REPORT

THE CIVIL REGISTRY IN THE REPUBLIC OF AZERBAIJAN

Enrique Saltos

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The opinions expressed in this Report are those of the author and do not necessarily reflect the view of the OSCE.

Foreword

The modernization of legal, electoral, and social mechanisms of states are dependent to a great degree on the systematic and efficient collection of data on its citizenry. Civil registries are the foundation for informed government policy-making most in the areas of electoral reform, social services such as health and education, and economic development. In this respect, I am very honoured to present this report on 'The Civil Registry in the Republic of Azerbaijan.'

One of the most important objectives of the establishment of the Civil Registry is to strengthen democratic processes through an accurate list of constituencies throughout the country. Particularly I anticipate that in the next election the Civil Registry will contribute to the modernization, autonomy and institutional development of electoral bodies by providing a consistently updated and comprehensive voters' list. The Civil Registry can assist electoral authorities to carry out the actions and strategies aimed at developing the most up-to-date processes and procedures in the field of electoral organization. I also wish to emphasise the need that mechanisms be established that have the data of the Registry processed in accordance with internationally recognised principles on administration of information. One of those principles stipulates that data may only be processed automatically with due respect to the protection of individuals' rights and for the original purpose for which the data was collected.

It has been a pleasure to work with the author of this report, Mr. Enrique Saltos, and the Ministry of Justice. I can assure the Ministry that the OSCE will continue its support to build professionally-run institutions in Azerbaijan.

Maurizio Pavesi,
Ambassador,
Head of the OSCE Office in Baku

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Glossary and abbreviations

Azərbaycan	English	Abbreviation
Ədliyyə Nazirliyi	Ministry of Justice	MJ
Ədliyyə Nazirliyi yanında Notariat və Vətəndaşların Vəziiyyəti Aktları İdarəsi	Notary and Civil Status Acts Registration Department at the Ministry of Justice	N&CSAR
Avropada Təhlükəsizlik və Əməkdaşliq Təşkilatı	Organization for Security and Cooperation in Europe	OSCE
Vətəndaşlıq Vəziyyəti Aktlarının Dövlət Qeydiyyatı	Civil Status Acts Registration	CR
Azərbaycan Respublikası Əhalisinin Dövlət Registri	State Registry of Population	SR
Daxili İşlər Nazirliyi	Ministry of Interior	MI
Kommunikasiya ve İnformasiya Texnalogiyaları Nazirliyi	Ministry of Communication and Information Technologies	MCIT
Daxili İşlər Nazirliyi Passport Qeydiyyat İdarəsi	Ministry of Interior Passport Registration Department	MIPRD
Milli E-İdarəçilik Şəbəkəsi Təşəbbüsü	National E-Administrative Global Initiative	NEAGI
Daxili İşlər Nazirliyi Əməliyat-Statistik İdarə	Ministry of Interior Operation- Statistic Department	MIOSD
Daxili İşlər Nazirliyi Passport Qeydiyyat İdarəsi Təşkilati Metodik Qrup	Passport Registration Department Organizational-Methodological Group	PRDOMG
Daxili İşlər Nazirliyi Passport Qeydiyyat İdarəsi Ünvanlar Bürosu	Ministry of Interior Passport Registration Department Addresses Bureau	MIPRDAB
Mərkəzi Seçki Komisiyasi Seçki İnformasiya İdarəsi	Election Information Department of Central Election Commission	EIDCEC
İşçi Qrup	Working Group	WG
Şəxsi İdentifikasiya Nomrəsi	Personal Identification Number	PIN
Birləşmiş Millətlər Təşkiltı İnkişaf Proqramı	United Nations Development Project	UNDP
Dövlət Sosial Müdafiə Fondu	State Social Protection Fund	SSPF
Dövlət Sosial Müdafiə Fondunun Potensialının Gücləndirilməsi Layihəsi	Project of Capacity Building for the State Social Protection Fund	PCBSSPF
Dövlət registrinin məlumat bazası	State Registry Database	SR DB
Daxili İşlər Nazirliyinin məlumat bazası	Ministry of Internal Affairs database	MIA DB
Daxili İşlər Nazirliyi	Ministry of Internal Affairs	MIA

Acknowledgments

I am very grateful to the OSCE, especially to Ambassador Maurizio Pavesi and Mr. Andreas Busch for providing me with the opportunity for producing this study, which I hope will serve for improving the Status Registry and the identification system in Azerbaijan.

I would also like to thank the Ministry of Justice especially to Mr. Togrul Musayev, Deputy Minister of Justice; Mr. Ilgar Mammadov , Head of Notaries and Civil Status Acts Registration (CSAR) Department at the Ministry of Justice; Mr. Mehman Soltanov, Deputy Head of Department and Mr. Aga Kerim Samed-zade for receiving me with open arms and the traditional generosity of the Azerbaijan people and guide me trough all the difficulties of understanding the registration in Azerbaijan. My thanks to Dr. Iqbal Babayev, Chairman of the Information Centre of the Central Election Commission; Dr. Oktay Ibrahimov, Project Director of the State Social Protection Fund; Mr. Aser Aliakbary, Advisor to the Minister of Communications; Mr. Oktay Akhundov, Director of the department of statistics of the Ministry of Health; Mr. Rauf Alivev, Department of Passport and Registration of the Ministry of Internal Affairs and to all those who provide me the information I needed with total openness and transparency.

There is still a long way to run for the construction of the new State Registry and this report is only a humble collaboration to see that objective come true, but I have no doubt that with the spirit I witnessed in Azerbaijan it will become a reality.

Enrique Saltos
Baku, September 2005

I Introduction

This report analyzes the legal framework and technology of the current civil status acts registration department, under the Ministry of Justice, for the purpose of creating a new State Registration of Population Office, also under the Ministry of Justice but as a separate organization, with its own structure and budget, complying with the universally accepted standards for civil registration.

The set of recommendations done after one month stay in Baku are done with outmost respect to the capacity of decision of the authorities of the Republic of Azerbaijan and must be understood in this frame.

Advantages and disadvantages of civil registration

Advantages and disadvantages of the civil registration system cannot be comparably measured across all countries. In developing nations, where an individual's legal identity can change as a result of cultural practices, or where there are not alternative methods to identify a person beyond direct knowledge, the advantages far surpass the disadvantages. It is, however, necessary to adopt an integral and comprehensive law to protect citizens' rights and data.

Few systems can enhance the democratic and economic life of a country like a central, computerized civil registry and identification system. Among the principal advantages are:

1.1. It allows a coherent and broad national integration by clearly defining citizenship.

1.2. Creates a single national state registry database. Centralizing this information makes universal data distribution possible. De-centralized field operations simplify and unify procedures.

1.3. It allows a regulated and safe exchange of valuable information with other international, public and private organizations, in accordance with the law.

1.4. It boosts the country's economic and financial life by giving all citizens full access to credit, land tenure, and public and private contracts.

1.5. Allows the creation of trustworthy parallel registration offices like land tenure and property, vehicle, commerce; private and public contract registration.

1.6. By guaranteeing positive identification, it provides security to the banking system, making possible the access of more companies and people to direct credit.

1.7. It provides instant access to vital and permanent basic population statistics allowing more accurate and effective planning in the fields of education, elections, health care, social security, construction, police, and judicial systems.

1.8. It provides secure, accurate, and immediate information to the police, judicial and immigration services.

1.9. It allows the instant delivery of information on birth, marriage, and other individual certification independent of the individual's place of birth and residence.

1.10. It allows the development of permanent and highly accurate voter registration and voting systems.

1.11. Finally, after the September 11th tragedy and the anti-terrorist fighting, positive identification can play an outmost role by allowing the comparison of fingerprints in a many-to-many and impossible-to-forge method. Linking different databases like criminal records; border and air control and the central personal database can provide a highly secure system to prevent terrorist attack and infiltration.

Still, civil registries are not without disadvantages that must be taken in account as well:

1.12. First, it is costly to create a civil registry and thus, has to be declared of high priority by the government.

1.13. Secondly, the implementation of a national and integral civil registry is a long and never-ending endeavour that may - and will - take years of effort and continuous central support.

1.14. Thirdly, very professional and permanent support and maintenance systems have to be put in place.

1.15. Fourth, the system should be designed for a continuous change, produced by entropy and new technology development and,

1.16. Fifth, needs a reserve of qualified human resources, not always available.

Civil Registry principles

1.17. Civil Registration deals with data of individuals.

By principle civil registration deals with data of individuals and not with family or other social or political groups. It configures a personal and individual record, and it is not a family record. Some references to the family, like parent’s or spouse names are usually included as integral part of the record because they define the individual identity, not because it is responsibility of the civil registry to gather such kind of data. Additionally, by collecting information on family and relatives increases the danger of misuse of the civil registry and should be avoided at all cost.

1.18. Civil Registration is a responsibility of the state.

Civil registration defines the nationality of an individual and thus, its political and social rights; it is an exclusive responsibility of the State and should not be privatized or given to third parties for management. In the case of Azerbaijan though, it is acceptable outsourcing data entry for the process of migration from paper to database format under strict legal data protection since it does not have the means of delivering data to third parties.

1.19. Civil Registration defines a unique identification for all citizens and it is in charge of collecting all their civil acts along their lives.

Each citizen is considered unique as to his/her identification. By providing a unique ID code it is possible to link all civil acts under one key, facilitating searching and service to citizens.

1.20. Data of individuals have to be protected by some legal mechanism.

There are different types of data in a civil registry: Public data and restricted data. Usually the personal identification data like name, surname, gender, id number, address and telephone are considered public, while other type of data, like medical records are considered restricted and have to be protected by law. An integral and coherent legal framework has to be put in place before starting the implementation of any civil registry. This consideration becomes more critical when electronic databases are implemented.

II. Antecedents

Civil Registration in Azerbaijan has its roots in the "propiska" system of the former Soviet Union and the local passport, valid until June 30, 2005, when it was abolished by decision of the Milli Majlis on 4th of May 2004. The "Notary and Civil Acts Registration Department (NCSR) under the Ministry of Justice has documents and books of 8 types of civil acts of the population of Azerbaijan since 1934: birth, marriage, divorce, change of name, adoption, change of nationality, affiliation and demise. Branches of the NSCR are installed in all 87 Districts, according with a presidential decree of July 31, 2002, including the occupied regions that consolidate its data in other regions, according to the following table:

NCSR Offices in occupied regions		
#	**Occupied Region**	**Office of NCSR**
1	Gabrayil-Gubadli	Baki City, Avenue Xalglar Dostlugu
2	Lachin	Agjabedi Region, Refugee District "Taxta Korpu"
3	Kelbecer	Ganja City, Gulustan District
4	Shusha / Fuzuli / Xocali / Xocavend	Baki City, G. Gadirbayova Street 38,
5	Zengilan / Gubadli	Baki City, Narimanov District,
6	Fuzuli	Fuzuli region, Horadiz District,

At the end of 2002 a Memorandum of Understanding was signed between the Ministry of Justice and the UNDP for the implementation of an electronic database of civil status acts. The new system foresaw the transfer of civil acts information to a special scanner form that is sent to Baku every month to be processed and entered in the database. 12 Districts in Baku have the capacity to send data "online". From its inception to this date, approximately 500.000 records of civil acts have been entered in the NCSR database.

Before these events, the "Law 187 of Azerbaijan on the identity card of the citizen of Azerbaijan", signed by the president on June 14, 1994 creates an ID card for all citizens above 16 years old, but only on August 2, 2001 the Ministry of Internal Affairs issued the internal regulation 335 (reserved document that we could not get) and started issuing the new ID card at the beginning of 2002. According to information from the Ministry of Internal Affairs, a powerful computer system network that serves 67 police regions; has so far issued around 4 million ID.

The presence of two different bodies in charge of the two most important responsibilities of a typical civil registry created more than one problem, so on February 21, 2004 the President of the Republic issued a decree on the "Establishment of the State Registry of the Population of Azerbaijan Republic". This decree delegates the responsibility creating a computerized database containing the data of individuals to the State Registration Department of the Ministry of Justice, at the same time creates a working group to define the technical parameters and budget to accomplish this important task.

By May 2005 the Ministry of Justice approached the OSCE requesting international support for developing a needs assessment that serves as a basis for the implementation of a new State Registry. On July 2005, the OSCE signed a contract with an international expert to serve this purpose.

III. Summary of recommendations

This section is intended to provide an executive summary of the main recommendations, for fast reading and comprehension. A proper justification and more extensive explanation of these recommendations can be found in the corresponding chapters of this report.

New structure of the State Registry

1.1. The new administrative structure of the State Registry should be that of a different body, dependant on the Ministry of Justice but with its own budget and administration. It should integrate in one single unit the functions of issuing the ID card and ID number and, those typical of any civil registry.

1.2. Since the presidential decree compels the State Registry to develop a computerized system and to store all civil status records in one database, the new structure should have an Information Technology Department, with all the typical subcomponents usually attached to it.

1. The legal framework

1.1. The ID number should be given at birth by the State Registry.
1.2. Issuing of the ID number should be transferred from the MIA to the MoJ with all resources, previous an agreement of both Ministries.
1.3. Geographical and other types of codes usually used in computerized systems should be unified by law. For this purpose I recommend gathering all the future users of information and stakeholders of the system to define the best codes and consider all their special needs for a possible inclusion in the SRP DB.
1.4. Only the basic data related with the identification of people, like name, surname, father's name, ID number, parent's names, address, gender, birth date and place of birth should be in the law, leaving additional data to be included to the discretion of the state registry.
1.5. It is not advisable to define by decree the users of the system, it is better to leave to the discretion of the SRP and define the methodology to become a user according with the needs of any future stakeholder.
1.6. The law of data protection should differentiate public data and reserved data, the mechanisms for accessing such information, the types of offences and the penalization for such offences (Habeas Data).
1.7. Define the use of the State Registry database and the ID card as the only base for the voter registration system and include the electoral district code in to the birth record as reserved data to facilitate the immediate use of the DB for printing a photographic voter's list. This will improve dramatically the electoral system by providing unique identification, an impossible to forge ID card and the possibility to print a photographic voter's list.

1.8. The unique pin number should be given from birth by the State Registry. If this is not possible, the Ministry of Internal Affairs should release sets of pin codes to each SR region.

1.9. An Internet-based communications network should be implemented from the beginning, encrypting data, until the new communication's network of the Ministry of Communications – AzDataComm is ready.

2. Implementation of the new State Registry

2.1. The unique pin number should be given from birth by the State Registry of Population.

2.2. A communications network should be implemented from the beginning, until the new communication's network of the Ministry of Communications – AzDataComm is ready.

3. Migration from paper to electronic format

3.1. If data entry is outsourced as recommended the following security measures should be implemented:

3.1.1. Create a small quality control unit in the MoJ to verify statistically the quantity (no. of pages and books delivered equal to received), quality (verification of data within the record) and time of delivery.

3.1.2. Having a permanent delegate of the MoJ within the quarters of the contractor, with the power to demand changes in the process or data entry operators.

3.1.3. To make integral part of the contract severe penalization for the copy or miss-use (commercial or other type) of data.

3.1.4. To work by priorities as defined in the context of this report.

4. Integration of the pin code into the SR DB

4.1. Integration of the pin code should be done in a monthly basis by comparing the SR DB and the MIS DB using mathematical algorithms.

4.2. The final State Registry DB should be comprised by records of all the different civil acts, mimicking the paper documents and adding control fields. All stakeholders should have access to the complete database according to their user rights table, not only to a summary of it. <u>The final design of the database to comply with the best interest of the Ministry of Justice, should be done tough, at the moment of designing the architecture of the system</u>

5. Hardware, software, communications

5.1. I recommend the implementation of the proposal of the MoJ consistent in forming a technical group of experts, local and international for preparing the documents for an international tender for hardware, Oracle database and operative software.

5.2. The purchase of hardware should be carefully measured and done in concordance with the real needs of the State Registry, the use of temporary premises until the new building is ready and the implementation's plan, to avoid technical obsolescence, loss of credibility and an increase in the total budget.

6. Application's development.

6.1. Application's development is, by far, the most critical activity of the project since its failure would render the whole system to be unsuccessful. System analysis of the state registry system will require professional expertise in this field. Professional formation in system's engineering is not enough and, because of the complexity and sensitivity involved, cannot be done by a third party. It has to be done, compulsorily, by the State Registry, recommending international support. This kind of support could be requested to the OSCE or UNDP as integral part of the State Registry project.

6.2. Database administrators have to have extensive training in Oracle database, whether in Azerbaijan or in another country like Russia or Turkey. The selection process of these staff must be carefully pursued, requesting professional formation in the specific field and at least three years of experience managing similar databases.

6.3. In order to provide an adequate salary for the technical staff, the payment or salary complement for two years of the Head of the IT Department, his deputy and three database administrators/programmers could be requested to the UNDP or other organizations.

6.4. International technical assistance is recommended to work side by side with the IT Department during the phase of system analysis and design of the architecture of the system, production of technical application's specifications, programming and test of the system.

7. Project implementation and control

7.1. The whole project should be controlled by an activities matrix, using control project software like MS Project. Each area involved in the project has to report its advance in a weekly basis, to update the project and have a clear vision of the progress of each activity, the interrelation between activities and the amount of resources spent to date. The head of the State Registry should be in charge of this control.

8. A new ID card with AFIS multi-biometrics.

8.1. Azerbaijan will have, at some point, to decide for an AFIS system in view of the higher security level it offers and the clear advantages for anti-terrorism considerations. The current ID card is secure enough for primary objectives but lacks security in the source. Birth certificates can still be forged or received by bribing State Registry officials. Applying an AFIS system this can not occur since fingerprints are unique and impossible to alter.

8.2. Once the new State Registry and ID system are fully implemented within the next two or three years, it would be time to consider moving to an AFIS system, possibly multi-biometric which is the current tendency which will have been fully tested by that time.

IV. The Legal Framework

1. The current legal framework for implementation of the new State Registry is comprised of the following laws, decrees and regulations:

   1.1. About departure from the country, return to the country and passports

   1.2. About personal identifier of the citizens of the Azerbaijan Republic

   1.3. About registration on the place of residence and birth

   1.4. About the citizenship of Azerbaijan Republic

   1.5. About information, informing and protection of the information

   1.6. About electronic signature and documents

   1.7. Family code of Azerbaijan Republic

   1.8. The Constitution of Azerbaijan Republic

   1.9. Regulations on applying the law of Azerbaijan Republic on identity card on the citizen of Azerbaijan Republic. Approved by Presidential Decree N. 134 of October 14, 2004 (annexed)

   1.10. Regulations on State Registry of the population of the Republic of Azerbaijan. Decision of Milli Majlis of November 28, 1994 (Annexed)

   1.11. Decision of Milli Majlis of May 4, 2004, declaring the 30th of June as the last day of validity of the old soviet passport.

   1.12. Internal administrative order of the Ministry of Internal Affairs 335 of August 2, 2001 regulating the issuing of the ID card (reserved document)

   1.13. Decree of the President of the Republic of Azerbaijan from 21 February 2004 about Establishing of State Registry of Population

   1.14. Decree of the President of the Republic of Azerbaijan from 14 October 2004 about approving the Regulations On State Registry of the Population of the Republic of Azerbaijan

   1.15. Decree of Cabinet of Ministers of the Republic of Azerbaijan about The rules of issuing the personal identification number

2. The legal framework for the creation, structure and implementation of the new State Registry is sufficient and most of it is in place. The MoJ has also prepared two additional projects of law and regulation:

2.1. About the State Registry of the population of the Azerbaijan Republic

2.2. These projects are well conceived and should be submitted to the correspondent authorities for approval as soon as possible, considering the following recommendations:

2.2.1. The ID number should be given at birth by the State Registry

2.2.2. Issuing of the ID number should be transferred from the MIA to the MoJ with all resources, previous an agreement of both Ministries.

2.2.3. Geographical and other types of codes usually used in computerized systems should be unified by law. For this purpose I recommend gathering all the future users of information and stakeholders of the system to define the best codes and consider all their special needs for a possible inclusion in the State Registry DB.

2.2.4. Only the basic data related with the identification of people like name, surname, father's name, ID number, parent's names, address, gender, birth date and place of birth should be in the law.

2.2.5. It is not advisable to define by decree the users of the system, it is better to leave to the discretion of the SR and define the methodology to become a user only.

2.2.6. The law of data protection should differentiate public data and reserved data, the mechanisms for accessing such information, the types of offences and the penalization for such offences (Habeas Data).

2.2.7. Define the use of the State Registry database and the ID card as the only base for the voter registration system and include the electoral district code in to the birth record as reserved data to facilitate the immediate use of the DB for printing a photographic voter's list. This will improve dramatically the electoral system by providing unique identification, an impossible to forge ID card and the possibility to print a photographic voter's list.

V. Structure of the State Registry in Azerbaijan

Current situation

Identification and personal records have been kept in Azerbaijan in a variety of forms and public offices. The intention of the presidential decree of February 21, 2004 was to centralize the identification and civil acts of a person in one single administrative unit - the Ministry of Justice – while decentralizing the management of specialized information to different offices and ministries. All the relevant data of individuals stored in different databases – manual and computerized – is to be linked trough a unique ID number (pin code) in order to keep the cohesion of data and be able to retrieve it at any needed time. This policy is aligned with the common definition of a civil registry, that keeps under the same office the identification and civil acts of individuals.

The establishment of the State Registry under the Ministry of Justice creates a new office – The State Registry of Population- while keeping the current structure, with the "Notary and Civil Status Acts Registration (CSAR)" in charge of notaries, in-country adoptions, apostylisation and registration of civil acts. This is a "de facto" situation created by the law and should be kept only until the civil status database is totally transformed into to the state registry database (SR DB), once this database is consolidated, the current functions of the "Notaries and CSAR Department" related with registration of civil acts should be incorporated into the State Registry of Population structure, to create a single administrative unit.

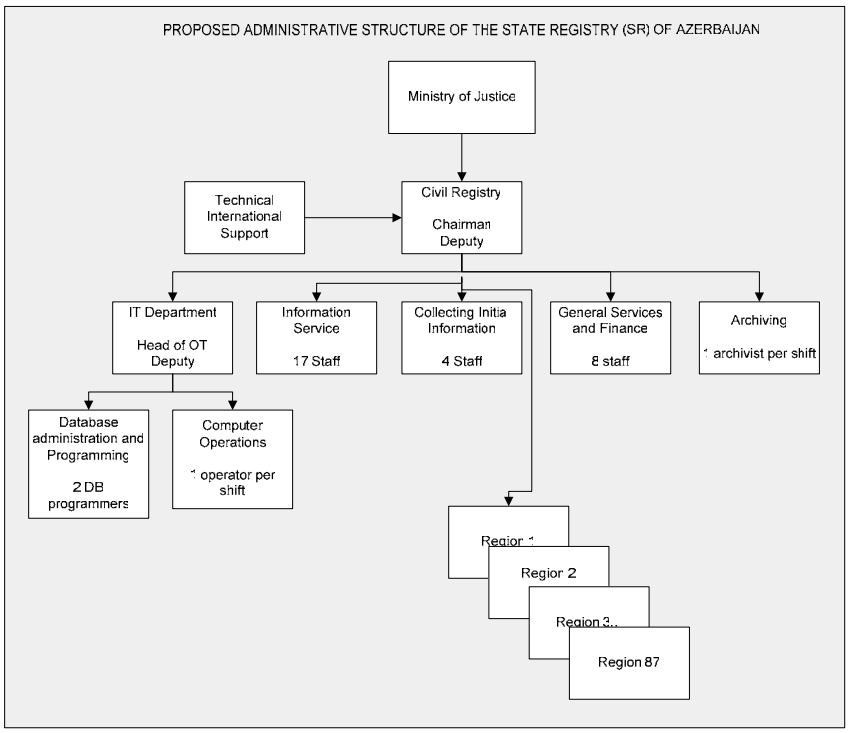
The Ministry of Internal Affairs is currently in charge of issuing the new ID card and this task would be completed by the end of the year. By decision of the Milli Majlis of the 4th of May 2004 the validity of the old Soviet Passport ends up on June 30, 2005. After this date, the new ID card is to be compulsorily demanded for all civil acts like marriage, voting, signing contracts, cashing checks, etc.., after this date. This decree will, no doubt, speed up and press for an early finishing. On the same decision is stated that citizens have to change the card when they are 25, 35 and 50 years old, even if the information contained in the card has no change.

1. Recommendations for the new Structure

1.1. The new administrative structure should be a different body, dependant from the Ministry of Justice but with its own budget and administration. Its should integrate in one single unit - when the State Registry of Population is fully operational - the functions of issuing the ID card and ID number (currently under the MIA) and the registration of civil acts. This process should be finished when the migration of paper to a database format is finished.

1.2. Since the presidential decree compels the State Registry to develop a computerized system and storing all civil status records in one database, the new structure should have an Information Technology Department, with all the typical subcomponents usually attached to it. Application's development and

maintenance of the new system should be analyzed and programmed internally by the state registry instead of an external contractor. International support for the design of the architecture of the system could be requested.



The new structure can be implemented in phases:

1. The current situation, with the “Notary and Civil Registration Acts Department”, the State Registry and the ID card issuing (MIA) working separately. When the current CSAR database, working under the Notary and Civil Registration Acts Department is completely identified, this unit should transfer the function of registering civil acts to the State Registry of Population.

2. While the Ministry of Internal Affairs releases the hardware, software and database to the MoJ, there will be two different public offices dealing with the identification of individuals. It is highly desirable to speed up the integration process to avoid delays and conflicts of authority. When the State Registry database is completely identified and all unique ID numbers (pin codes) are transferred to the State Registry records (Birth, marriage, dead, etc..) it would be possible to develop a new project oriented to include fingerprint matching (AFIS systems) into a new ID card, replacing the current one.

3. One single administrative unit – The State Registry of Population -, merging all the typical functions of a civil registry in one.

2. Recommendation

I recommend starting the implementation of the new system under one single unit. To achieve this purpose the Ministry of Internal Affairs should release immediately the software programming and routines to the State Registry of Population and train its technicians in the operation of the system. At the same time a new legal framework would be necessary.

VI. Phases of implementation of the new State Registry of Population Project (SRP)

Because of the different stages and conditions of the databases and processes and, for a better understanding of the project, I suggest dividing the implementation of the Status Registry system in three phases:

Phase 1: Implementation of the new Status Registry system.

1.1. Objective: During this phase the new computerized system for managing the civil acts of individuals and issuing a unique ID number from birth, will be implemented.

1.2. Present situation:

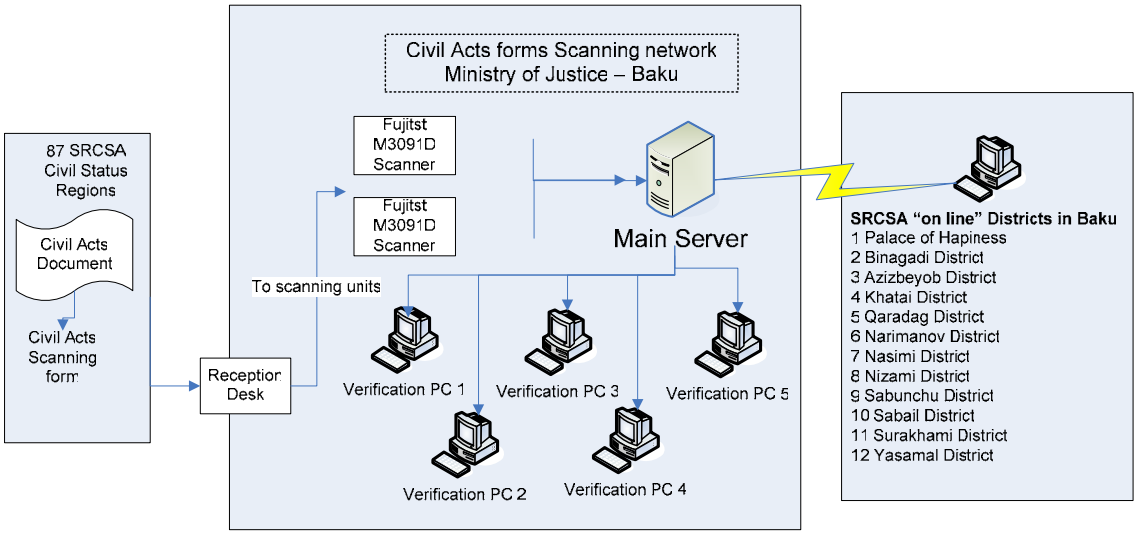
1.2.1. The Ministry of Justice (MoJ) signed at the end of 2002 a Memorandum of Understanding with the UNDP for the creation of an electronic database of civil status acts.

1.2.2. A central server, 2 OCR Fujitsu M3091Dd scanners and six computers for data verification and correction were programmed under MS Visual Basic and networked to enter data coming from the 87 regions in a newly designed form and "on line" from 12 Baku State Registry bodies.
The regions pass the information from the registry papers to a special "Data entry form" and send it to Baku every month. Forms are different and correspond to the different civil acts controlled by the State Registry:

Code	Type
1	Birth
2	Rehabilitation of Birth
3	Adoption
4	Marriage
5	Affiliation
6	Change of name
7	Divorce
8	Decease

The SR in Baku receives forms and scans and verifies them previously to enter a new record in the database. The record contains – by law – the following data: personal ID number; surname; name; father's name; date of birth; place of birth; sex; citizenship; family status; about place of residence, registration and struck off on residence; ID card number (including number of birth certificate of a person under 16 years old); husband's (spouse's) personal ID number; surname; name; father's name; date of birth; place of birth; citizenship; ID card and its number; parents' personal ID number; surname; name; father's name; date

of birth; place of birth; citizenship; ID card and its number; child's personal ID number; surname; name; father's name; date of birth; place of birth; citizenship; ID card and its number; information about death date.
The whole of the system was programmed by an external contractor in MS Visual Basic.



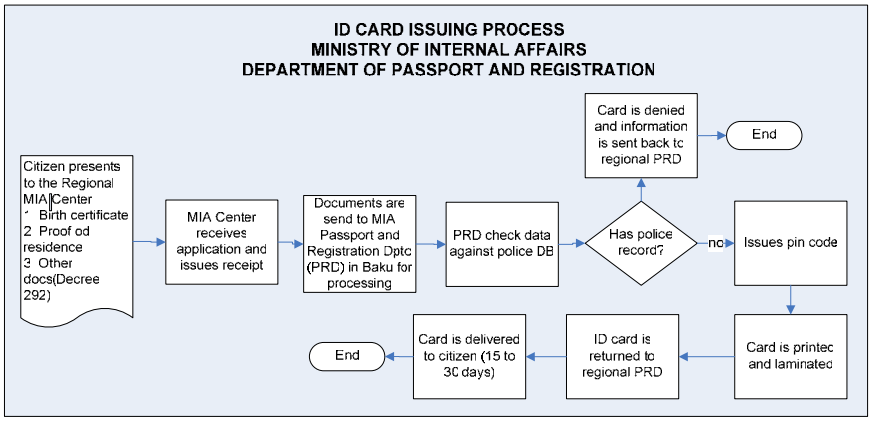
1.2.3. At present time, approximately 500,000 civil acts forms have been entered into the database, out of which 40% (200,000) are birth certificates. These records do not have a common key to link them and are indexed and stored in the database as they come.

1.2.4. The Ministry of Internal Affairs (MIA) started issuing a new ID card on the beginning of 2002. This card has a unique 9 alpha digits code (pin code) and a form number. All citizens above 16 years old are obliged by law to have the ID card and present it for all legal acts like marriage, voting, cash checks, register sons/daughters in school, signing contracts and so forth. Procedures for issuing the ID card are regulated by decision number 928, dated 28th of November 1994, Milli Majlis (parliament), Azerbaijan Republic

1.2.5. I strongly recommend the transfer of hardware, software and responsibility for issuing the ID card from the MIA to the MoJ trough a special decree. In such way one of the main premises of Civil Registration – the unity of responsibility under one single body – will be kept.

AZERBAIJAN'S MINISTRY OF INTERNAL AFFAIRS ID CARD
FRONT SIDE

MINISTRY OF INTERNAL AFFAIRS ID CARD
REVERSE SIDE



1.2.6. The MIA has issued around 4 million records out of 5.1 million in 76 Centres (Police Regions), and expect to finish issuing the new ID card to the total population by December 2005.

1.2.7. There other databases dealing with the ID of individuals in other public offices and Ministries:
1.2.7.1.The Central Election Commission (See annex 1)
1.2.7.2.The Social Security
1.2.7.3.The Ministry of Taxes
1.2.7.4.The Ministry of Health
1.2.7.5. Other Ministries and public offices

1.2.8. At the time the SR DB is ready it will have many users from the public and private sectors wanting to access information for verifying identity of individuals or for processes of their own interest like planning, welfare, social security, elections, taxes, etc..

Some of the potential users of the SR DB are:

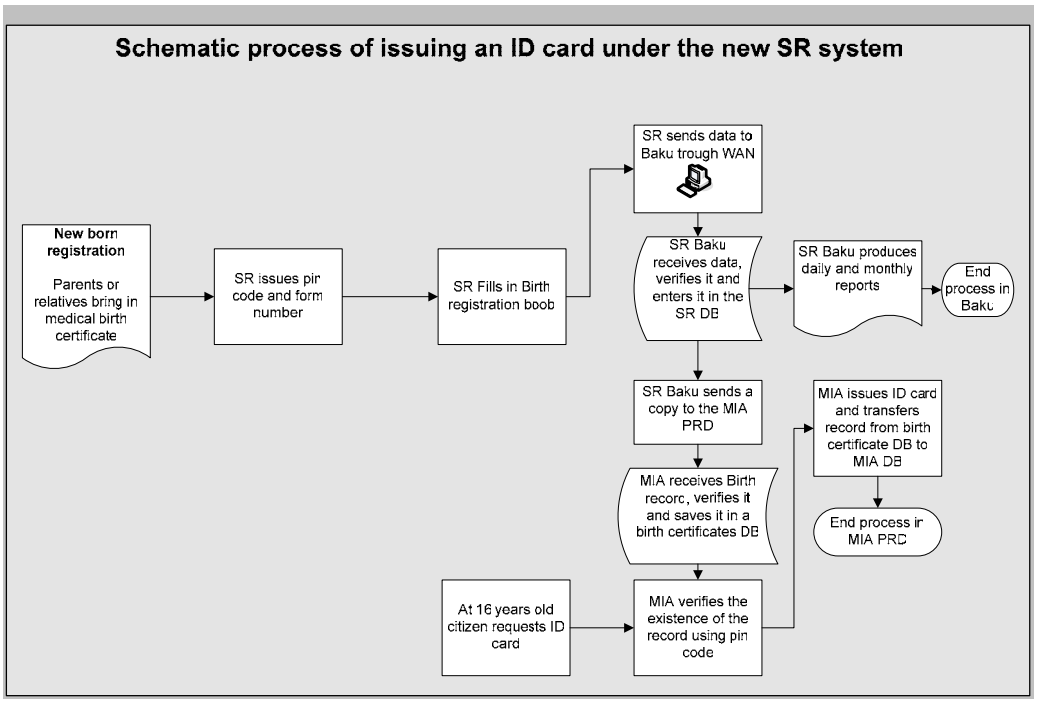
- Ministry of Justice
- Ministry of Internal Affairs
- Ministry of National Security
- Ministry of Foreign Affairs
- Ministry of Taxes
- Ministry of Health
- Ministry of Labour and Social Defence
- Ministry of Education
- State Customs Committee
- State Statistics Committee
- State Community of Issues of Refugees and Forced Settlers
- Office of Public Prosecutor
- State Border Services
- State Social Defence Fund
- Military Registration and Enlistment Office
- Central Election Commission
- State Committee of Enrolment
- State Registry Service of Immovable
- Banking system
- Others

Analysis of present situation

1.2.9. There are at least six different databases related with the ID of individuals in Azerbaijan and all of them have different names and ID numbers, making impossible to link their entire actions trough a single ID number. These represents a vast amount of money invested in redundant information and a multiplicity of data running around without possibility of auditing or verification.

1.2.10. All records in the CSAR database contain records about the same person without a unique ID number to link them. Thus acts like birth, marriage, divorce, change of name or dead have no way to provide the total civil acts of one person at one sight. This database contains the following information: Surname; name; father's name; date of birth; place of birth; sex; citizenship; family status; about place of residence, registration and street of residence; ID card number; parents' surname; name and father's name.

The Ministry of Internal Affairs should release the power of issuing the ID card and pin code to the State Registry of Population to facilitate issuing the pin code on birth.



Process of issuing the pin code under the proposed State Registry of Population system

1.2.11. The State Registry issues the ID number (pin code) given by the MIA in the birth certificate and trough such number the individual will be identified forever since.

1.2.12. The CSAR bodies fills in the registration book and sends the data to the SR database “on line” using the national communications network or VPN (Not recommended).

1.2.13. The State Registry of Population receives the information, verifies it and stores it in the SRP DB.

1.2.14. The first 500.000 (or more) records transferred to the database without ID number will have to de matched against the MIA DB.

Second Phase: Migration from CSAR books to the SR database

Once the new SR system is implemented and system analysis finished, the migration of Civil acts books to magnetic media (database) can start in full, parallel to the implementation of the SR new system. The amount of civil acts to transfer may reach 20 million records or 400.000 books, stored since 1934 in 87 regional offices. Only after transferring this information the SR would be able to have an integral and comprehensive DB of civil acts, albeit without a unique ID number (pin code).

Transferring data from books to magnetic media can also be contracted with a third party (outsourcing), with the advantage of not establishing a special data entry unit within the MoJ. In this case I recommend:

- Create a small quality control unit in the MoJ to verify statistically the quantity (n. of pages and books delivered equal to received), quality (verification of data within the record) and time of delivery.

- Having a delegate of the MoJ permanently within the quarters of the contractor with the power to demand changes in the process or data entry operators.

- To make integral part of the contract severe penalization for the copy or miss-use (commercial or other type) of data.

- To verify the necessity of a special decree to release data that, at present time, is reserved by law.

The benefits and advantages of having a consolidated computerized database containing all data from Azerbaijan citizens and residents are paramount for the development of the country:

- It makes possible the transference of the ID number (9 character pin code) from the Ministry of Internal Affairs database to each one of the civil status records allowing looking for all civil acts of an individual in one single search.

- Allows a complete data centralization of information and an operative decentralization of operations; allowing printing of certificates, change of addresses and searching the whole database everywhere in Azerbaijan facilitating and improving attention to the public and cutting present delay by more than 50% (there will still be a delay because without a key a text search have to be conducted and a certain percentage of data will not be found).

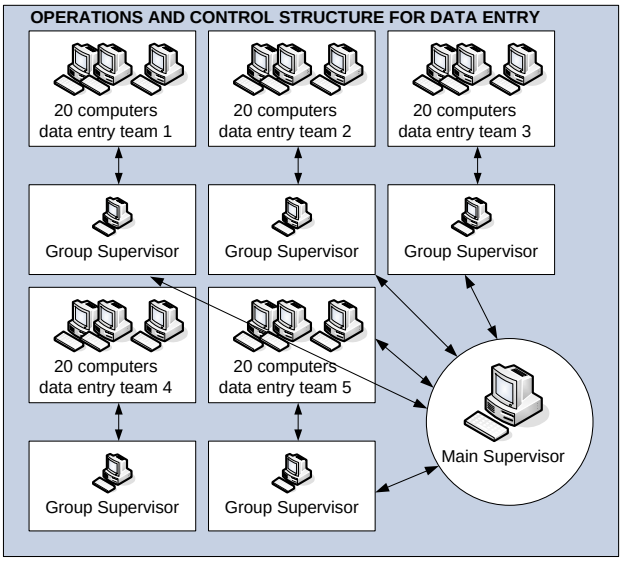
- It will provide permanent basic statistics for government agencies planning.

- It will allow the storage of original books in a safe place avoiding its damage with time.

2. *Data entry / verification process*

If the MoJ decides to face data entry under its responsibility the following structure of labour should be observed:

1.10. Installing 5 networks of 20 computers each, working under a group supervisor to enter data in an affordable way. There will be also a main supervisor in charge of controlling the work of the 5 group supervisors. The network will be interconnected with the main server to transfer data once verified trough a statistical method which algorithm has to be decided at the time of designing the system architecture.



1.11. The architecture of the new SRP database should be similar to the outlined below, keeping in mind that there should be one record per type of civil act and individual, linked by the same pin code:

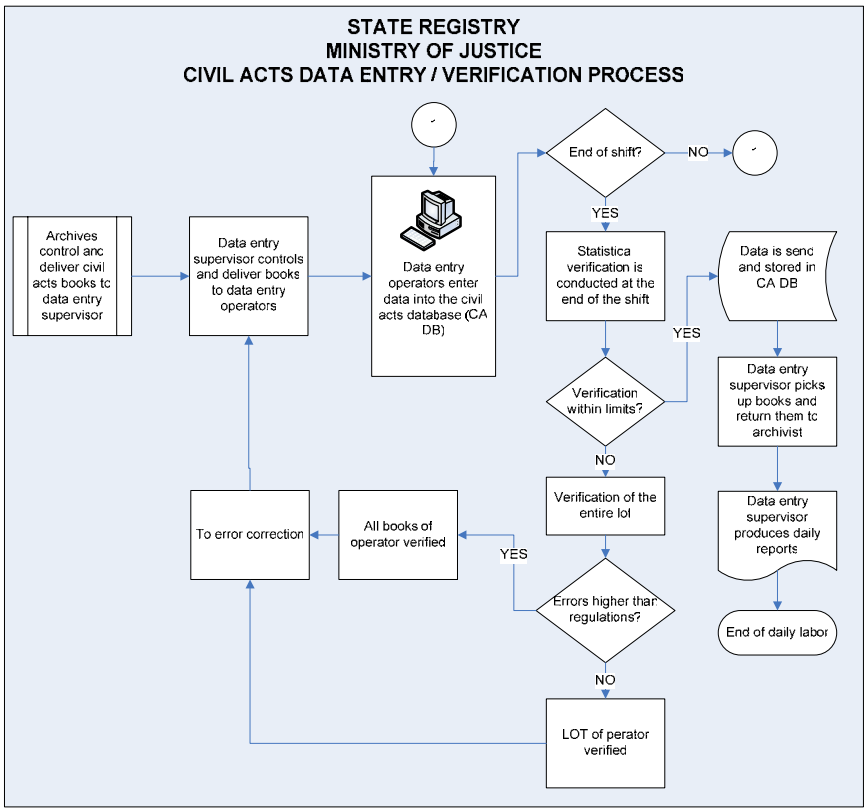
CIVIL ACTS RECORD ARCHITECTURE PROTOTYPE (Birth record)			
1	Record type (1: birth 2: marriage, etc..)	ch	1
2	Surname	ch	30
3	name	ch	30
4	father's name	ch	50
5	date of birth	date	8
6	place of birth	ch	40
7	sex	ch	1
8	citizenship	ch	30
9	family status	ch	1
10	City of registration (code)	ch	5
11	Photo	jpg	80
12	Electoral District code	ch	6
11	District of reg (code)	ch	5
12	Street	ch	40
13	number	ch	5
14	Father's ID card number	ch	9
15	Surname	ch	30
16	name	ch	30
17	ID card number	ch	9
18	Surname	ch	30
19	name	ch	30
20	ID card number	ch	9
21	death date	date	8
22	Data entry operator code	ch	4
23	verificator code	ch	4
24	Data entry date	date	8
25	change code	ch	1
		length	504
Note: Other civil acts ought to have similar architecture, without photo and electoral district code			

1.12. The duration of data entry to transfer all 20 million civil acts will depend on the resources assigned to the task. The following table shows times for 1, 2 and 3 shifts using 100 computers. I assume 6 hours shifts, 250 workable days per year and a 4 minutes time to enter 1 record. *If data entry is outsourced, the MoJ will have to specify in the contract the duration of the work and the following table will allow it to provide feasible conditions and measure the cost parameter adequately.*

Production and duration of data entry for 8 million birth records			
1	Main Supervisor	1	
2	# group supervisors	5	
3	# data entry operators	100	
4	duration of entering 1 record (min)	4	
5	Daily Production per 6h shift/machine	90	
6	Daily production 100 computers	9 000	
7	Production 1 shift	9000	
8	Production 2 shifts	18 000	
9	Production 3 shifts	27 000	**years**
10	Duration of entering 20 million records. 1 shift (working days)	2 220	**8Y 10m**
11	Duration of entering 20 million records. 2 shifts (working days)	1 110	**4Y 5m**
12	Duration of entering 20 million records. 3 shifts (working days)	740	**3Y**

1.13. Because of the long elapsed time in any alternative I recommend using priorities to face this challenge. (The MoJ will have, compulsorily, to specify this priorities if data entry is contracted to a third party). Priorities can be given type of civil act, by date of civil act and/or by city or district.

1.14. I recommend start working with birth certificates from year 2003 back out (2003, 2002, 2001…).



Third phase: Transferring pin code from MIA DB to SRP DB

Once both databases are stored in the SR computer it would be possible to compare them, transfer the pin code and form number from the MIA DB to the SR DB and create one single database containing all the relevant information on civil acts of all Azerbaijanis.

The SR database completion will be done in different stages:

After starting the new system the totality of data will be transferred to the DB since the pin code will be issued by the SR:

1. Civil Acts data coming from the migration of books to electronic format will contain no pin code but will reflect the legal and official data of individuals. This DB will grow dynamically and it will be completed in some years, depending on the resources assigned to the system. The pin code can be transferred to the SR DB in two different ways:

   1.1. A total and integral transfer once the SR DB is completed and all records are integrated in the same DB.

   1.2. A continuous transfer made in a programmed mode, whether monthly, by monthly or under any other parameter.

   I recommend the second alternative, updating the SR DB in a monthly basis and parallel to data entry.

Pin code's transfer methodology.

1.3. Two databases will be used to transfer the pin code: The MIA DB and the SRP DB. The first contains the pin code and form number plus additional information like surname, name, fathers name and birth date. The second contains the same information about different civil acts of the same individual (birth, marriage, etc.) but without pin code and form number, making text comparison the only way to match data and transfer pin code. Equal fields in both databases (name, surname, father's name, birth date) do not guarantee that they are written exactly the same and there will be some differences, making text comparison a lengthy and tiresome – but necessary – task. Transfer of data should be made having in account the following principles and processes:

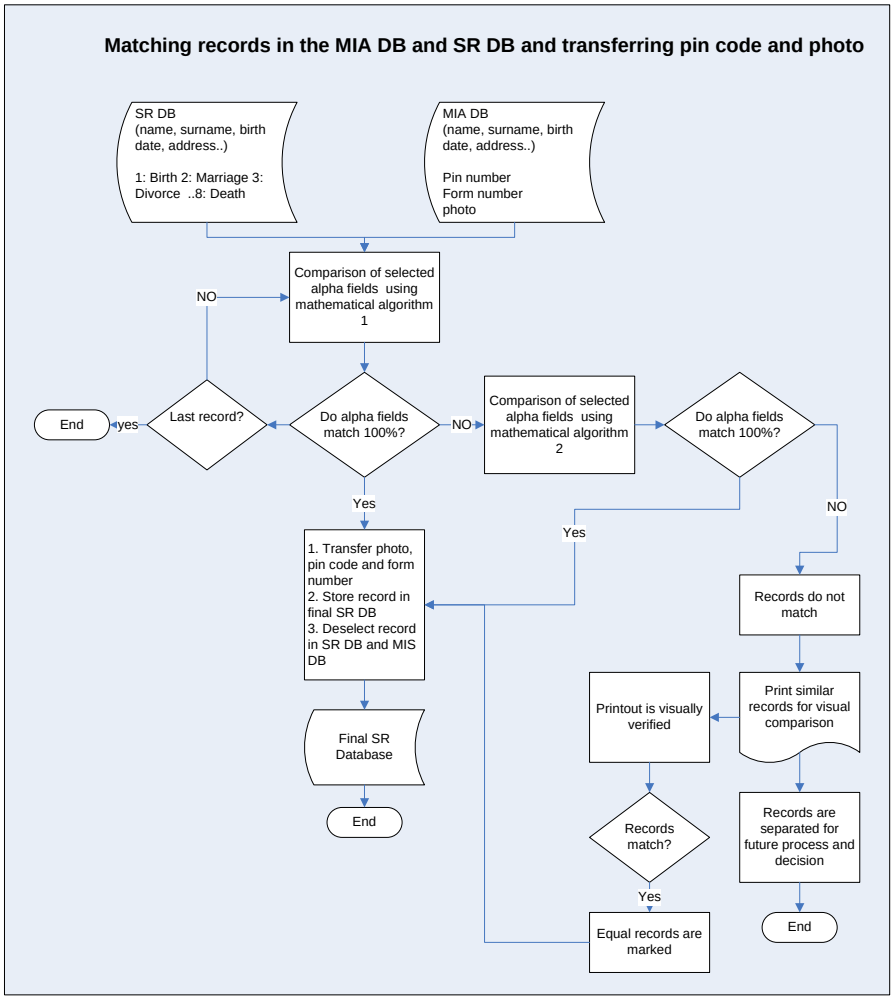
1.3.1. Data coming from the SR DB contains legal and official information, thus this data will be kept for the final SR DB discarding similar information in the MIA DB.

1.3.2. Transfer of the pin code and form number will be made only when the matching fields are 100% the same or if during visual verification individual data proofs to be from the same individual.

1.3.3. Once pin code and form number are transferred the MIA data will be discarded, SR data will be completed and only one record will be kept in the final DB.

1.3.4. SRP DB records will have the same structure as paper records, adding photo and control fields like record type (1 for birth, 2 marriage, etc..), data entry operator code, machine, data and time of data entry and change code. This information will be kept in the SR record permanently.

1.3.5. While the final SR DB is completed, some form of access to the partial information (or no access) by other stakeholders should be implemented. The recommended alternative is give access to users to the MIA DB which contains all relevant ID information and is always updated. Local bodies like the Central Election Commission, Social Security and Ministry of Taxes will obtain in such way immediate access to legal and official ID of citizens in Azerbaijan.



VII Phases of implementation

In order to implement the project some planning has to be done in advance. A macro-activities project was developed to this purpose. A more detailed and specific Gannt chart has to be developed to control the project after the budget is approved. Special attention must be observed for the technical specifications of hardware, software, communications and application's development.

	Phases of the State Registry Project in Azerbaijan - Macro activities phase 1: New SR						
#	Description	Duration (days)	Start date	End date	Responsible	Remarks	Predecessors
1	Needs assesment	50	11-Jul-05	30-Aug-05	Enrique Saltos		
2	Approval of budget by Cabinet of Ministers	30	1-Sep-05	30-Sep-05	MoJ - Cabinet of Ministers		1
3	Approval of International assistance by OSCE / UNDP	15	1-Oct-05	15-Oct-05	MoJ/OSCE/UNDP		2
4	Preparation, publication and adjudication of initial tenders for hardware, software, communications.	90	16-Oct-05	15-Dec-05	MoJ with International support	The MoJ will form a technical group with local and International experts to prepare technical specifications for the tender	3
5	Hiring of technical staff for the IT department	30	16-Dec-05	15-Jan-06	MoJ with support of UNDP for paying adequate salaries for 2 years	One Database adminstrator, 2 DB programmers and 2 maintenance programmers have to be hired by the MoJ trough advertising ans technical tests	3
6	Preparation of temporary location for the State Registry	90	16-Oct-05	15-Dec-05	MoJ	A temporary location for the SR has to be found until the definitive building is ready	3
7	Installation of hardware, software, communication for new SR system	30	1-Feb-06	28-Feb-06	Providers / Moj		4
8	Training (Oracle DB, operative software, procedures of new SR system)	60	16-Jan-06	15-Mar-06	Providers / Moj		4, 5
9	Preparation of technical specifications for all phases and test for SR programming. Writing technical and operational manuals	120	16-Mar-06	16-Jul-06	MoJ with international expert support	The MoJ has to prepare technical specifications wheter for internal or third party application's development.	4, 5
10	Programming / testing DB apllications for new SR system	90	1-May-06	30-Aug-06	MoJ	This set of programs will be used to receive and store in the SR database new civil acts from Baku and regions "on line" and with the new architecture.	9
11	Training of regional operators	15	1-Sep-06	15-Sep-06	MoJ		10

12	Implementation of the new SR system	15	16-Sep-06	30-Sep-06	MoJ		5, 6, 7, 8, 9, 10, 11
13	End						

Note: Activities 1 to 9 are the same for the whole project and are properly linked in the MS Project file srproject Azerbaijan.mpp

	Phases of the State Registry Project in Azerbaijan - Macro activities phase 2: Data migration						
#	**Description**	**Duration (days)**	**Start date**	**End date**	**Responsible**	**Remarks**	**Predecessors**
1	Needs assesment	50	11-Jul-05	30-Aug-05	Enrique Saltos		
2	Approval of budget by Cabinet of Ministers	30	1-Sep-05	30-Sep-05	MoJ - Cabinet of Ministers		1
3	Approval of International assistance by OSCE / UNDP	15	1-Oct-05	15-Oct-05	MoJ/OSCE/UNDP		2
4	Preparation, publication and adjudication of initial tenders for hardware, software, communications.	90	16-Oct-05	15-Dec-05	MoJ with International support	The MoJ will form a technical group with local and International experts to prepare technical specifications for the tender	3
5	Hiring of technical staff for the IT department	30	16-Dec-05	15-Jan-06	MoJ with support of UNDP for paying adequate salaries for 2 years	One Database adminstrator, 2 DB programmers and 2 maintenance programmers have to be hired by the MoJ trough advertising ans technical tests	3
6	Preparation of temporary location for the State Registry	90	16-Oct-05	15-Dec-05	MoJ	A temporary location for the SR has to be found until the definitive building is ready	3
7	Installation of hardware, software, communication for new SR system	30	1-Feb-06	28-Feb-06	Providers / Moj		4
8	Training (Oracle DB, operative software, procedures of new SR system)	60	16-Jan-06	15-Mar-06	Providers / Moj		4, 5
9	Preparation of technical specifications for all phases and test for SR programming. Writing technical and operational manuals	120	16-Mar-06	16-Jul-06	MoJ with international expert support	The MoJ has to prepare technical specifications wheter for internal or third party application's development.	4, 5

10	Programming / testing DB apllications for data migration	60	1-Jun-06	30-Jul-06	MoJ	This set of programs will be used for the migration of data of all 87 regiosns from documents to computerized records	9
11	Hiring and training of 100 data entry operators and supervisors	15	1-Aug-06	15-Aug-06	MoJ		10
12	Transferring data from documents to DB	15	16-Aug-06	30-Dec-07	MoJ	The duration of data migration will depend on the amount or resources assigned and the number of shifs.	5, 6, 7, 8, 9, 10, 11
13	End						

III BUDGET

Budget for the Civil Registry Project (CRP) in Azerbaijan – Page 1 of 2 -

Item	Description	Qt.	Unit price (US$)	Total price (US$)	Remarks	*Finance years*
1	**Economic expenditures***					
1.1	Renovation of administrative building	1	$ 500,000	$ 500,000		***2006***
1.2	Security	1	$ 150,000	$ 150,000		***2006***
1.3	Power supply and UPS	1	$ 100,000	$ 100,000		***2006***
Total per economic expenditures:				**$ 750,000**		

2.	**Preparation of technical specifications for tender***			$ 130,000	International expert provided trough OSCE or UNDP for three months not included**	
Total per Preparation of technical specifications for tender:				**$ 130,000**		***2006***

3.	**Hardware and communications**					
3.1.	Main server / application server - Civil registry	2	$ 400,000	$ 800,000		***2007***
3.2.	Storage and backup systems - Civil registry and Civil Status Acts Registration System	2	$ 150,000	$ 300,000		***2007***
3.3.	Server - Civil Status Acts Registration System	1	$ 100,000	$ 100,000		***2006***
3.4.	Wide area network - server and communications network	1	$ 500,000	$ 500,000		***2006***
3.5.	Workstations - Civil Registry	24	$ 1,500	$ 36,000		***2006***
3.6.	PC computers - Civil Registry (programming)	8	$ 1,800	$ 14,400		***2006***
3.7.	Noutbooks - support and maintenance	4	$ 2,500	$ 10,000		***2006***
3.8.	Working stations - Civil Status Acts Registration bodies (including 2 PC computers, printers, UPS)	95	$ 2,500	$ 237,500		***2006***
3.9.	PC computers / training room	25	$ 1,500	$ 37,500		***2007***
3.10.	Additional training equipment / training room	1	$ 15,000	$ 15,000		***2007***
3.11.	High speed duplex scaner	4	$ 30,000	$ 120,000		***2006***
3.12.	High speed duplex network printers	2	$ 10,000	$ 20,000		***2006***
3.13.	Special photoscaner for old documents	1	$ 25,000	$ 25,000		***2006***
3.14.	Special sewing machine for archiev documents	1	$ 5,000	$ 5,000		***2006***
Total per hardware and communications:				**$ 2,220,400**		

Budget for the Civil Registry Project (CRP) in Azerbaijan

Item	Description	Qt.	Unit price (US$)	Total price (US$)	Remarks	*Finance years*
4.	**Software**					
4.1.	Operative system			$ 50,000		***2006***
4.2.	Oracle Data base			$ 450,000		***2006***
4.3.	Application's development software / New Civil Registry system**			$ 200,000	These figure would cover an external application's development or the internal (recommended) CRP development	***2006***
4.4.	Application's development software / Matching with Ministry of the Interior database and passing pin code**			$ 200,000	These figure would cover an external application's development or the internal (recommended) CRP development	***2006***
4.5.	Application's development software / general applications**			$ 50,000		***2006***
4.6.	Application's development software / Civil Status Acts Registration System			$ 100,000	These figure would cover an external application's development or the internal (recommended) CRP development	***2006***
4.7.	Support and maintenance / 1 year			$ 100,000	These figure covers internal user (CRP) support and maintenance	***2007***
4.8.	Various software packages (Project, Visio, etc..)			$ 30,000		***2006***
Total per software:				**$ 1,180,000**		

5.	**Training**					
5.1.	Oracle database training / basic, middle, high level	6	$ 25,000	$ 150,000	Training for 6 staff members of the IT deprtament of the CRP	***2006***
5.2.	Operative system training	6	$ 5,000	$ 30,000	Training for 6 staff members of the IT deprtament of the CRP	***2006***
Total per training:				**$ 180,000**		

6.	**Archiving**					
6.1.	Archivers	3	$ 80,000	$ 240,000		***2006***
6.2.	Working stations	4	$ 1,500	$ 6,000		***2006***
6.3.	Tags	1	$ 20,000	$ 20,000		***2006***
Total per archiving:				**$ 266,000**		

7.	**Data migration for Civil Status Acts**					
7.1.	Separate project for data migration including data entry from paper archives and software development			$ 1,650,000		***2006***
Total per data migration for Civil Status Acts:				**$ 1,650,000**		

TOTAL BUDGET:	**$ 6,376,400**		

Notes:

* Estimation provided by the Ministry of Justice

** Six to eight months International expert for supporting the Information Technology (IT) Department in developing technical specifications for application's development (during different phases of the project) not included in this budget

*** Salaries or compensation for 3 members of the IT Staff (DB administrator and 2 DB programmers) plus compensation for the head and Deputy for two years will be requested from donors

IX New premises and security

a. The SR is renovating an old building for the use of its administration. In the meantime, other premises have to be rented in a temporary basis. While the new building is ready some other place has to be gotten in order to start working as soon as possible.

b. The planning of the new building has been done very professionally by the MoJ and should contemplate the standard following specifications for the data centre, that fits better the conditions and location of the new building:

Physical areas of the computer centre.

1. The *computer room*, where the main server, applications server and peripheral devices will be installed. It must be physically separated from the other areas, preferably in a second floor.
2. The backup server room. Located whether in a different location in the same building or in other building, depending on the security level to be implemented.
3. The *data input room*. This is the room where all data entry computers are going to be located.
4. *On line UPS* : An "on line UPS", capable to provide backup power for at least ten minutes should be installed and interconnected with the Power generator and the computer network.
5. A *quality control area*, in charge of control of incoming and outgoing information.
6. *System analysis and programming room*. This room will be used for the database administrator and programmers.
7. A *room for paper and office supplies*. This warehouse is used to save computer paper in metallic shelves. Special characteristics of paper will require a dry and safety environment to prevent fire and humidity.
8. M*eeting room*. For technical group meetings.
9. One *security booth* located at the entrance of the computer centre, to verify ID documents, control weapons and keep a log of visitors.

ii. Technical components of the computer centre.

1. *Power and electricity component*. The provision of stabilized power is the most important component of the centre. It is composed of a generator interconnected with the UPS and the main server and has to have the capacity to maintain working at least the server and the computers in the network. A transformer connected to one of two sources of power and a generator comprises the main components of this sub-system.
2. *Security component*. There are two sub-components in a security system: Physical security and logical security.

The first affects to persons, equipment and premises and the second to data and information.

a. Physical security.
    i. *Audible alarm (desirable)*. A manually activated audible alarm network interconnected with all rooms in the computer centre.
    ii. *Fire extinguishers (compulsory)*. Halon 2 type electric fire extinguishers for the computer room and the data input room. Dry powder or other paper-type of extinguishers for the warehouses.
    iii. *Smoke detectors*. Smoke detectors connected to the audible alarm system in the computer room, according with its volume.
    iv. *Security doors*. Security doors in the main entrance, computer room and exit door.
    v. *Cabling*. All electrical and network cabling should be done using pipes and not wiring directly through floors or walls, except if a false floor is installed and, even in this case, cabling should be done using pipes.
    vi. *Control logs*. Permanent control logs of who enters and leaves the premises.
    vii. *Forms and inventory control*. All forms, paper, office supplies and computer parts must be carefully controlled.
    viii. Other type of securities according to the specific purpose of the computer centre and the sensitivity and value of data.
    ix. False floor. A false floor, anti-static and anti-flammable should be installed information and equipment. Not absolutely necessary, but desirable under conditions of potential danger.
    x. Fireproof walls (desirable, not necessary)

X. The future: Automated Fingerprint Identification Systems

AFIS is the most reliable and tested technology for civil and criminal identification. The basic fundamentals of AFIS are permanence and individuality.

Permanence: Fingerprint ridges are formed during the third to fourth month of foetal development. These ridges consist of individual characteristics called ridge endings, bifurcations, dots and many ridge shape variances. The unit relationship of individual characteristics does not naturally change throughout life... until decomposition after death. After formation, an infant's growing fingerprint ridges are much like drawing a face on a balloon with a ball-point pen and then inflating the balloon to see the same face expand uniformly in all directions.

Individuality: In the over 140 years that fingerprints have been routinely compared worldwide, no two areas of friction skin on any two persons (including identical twins) have been found to contain the same individual characteristics in the same unit relationship. This means that in general, any area of friction skin that you can cover with a dime (and often with just a pencil eraser) on your fingers, palms, or soles of your feet will contain sufficient individual characteristics in a unique unit relationship to enable positive identification to the absolute exclusion of any other person on earth. Recent studies comparing the fingerprints of cloned monkeys showed that they, just like identical twin humans, have completely different fingerprints. When doctors state that twins have the same fingerprints, they are referring to the class characteristics of the general ridge flow, called the fingerprint pattern. These loop, arch and whorl ridge flow patterns have nothing to do with the individual characteristics used to positively identify persons. Before modern computerized systems, fingerprint classification was essential to enable manual filing and retrieval of fingerprints in large repositories.

The Minutia

In computer- based systems, the fingerprints are analyzed and a 10 digit code, called “Minutia” is elaborated by complex mathematical algorithms and stored in the database. This code is used for comparing the fingerprints and, if there are repetitions, the operator of the system verifies photos and the rest of information.

Fingerprint taking

In civil AFIS only two fingers are used and fingerprints have to be taken by special pads, using proprietary software at the same time that a photo or face recognition codes if multi-biometry is used.

AFIS based ID Cards

ID cards can have different specifications but usually are made of plastic or Teslin including at least nine physical securities like:

- Micro printing

- Holograms
- Security paper
- Faded ink
- Micro convolutions
- Ghost image
- Ultraviolet ink
- Bi dimensional bar code
- Overlapping images
- Magnetic stripe
- Split fountain
- Security indicia
- Stored biometrics
- Pre printed core materials
- Factory pre-numbered form
- Altered fonts
- Security laminated

The size of an ID card has been standardized to:

Size: ISO 7810, credit card standard, 8.5cm x 5.5cm.
Paper: Security paper, 90-120 gr. 8 cards in one sheet of paper.

Acquisition guidelines for national AFIS

Summary

The following are acquisition guidelines for implementing national AFIS systems derived from the experience of member delegates of the Interpol AFIS Expert Group (IAEG).

(1) Identify/establish operational requirement for the system.

(2) Establish a program management team comprised of the following attributes:

- IT professionals in the required specialities (e.g., requirements capture, telecommunications, programming)
- Ten-print and/or latent fingerprint experts
- End user and system operator participation.

(3) Contact a variety of end users and AFIS vendors to get an overview of the state of the art systems, plans for development within the given time frame, in addition to an estimation of the level of costs.

(4) Prepare a report showing possible achievements from (cost-benefit analysis of) a new system:

- Performance
- Cost
- Schedule.

(5) Prepare a functional specification (do not specify technical solutions since it should be left to the supplier in order to be able to monitor defects regarding functionality, response demands and stability). Identify the relevant standards and stress that the solution shall be defined where possible as the supplier's standard application (not special software).

(6) Preparation of evaluation criteria. These may include and are not listed in order of priority:

- Prices, including discounts and deferred rebates
- Operational reliability
- User-friendliness
- Time of delivery
- Maintenance
- Performance
- Accuracy
- Security
- Training
- Interoperability
- Flexibility of system (expandability, scalability)
- Possibilities for standardisation and networking
- Terms of contract (general and specific)
- Functionality
- Energy and environmental conditions
- Past performance and confidence in technology of vendor
- Project management approach
- Record conversion
- Costs in running the system.

(7) Prepare "Invitation to tender" consisting of:

- Description of the procurement process
- Criteria for the award of the contact
- Purchasers limit of liability
- The structure of the offer is to be in accordance with the composition of the specification
- System standards
- Interoperability with other systems, internal and external
- Maintenance
- Record conversion
- Benchmark preconditions
- Acceptance test
- Handling of subcontractors (all communications are to be addressed through a main supplier)
- Specification, consisting of:

  Search Types, Composition and sizes of databases, volumes, input functions at the workstation, speed of response, statistical management information, output functions at the workstation, vendors site specification, system security, training, accuracy, record conversion, communication, maintenance, miscellaneous provisions, pricing proposals.

(8) Where possible meet with the suppliers after bid deadline to ensure the offer satisfies the specification. It is important to precisely define which parts of the offer represent technology in use and what is under development. It is important to stress the deadline for any correction or clarification from the bidding parties.

(9) Site visits: Select and visit at least two users with comparable database size, architecture and workload for 10-print/latent operations. It will be useful to visit an operational site that has used the system over a period of time, in addition to a new user. Recommend personnel of the supplier do not attend.

(10) Prepare a plan for Benchmark. This is a difficult process. Caution should be exercised and wherever possible guidance sought with regard to this. Vendors will wish to show their product in the best light. The people undertaking the test should be familiar with the system. The buyer should witness all benchmark testing.

(11) For the benchmark the supplier chooses the installation with the approval of the buyer. Where possible the benchmark installation should reflect the buyer's requirements.

(12) Implementation of the Benchmark test

- Prepare an accurate plan for implementation and control.
- Make notes of all the supplier's promises and get these signed.
- Evaluate the professionalism of the supplier and operators.

(13) Entering the contract (some important issues listed)

- Ensure consistent interpretation of terms and language among participants to avoid later misunderstandings (for instance 10-print card, 10-print record).
- Price offer according to the structure of the specification;
- Options are to be described and priced with total costs for incorporation;
- Training is to be specified and priced;
- Suggest supplier trains instructors. Carefully evaluate and investigate if manuals and screen menus are to be translated;
- Define milestones of the project and fix penalties per day of delay, caused by the provider or subcontractors. These fines should be cumulative. Suggested milestones are:

Factory acceptance test, delivery of the system, user system acceptance, start of Record Conversion (RC), regular conversion status, end of conversion, operational start.

(14) Inform users of announcement of award, timeline and impact

- proactive communication to users
- ensure realistic user expectations
- impact on end user business processes
- transition from legacy systems to new environment.

(15) Installation and testing

- Should include testing with own data

- Test all functionality at 3 stages : factory (FAT), site acceptance (SAT) and full-up (load) performance testing
- Tests are implemented on the user's terms after compiled checklist;
- Work list/problem list is compiled as a binding document
- Capture problems/fixes for specified period of time to determine continuity of operations.
- Consider refusal to install equipment if serious defects have been discovered, even if the supplier is obligated to correct them.

Recommendation:

Azerbaijan will have, at some point, to decide for AFIS systems in view of the higher security level it offers and the clear advantages for anti-terrorism fight. The current ID card is secure enough for primary objectives but lacks security in the source. Birth certificates can still be forged or gotten by bribing SR officials. With AFIS system this can not occur since fingerprints are unique and impossible to alter.

Once the new SR system and ID are fully implemented, within the next years, it would be time to think on moving to an AFIS system, possibly multi-biometric which is the current tendency and it will be fully tested by that time.

Annex: The Central Election Commission (CEC)

Overview of the voter registration system in Azerbaijan

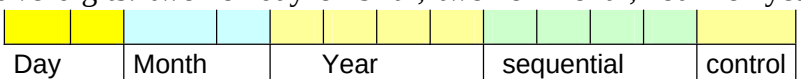
1.1. The electoral system of Azerbaijan for Parliamentary elections is that of uninominal districts under the majority (first pass the post) voting system, the magnitude of districts is very similar, approximately 37,000 voters +/- 5%. The President is elected in a national system, with the country as a single district. Presidential elections will be carried out on November 2005.

1.2. The electoral districting system is comprised by 125 electoral districts that correspond exactly with the 87 administrative districts of Azerbaijan. In big cities like Baku, the city - one administrative district – is divided in several smaller electoral districts of the same population respecting the geographical boundaries.

1.3. IDPs (Internally displaced persons) elect representatives of their occupied territories in special places located in each one of the rest of administrative districts along the country and vote in special polling units in any district with more than 50 electors of the same occupied district. Registration is centralized in different administrative districts according with the following table:

#	Occupied Region	Office of NSCR
1	Gabrayil- Gubadli	Baki City, Avenue Xalglar Dostlugu
2	Lachin	Agjabedi Region, Refugee District "Taxta Korpu"
3	Kelbecer	Ganja City, Gulustan District
4	Shusha / Fuzuli / Xocali / Xocavend	Baki City, G. Gadirbayova Street 38
5	Zengilan / Gubadli	Baki City, Narimanov District
6	Fuzuli	Fuzuli region, Horadiz District

1.4. The Information Centre (IC), created by decree of the President of the Republic on September 3, 2000 under the CEC, has the responsibility to form a database concerning registration of electors and normative legal acts about elections, monitor voter registration and print the voter's list. For this purpose they have developed its own database and identification key, consistent of 13 representative digits: two for day of birth, two for month, four for year, four



sequential within the date and one control digit base 10.

1.5. The IC receives information from the Police, executive powers (Majors) and the Notary and Civil Status Registry belonging to dead, change of address and new registrars. Data is send by modem to the main server in the IC to keep the voter's list updated. For IDP they also receive information from the IDP committees in each region.

1.6. According with Art. 46 of the Election Law the voter's list for a precinct are approved by the Precinct Election Commission in conformity with

the format defined by the Central Election Commission until 10th 30th of March May of each year and they are by specified at least 35 days prior to the Election Day.

Article 46. Compilation of Voters (citizens who have the right to participate in referendum) Lists
46.1 The permanent voters list for a precinct shall be kept by the Central Election Commission. Permanent voters (citizens who have the right to participate in referendum) lists (hereinafter - voters lists)approved for a precinct are approved by the Precinct Election Commission in conformity with the format defined by the Central Election Commission until 10th 30th of March May of each year and they are by specified at least 35 days prior to the Election Day. After this period and until and including the Voting Day (including the Voting Day), the voter can be included in the voters list only upon the court decision (in this case, the court decision shall be attached to the voters list). Voting cards of the voters who vote with voting cards, shall be attached to the voters lists, in accordance with Article 101 of this Code. Any additions and amendments to voters list on the voting day cannot be made. Voter's lists cannot be published in the press.

Recommendations

1.7. Currently the MIA database contains all data needed for producing a very reliable, integral and photographic voter's list for November 2005 elections proved that:

1.7.1. The database is released to the CEC trough a presidential decree

1.7.2. The date for finishing approval of the voter's list in the precincts (May 2005 according with Art. 46 of the election law) is amended allowing the CEC the use of the MIA DB instead of its own database. This requires a change in the election law by the Milli Majlis that may not be possible to get on time.

1.8. Last elections were criticized by the International community for failures that may well be due to administrative errors, lack of security in the voter's card and the possibility of impersonation. These factors will be eliminated trough the implementation of a new SR based voter registration and the use of the new ID card for positive identification of the voter.

1.9. Current voter registration will be unnecessary and will be completely replaced by a new automatic and permanently updated system that will need neither the intervention of the voter nor of the CEC. One or two months before elections the SRP will release an updated copy of their database with identification fields only (name, surname, Father's name, id number, birth date, address and photo) and, trough a table of equivalences, the CEC will split the database into districts and polling stations for the production and printing of a photographic voter's list. To facilitate this process I recommend the inclusion in the SR database of the electoral district code.

1.10. The election law will have to be amended to match the new system and respond to the needs of a new computerized system. These amendments can be done by a working group of national and international experts immediately after 2005 elections are finished. Changing sensitive laws is usually a long and tedious endeavour and it will take some time and amendments before an agreement is reached and is approved by the Milli Majlis.