

Joint Project on DNA-led Identifications

between

**the Ministry of the Family, Veterans' Affairs and Intergenerational
Solidarity
of the Republic of Croatia**

and

the International Commission on Missing Persons

A. CONTEXT

The issue of missing persons from the recent armed conflict continues to cause suffering for the individual relatives of the missing, as well as creating impediments to societal progress. With this premise in mind, the International Commission on Missing Persons ("ICMP") and the Ministry of the Family, Veterans' Affairs and Intergenerational Solidarity of the Government of the Republic of Croatia ("the Ministry") will embark upon the implementation of a Joint Project to enable the resolution of increased numbers of missing persons' cases stemming from the recent conflicts.

The Joint Project between the Ministry and ICMP concerns efforts to identify the mortal remains of persons unaccounted for as a result of the armed conflicts in countries created on the territory of the former Yugoslavia.

This Joint Project is based upon the existing Agreement signed between the ICMP and the Government of the Republic of Croatia in September 2002. In addition, the public awareness campaign for the collection of blood samples incorporates existing agreements relevant to the ICMP's ongoing project with the European Commission for the collection of blood samples. The Joint Project will be implemented in line with the relevant laws of the Republic of Croatia and the ICMP mandate and Standard Operating Procedures (SOPs).

B. OBJECTIVE

The objective of the project is to jointly resolve outstanding cases of missing persons through the use of a DNA-led system of identifications. The project entails the appropriate exchange of STR profiles between the Ministry and ICMP ("the Parties") relevant to missing persons' cases in an effort to produce DNA reports that will lead to identifications. The exchange of data will allow for joint utilisation of ICMP DNA matching software, to which the ICMP agrees to provide access to the Ministry, as well as any required training for its use. The Joint Project also includes the collection of blood samples for DNA testing as described in Project One *infra*.

C. SCOPE

The Joint Project covers the identification of all unidentified mortal remains which are a consequence of the armed conflict.¹

The Joint Project consists of two subprojects:

- Collection of blood samples in the Republic of Croatia from family members who to date have not given blood.
- Exchange of relevant data needed to resolve cases of missing persons.

D. Subproject One: Collection of Blood Samples

1. Blood collection will be conducted by joint teams composed of staff members of the Parties, and in accordance with ICMP Standard Operating Procedures (SOPs).
2. The joint teams shall be composed of two ICMP staff members and one staff member designated by the Ministry.
3. Operational implementation shall commence no later than 15 days after the Joint Project has been signed. Blood collection should be fully realised by 31 December 2004.
4. Activities relevant to this Project will be directly coordinated between the Parties.
5. Blood samples will be processed in the labs of the Parties.
6. Profiles will be included in the databases referred to in Project Two *infra*.
7. ICMP personnel will be allowed unobstructed transport (in official vehicles and/or in marked, official containers) biological samples to ICMP facilities.
8. The Parties shall jointly fund the shared aspects of the work to be completed under the joint project. Each Party shall be responsible for funding their own staff including salary costs, insurance, social security benefits, per diem and other benefits. ICMP shall provide transportation for blood collection teams including Ministry designated staff. However, ICMP itself and/or its staff shall not be liable to compensate material demands to the Ministry designated staff in the event of an accident. ICMP shall provide standard blood collection equipment and other material used in the collection of samples.

¹ According to the Ministry records, such remains may include, but are not limited to:

- The approximately 700 unidentified mortal remains exhumed on the territory of the Republic of Croatia to date.
- The approximately 300 persons presumed missing from the conflict in Bosnia and Herzegovina, whose relatives currently reside in the Republic of Croatia.
- Mortal remains of persons searched for by the Ministry and missing on the territory Bosnia and Herzegovina or Serbia and Montenegro, including those last seen on the territory of the Republic of Croatia.

E. Project Two: Exchange of Data

1. Exchange of data regarding biological samples from the mortal remains of the missing:
 - 1.1. The Ministry agrees to DNA-profile biological samples taken from mortal remains of missing persons exhumed or otherwise recovered on the territory of the Republic of Croatia. In so doing, the Ministry will attempt to ensure that samples are analyzed in accordance with recognized best laboratory practice. That is, the Ministry undertakes to ensure specifically that amplifications of DNA profiles are made to a magnitude of 16 loci as specified in Annex Two. Should the Ministry be unable to assure such conditions (best laboratory practice and the number of loci), ICMP agrees to perform the DNA analysis for the Ministry's needs free of charge upon the delivery of biological samples to ICMP in accordance with ICMP SOPs.
 - 1.2. The Ministry agrees to provide ICMP with its database containing the DNA profiles of blood samples obtained from surviving relatives of persons that are still listed in the Republic of Croatia as missing.
 - 1.3. ICMP grants the Ministry access to its data containing the DNA profiles of family members who have missing persons from the territory of the Republic of Croatia;
 - 1.4. The Parties agree that DNA profiles of family members in the databases do not include personal information on the missing or on family members concerned. However, personal information including names of missing persons and their family members are released by the Party who originally collected the data to the other Party only following positive comparison of DNA profiles that results in a 'match' of genetic information.
 - 1.5. The Parties warrant that information in the databases will not be used for purposes other than identifying the remains of the missing persons unless Parties and the family members concerned agree in writing to such other use.
 - 1.6. Regarding procedures for exchange of bar coded reference of blood samples of the family members of the missing, the Parties agree that the data be prepared as detailed in Annex One of this document and will adopt the form shown in Annex One, figure one.
2. Software access
 - 2.1. ICMP grants the Ministry user-access to the ICMP Matching Software module of the ICMP Forensic Database Management System (fDMS). The fDMS will enable the Ministry to search these databases and to compare DNA profiles of the missing with the coded DNA profiles of family members.
 - 2.2. ICMP will host a workshop on the use of the ICMP Matching Software module (*see infra* Annex One).

2.3. For purposes of this Project, user-access is defined as the right and ability to use, but not to duplicate, share, alter or amend, software programs and/or their contents.

3. Comparing biological reference samples shared under the Joint Project

3.1. The Parties agree to issue reports on any positive corresponding genotypes that it obtains from comparing DNA profiles of the missing and of family members. Each report shall consist of genetic, chromatographic or statistical information, analysis and opinion of an expert (STR profile of the bone sample, bio-statistical analysis) as well as additional analysis as necessary.

3.2. Further, the Parties agree to exchange preliminary DNA results with each other one month after the exchange of data under section E.1 *supra*. In the context of this project, preliminary DNA results are defined as DNA matching reports which have not yet been reviewed.

3.3. In turn, the Parties agree to submit the reports for review and consultation to each other. The Parties may request additional genetic, chromatographic or statistical information, as well as information relevant to the process of DNA analysis as specified in Annex One of this document, if such information is required to complete a review. Such additional information may include collection of additional blood samples.

3.4. Having completed its review under subsection 3.2 above, the Parties will provide each other with the names of missing persons and family members for each report, as well as with such additional personal data as the Party may possess for the individuals concerned. Such information shall be provided within 30 days, with the exception where the Party is unable to obtain relevant waivers defined in Para 3.5 within that time. Where this is the case, the Parties shall inform each other of such situation.

3.5. The Parties will provide the information under 3.1 and 3.2 above as part of a report as illustrated in Annex Three to this agreement.

3.6. The Parties, in accordance with the Law on Personal Data Protection and the ICMP data protection policy, in the case of a confirmed match will seek to obtain a waiver from the family members that provided the biological sample in order to deliver personal data to the other Party to finalize the DNA match.

3.7. The Parties shall issue to each other monthly notifications of DNA matches, exclusions, re-associations, and closed cases as appropriate.

F. Final provisions

1. Neither Party shall be liable to indemnify the other in respect of any claim, debt, damage, nor demand brought forth by a third party and arising out of the implementation of the Joint Project.

2. Neither Party shall be liable for compensation for the death, disability, nor other hazards which may be suffered by the employees and/or volunteers of the other Party incurred during their activities during work on this Joint Project.
3. Neither Party shall be liable for the expenditures nor obligations incurred by the other in excess of contributions as specified in the Subproject 1.
4. Subproject One of the Joint Project shall be fully implemented by 31 December 2004. Subproject Two of the Joint Project shall be ongoing, with an operational assessment by the Parties six months after the commencement of the Subproject at which stage the Parties shall agree upon next steps. Commencement shall be considered as the date of the workshop hosted by ICMP.

Colonel Ivan Grujic
Assistant Minister

Adam Boys
Principal Director

Annex One
Workshop, study visit and technical support

1. Workshop and study visit

1.1. In the fall of 2004, ICMP will host a workshop in Zagreb in which scientists from the Parties will participate. The workshop will serve as a validation of the ICMP software for matching of DNA STR data produced by the Croatian system. The workshop will also provide a discussion between scientists as to what, if any, software modifications/improvements might be helpful to this and/or other joint projects.

2. Technical support

2.1. Exchange of bar-coded reference sample data will occur between the staff of the Parties.

2.2. Technical support to the Joint Project from ICMP will incorporate the following procedures for the exchange of reference samples.

2.3. The data shall be prepared as follows:

- 2.3.1. In the format as shown in Figure 1,
- 2.3.2. Bar-coded, as defined in Annex Two
- 2.3.3. In Microsoft Excel format,
- 2.3.4. Grouped by missing person
- 2.3.5. On CD-ROM

2.4. Upon exchange of data prepared as described above the ICMP will place orders for reagents as follows:

2.4.1.	0 profiles GOLD Polymerase	0 PP16(400 reactions) kits	0 U <i>Taq</i>
2.4.2.	1-400 profiles GOLD Polymerase	1 PP16 (400 reactions) kit	2000 U <i>Taq</i>
2.4.3.	401-800 profiles GOLD Polymerase	2 PP16 (400 reactions) kits	4000 U <i>Taq</i>
2.4.4.	801-1200 profiles GOLD Polymerase	3 PP16 (400 reactions) kits	6000 U <i>Taq</i>
2.4.5.	1201-1600 profiles GOLD Polymerase	4 PP16 (400 reactions) kits	8000 U <i>Taq</i>

2.5. The orders will be placed within 30 days of the data exchange and the goods will be shipped directly to any location within the Republic of Croatia as specified by the Ministry.

2.6. Upon exchange of data, the ICMP will donate four copies of their matching software, as agreed at the meeting in Dubrovnik on 8-9 July 2003. Setup, configuration and training in the use of this software will be provided at the meeting. The use of this software shall be restricted to identification efforts for persons within the Republic of Croatia. The software may not be distributed.

- 2.7. It is expected that steps 2.1 to 2.5 would be repeated at any future date when the Ministry would like to exchange blood reference data.
- 2.8. Donation of chemicals will involve a consideration for the cumulative number of samples exchanged with the ICMP. This cumulative sample submission means that 2 submissions of 200 reference samples would only result in a donation of one PP16 kit and 2000 Units of *Taq* GOLD Polymerase.

Figure 1. Data Format for Exchange of Family Reference Information

Status	IDICMP	Barcode	D3S1358		TH01		D21S11	...
Missing Person	5000							
Wife:	5000	6000001	17	17	6	10	30	...
Daughter:	5000	6000002	17	18	6	7	29	...
Son:	5000	6000003	17	18	7	10	30	...
Mother:	5000	6000004	16	17	6	9	27	...

Annex Two

- Best laboratory practice
 - In order to achieve the maximum effectiveness of the matching software the Parties shall use the same standards for assigning the allele numbers and filling the DNA profile exchange form.
- Set of loci
 - In order to achieve the maximum effectiveness of the matching software the Parties shall use the same set of STR loci. The minimum number of loci within a particular DNA profile is set to 12.
- Testing of additional loci
 - In case additional testing is necessary based on statistical calculations, additional loci shall be tested.
- Statistical calculations:
 - The following rules shall be applied for the biostatistical calculations and statistical evaluation of a database match:

All DNA Reports undergo biostatistical calculations (DNA view software). The ICMP's release policy for DNA Reports is based upon the Posterior Odds and, if the Posterior Odds for a given case falls below a reporting threshold, additional DNA testing may be required before a report is released.

<i>Posterior Odds</i>	<i>Result</i>
0.9995 or greater	Report released to designated party
0.99 – 0.99949	Designated party contacted and informed. Report may be released based upon the presence of additional evidence, or additional DNA testing performed.
Less than 0.99	Sample submitted for additional DNA testing. Designated party contacted and informed.

- Barcode definition
 - The range of acceptable barcodes shall be within a range 6000000-6100000.

Annex Three

[Sample DNA report of each of the Parties]

Annex Four

This document is signed in six originals, three in English language and three in Croatian language. All six copies are equally authentic.