Takafumi KADONO/<br>Jun KUWABARA |

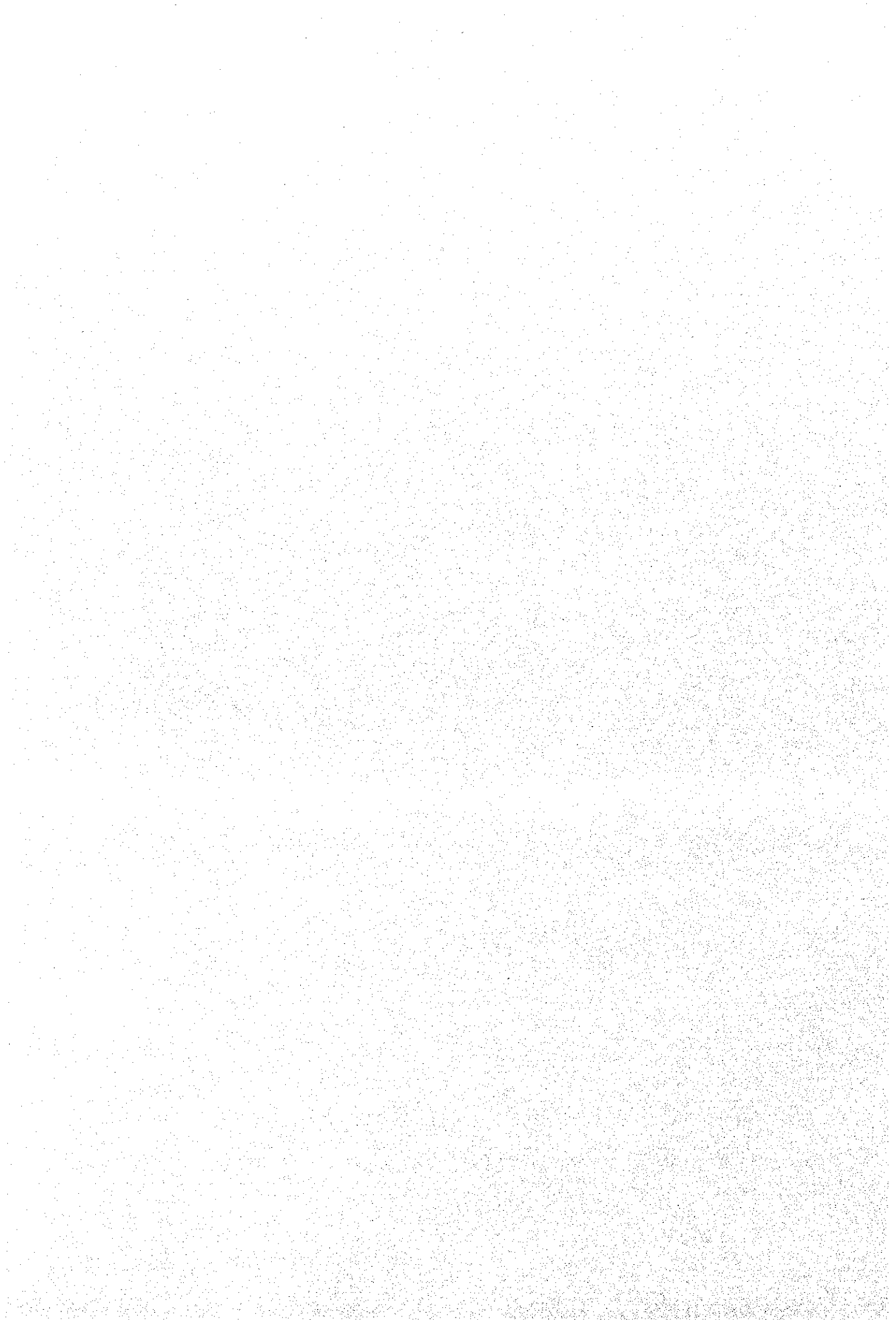
#### JICA

- |  |                   |
|--|-------------------|
| 1) Vice President  | Kenjiro IZUMI     |
| 2) Managing Director, Social Development<br>Study Department (until June 2000)                                       | Yukihisa SAKURADA |
| 3) Managing Director, Social Development<br>Study Department (from July 2000)  | Takanori JIBIKI   |
| 4) Director, Planning Division, Social<br>Development Study Department   | Fumio KIKUCHI     |
| 5) Director, 1st Social Development Study<br>Division, Social Development Study<br>Department (until September 2000) | Takao KAIBARA     |
| 6) Director, 1st Social Development Study<br>Division, Social Development Study<br>Department (from October 2000)    | Toshio HIRAI      |
| 7) Deputy Director, 1st Social Development<br>Study Division, Social Development<br>Study Department                 | Eri HONDA         |
| 8) 1st Social Development Study Division,<br>Social Development Study Department                                     | Jitsuya ISHIGURO  |
| 9) Development Specialist  | Nobuhiro KOYAMA   |
| 10) Development Specialist   | Keiko YAMAMOTO    |
| 11) Development Specialist   | Tomikazu INAGAKI  |





**FIGURE**

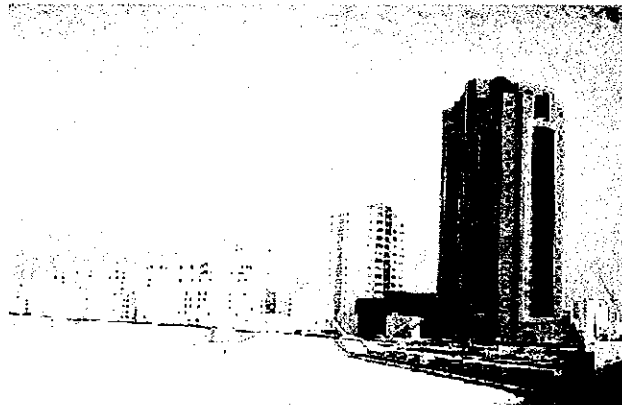




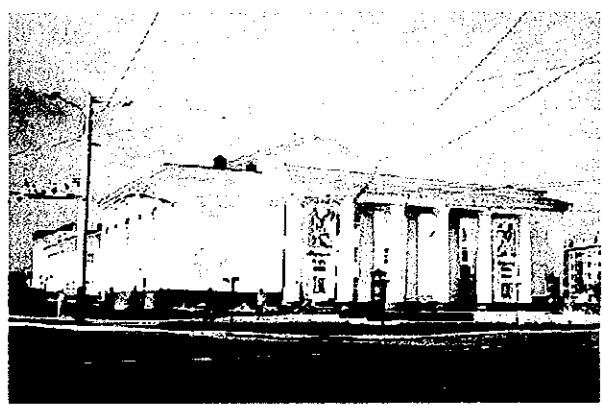
Central part of Astana. In the back is Parliament /Центральная часть г.Астаны. На заднем плане – здание Парламента РК



Central residential area with 7 to 9 story apartments /Жилой район в центре города с 7 и 9-этажными жилыми зданиями



A business tower and high-rise apartments on the Ishim /Бизнес-центр и высотные жилые здания на берегу р.Ишим



A historic building refurbished to Opera and Ballet Theater / Историческое здание, после реконструкции – Театр оперы и балета



A supermarket opened in 2000 /Супермаркет, открытый в 2000 году



Residential area without proper infrastructures installation / Селитебные территории, не обеспеченные надлежащими инфраструктурными сооружениями



A monument in front of Ministries of Finance and Economy /Памятник напротив здания Министерств финансов и экономики



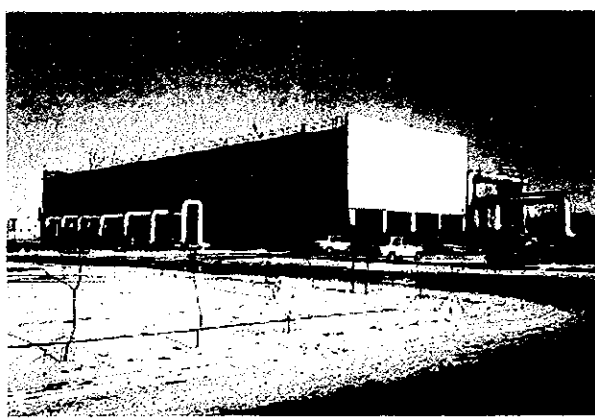
Revetment on the Ishim River left bank /Бетонное покрытие дамбы на левом берегу р.Ишим

Figure 1.1.1 (1/3) Present Condition of Astana

Рисунок 1.1.1 (1/3) Современные условия города Астаны



Water treatment plan operated by ASA / НФС, эксплуатируемая АСА



Heat pumping station at TETs-1 / Теплонасосная станция на ТЭЦ-1



Activated sludge tank at sewerage treatment plant / Емкость с активным илом на КОС



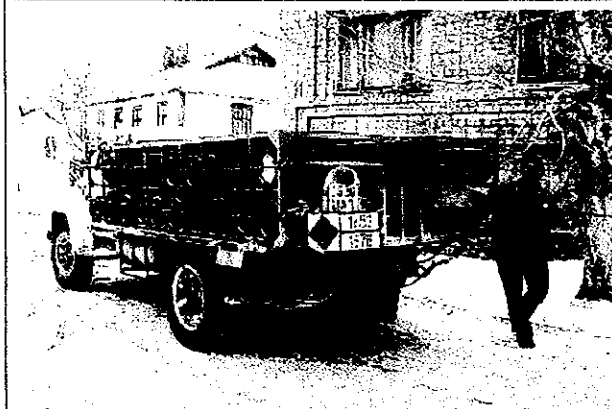
Community faucet still used in water supply system / Общественные водоразборные колонки, используемые в системе водоснабжения



TETs-2, the staple power and heat supply plant / ТЭЦ-2



Control room of TETs-2 / Диспетчерская ТЭЦ-2



LPG supply delivering tanks / Доставка СУГ (сжиженного углеводородного газа)



City's solid waste dump site / Городская свалка ТБО

Figure 1.1.1 (2/3) Present Condition of Astna

Рисунок 1.1.1 (2/3) Современные условия города Астаны



Left bank of the Ishim crowded with sun-bathers. / Люди, отдыхающие на левом берегу р.Ишим



City trolley bus providing public transport to citizens /Один из видов общественного городского транспорта - троллейбус



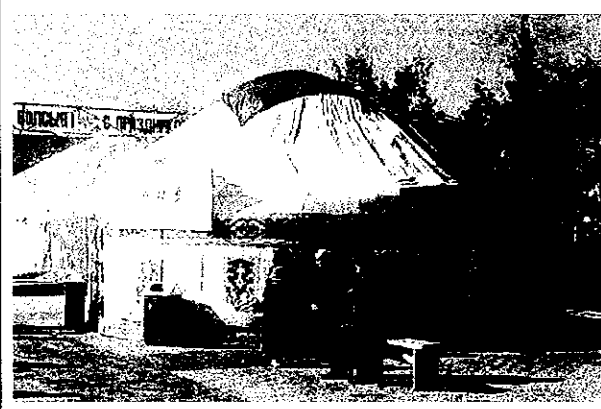
Old, open market with busy shoppers /Открытый городской рынок с толпящимися покупателями



A public middle school and students /Ученики средней школы



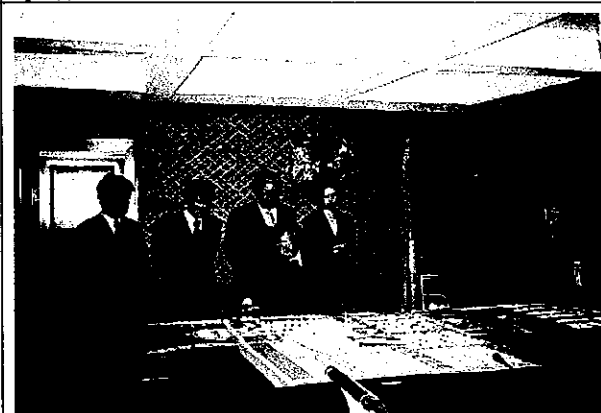
A group of young people in the central city /Группа подростков, центр города



A Kazakhstani traditional Yurt, used for festivity /Традиционная казахстанская юрта, используемая для национальных празднований



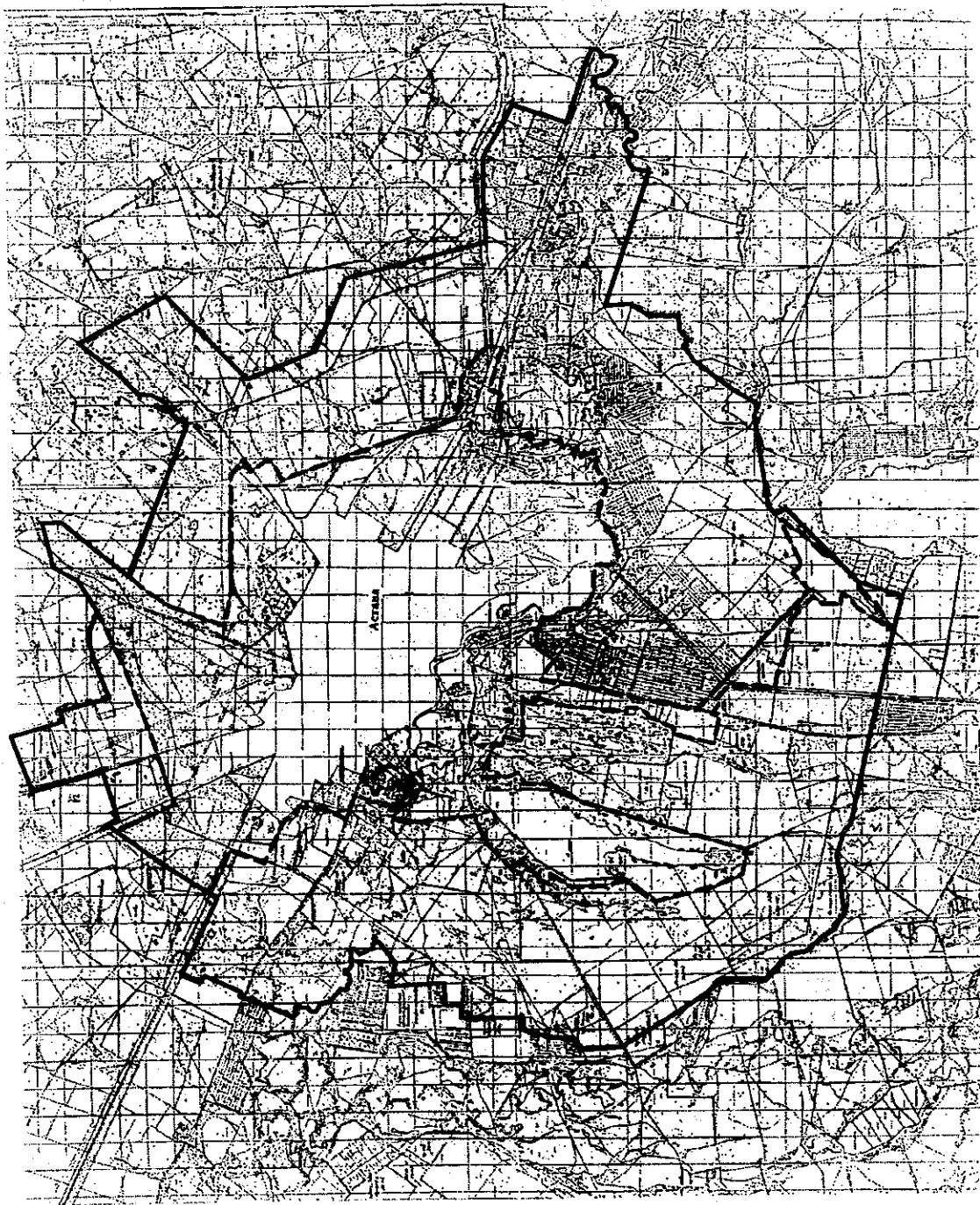
Display of JICA Master Plan at Construction Fair /Демонстрация Генерального плана ЯАМС на выставке достижений строительства



Dr. Kurokawa reporting to Prime Minister, Tokayev /Доктор Курокава дает объяснение Премьер-министру РК г-ну Токаеву

**Figure 1.1.1 (3/3) Present Condition of Astna**

**Рисунок 1.1.1 (3/3) Современные условия города Астаны**





--- Old City Boundary  
— New City Boundary

Figure 1.3.1 Study Area

Figure 1.5.1 Work Schedule

ITEM	BUDGET YEAR YEAR MONTH	FIRST YEAR												SECOND YEAR						THIRD YEAR					
		2000												2001											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6						
(A) Preparation Work																									
A-1) Collection and Analysis of Available Data and Information																									
A-2) Preparation of Inception Report																									
(B) 1st. Field Work																									
B-1) Presentation and Discussion of Inception Report																									
B-2) Study on Present Condition in Astana																									
B-3) Selection of Urgent Project for Feasibility Study to be carried out																									
B-4) Preparation and Discussion of Progress Report																									
B-5) Analysis of Issues for Development Planning																									
B-6) Setting up of Planning Frame Work																									
B-7) Development Scenario of Astana																									
B-8) Site Survey																									
(C) 1st. Home Work																									
C-1) Preparation of Interim Report																									
(D) 2nd. Field Work																									
D-1) Presentation of Interim Report																									
D-2) Interim Seminar																									
D-3) Preparation of Master Plan for Astana City Development																									
D-4) Basic Plans for Specific Development Area																									
(E) 2nd. Home Work																									
E-1) Preparation of Draft Final Report																									
(F) 3rd. Field Work																									
F-1) Presentation of Draft Final Report																									
F-2) Final Seminar																									
(G) 3rd. Home Work																									
G-1) Preparation of Final Report																									

 Home Work (Japan)

 Field Work (Kazakhstan)

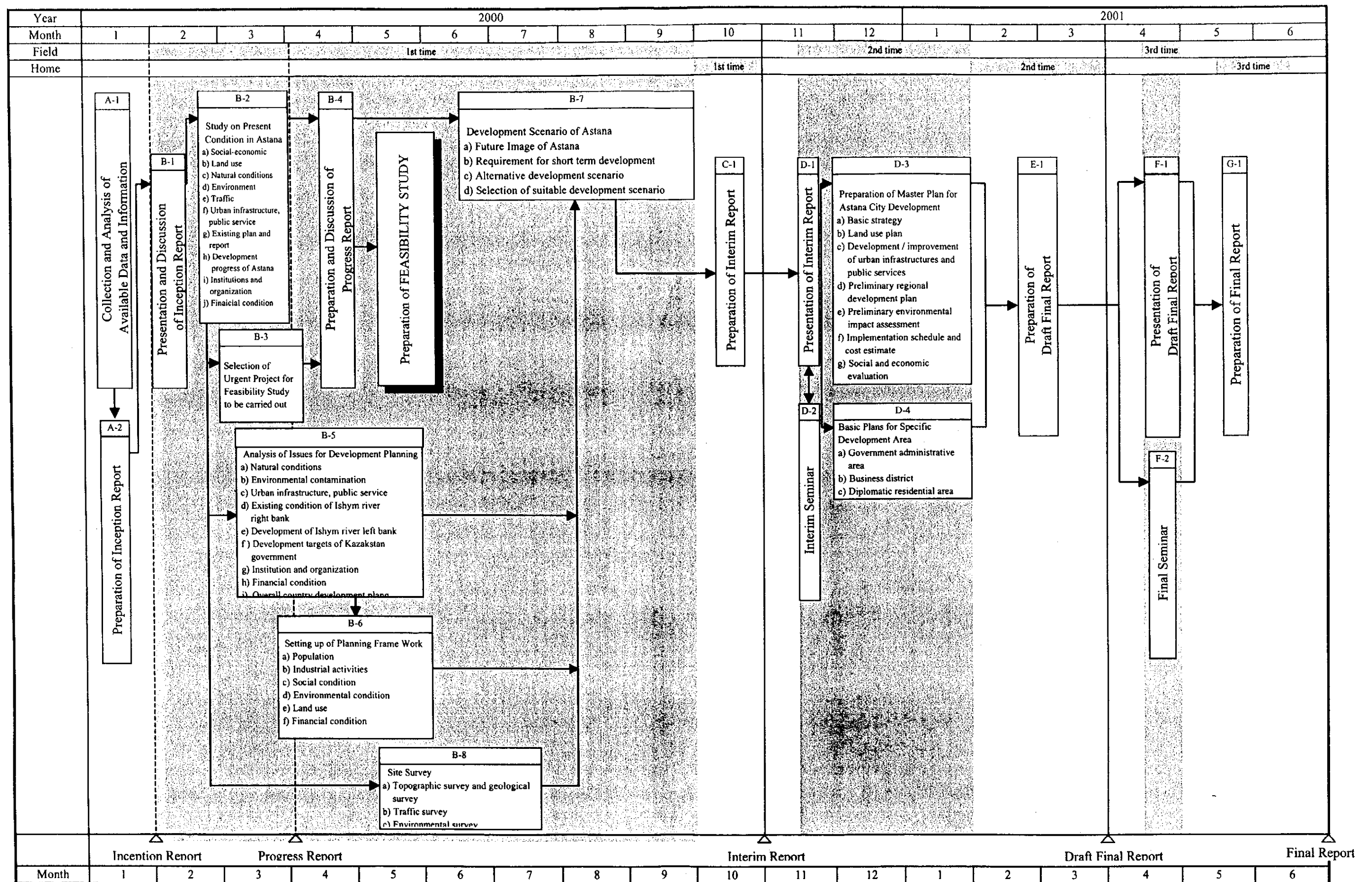


Figure 1.5.2 Work Flow