

Table N.2.8

Industries in Astana City with Positive Growth Rates of Production between 1997 and 1999

(Unit : %/year)

Type of Industrial Output	Grwoth Rate, 1997-99
Fats of cattle, goat, pigs and poultry	87.1
Meat semi-products	265.6
Processed watery milk and cream	27.4
Butter	312.3
Cheese and cottage cheese	3.9
Yogurt and other types of fermented or sour milk or cream	28.8
Ice-cream and other food ice	56.7
Fresh cookies and bakery products and cakes	99.4
Mayonnaise	1.4
Beer	84.7
Table cloth	123.6
Other ready textile products	324.3
Other uniforms	236.0
Other outer clothing for men and boys	21.0
Other outer clothing for women and girls	20.4
Hats and head gears	73.2
Timber materials, longitudinally sawed, split, cut 6 mm and more in width; wooden crosstie, untreated	29.1
Windows, double-leaf windows and their frames, doors and their frames and baseboards, wooden	31.2
Construction wooden structures and carpenter products, not included in other groups	144.9
Wooden package	485.5
Other wooden products	70.7
Books, brochures, sheets and other printed material on separate sheets	100.6
Newspapers, magazines, periodic editions, published at least 4 times a week	11.8
Magazines, periodic editions, published less than 4 times a week, th.p.	391.6
Post cards, greeting cards, art editions and other printed materials	32.4
Registered magazines, accounting books, file folders, forms and other stationery,	0.4
Oxygen	73.2
Doors, windows, frames, door thresholds, shutters, jalousie and analogue products and their parts	104.1
Other plastic products, not included in the other groups	39.4
Table, kitchen, toilet, and other plastic household equipment, thousand pieces	31.9
Construction bricks (of burnt gault)	491.6
Tile, slabs, bricks and analogue products made of cement, concrete or artificial stone	8.0
Ready-mixed concrete	2.0
Centrifugal pump for pumping of liquids; other pumps; liquid lifter	238.1
Vehicles for cargo transportation	35.0
Other furniture for organizations and trade companies	37.9
Kitchen furniture	24.8
Wooden furniture for bedrooms, dining rooms and living rooms	8.4
Other toys, not included in other groups	108.9
Artificial flowers, leafs, fruits and plastic products	36.2
Electric power	11.6
Heat energy	12.5

Table N.2.9
Agriculture Production in Akmola Province

Item	Unit	Total Production Amount					Production per capita in 1999
		1995	1996	1997	1998	1999	
Grain	10 ³ tons	2,446.2	2,626.3	1,974.8	1,056.2	3,575.5	4.3 tons
Sunflower	10 ³ tons	2.9	2.0	0.6	0.5	2.1	2.5 kg
Potato	10 ³ tons	135.2	143.6	119.1	93.9	137.8	0.17 tons
Vegetables	10 ³ tons	47.3	34.6	31.1	28.6	47.4	0.06 tons
Meat	10 ³ tons	n.a.	n.a.	n.a.	86.4	86.6	0.10 tons
Milk	10 ³ tons	n.a.	n.a.	n.a.	338.5	356.8	0.43 tons
Egg	10 ³ pieces	n.a.	n.a.	n.a.	116,837	132,867	161 pieces
Wool	ton	n.a.	n.a.	n.a.	422.8	437.0	0.53 kg
Cattle	10 ³ heads	n.a.	n.a.	n.a.	327.6	337.1	0.41 heads
(Cow)	10 ³ heads	n.a.	n.a.	n.a.	164.4	170.1	0.21 heads
Pig	10 ³ heads	n.a.	n.a.	n.a.	133.2	156.3	0.19 heads
Sheep/goat	10 ³ heads	n.a.	n.a.	n.a.	159.6	170.1	0.21 heads
Horse	10 ³ heads	n.a.	n.a.	n.a.	67.3	71.0	0.09 heads
Poultry	10 ³ heads	n.a.	n.a.	n.a.	2,125.5	1,839.0	2.23 heads
Total Planted Area	10 ³ hectares	5,691.1	5,308.4	4,459.4	3,761.6	3,309.0	4.01 ha

Note:

(1) Population in Akmola Province : 824.8 thousand in 1999

Source: Akmola Province

Table N.2.10

Agriculture Production and Area in Karaganda Province

Total Production Amount								Production per capita in 1999
Item	Unit	1990	1995	1996	1997	1998	1999	
(Production)								
Grain	10 ³ tons	1,266.7	373.8	614.6	179.9	243.1	447.9	0.31 tons
Potato	10 ³ tons	217.7	290.3	290.6	211.2	137.8	126.0	0.09 tons
Vegetables	10 ³ tons	59.6	56.1	49.3	44.3	66.7	59.0	0.04 tons
Meat	10 ³ tons	189.3	100.0	96.0	99.7	81.0	62.3	0.04 tons
Milk	10 ³ tons	353.6	232.1	179.4	149.7	149.7	155.0	0.11 tons
Egg	10 ⁶ pieces	590.6	194.9	96.4	107.5	94.1	128.8	89.63 pieces
Wool	ton	4,362	2,392	2,138	1,304	881	963	0.67 kg
(Planted Area)								
Grain	10 ³ ha	1,443	1,152	1,003	933	647	473	-
Potato	10 ³ ha	16,053	26,651	25,051	22,247	16,023	8,024	-
Vegetables	10 ³ ha	4,000	4,702	4,556	4,577	4,986	2,290	-
Forage	10 ³ ha	846	593	665	604	548	326	-
(Irrigated Area)								
Grain	10 ³ ha	5.5	9.5	12.4	4.8	4.4	n.a.	-
Forage	10 ³ ha	-	0.3	0.1	-	-	n.a.	-
Potato	10 ³ ha	8.5	5.7	4.8	4.2	2.4	n.a.	-
Vegetables	10 ³ ha	2.2	1.2	0.8	0.9	0.6	n.a.	-

Note:

(1) Population in Akmola Province 1,437 thousand in 1998

Source: Karaganda Province

Table N.2.11

Cities and Towns Surrounding Astana and their Characteristics

Cities	Distance from Astana (km) 1)	Population in 1999 (thousand)	Major Function				
			Economic				Political/ administrative 3)
			Mining	Manufacturing	Commerce /service	Tourism	
Astana	0	320.0		x	x		xxx
Astana-Kokshetau Corridor							
Shortandy	65	7.2			x		x
Akkol	96	15.7			x		x
Makinsk	175	18.5			x		x
Shuchinsk	210	45.3			x	x	x
Kokshetau	270	123.4		x	x		xx
Zerenda	246	4.7			x		x
Balkashino	237	5.7			x		x
Stepnogorsk	133	47.4	x	x	x		x
Stepnyak	188	5.1			x		x
Astana-Karaganda Corridor							
Arshaly	61	7.1			x		x
Osakarovka 2)	107	7.9			x		x
Temirtau 2)	165	168.6		x	x		x
Karaganda 2)	190	435.5	x	x	x		xx
Kievka 2)	102	6.7		x	x		x
Astana-West corridor							
Atbasar	225	32.3			x		x
Zhaksy	295	5.4			x		x
Esyl	358	13.1			x		x
Egindykol	138	3.5			x		x
Astrohanka	120	6.6			x		x
Derzhavinsk	357	7.9			x		x
Korgalgyn	120	5.7			x		x
Astana - East Corridor							
Ereymenau	130	15.1			x		x

1) Straight distance

2) Cities/towns in Karaganda Province. Cities/towns with no mark are all in Akmola Province.

3) xxx: national capital, xx: provincial capital, x: district center

Table N.2.12 (1/9)

Result of Factory/Company Interview Survey

Item	Company A
I. Basic Information	<i>Interview with company representative was cancelled. A brief information was obtained from 2 factory workers.</i>
1 Year of establishment	1998
2 Shareholders	
3 Annual sale	
1998	n.a
1999	n.a
2000	n.a
4 Reason for locating in ATP	n.a
5 Product/service provided	Assembling of aluminum window frames and windows. Materials are imported from Italy. This company is an Italian construction company.
6 Number of employees	
Total	7
Factor worker	5
Warehouse	2
7 Area	
Land area (m ²)	n.a
Building (m ²)	n.a
Office	n.a
Factory	n.a
II. Market/Place of Procurement	
8 Market of products	The products were used in the building next to Comfort Hotel . They plan to build two more 10-story buildings in their plot after the existing first building is filled with tenants. 1st to 8th floor for office and 9th and 10th floor for Italy
9 Place of procuring raw materials	Italian machines.
10 Place of procuring machine and spare parts	
11 Market growth (100 now)	n.a
12 Market share	n.a
III. Problems in Management	
13 Fund	n.a
14 Human resources	Italian master visited Almaty and gave training to Kazakhstan workers. Italian technology is higher than Kazakhstan's, but not difficult to master.
15 Information	n.a
16 Technology	n.a
17 Facilities	Italian machines. No problem.
18 Infrastructure (hard)	No problem.
19 Infrastructure (soft)	No problem.
20 Two most serious issues	n.a
21 Important factors for improvement	n.a
22 Government support measures expected	n.a
23 Other	Iermin Firma (Kazakhstan firm) is their competitor. They are constructing a hotel in Baikanur. They heard an embassy will move to Astana in 2000. A diplomatic village will be constructed near their plot. Their factory in ATP is comfortable to use. Aksai has a big potential (\$25,000,000 contract may come to them including power station and residential development. Already awarded or not, not clear)

Table N.2.12 (2/9)

Result of Factory/Company Interview Survey

Item	Company B
I. Basic Information	
1 Year of establishment	End 1999 (now preparing for production start in 2000)
2 Shareholders	Astana Technopark, individuals
3 Annual sale 1998 1999 2000	Tg 2,500,000 was to be paid, but non-payment by the state railway company (Temir-Zholy) to the former company. Because of this, the former company was liquidated in mid-1999. 20,000,000 Tenge as contract amount for 2000 with state railway company. Tg 18,000,000 to be contracted later separately.
4 Reason for locating in ATP	
5 Product/service provided	Design/produce railway parts for point renewal (details of upper rail) by order of Temir-Zholy. Only Russia was producing until now. They can produce the products of same quality at lower cost. There is a need for 400 replacement per year in Kazakhstan.
6 Number of employees Total Manager Engineer/technician R/D Finance Other office worker Factory workers	7 1 2 (10 to be employed) 2 1 1 30-40 to be employed
7 Area Land area (m ²) Building (m ²) Office Factory	100 100 100 To use space and machinery in Profile Company.
II. Market/Place of Procurement	
8 Market of products	Temir-Zholy (state railway company) in Astana. Uzbekistan/Kyrgyz in future, if there is a demand there. Market is monopolized in Russia and
9 Place of procuring raw materials	Temir-Zholy (state railway company) headquarter in Astana. Russia (Magnitogorsk)
10 Place of procuring machine and spare parts	Machine; Profile's machine first (originally Russia). Russian machines later. Spare parts; from their reserve first and by Russia later.
11 Market growth (100 now)	Kazakhstan 150, Kyrgyz 120, Uzbekistan 110. Difficult to forecast for 2020 or 2030, because technology will change.
12 Market share	Kazakhstan 60%. Import substitution of Russian and Ukraine products will proceed.
III. Problems in Management	
13 Fund	Shortage of investment fund. Temir-Zholy will invest (or lend ?) Tg 20 million for R/D and production with no interest. Thinking of borrowing money from Astana Finance.
14 Human resources	No problem. Former skilled workers to be employed. Difficult to find young
15 Information	Technical library is obsolete and inappropriate.
16 Technology	Lack of fund for introducing machine/spare parts.
17 Facilities	Machines are worn out requiring replacement. Finance is the problem.
18 Infrastructure (hard)	No problem.
19 Infrastructure (soft)	No problem.
20 Two most serious issues	
21 Important factors for	
22 Government support measures expected	Lower tax rates and minimum 1 year incentive wanted.

Table N.2.12 (3/9)

Result of Factory/Company Interview Survey

Item	Company C
I. Basic Information	
1 Year of establishment	1991
2 Shareholders	Private companies (mostly Kazakhstan companies)
3 Paid-up capital	n.a
4 Annual sale (10 ³ Tenge)	Increase annually . 800 new accounts of 500 clients. Many companies related with construction, partly agriculture clients (farmers) purchasing agriculture goods. Mostly SMEs. Asset \$30 million. 70% or \$20 million is loan to SMEs. No Astana Technopark client. Only transactions in ATP. SME clients are in Astana, Pavlodar, Kostanai and Stepnogorsk. Agriculture clients are in Akmola Province. 1998 Double 1997 1999 Double 1998
5 Reason for locating in ATP	In Astana City, but outside Astana Technopark
6 Product/service provided	Banking service
7 Number of employees	
Head office	104
Branch offices	60 (Almaty, Kostanai, Pavlodar, Stepnogorsk)
8 Area	n.a
II. Market/Place of Procurement	All questions are not relevant.
III. Problems in Management	
9 Fund	No problem.
10 Human resources	No problem (1st group of employees are in Netherlands for training financed by World Bank. Second group is preparing.)
11 Information	Limited access to foreign market information. Only through published documents.
12 Technology	
13 Facilities	
14 Infrastructure (hard)	
15 Infrastructure (soft)	Participating in meeting with gov. discussing new tax code.
16 Two most serious issues	
17 Important factors for	
18 Government support measures expected	No issue for banks. They are not politicized, because having been operating in Astana.
19 Potential sector in Astana	Agriculture, industry, construction. Stepnogorsk has a large industrial potential. Their office was upgraded to a branch office in May 1998.
20 Criteria for selecting potential borrowers	Financial stability (no debt, profitable), client of the bank (having account and long time relation), loan history (good repayment), enough liquid asset. Size does not matter. 20% additional advance loan possible depending on size.
21 Loan condition	Flexible interest (18%-12%). Lower for monthly repayment. Term: 1-2 years for 12%, 18% for 1 year. Several cases for long-term loans; Tenge co-financing with gov. 3 years repayment with 1 year grace period at 10% interest for farmers (average of 20% for bank loan plus very low interest by gov.) SME financing: interest 18% in \$ for 2 years (Tenge repayment at 30% interest). SMEs are mainly services (retail, hotels, restaurants, repair, wholesale, tourism) Services are always demanded and need money.
22 Period for loan approval	1st observation 3 days (twice a week, Tuesday/Thursday) , document assessment 5 days (financial statement, tax payment report, business plan). Takes long for ATP companies, because they have no assets, therefore no collateral. They operate on a rent basis. Limit for loan amount depends on each case. Collateral value should be greater than loan amount.
23 Other	More Competition with Almaty banks moving to Astana. Tax reporting is a normal work. Computerized. They are friends with gov. \$500,000 agriculture development loan from ADB : Ministry of Finance to Bank (7.5%), bank to farmers (10.5%) for 5 years with 1 year grace period. \$800,000 loan for beer factory renovation in Almaty and agriculture machinery project involving Canada are big projects.

Table n.2.12 (4/9)

Result of Factory/Company Interview Survey

Item	Company D
I. Basic Information	
1 Year of establishment	September 8 1997
2 Shareholders	Several individuals and Astana Technopark
3 Paid-up capital	Tg 63,000
4 Annual sale (10 ³ Tenge)	
1997	11,442
1998	25,875
1999	14,878 (down because no customers with money)
2000	No operation because of no market (insolvent clients; farmers, collective farms)
5 Reason for locating in ATP	Working for Akmolatsermash for 30 years
6 Product/service provided	12 kinds of agriculture machines (5 kinds of plows, haystacker, forage grinder, potato planting machine using Dutch tech.)/Metalwork/repair
7 Number of employees	
Total	45
Manager	4
Engineer/technician	4
R/D	0
Finance	0
Other office worker	2
Factory workers	35
8 Area	
Land area (m ²)	1,700
II. Market/Place of Procurement	
9 Market of products	Kazakhstan, mainly northern Akmola Province. Some south Kazakhstan.
10 Place of procuring raw materials	Astana and Karaganda (metal sheets, steel)
Place of procuring machine and spare parts	They make spare parts themselves or buy from Russia. (Machines are probably Russian made.)
11 Market growth (100 now)	No confidence about tomorrow. Thinking only about today. Now gov. starts to pay attention to agriculture. There was a leasing arrangement prepared by gov.
12 Market share	n.a
III. Problems in Management	
13 Fund	High interest rate.
14 Human resources	Shortage of skilled workers (technical specialists).
15 Information	Market information. Costly to advertise.
16 Technology	Astana Technopark purchased a laser beam cutting machine, but do not know how to use it.
17 Facilities	n.a
18 Infrastructure (hard)	No problem, except high tariff, esp. power and heat (Tg 4.62/kWh)
19 Infrastructure (soft)	Tax reduction wanted so that price can be lower for customers.
20 Two most serious issues	n.a
21 Important factors for improvement	n.a
22 Government support measures expected	Support SME association. Assistance in human resources development (Now no educational base). More incentives.
23 Other	They signed a minutes of meeting with German Continental Firm for investment. They will visit their company on June 14, 2000. (Probably 50% of \$100,000) In April they will prepare a business plan for an investment of \$50,000 (probably other 50%) to increase/improve machines for agriculture machine production and auto repair. \$50,000 will be paid by themselves (\$30,000) and Astana Technopark (\$20,000).

Table N.2.12 (5/9)

Result of Factory/Company Interview Survey

Item	Gosstandart of the Republic of Kazakhstan, The Republican State Enterprise " Kazakhstan Center of Standardization, Metrology and Certification "
1 Year of establishment	July 1999. Gosstandard itself has been in operation for 75 years.
2 Status	Republican state enterprise, representing Gosstandard Committee. One of 19 branches in each oblast in Kazakhstan.
3 Function	Standardization and inspection of goods in Kazakhstan. Certification of products.
4 Number of employees	1,500 workers in Kazakhstan. 90 in Astana.
5 Financial aspect	Revenue at Tg 800 million in 1999 in Kazakhstan. Tg 50 million in
6 Client	All legal/physical entities involved in export/import in Astana
7 Mutual agreement with foreign countries	<p>Companies trying to export to a foreign country has to acquire certificate of that country by themselves. This is costly. In future, they want to conclude agreements with foreign countries to mutually entrust the Kazakhstan gov. agreed with Turkish gov. to mutually accept the other country's standard for some items. Effective for last 2-3 years.</p> <p>Any item with Gosstandard can be freely traded within CIS. There is a list of items requiring Gosstandrd certificate for trading in CIS. There is an intergovernmental council.</p>
8 Items covered	Grain is also certified by them, but valid only for CIS. Gosstandard covers all items.
9 Future Plan	<p>Trying to make Gosstandard meet international standard. Now inspection laboratory is not at the international level and needs improvement. Need finance. In 2 years food laboratory would be improved spending Tg 1.5 million, including equipment and training. Food lab. is important, because North Akmola region produces a lot of grain. Other items such as oil products and raw materials (metal, copper) are also considered. Now they are supervised by Ministry of Energy, Industry and Trade, but they have to make money by themselves.</p> <p>Gosstandard will become a JSC in 2000, first 100% share held by gov, later with more private participation.</p>

Table N.2.12 (6/9)

Result of Factory/Company Interview Survey

Item	Company E
I. Basic Information	
1 Year of establishment	1997
2 Shareholders	Astana Techno Park
3 Annual sale (10 ³ Tenge) 1997 1998 1999	Fluctuating
4 Reason for locating in ATP	Before, the factory was part of Tsernoselmash.
5 Product/service provided	Metal products (guardrail, fence, gate, plowing machine part)
6 Number of employees Total	70
7 Area Land area (m ²) Building (m ²)	n.a n.a
II. Market/Place of Procurement	
8 Market of products	Mainly Astana City
9 Place of procuring raw materials	Russia (pipes) and Temertau (metal)
10 Place of procuring machine and spare parts	Russia 90%, rest Yugoslavia, Germany and Kazakhstan
11 Market growth	Hope to grow. Now growing because Astana is growing.
12 Market share	Many types of clients now (private, government etc.) Future depends on economic condition.
III. Problems in Management	
13 Fund	n.a
14 Human resources	Shortage of skilled workers. Only workers with 20-30-year experience work now. Average age is 40 to 45 years old. Many technicians left for Russia. Young people do not want to work in production. Educational schools for young people do not have enough money for education. There were training courses in the factory before, but there is none now.
15 Information	n.a
16 Technology	n.a
17 Facilities	Worn-out situation of machine and production facilities. Lack of fund. They make spare parts by themselves. They would buy machines from Russia, if they have money.
18 Infrastructure (hard)	No problem.
19 Infrastructure (soft)	n.a
20 Two most serious issues	n.a
21 Important factors for	Want to export, but quality is not so high.
22 Government support measures expected	n.a
23 Other	There is a state qualification system for welding. Type of workers especially needed are those handling machines. Now 15 are working. 2-3 more wanted. OJT would be effective. Government vocational school would be effective. Before they had one. Retirement age is usually 63 years of age, but older for some. There is an inspection section for quality control working according to USSR standard. Quality of products is maintained by their effort, not by introducing new technology.

Table N.2.12 (7/9)
Result of Factory/Company Interview Survey

Item	Organization F
1 Year of establishment	1997
2 Status	Private institute established under State Agrarian University
3 Background	Number of students of State Agrarian University fell in around 1997 due to lack of finance. 20-30% of teachers lost job and needed to create a new institute for them. Non-state institute was allowed then. Economics field was in high demand.
4 Number of teachers/students	12 full-time professors and 50 part-time professors/lecturers. 500 full time and 40-50 part-time students.
5 Courses	Education in 4 fields: finance/credit, accounting/auditing, marketing and management. 4-year education for bachelor's degree and special training for 2.5 years for part-time students (people already working and with higher education in other fields)
6 Tuition fee	Tg 70,000-80,000 per year for full time course. Tg 40,000 per year for part-time course (Two 3-week-seminars per year)
7 Profitability	Profitable management. Tg 40 million revenue per year. 50% for salary and 50% for purchasing building. Tg 15 million invested to purchasing and renovating the building.
8 Other issues	<p>No scholarship program now. Considering, but no money. Excellent students receive 5% discount in tuition.</p> <p>Curricula of all educational institutes must be approved by Ministry of Education except 10% freedom in course plan. Computer science and English language were added within 10% freedom. An Australian businessman will teach business. Real rich students study abroad. Their students are from average families. Difficult for them to pay tuition (Tg73,000/year now).</p> <p>No graduates yet. Private companies do not like to receive students for on-the-job-training except some students working at banks in summer. OJT programs were practiced in former USSR time, but difficult to organize now. Ministry of Education could help them in organizing OJT.</p> <p>Plan to increase number of students, but do not know yet when.</p> <p>There are 4 state institutes and 30 private institutes in Astana: Agrarian, Medical and Eurasia (civil engineering and pedagogical).</p> <p>Management education is definitely in need, esp. economists and lawyers.</p> <p>Kind of government support expected: " No interference. "</p> <p>Problem is in getting a new license for Ministry of Education beyond 10%</p> <p>Level of tuition is regulated by market condition.</p> <p>Technical fields are not taught. Farm machinery and power engineering are taught at Agrarian University.</p>

Table N.2.12 (8/9)

Result of Factory/Company Interview Survey

Item	Company G
I. Basic Information	
1 Year of establishment	1998/12/15
2 Shareholders	2 individuals
3 Annual sale (10 ³ Tenge) 1999	3,500
4 Reason for locating in ATP	Astana as comfortable location with future growth. Came from Almaty when ATP established after capital transfer. Demand will grow.
5 Product/service provided	Food product (permeni, prepared stuffed vegetables, beef stroganoff, kebab)
6 Number of employees	
Total	20
Male	2
Female	18
Manager	1
Engineer/technician	2
R/D	2
Finance	2
Other office worker	0
Factory workers	13
7 Area	
Land area (m ²)	180
Building (m ²)	
Office	18
Factory	90
Other	42
II. Market/Place of Procurement	
8 Market of products	Now Astana 100% (cafe, restaurants, shops). Karaganda, Stepnogorsk, Kostanai, Pavlodar in future.
9 Place of procuring raw materials	Kazakhstan 100% (Raw material from contracting farms near Astana. Meat regularly supplied.)
10 Place of procuring machine and spare parts	Mainly Astana and Almaty
11 Market growth (100 now)	Doubling every year
12 Market share	Doubling every year. Doubling feasible in year 2000.
III. Problems in Management	
13 Fund	High interest rate and shortage of operation fund. Initial fund made by selling one of the owner's apartment. Considered loan, but not tried, because of high interest rate. Could get more cash by selling her apartment (\$8,000). Interest at 15% minimum. Shortage of operation fund coped with by reducing production.
14 Human resources	Shortage of competent manager/skilled worker. Lack experience and communication skill. Now training themselves. Government institute needed to train employees for technical matters (accounting etc.)
15 Information	Market information & technical information needed. No information now. Need a government-run or centralized bureau with a list of registered customers. Existing technical library is badly organized and information there is not enough. Should be improved (e.g. with internet)
16 Technology	Lack of fund for new machines. Now using machines of Korea, China, Belarus, Russia. Need high quality machine, but no money and information.
17 Facilities	Need pasting machine made in Russia, but difficult to get one. Now pasting is done manually.
18 Infrastructure (hard)	No problem.
19 Infrastructure (soft)	Incentives needed in tax rate reduction and no mortgage loan with low interest for 5 years. Minimum \$30,000 needed. Have to submit many documents in permission process. Tax report every month, too much. Loan term, 2 years too short, 5 years realistic. Would apply to a ATP companies group borrowing, if there is a system.
20 Two most serious issues	n.a
21 Important factors for improvement	n.a
22 Government support measures expected	More investment incentives. Why no incentives now, though operating in Special Economic Zone? Status only on paper. Many taxes, on the contrary.
23 Other	Many companies will come from Almaty to Astana in any kind of business. Need certificate for food processing. Test every month by doctor.

Table N.2.12 (9/9)

Result of Factory/Company Interview Survey

Item	Company H
I. Basic Information	
1 Year of establishment	1997 (metal/wood) 2000 (plastic)
2 Shareholders	Individuals
3 Annual sale (10 ³ Tenge)	
1997	18,396
1998	30,282
1999	20,619
4 Reason for locating in ATP	
5 Product/service provided	Metal product (fence, gates etc.)
6 Number of employees	
Total	40
Male	35
Female	5
Manager	1
Engineer/technician	1
R/D	1
Finance	2
Factory workers	30
7 Area	
Land area (m ²)	3,000
Building (m ²)	
Office	40
Factory	2,960
II. Market/Place of Procurement	
8 Market of products	Astana 100% (government, construction companies)
9 Place of procuring raw materials	Kazakhstan (100%)
10 Place of procuring machine and spare parts	
11 Market growth (100 now)	100 (Kazakhstan)
12 Market share	
III. Problems in Management	
13 Fund	High interest rate. Private bank loan interest is 15-18%/year and requiring complicated procedure. 3-4 times payment required before loan comes.
14 Human resources	Shortage of competent manager/mechanical engineers. Many former employees left for Israel, Germany and Russia. Young people hesitate to study engineering. Government takes no action. Would send his employees to tech. school, if there is one. Now no place to study. Participated in USAID training program in management.
15 Information	Laws/legal procedures are complex and frequently changes.
16 Technology	Lack of fund for introducing new technology. Leasing arrangement needed.
17 Facilities	No money for new equipment.
18 Infrastructure (hard)	Tariff too high, esp. heat.
19 Infrastructure (soft)	Incentives needed for lower interest rate, simpler procedures and shortening loan assessment length. Took 8 months for Astana Finance loan. Spent \$5,000 for loan document preparation. No freedom in changing product without permission.
20 Two most serious issues	Absence of inflow in competent experts
21 Important factors for improvement	Private ownership of space and machinery should be allowed. Leasing arrangement for machines is needed.
22 Government support measures expected	Simplified procedure in financial report. Soft loans for new industries (3-5% interest desirable)
23 Other	Dealer network is used now. No sale to foreign market. Would use gov. service on foreign market information, if there is one. No training/certificate system now. There was one in USSR time.

Table N.4.1
Existing Regional Development Policies of Kazakhstan Government

Group	Provinces	Characteristics	Development Policies
1	Atyrau, Aktyubinsk, Mangistau, Western-Kazakhstan, part of Kyzylorda, Zhambyl	<ul style="list-style-type: none"> - Rich mineral and hydro-carbon resources - Possesses research and production potential - Could easily be integrated into world economy - Predominance of mining sector/fractional mineral wastes handling - Extreme economic/social backwardness in rural areas - Environmental problem 	<ul style="list-style-type: none"> - Exploitation of hydrocarbon/other strategic mineral resources (chromates, potassium salt, borates, nickel, cobalt) applying advanced technology and comprehensive processing. - Provision of a world level production/social/market infrastructure to attract domestic/foreign investors - Creation of a production base for new drilling machines designed to work under quas high pressure
2	Eastern Kazakhstan, Pavlodar, Karaganda, Kostanai, Northern Kazakhstan	<ul style="list-style-type: none"> - Specialized in heavy industry - High research/production potential - Favorable economic conditions for high-tech manufacturing and substantial financial resources 	<ul style="list-style-type: none"> - Need for restructuring production facilities to encourage engineering/technological break-through, increase export and attract foreign investment - Accelerated development of market infrastructure - Management reforms of leading large plants to revive/accelerate production - Pavlodar/Karaganda: High-tech machines/equipment applying advanced technology (electronic/information/motor industry) - Karaganda/Eastern Kazakhstan: new composite, super clean and superconductive materials for developing laser technology - Northern Kazakhstan: manufacturing gears/computer aided control systems
3	Northern Kazakhstan, Akmola, Kostanai, Zhambyl, South Kazakhstan, Western Kazakhstan, Almaty (province)	<ul style="list-style-type: none"> - Agriculture playing a dominant role. 	<ul style="list-style-type: none"> - Need for reforming agriculture production - Specialization of agriculture production - Development of advanced processing technology to produce high-quality agro-products - Creation of a network of small agro-processing plants and modern storage - Creation of manufacturing/social infrastructure
4	Rural areas of Atyrau, Mangistau, Karaganda, Southern Kazakhstan	<ul style="list-style-type: none"> - Depressed regions with extreme soil, climatic, social, economic and technological conditions that restrict the opportunities for economic maneuver. - Severe social crisis due to lack of economic links 	<ul style="list-style-type: none"> - Prevention of further environmental degradation - Radical reconstruction of the economic structure to make use of the local resources, experience and traditions of the native population. - Creation of a first step of agro-processing industry - Improvement of rural and urban infrastructure to improve living condition and prevent emigration from rural/small towns to large urban areas. - Attraction of foreign technical and humanitarian assistance and its efficient utilization

Source: "Investor's Guide 1999-2000" Agency of the Republic of Kazakhstan on Investments

Table N.4.2
Production Target of Astana City Indicative Plan
by Year 2005

Sector/Subsector	Production Level in 2005 (2000=100.0)	Average Annual Growth Rate (%/year, 2000-05)
1. Industry total	175.0	11.8
1-1 Butter (animal)	115.9	3.0
1-2 Flour	109.1	1.8
1-3 Meat	111.5	2.2
1-4 Confectionery	109.3	1.8
1-5 Vodka	109.3	1.8
1-6 Beer	113.9	2.6
1-7 Non-alcohol beverages	181.4	12.7
1-8 Reaping-machine	2,000.0	82.1
1-9 Mowing-machine	115.8	3.0
1-10 Heat and power	126.1	4.7

Source: City of Astana

Table N.4.3
Production Target of Akmola Province Indicative Plan
by Year 2005

Sector/Subsector	Production Level in 2005 (2000=100.0)	Average Annual Growth Rate (%/year, 2000-05)
1. Industry	111.7	2.2
1-1 Mining	120.6	3.8
1-2 Processing Industry	115.9	3.0
(1) Non-ferrous products	153.0	8.9
(2) Agro-processing	115.4	2.9
Milk	115-120	2.8-3.7
Meat (processing)	115.0	2.8
Butter	117.0	3.2
Flour	104.0	0.8
Confectionery	100.0	0.0
Vegetable oil	102.6	0.5
Vodka	100.0	0.0
Soft drinks	113.0	2.5
1-3 Power/gas/water	100.1	0.0
2. Agriculture	114.2	2.7
2-1 Crop production	111.8	2.3
(1) Grain	113.2	2.5
(2) Oil seed	166.7	10.8
(3) Potatoes	103.0	0.6
(4) Vegetables	103.6	0.7
2-2 Livestock	117.5	3.3
(1) Meat	111.0	2.1
(2) Milk	122.0	4.1
(3) Egg	128.0	5.1
(4) Wool	114.0	2.7
3. Service		
2-1 Cargo transport	115.6	2.9
2-2 Passenger transport	106.7	1.3

Source: Akmola Province

Table N.4.4

**Production Target of Karaganda Province Indicative Plan
by Year 2005**

Subsector	Production Level in 2005 (2000=100.0)	Average Annual Growth rate (%/year, 2000- 05)
1. Industry	124.7	4.5
1-1 Mining	135.4	6.2
(1) Coal	152.0	8.7
(2) Non-energy mineral resources	126.4	4.8
Metal ores	125.8	4.7
Iron ore	147.1	8.0
Non-ferrous ore	123.2	4.3
1-2 Processing Industry	127.4	5.0
(1) Agro-processing	106.8	1.3
Food stuff	106.8	1.3
(2) Textile/clothing	207.3	15.7
(3) Leather goods/footwear	122.2	4.1
(4) Wood/wooden goods	156.3	9.3
(5) Paper-related/publishing	112.8	2.4
(6) Coke/oil refinery	114.5	2.7
(7) Chemical	103.1	0.6
(8) Rubber/plastic	690.0	47.2
(9) Non-metal mineral	115.0	2.8
(10) Ferrous metallurgy	115.4	2.9
(11) Non-ferrous metallurgy	128.3	5.1
(12) Machinery/equipment	161.0	10.0
(13) Electric/electronics	108.6	1.7
(14) Transport equipment	102.0	0.4
(15) Other	100.0	0.0
(16) Light industry	221.0	17.2
(7) Food	106.8	1.3
1-3 Electricity/gas/water	116.8	3.2
2. Agriculture	115.1	2.9
2-1 Crop production	114.1	2.7
(1) Grain	114.0	2.7
(2) Potato	105.7	1.1
2-2 Livestock	116.1	3.0
(1) Meat	109.0	1.7
(2) Egg	126.0	4.7
(3) Milk	185.0	13.1
3. Service		
3-1 Passenger transport	100.5	0.1

Source: Karaganda Province

Table N.4.5
Industrial Development Strategy for Astana City (Tentative)

Type of Industry	Existing Condition									Strategy			Remarks
	a. Existing	b. Existed before	c. Raw materials available	d. Growing	e. Priority type	f. Export competitive ness of Kazakh. Product	International Trade		To meet market expansion	Import substitution	Export promotion	Overall	
Food	yes	yes	yes	yes *	yes	competitive (vegetable products)	meat/dairy products/vegetable oil	meat/flour/sausage/butter	all	yes (meat/dairy products/vegetable oil)	Increase export both to CIS/non-CIS countries	(1) Process raw products before export. (2) Upgrade quality to expand export to non-CIS.	Agro-processing industry accounts for 2.9% of nation.
Beverage/forage/tobacco	yes	yes	yes	no **	no	no	no	no	all	yes (beverage)	no	Utilize non-used groundwater resource in Akmola Province.	Good quality groundwater of 50 × 10 ³ m ³ /day (100 million 500ml cans) available in
Textile	no	wool ?	limited	-	yes	no	no	-	yes	yes (wool)	no	Revive wool production in Astana. Raw wool to be collected from Almaty, Zambyl, Karaganda, Kyzyl-Orda, South Kazakhstan and process in Astana.	Wool production in Akmola Province in 1998 at 423 tons; 9.4% of Kazakh production at 4.5 × 10 ³ tons.
Apparel/other textile products	yes	yes	no	no**	yes	some	no	no	all	yes	yes	Shift to more sophisticated types of apparel.	Now producing mainly uniforms.
Wood/wood product	yes	yes	no	yes *	no	yes	particle board/Wood fiber product	no	all	yes (particle board/Wood fiber product)	no	(1) Remain dependent on Akmola northern area for raw wood. (2) Expand construction-related products.	Wood production in Akmola P. in 1997 at 9.2 × 10 ³ m ³ in 1997; 5.1% of nation at 181.4 × 10 ³ m ³ .
Furniture etc.	yes	yes	no	yes **	yes	no	no	no	all	yes	later	Upgrade quality to international standard.	
Pulp/paper/paper products	yes	yes	no	no *	yes	no	no	no	all	yes	no	Upgrade quality to meet administrative/business demand.	Astana's share in nation in value added generation at 4.1%, including publishing.
Publishing/printing	yes	yes	yes	yes **	no	no	no	no	all	yes	yes	(1) Meet administrative/business demand (2) Aim at Central Asia's intellectual center through publication of R/D outputs.	
Chemical products	yes	yes	no	no**	yes	no	medicine	no	all	yes (medicine)	no	(1) Expand existing industries to meet construction demand. (2) Promote biotechnology R/D in relation with agro-processing industries/agriculture.	(Example) R/D on medicine/cold-resistant crops.
Petrochemical/coal related	no	no	no	-	no	no	no	no	all	yes	no	No development	
Plastic products	yes	yes	no	yes **	no	no	no	no	all	yes (tire)	no	Demand in all spheres.	Construction, agro-processing, agriculture etc.
Rubber products	yes	yes	no	yes **	no	no	no	no	all	yes	yes	(1) Promote development in parallel with livestock development. (2) Export leather after processing to get higher value added.	
Tanned leather/products/fur/fur products	no	no	yes	-	yes	raw hides	no	no	all	yes	yes	(1) Expand production to meet construction demand. (2) Better utilize clay widely available around Astana for brick	Need a survey to clarify the amount of clay available.
Ceramics	yes	yes	yes (brick clay)	no **	yes	no	bricks	no	all	yes (bricks)	no	Keep dependent on Karaganda.	
Ferrous metallurgy	no	no	no	-	yes	no	no	no	no	no need	no		
Non-ferrous metallurgy	no	no	no	-	yes	no	no	no	no	no need	no		
Metal products	yes	yes	no	no**	yes	no	no	Copper/aluminum products	all	yes	yes	(1) Keep dependent on Karaganda for raw material. (2) Promote production to meet construction demand.	
Machinery	yes	yes	no	no **	yes	yes	no	Agriculture machinery/pumps/locomotives/cranes	all	yes	yes	(1) Promote production of agri. machines in parallel with agriculture development. (2) Improve quality to penetrate into non-CIS market	Agri. machine production in Astana accounted for 57% of nation in 1997 in production value.
Electronic equipment	yes	yes	no	no **	yes	no	no	no	some	yes	no	(1) Expand existing lamps/lighting production to meet construction demand. (2) Select competitive types and promote.	Accounted for 1.8% of nation in 1998.
Transport machine	yes	yes	no	no **	yes	no	no	used cars	some	no need	no	(1) Expand parts production/maintenance service.	
Precision equipment	no	no	no	-	no	no	no	no	-	-	-		
Ammunition	no	no	no	-	no	no	no	no	-	-	-		

Note: Industries are classified according to Japanese standard.

a: Currently existing in Astana, b: Once existed in Astana, c: Raw materials are easily obtainable from surrounding area, d: Recently growing, * comparison between 1993 and 1997, ** between 1997-99 in constant price or volume.

e: "Yes" if included in State Investment Committee's list for tax privilege, f: "Yes" if international trade competitiveness is more than 1.0, g: currently exported from Astana

Table N.5.1 (1/3)

Ongoing and Planned Projects in Astana City in Business, Commercial and Industrial Fields
(excluding administrative and infrastructure projects)

Name	Sector	Status	Year of completion	Responsible organization	Financing source	Budget (US\$ 10 ⁶)	Outline
1 Astana City Center Project	Urban	ongoing	2007	Astana municipality	Astana Municipality, private	500.0	210,000 m ² for offices, shops, hotels, apartments, cinemas, trade/exhibition halls, convention centers.
2 Residential Housing and Mortgage Lending	Urban	ongoing		Astana Finance	Astana Finance		
3 VIP Village	Urban	ongoing		Astana Finance	Astana Finance	12.0	High quality housings in 22.8 ha, with 80 cottages, sport complex, shops, trade/medical centers, primary school and kindergarten. 4-5km from city center.
4 Industrial enterprise development	Industry	planned				20.0	Laser automated complex for metal cutting, mobile food station, welding electrode, metal tiles.
5 Industrial zones (technopark) project	Industry					0.3	To establish technoparks for import substitution/export-oriented industries, providing tax privileges. Unused industrial premises to be used.
6 Ampoule medicine	Industry	planned		private	private	2.7	
7 Plastic pipe production	Industry	planned		private	private	1.1	
8 Wind power generation	Industry	planned		private	private	0.5	Power generating units of 4-20 kW
9 Non-pressure reinforced concrete pipes production	Industry	planned		private	private	0.9	sewerage pipes
10 Gas/ash concrete blocks production	Industry	planned		private	private	0.3	
11 Electric appliances production	Industry	planned		private	private		Air-conditioners, video tape recorders, audio/sound recorders.
12 Small and medium-sized business development	SME	ongoing		Astana Municipality	Astana Finance		Financial support program

Note : The list above focuses on economic development projects, excluding urban infrastructure projects, which are individually analyzed in each sector.

Source: (1) "Astana is a city of investment potentialities" by Astana Finance (2) "Astana: A City of Investment Opportunities" by Kazinvest

Table N.5.1 (2/3)

Ongoing and Planned Projects in Astana City in Business, Commercial and Industrial Fields

Name	Sector	Status	Year of completion	Responsible organization	Financing source	Budget (US\$ 10 ⁶)	Outline
13 Defense Industry Development Program	Industry	Ongoing	2002-	Ministry of Energy, Industry and Trade	RK	12.4	If Astana is included or not is not clear. State program.
14 Financial Sector and Enterprises Development	Business	Ongoing	2003	Ministry of Finance, National Bank	WB	62.31	If Astana is included or not is not clear.
15 Credits for Support of Small and Medium Business	Business	Ongoing	1999-2003	Ministry of Finance, Ministry of Energy, Industry and Trade	German loan	15	If Astana is included or not is not clear.
16 Small Business Development in Kazakhstan	Business	Ongoing	1998-2002	CJS "State Fund of Development of Entrepreneur-	EBRD	77.5	If Astana is included or not is not clear.
17 Construction of Trade Center "Astana UI"	Business	Ongoing	1999-2000	OJS "Astana Finance"		6.5	
18 Construction of Complex "Astana City"	Business	Ongoing	1999-2000	OJS "Astana Finance"	not decided	80.0	
19 Sector Problem "Construction Industry"	Industry	Ongoing	1996-2000	CJS "Bektau", LLC "Dudar", LLC "Raiz"	German government	10.1	
20 Reconstruction of Central Universal Market (TsUM)	Commerce	finished (June 2000)		Astana municipality			MABETEX company is the contractor.
21 Business Center "Ahsel"	Business	ongoing		Astana municipality			
22 Trading store "Ramstore" building	Commerce	planned	2000-2001	Astana municipality			Supermarket

Note : The list above focuses on economic development projects, excluding urban infrastructure projects, which are individually analyzed in each sector.

Source: (1) "Astana is a city of investment potentialities" by Astana Finance (2) "Astana: A City of Investment Opportunities" by Kazinvest (3) Astana Municipality (4) Capital Development Corporation

Table N.5.1 (3/3)

Ongoing and Planned Projects in Astana City in Business, Commercial and Industrial Fields

Name	Sector	Status	Year of completion	Responsible organization	Financing source	Budget (US\$ 10 ⁶)	Outline
23 Business Center "Basis-A"	Business	ongoing	- May 2000	Astana municipality			
24 Restaurant with observation area	Recreation	ongoing	May-Dec 2000	Astana municipality			
25 Restaurant on the Left Bank	Recreation	ongoing	- June 2000	Office of the President			
26 Green Market	Commerce	ongoing	2000-2001	Office of the President, Ministry of Energy, Industry and Trade, Astana Municipality			Bazar for food stuff
27 Recreation/Entertainment Zone in Akkolsk District	Recreation	ongoing	2000-2001	Office of the President			90km from Astana

Note : The list above focuses on economic development projects, excluding urban infrastructure projects, which are individually analyzed in each sector.

Source: (1) "Astana is a city of investment potentialities" by Astana Finance (2) "Astana: A City of Investment Opportunities" by Kazinvest (3) Astana Municipality (4) Capital Development Corporation

Table N.5.2 (1/4)

Ongoing and Planned Projects in Akmola Province including Economic and Infrastructure Projects

Project	Sector	Status	Year of completion	Responsible organization	Financing source	Budget (US\$ 10 ⁶)	Outline
1 Ecological Tourism and Expansion of Horse Breeding	Tourism/agriculture	ongoing	1999-2002	National Ecological Center for Sustainable Development		0.12	Schuchinsk-Borovoe region. Components: Study on world experience, preparing database on eco-tourism, preparing horse breeding plan until 2010, preparing design document, construction of tourist houses, production/marketing of horse milk and meat, construction of education center for students, instructors, grooms.
2 Construction of national ethnographic center "Kazak Aul" (Korgalgin)	Culture	planned	-2003		private	0.17	Korgalgin district along the Great Silk Road.
3 Reconstruction of Korgalgin Preservation Museum (Korgalgin)	Culture	planned	-2001		private	0.02	
4 Reconstruction of camp buildings by the Sholak Lake Brigade (Korgalgin)	Tourism	planned	-2005		private	0.21	
5 Reconstruction of pioneer camp buildings on the Nura River in Korgalgin	Tourism	plan	-2001		private	0.10	
6 Construction of mud-cure houses at the Lake Akatay Lake (Korgalgin)	Medicine	planned	-2002		private	0.08	
7 Construction of a viewing point/parking space near the Isey Lake (Korgalgin)	Tourism	planned	-2002		private	0.07	
8 Creation of Special Recreation Zone of Astana on the Nura River and Tengis-Korgalgin Lake System	Environment/tourism	ongoing	1999-2001			7.51	Prepare a plan/FS on the project: eco-tourism, natural system, biosphere territory, land use. Construction of infrastructure/buildings. Publication of information bulletin. Arranging TV programs/newspaper articles. Need president decree.

Table N.5.2 (2/4)

Ongoing and Planned Projects in Akmola Province including Economic and Infrastructure Projects

Project	Sector	Status	Year of completion	Responsible organization	Financing source	Budget (US\$ 10 ⁶)	Outline
9 Land Inventory and Reduction of Cultivation Area on Ecologically Damaged and Low - efficiency Areas	Land use plan	ongoing	1998-2000			1.37	Study on present land use: identify low productive farm land, monitoring/mapping of degraded area, propose measures for improving degraded area, prepare a future land use plan.
10 Development of Ecological Tourism for Conservation of Landscape and Biological Diversities of Akmola Oblast	Environment/tourism	planned	2000-2002	National Ecological Center for Sustainable Development		1.50	Building of museum, camps at Sholak Lake, cordon for oil exploitation area, pioneer camp, mud bath building, sightseeing rest place, recreation department Karazhar building. <i>Integrating Projects 3. to 7. Above, but with different cost figures.</i>
11 Improvement of Solid Waste Collection, Utilization and Storage System in Kokshetau	Environment	ongoing	1999-2001	Akmola Province, Ministry of Environment and Natural Resources		0.11	Prepare a solid waste management plan for Kokshetau in 6 months, covering technical, organizational, financial and legal aspects. F/S, D/D and implementation will follow this project.
12 Production of stomatology silicone and alginate mould masses (Atbasar)	Industry	planned		Dantis Ltd.	private	2.00	Production of stomatology silicone and alginate mould masses of world standard by importing foreign equipment at \$ 1.65 million.
13 Construction of Car Shop/Development of Consumer Service for Home Appliances	Industry	planned		Olga Ltd.	private	10.00	Construction of Car Shop/Development of Consumer Service for Home Appliances
14 Cultivation of vegetables on open ground (Kokshetau)	Agriculture	planned		Olga-Kyzyl-Zhar Ltd.	private	0.01	Cultivation of vegetables in Kokshetau. Purchase machinery/herbicide.
15 Production of wooden door jams, sash pulleys, balcony doors (Shortandy)	Industry	planned		Cristal Ltd.	private	0.22	Aim at markets in Astana and overseas.
16 Development of Cattle Breeding (Korgalgin)	Agriculture	planned		Maksat-A	private	0.09	To increase supply of meat/dairy products by purchasing agriculture machine, fuel, herbicide, fertilizers, fattening feed for young cows, horses and sheep.

Table N.5.2 (3/4)

Ongoing and Planned Projects in Akmola Province including Economic and Infrastructure Projects

Project	Sector	Status	Year of completion	Responsible organization	Financing source	Budget (US\$ 10 ⁶)	Outline
17 Repairing of agriculture machine /generating industrial products (Chuchinsk)	Industry	planned		JSC Agroremmash	private	0.07	Repairing of agriculture machine /generating industrial products
18 Storage, remaking, production and trading of meat products (Chuchinsk)	Agriculture	planned		Burobay Ltd.	private	0.12	Purchase of cattle to increase production of meat products for domestic market.
19 Increase of distilling capacity (Kokshetau)	Industry	planned		JSC Asyl-Su	private	0.30	Diversify alcoholic products
20 Soft drink production/trade (Kokshetau)	Industry	planned		Toy Ltd.	private	0.35	Add soft drinks, both carbonated/non-carbonated, to their products.
21 Gauntlet/household chemical products production (Kokshetau)	Industry	planned		Zavod bytovoy himii Ltd.	private	0.10	Details not known.
22 Enhancing production capacity of grain processing (Kokshetau)	Industry	planned		Bard Ltd.	private	0.01	Details not known.
23 Felt goods production (Kokshetau)	Industry	planned		JSC Kigiz	private	0.30	Increase supply to Karaganda/Russia. Diversify markets.
24 Expand production capacity of meat/fat/sausages	Industry	planned		JSC Igilik	private	0.46	Well-known company in CIS/Russia
25 Rehabilitation of the Schuchinsk-Borovoye Resort Zone	Tourism	planned		Akmola Province	Foreign source proposed	14.04	Construction of sewerage treatment facilities/groundwater intake/water supply networks
26 Prevention of Ecological Disaster caused by Dike Break at Myrzakolsor Reservoir	Flood control	planned		Akmola Province	Foreign source proposed	8.62	Construction of regional wastewater biological treatment station and rearrangement of sewage collator networks.
27 Conservation of Unique Freshwater Lake Kopa	Environment	planned		Akmola Province	Foreign source proposed	3.31	Reinforcement of lake shores/Kylshakty River banks. Establishment of recreational areas. Construction of storm drainage facilities in Kokshetau

Table N.5.2 (4/4)

Ongoing and Planned Projects in Akmola Province including Economic and Infrastructure Projects

Project	Sector	Status	Year of completion	Responsible organization	Financing source	Budget (US\$ 10 ⁶)	Outline
28 Water Supply Improvement in Kokshetau	Water Supply	planned		Akmola Province	Foreign source proposed	1.18	Rehabilitation of groundwater intake/construction of a new water purification plant
29 Water Supply Improvement in Medium-sized Towns	Water Supply	planned		Akmola Province	Foreign source proposed	2.07/year	Rehabilitation of water supply systems in Krasnoznamenskoye, Astrakhanka, Atbasar, Balkashino, Korgalgyno, Akkol.
30 Pilot project on post-privatization support of agriculture	Agriculture	Ongoing	1998-2002	Ministry of Agriculture	WB, Know-How Fund grant, TACIS	23.77	
31 Water Resources Management and Land Reclamation	Infrastructure	Ongoing	1998-2003	Ministry of Agriculture	ADB	55	If Akmola Province is included or not is not clear.
32 Improvement of Irrigation and Drainage Systems	Agriculture	1996-2003	1996-2003	Ministry of Agriculture	WB	100	If Akmola Province is included or not is not clear.
33 Restructuring of Farms	Agriculture	Ongoing	2000-2002	Ministry of Agriculture	ADB	30.87	If Akmola Province is included or not is not clear.
34 Project on Locust Control	Agriculture	Ongoing	2000-2001	Ministry of Agriculture	ADB	25	If Akmola Province is included or not is not clear.
35 Highway Astana - Kokshetau	Transport	planned	2000-2002	Ministry of Transport/Communication			

Source: (1) Akmola Province (2) Capital Development Corporation

US\$ = 145 Tenge

Table N.5.3 (1/2)

Ongoing and Planned Projects in Karaganda Province including Economic and Infrastructure Projects

Project	Sector	Status	Period	Responsible organization	Financing source	Budget (US\$ 10 ⁶)	Outline
1 Renovation of merchant houses (Karaganda)	Tourism	planned	2000-2010	Karaganda Province			Repair/renewal of merchant houses at Ryazantsev and Smetanin in Karaganda City
2 Creation of tourist service industry	Service	planned	2000-2010	Karaganda Province			
3 Restoration of old palace	Tourism	ongoing	1999-2001	Karaganda Province			Restoration of Kyzylkentsky Palace of 14-17 century and conversion to museum
4 Restoration of mausoleums/necropolis (Ulytausky)	Tourism	ongoing	1999-2003	Karaganda Province			Restoration of mausoleums/necropolis of historical great kings
5 Restoration of old settlement and burial ground (Ulytausky)	Tourism	planned	2000-2012	Karaganda Province			Restoration of Taldysai Settlement, cave sites, burial ground, barrow from the Bronze Age
6 Creation of museum (Aktogaisky)	Tourism	planned	2000-2003	Karaganda Province			Creation of museum & ethnographic complex at Begazy sepulchre
7 Promotion of tourism related industries and services	Industry/service	ongoing	1999-2010	Karaganda Province			Creation of industries/traders producing/trading folk crafts, folk medicine, souvenir, trappings, presenting traditional rituals & celebrations, and establishing cultural complex. Creation of collective farms.
8 Creation of tourist sport complex "Bars" (Karaganda City)	Tourism	ongoing	1999	Karaganda Province		0.10	With a capacity of accommodating 150 people. Facilities include hunting ground, educational/training meetings places, natural spring, swimming pool, sauna etc.
9 Conference on tourism resource development/promotion	Tourism	ongoing	1999	Karaganda Province			
10 Preparation of recommended tourists routes	Tourism	ongoing	1999	Karaganda Province			
11 Human resource development for tourism	Tourism	ongoing	1999	Karaganda Province			Preparing proposals for skill development in tourism targeting hotel/restaurant staff.

Table N.5.3 (2/2)

Ongoing and Planned Projects in Karaganda Province including Economic and Infrastructure Projects

Project	Sector	Status	Period	Responsible organization	Financing source	Budget (US\$ 10 ⁶)	Outline
12 Construction of Ring Road Pavlodar-Karaganda (around Astana)	Infrastructure	Ongoing		Ministry of Transport and communications	RK	11.2	Million tenge
13 Rehabilitation of the Motorways Akchatau - Karaganda and Almaty - Gulshad	Transport	Ongoing	1999-2004	Ministry of Transport and Communication	WB	145.27	
14 Water Resources Management and Land Restoration	Infrastructure	Ongoing	1998-2003	Ministry of Agriculture	ADB	55	If Karaganda Province is included in this program or not is not clear.
15 Improvement of Irrigation and Drainage Systems	Agriculture	1996-2003	1996-2003	Ministry of Agriculture	WB	100	If Karaganda Province is included in this program or not is not clear.
16 Restructuring of Farms	Agriculture	Ongoing	2000-2002	Ministry of Agriculture	ADB	30.87	If Karaganda Province is included in this program or not is not clear.
17 Project on Locust Control	Agriculture	Ongoing	2000-2001	Ministry of Agriculture	ADB	25	If Karaganda Province is included in this program or not is not clear.
18 Rehabilitation of the Motorways between Karaganda - Astana	Transport	Planned	2001-2003	Ministry of Transport and Communication	IBD, SFR	66.91	

Source: Karaganda Province US\$ = 145 Tenge

Note: The projects 1 to 11 listed above are the components of a national program titled "Revival of Historical Centers of the Silk Road, Preservation and Successive Development of Cultural Heritage of Turkic Countries, Creation of Tourism Infrastructure."

Table N.5.4 (1/2)

Outline of Programs Proposed for AAKR

Program	Component	Outline
1. Eurasian IT Oasis	Establishment of IT center in Astana Incubation service for IT industries Telecommunications network development Reinforcement of technical library Rural communication network expansion and public access terminal installment Multimedia University Smart school plan	The basic idea is to create an environment in AAKR in which information technology (IT) can be fully applied to regional development of AAKR. As old day oasis provided water for travelers, today's oasis provides an opportunity for free information exchange. Astana will grow into an IT center for Kazakhstan or even CIS countries. There are two major components to prepare foundation for IT promotion, telecommunication network building and promotion of IT industries by incubation service. IT application includes rural development by connecting Astan's IT center and rural area for information exchange on agriculture produce market, reinforcement of technology library in Astana and Karaganda utilizing IT etc. Public access terminals will be installed in secondary cities where farmers can use computers. Human resources development as the prerequisite includes Multi-media University, either establishing a new institute or upgrading the existing institute and smart school plan by which IT education is enhanced at primary and secondary school level.
2. Greater Astana Integrated Agriculture Development Program	Provision of technical and financial support Irrigation facilities rehabilitation Promotion of greenhouse farming and livestock	Astana is currently dependent on supply of some food stuff from other regions, especially southern part of Kazakhstan. As the Astana's population grows to the forecast 800,00 by the year 2030, the food shortage will increase as shown in Table???. To solve this problem, four districts, three in Akmola Province and one in Karaganda Province, in the vicinity of Astana are selected as promoting agriculture production increase for meeting growing food demand in Astana. The selected areas are Arshanlysky, Tselinogradsky and Shortandinsky districts in Akmola Province and Osakarovsky district in Karaganda Province. Osakarovsky district borders Akmola Province in the north and encompasses most part of the Karaganda portion of the Irtysh-Karaganda Canal, providing a high
3. Akmola Agro-Processing Corridors Program	Rehabilitation of republican road P9 from Astana to Kokshetau and east-west artery running from Erimentau to Esyl through Astana Improvement of rural road network in the Improvement of urban infrastructures of key secondary cities Provision of technical and financial support and incentive measures for agro-processing industries	The objective is to improve the investment environment of these corridors targeting at agro-processing industries capitalizing on the area's high agriculture potential. Access will be improved along the north-south and east-west arteries as well as rural roads in the hinterland to ensure smoother flow of traffic between farm area and the processing sites. Urban infrastructure of the key secondary cities such as Schuchinsk, Makinsk, Akkol, Athasar, Esyl and Erimentau are to be rehabilitated and upgraded. Also software aspect of the investment environment such as investment privileges and financial/technical support will be provided. The products could initially serve AAKR, followed later by an increase in export to CIS and western and Asian countries.
4. Karaganda Processing Industry Revitalization Program	Provision of financial and technical support and investment privileges to processing industry Improvement and upgrading of urban infrastructure Establishment of Industrial "Human Resource Development Center" Promotion of "Cleaner Production" technology	The objective is to revitalize and accelerate the growth of ferrous- and non-ferrous metallurgy and other processing industries in Karaganda and Temirtau City so that these cities will grow into a major processing industry center in CIS. Investment environment will be improved by infrastructure upgrading and software measures such as investment privileges and financial and technical support. Industrial Human Resource Development Center will provide training to participants from Karaganda Province, other part of Kazakhstan and CIS countries on advanced industrial technology and managerial subjects. "Cleaner Production" technology will be promoted with support by United Nations Environmental Program (UNEP) initiative. "Cleaner Production" technology replaces environmentally undesirable manufacturing process with a new technology generating minimum

Table N.5.4 (2/2)

Outline of Programs Proposed for AAKR

Program	Component	Outline
5. Akmola Tourism Development Program	<p>Master plan preparation</p> <p>Access improvement</p> <p>Improvement/expansion of on-site infrastructures</p> <p>Investment promotion incentives</p> <p>Establishment of Tourism Human Resources Center</p>	<p>The objective is to develop the existing tourist potential areas in Akmola Province so that they could provide an increased recreational opportunity for urban residents in AAKR and international tourists. Three areas in Akmola Province are selected: Korgalginsky Preservation Area containing the Lake Tengis, Baraboe National Park and Kokshetau National Park.. Basic direction would be eco-tourism for Korgalginsky Preservation Area and eco-tourism plus other types of nature-oriented activities for the two national parks. A master plan will be prepared before the initiation of development measures, including zoning, forecast of guest arrivals, preparation of infrastructure development plan and investment promotion measures. A tourism human resource development center will be established to train tourism industry personnel.</p>
6. Integrated Urban Infrastructure Development Program (IUIDP)	<p>Rehabilitation and upgrading of urban infrastructures in Kokshetau City, Karaganda/Temirtau City and 20 secondary cities in</p>	<p>The objective is to rehabilitate and upgrade the urban infrastructure facilities of the major and secondary cities in AAKR to improve the living standard of the population and the investment environment. The designated functions of Kokshetau City (agro-processing and R/D on farming and bio-technology) and Karaganda/Temirtau City (processing industry center) will be fulfilled with an upgraded urban environment. The secondary cities would play an increasingly important role in providing job opportunities and better living standard for the rural population. All kinds of infrastructure are covered such as water supply, sewerage, solid waste management, power and heat supply, road and telecommunication. A unique characteristics of this IUIDP approach is its emphasis on IT application, by which public access terminals (PAT) be installed together with telecommunication line reinforcement. Local residents will be able to use computers at PATs for acquiring various information from larger cities such as crop market information, new farming technology information disseminated by IT center in Astana, or weather forecast information.</p>
7. Research and Development (R/D) Center Program	<p>R/D center on IT and environmental science in</p> <p>R/D center on farming/bio-technology in Kokshetau</p> <p>R/D center on industrial technology in Karaganda</p> <p>Telecommunications network development</p>	<p>These R/D centers would spearhead application of advanced technology to various spheres of Kazakhstan's economic activities. Telecommunications networks will be developed to link these R/D centers and other R/D institutes so as to promote sharing of R/D fruits and disseminating findings to factories and farmers through strengthened extension service.</p>
8. Comprehensive Enterprise Support Program	<p>Technical support to farming, industry and service enterprises</p> <p>Financial support to farming, industry and service enterprises</p> <p>Managerial support to farming, industry and service enterprises</p>	<p>This is a sector program applicable to any area in AAKR. A comprehensive package of support measures will be provided to enterprises and individuals in agriculture, industry and service sectors and of small to large scale. Technical support will be provided by strengthened agriculture extension service and advisory and consultation service for factories fully utilizing the functions of Industrial Human Resource Development Center and Advanced Industrial Technology Center proposed in Karaganda City. Managerial support will be provided especially to small enterprises with low managerial capability. All these functions will be enhanced by full application of telecommunication and IT technology.</p>
9. Introduction of Technology Education Program	<p>Introduction of technological subjects to school curricula</p>	<p>This is a pilot scheme to be implemented in Astana, introducing new types of education programs at primary and secondary school level. Technology related subjects such as mathematics, science, information technology and English language are to be introduced or expanded.</p>

Table N.5.5 (1/2)

Food Balance in Astana and Akmola Oblast in 1999 and 2030

Item	Unit	Astana	Akmola	Total
(1) Population				
(1-1) 1998/1999	thousand	320	825	1,145
(1-2) 2030	thousand	800	1,123	1,923
(2) Grain				
(2-1) Consumption per capita				
1999	kg/person/year	80	80	80
2030	kg/person/year	80	80	80
(2-2) Consumption requirement				
1999	10 ³ ton	26	1,300	1,326
2030	10 ³ ton	64	1,300	1,364
(2-3) Production				
1998 (low level)	10 ³ ton	0	1,056	1,056
1999 (high level)	10 ³ ton	0	3,578	3,578
(2-4) Balance				
(Low production level)				
1998/1999	10 ³ ton	-26	-244	-270
Balance/production	%			-25.5%
2030	10 ³ ton	-64	-244	-308
Balance/production	%			-29.2%
(High production level)				
1998/1999	10 ³ ton	-26	2,278	2,252
Balance/production	%			62.9%
2030	10 ³ ton	-64	2,278	2,214
Balance/production	%			61.9%
(3) Potato				
(3-1) Consumption per capita				
1999	kg/person/year	80	80	80
2030	kg/person/year	80	80	80
(3-2) Consumption requirement				
1999	ton	25,600	65,984	91,584
2030	ton	64,000	89,826	153,826
(3-3) Production				
1998 (low level)	ton	0	93,959	93,959
1999 (high level)	ton	0	137,778	137,778
(3-4) Balance				
(Low production level)				
1998/1999	ton	-25,600	27,975	2,375
Balance/production	%			2.5%
2030	ton	-64,000	4,133	-59,867
Balance/production	%			-63.7%
(High production level)				
1998/1999	ton	-25,600	71,794	46,194
Balance/production	%			33.5%
2030	ton	-64,000	47,952	-16,048
Balance/production	%			-11.6%
(4) Vegetables				
(4-1) Consumption per capita				
1999	kg/person/year	100	100	100
2030	kg/person/year	100	100	100
(4-2) Consumption requirement				
1999	ton	32,000	82,480	114,480
2030	ton	80,000	112,282	192,282
(4-3) Production				
1998 (low level)	ton	0	28,659	28,659
1999 (high level)	ton	0	47,401	47,401
(4-4) Balance				
(Low production level)				
1998/1999	ton	-32,000	-53,821	-85,821
Balance/production	%			-299.5%
2030	ton	-80,000	-83,623	-163,623
Balance/production	%			-570.9%

Table N.5.5 (2/2)
Food Balance in Astana and Akmola Oblast in 1999 and 2030

(High production level)				
1998/1999	ton	-32,000	-35,079	-67,079
Balance/production	%			-141.5%
2030	ton	-80,000	-64,881	-144,881
Balance/production	%			-305.7%
(5) Meat				
(5-1) Consumption per capita				
1999	kg/person/year	100	100	100
2030	kg/person/year	100	100	100
(5-2) Consumption requirement				
1999	10 ³ ton	32	82	114
2030	10 ³ ton	80	112	192
(5-3) Production				
1998 (low level)	10 ³ ton	0	86	86
1999 (high level)	10 ³ ton	0	87	87
(5-4) Balance				
(Low production level)				
1998/1999	10 ³ ton	-32	4	-28
Balance/production	%			-33%
2030	10 ³ ton	-80	-26	-106
Balance/production	%			-122.5%
(High production level)				
1998/1999	10 ³ ton	-32	4	-28
Balance/production	%			-32.2%
2030	10 ³ ton	-80	-26	-106
Balance/production	%			-122.0%
(6) Milk				
(6-1) Consumption per capita				
1999	kg/person/year	150	150	150
2030	kg/person/year	150	150	150
(6-2) Consumption requirement				
1999	10 ³ ton	48	124	172
2030	10 ³ ton	120	168	288
(6-3) Production				
1998 (low level)	10 ³ ton	0	339	339
1999 (high level)	10 ³ ton	0	357	357
(6-4) Balance				
(Low production level)				
1998/1999	10 ³ ton	-48	215	167
Balance/production	%			49.3%
2030	10 ³ ton	-120	170	50
Balance/production	%			14.8%
(High production level)				
1998/1999	10 ³ ton	-48	233	185
Balance/production	%			51.9%
2030	10 ³ ton	-120	188	68
Balance/production	%			19.2%

Note : Population growth rate assumed
for Akmola Oblast :

1.0% /year (-1.2%/year between 1994 and 1998)

Table N.5.6
Socio-Economic Profile of Arshanlynsky, Tselinogradsky and Shortandinsky Districts in Akmola
Province Surrounding Astana City

Item	Unit	Arshalynsky	Tselinogradsky	Shortandinsky	Total	Province
1 Area	10 ³ km ²	5.3	8.3	4.8	18.4	146.6
2 Population (1999)	thousand	29.5	51.2	32.9	113.6	824.8
3 Population density	person/km ²	5.6	6.2	6.9	6.2	5.6
4 Migration (1998)	persons	-636	-175	-1,180	-1,991	-28,158
5 Agriculture production (1999)	Tenge 10 ⁶	1,906.3	3,465.7	2,579.6	7,951.6	41,179.7
6 Agriculture production in 1999 as compared with 1998=100		148.0	162.0	207.7	170.3	179.8
7 Agriculture productivity	Tg 10 ³ /person	64.6	67.7	78.4	70.0	49.9
8 Crop Production (1999)						
Grain	10 ³ ton	159.4	256.5	269.8	685.7	3,577.5
Potato	ton	3,544	20,678	4,790	29,012	137,778
Vegetables	ton	2,947	4,789	1,612	9,348	47,401
9 Livestock product (1999)						
Meat	10 ³ ton	5.1	7.3	4.1	16.5	86.6
Milk	10 ³ ton	16.9	33.2	18.7	68.8	356.8
Eggs	10 ³ pieces	3,840	21,205	3,072	28,117	132,867
Wool	ton	7	24	3	34	437
10 Number of Livestock (1999)						
Cattle	thousand	17.6	31.5	15.6	64.7	337.1
Cows	thousand	8.7	16.9	9.1	34.7	170.1
Pigs	thousand	10.0	9.8	19.5	39.3	156.3
Sheep and goat	thousand	4.8	9.9	2.4	17.1	170.1
Horse	thousand	3.3	5.6	1.5	10.4	71.0
Poultry	thousand	143.3	395.5	27.3	566.1	1,839.0
11 Farm land area (1999)	10 ³ ha	470.1	730.2	385.3	1,585.6	10,139.2
12 Share of farm land	%	88.7	88.0	80.3	86.2	69.2
13 Total planted area (1999)	10 ³ ha	194.9	257.0	196.2	648.1	3,309.0
14 Planted area/Farm land	%	41.5	35.2	50.9	40.9	32.6
15 land productivity (5/12)	Tg 10 ³ /ha	9.8	13.5	13.1	12.3	12.4
16 Industrial production	Tg 10 ⁶	504.1	653.8	576.4	1,734.3	19,846.2
17 Industrial productivity	Tg 10 ³ /person	17.1	12.8	17.5	15.3	24.1
(Share in Province)						
18 Area	%	3.6	5.7	3.3	12.6	-
19 Population	%	3.6	6.2	4.0	13.8	-
20 Migration (1998)	%	2.3	0.6	4.2	7.1	-
21 Agriculture production	%	4.6	8.4	6.3	19.3	-
22 Crop Production						
Grain	%	4.5	7.2	7.5	19.2	-
Potato	%	2.6	15.0	3.5	21.1	-
Vegetables	%	6.2	10.1	3.4	19.7	-
23 Livestock product (1999)						
Meat	%	5.9	8.4	4.7	19.1	-
Milk	%	4.7	9.3	5.2	19.3	-
Eggs	%	2.9	16.0	2.3	21.2	-
Wool	%	1.6	5.5	0.7	7.8	-
24 Number of Livestock						
Cattle	%	5.2	9.3	4.6	19.2	-
Cows	%	5.1	9.9	5.3	20.4	-
Pigs	%	6.4	6.3	12.5	25.2	-
Sheep and goat	%	2.8	5.8	1.4	10.1	-
Horse	%	4.6	7.9	2.1	14.6	-
Poultry	%	7.8	21.5	1.5	30.8	-
25 Farm land area (1999)	%	4.6	7.2	3.8	15.6	-
26 Total planted area (1999)	%	5.9	7.8	5.9	19.6	-
27 Industrial production	%	2.5	3.3	2.9	8.7	-

Source : (1) Socio-Economic Passport of Akmola Province, January 2000, Akmola Province Office (2) Data from Akmola Province

Table N.5.7

Present Condition of Urban Infrastructure Facilities in Kokshetau and 9 Secondary Cities⁽¹⁾

1. Kokshetau City

(1) Transport

- Total length of urban road: 280 km (160 km paved)
- Kokshetau Aviation Company operates airtransportation service with YAK-40, AN-2 and TU-134 aircrafts. The Kokshetau airport can accommodate larger aircrafts such as TU154 and TU-134.
- The railway artery runs through Kokshetau, connected with other part of Kazakhstan and Russia.
- The roads in the central area was reconstructed for 8.8 km with improvements of sidewalks and storm drainage structures.

(2) Communication

- The total number of telephone lines: 30,000 (18,500 in apartment area)
- There are 7 call offices with automatic telephone system, 1 station for trunking communication and 2 mobile stations.

(3) Heat Supply

- Heat is generated and supplied by regional boiler plant No.2 RK2 and RK-1. Technocontract provides heat supply service.

(4) Water Supply

- Water source is Changlinskoye Reservoir with a storage capacity at 28 million m³
- Water is treated and supplied from Changlinskoye Plant and Pavlovsky Plant. The total storage capacity is 22,200 m³.

(4) Electricity Supply

- There is no power station in Kokshetau. Power is supplied from outside by CREC.
- There are nine 110 kV substations, four 35/10 kV substations, and 412 transformer substations for 10/0.4 kV.
- The length of the distribution/transmission lines are 422 km. (0.4 kV), 294.7 km (PTL 10 kV), 174.7 km (CL-10 kV) and 123.9 km (CL 0.4 kV).

(5) Gas Supply

- Gas supply service is provided by Alatransgas, Department of Gas Economy of Kokshetau City.
- There are 227 group gas units, serving 31,000 consumers.
- 20 GRUs require complete refurbishment.

(6) Preliminary Cost Estimate for Infrastructure Improvement

- Sewerage facilities: \$35 million (total), \$ 8 million (header) and \$27 million (treatment plant)
- Water supply network: \$ 9 million
- Water transmission from Changlinskoye Reservoir: \$ 10 million
- Heat/hot water supply system improvement: \$9.18 million, including the following.
 - Hot water boiler KVTk-100/150 at RK-2: \$ 4.7 million
 - Heat supply main M-2: \$ 0.3 million
 - Water treatment facility at RK-2: \$ 0.5 million
 - Standby water supply at RK-2: \$ 0.3 million
 - Hot water supply rehabilitation: \$ 1.85 million
 - Power generating boiler at RK-w with 2 * 10.5 kV capacity: \$ 15.6 million
 - Installation of controlling/registering devices at heat supply sites: \$ 1.53 million
- Bank reinforcement at Kopa Lake: \$ 0.07 million
- Improvement of roads, sidewalks and storm drainage structures: \$ 5 million
- Total: \$ 83.85 million

2. Akkol City

(1) Water Supply

- There are 6 wells as water source, out of which two have been operated since 1959 with water production of 3 liter per second and 5 liter per second respectively.
- The total length of water pipelines is 22.4 km. They have been in use for more than 40 years. They often go out of service.
- Two more wells need to be drilled. Water pipeline for additional 4.2 km is needed. The total cost for these works is estimated at Tg 13.6 million.

(2) Other facilities

- ATS is installed for telecommunication.
- There is no sewerage facility nor hot water supply service.
- Railway and highway run through the city.

3. Atbasar City

(1) Water Supply

- There are 22 wells, out of which 19 are operating.
- The total length of the pipelines is 247 km. There are 256 street waterpumps.

⁽¹⁾ Information was made available for 9 secondary cities in Akmola Province.

- Annual water consumption is 960,000 m³.
- The water supply system has been operated more than 30 years with no rehabilitation in the last 15 years. Rehabilitation work would require Tg 30 million.

(2) Other Facilities

- ATS is installed for telecommunication.
- There is no sewerage facility nor hot water supply service.
- Railway and highway run through the city.

4. Derzhavinsk City

(1) Water Supply

- Natural basin and rivers are the water source. The Lvovskiy intake is not functioning now. Its rehabilitation is estimated to cost Tg 50 million.

(2) Other Facilities

- ATS is installed for telecommunication.
- There is no sewerage facility nor hot water supply service.
- Railway and highway run through the city.

5. Yerementau City

(1) Water Supply

- The Seletinskiy water pipeline has been broken down. Water is supplied from 6 wells during summer for 60% and in winter for 10%.
- Drilling of 3 wells started in 1999 utilizing the republican budget. The work is soon to be completed. The water supply shortage can be solved by this project only up to 30 – 35% due to non-production loss in the pipelines and insufficient network coverage.

(2) Other Facilities

- ATS is installed for telecommunication.
- There is no sewerage facility nor hot water supply service.
- Railway and highway run through the city.

6. Yesil City

(1) Water Supply

- Two organizations are responsible for water supply: VOD-6 for water from the Ishim River and LLC Skvazhina for groundwater.
- Water demand is met for 85%, with the remaining 15 % unmet due to incapability of poor population to bear the cost of water. Ground water is more expensive due to long distance from water source (14 km) and resultant higher use of electricity.

(2) Other Facilities

- ATS is installed for telecommunication.
- There is no sewerage facility nor hot water supply service.
- Railway and highway run through the city.

7. Makinsk City

(1) Water Supply

- There are 4 independent water intakes. In the center of the city, there are 3 wells and a water tower of 120 m³ capacity, 17 water intake pumps and 4 mechanical water pumps.
- Water supply in summer covers only 30-35% of demand.
- Water is supplied from Zhalairstkiy water intake.
- Water is supplied only to 30% of the population.
- The Kishkentayskiy water pipeline is needed to increase the water supply from the water source 15km from the city. A survey was carried out in 1993, but stopped due to shortage of fund.

(2) Other Facilities

- ATS is installed for telecommunication.
- There is no sewerage facility nor hot water supply service.
- Railway and highway run through the city.

8. Stepnogorsk City

(1) Water Supply

- Water demand is met 100% by the supply of water from the Selety River. The water supply volume in 2000 was 25.7 million m³.

(2) Other Facilities

- ATS is installed for telecommunication. Mobile phone network is available.
- There are sewerage facilities and hot water supply service.

9. Stepnyak City

(1) Water Supply

- Water is supplied by 3 boreholes and 95 wells.
- A decision was made to drill 2 new wells, construct 2 pump stations, and install new pipelines to be connected to the existing network. The cost is estimated to be Tg 5.5 million.

(2) Other Facilities

- ATS is installed for telecommunication.

- There are no sewerage facilities nor hot water supply service.
- There is a highway running through the city.

10. Schuchinsk City

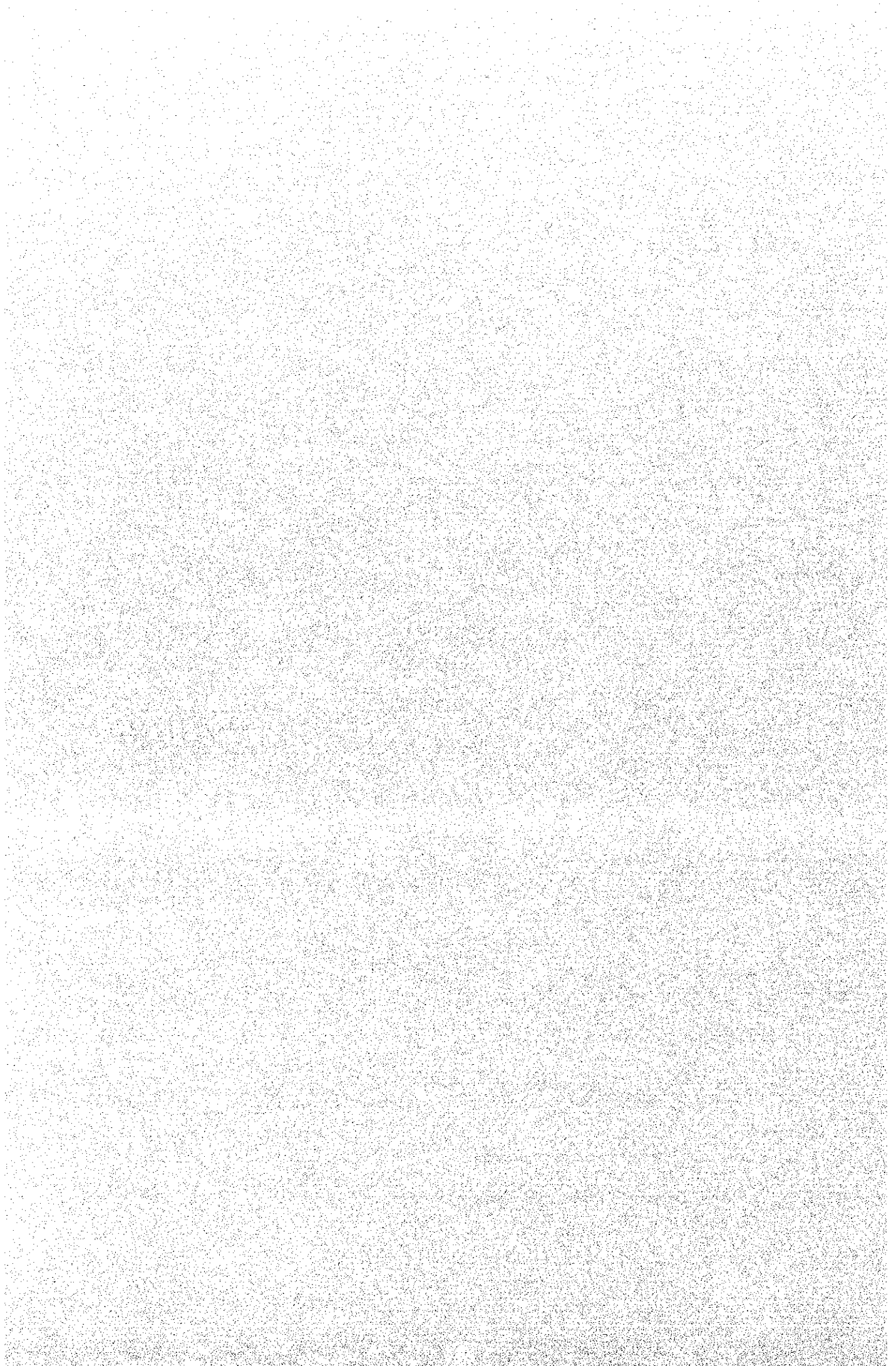
(1) Water Supply

- Water is provided from the Schunchye Lake. The water supply network is in a satisfactory condition.
- The Kokshetau Industrial Water Pipeline is to be completed in 2001. This projects has some impact on the refill of the Schunchye Lake water.

(2) Other Facilities

- ATS and mobile networks are installed for telecommunication.
- There are no sewerage facilities nor hot water supply service.
- Railway and highway run through the city.

FIGURE



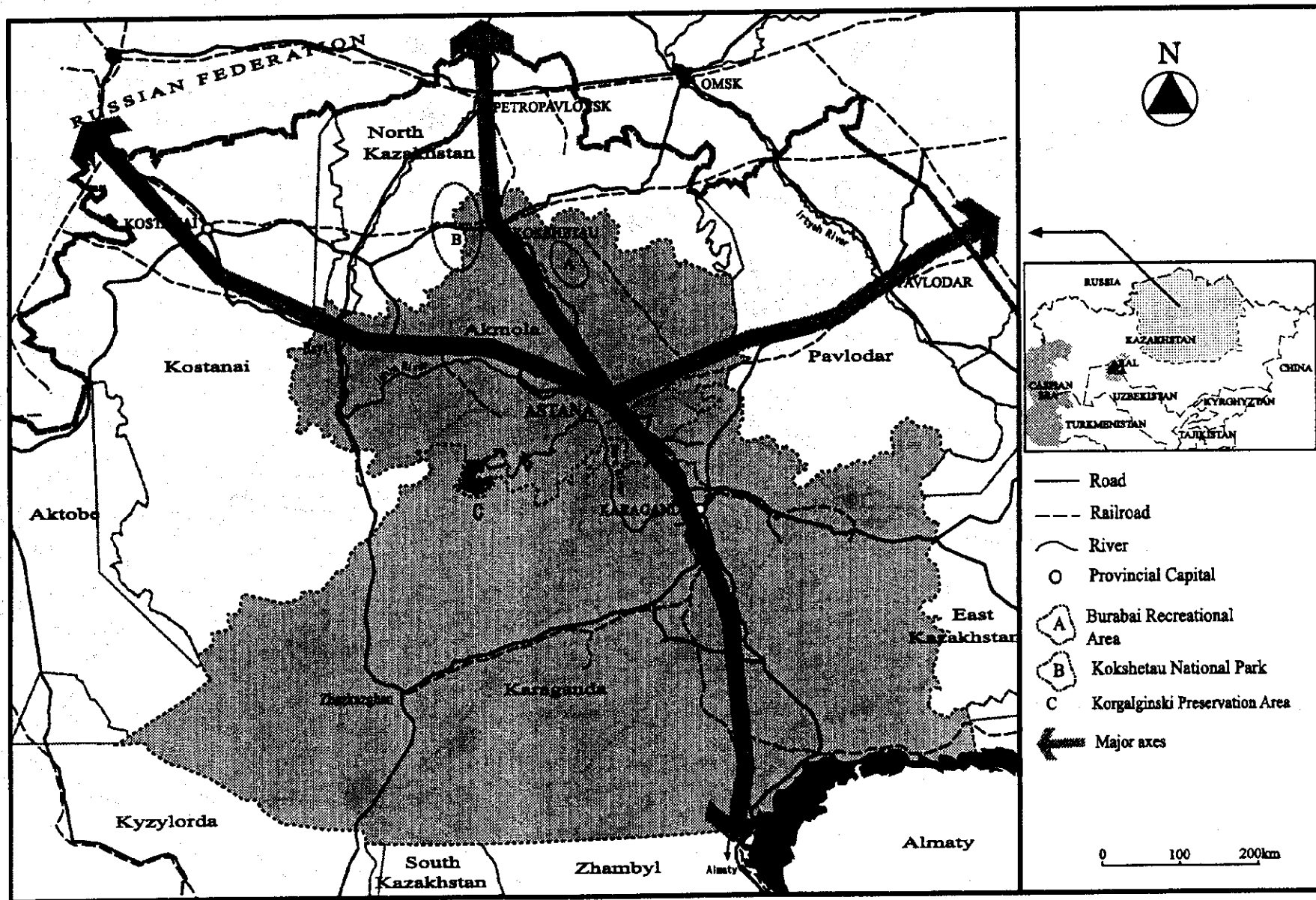


Figure N.2.1 Astana and Surrounding Provinces

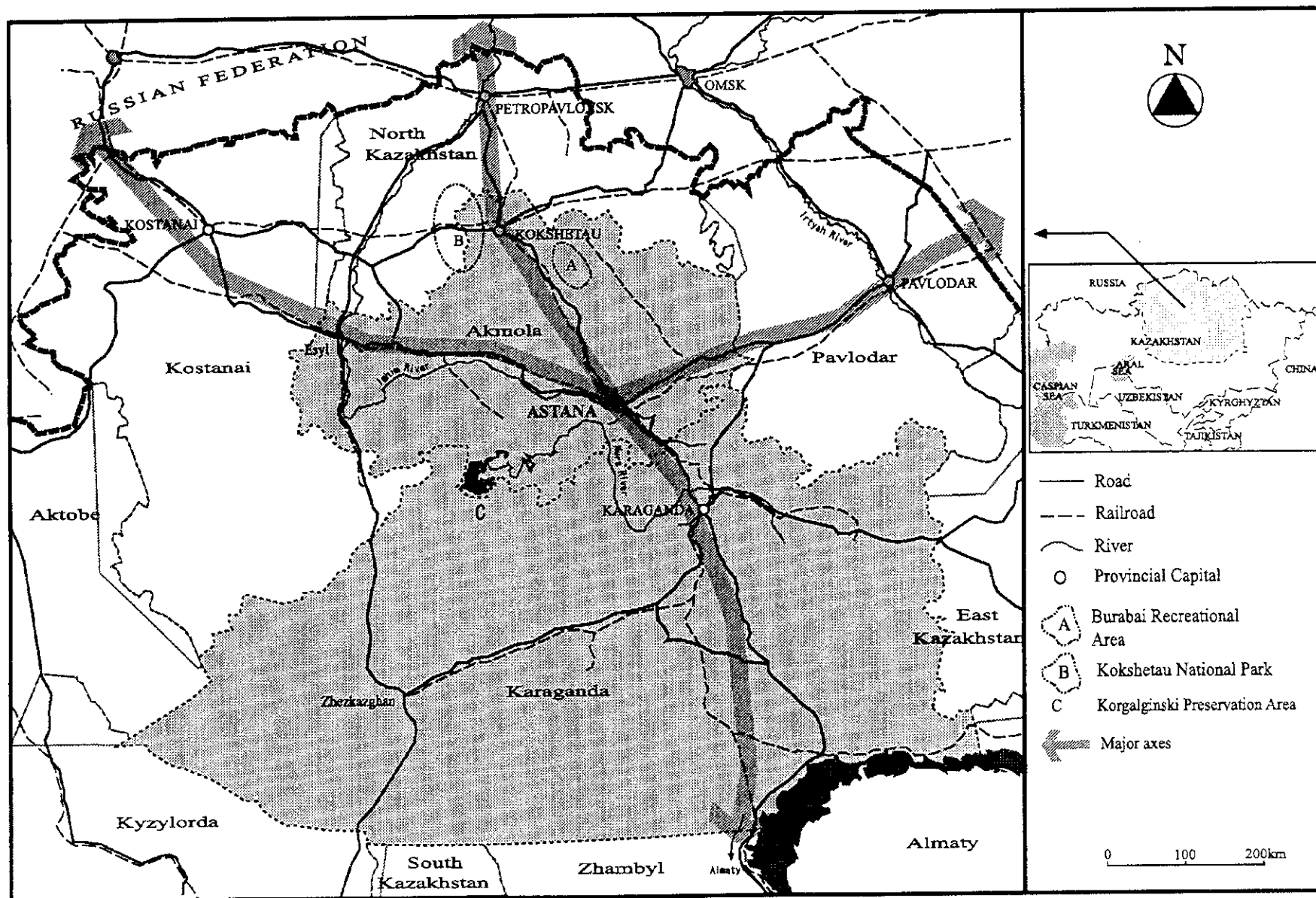


Figure N.2.1 Astana and Surrounding Provinces

Figure N.2.2 Urban Hierarchy and Transport Network in AAKR

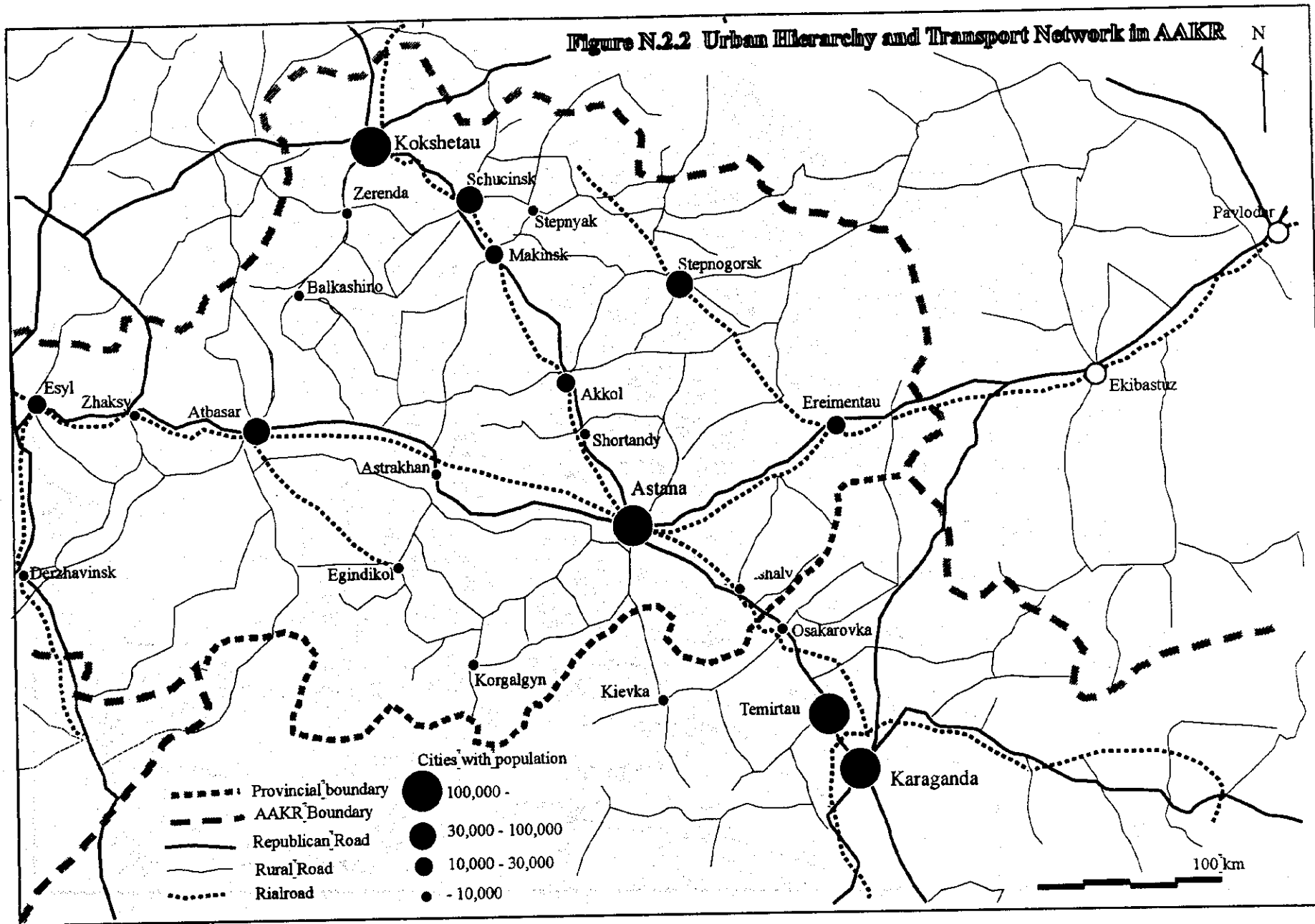


Figure N.2.3 Problem Structure of Industrial/Service Sector

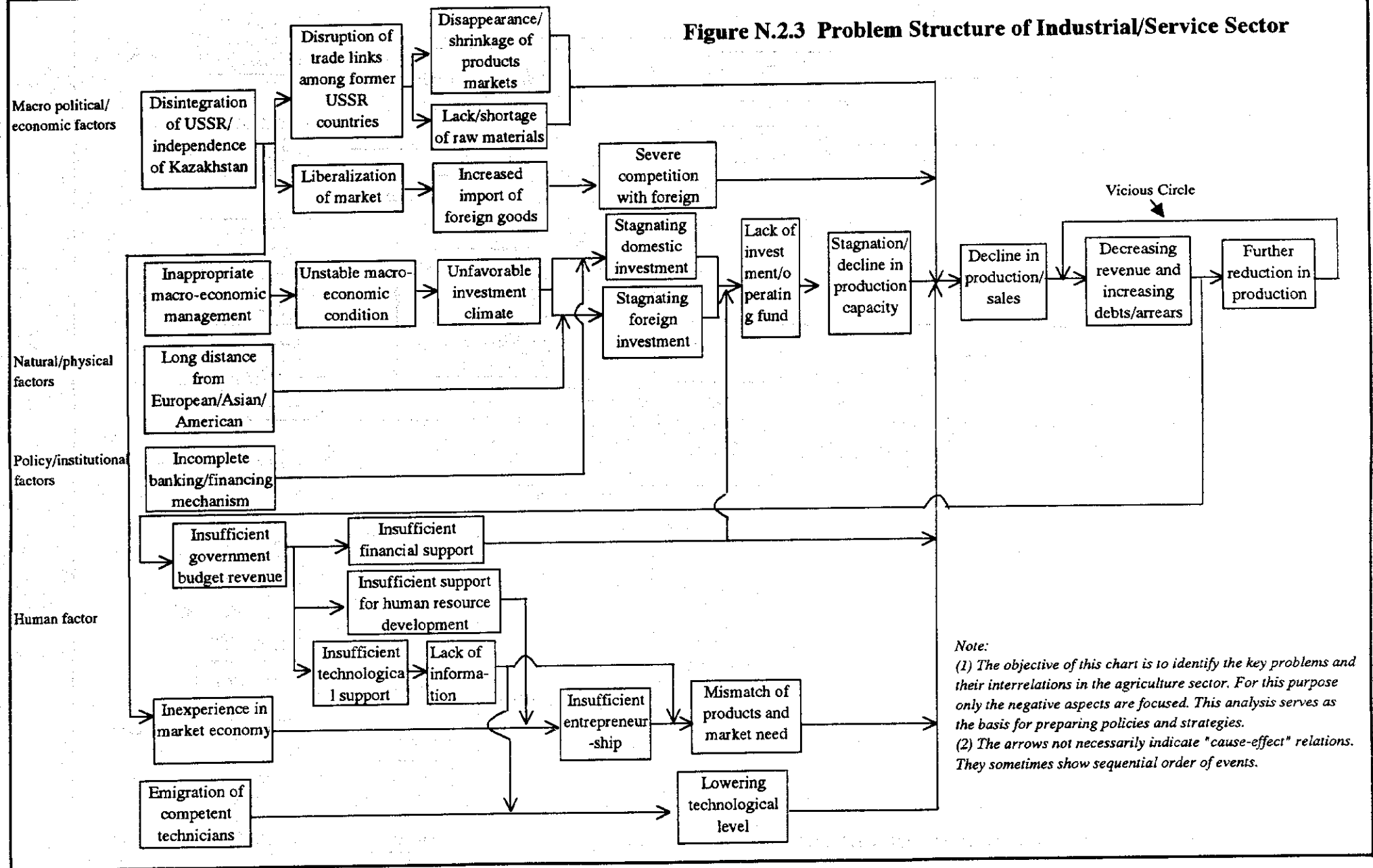


Figure N.2.4 Problem Structure of Agriculture Sector

