

# **Establishment of a new tight cultural co-operation between National Research Council of Italy and Mongolian Academy of Sciences.**

## **Perspectives of joint research projects for environment resources recovery.**

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During the second half of September 2000 an Italian delegation of scientists<sup>2</sup> have paid a two-weeks visit to Mongolia supported by the Ministry of Foreign Affairs/Dept. of Cultural Co-operation, on the bases of the cultural protocol signed the last June by the two Countries for the next three years.

Principal aim was to get in touch with Mongolian Academy of Sciences and find common research field of reciprocal interest, susceptible to be developed through a joint project on the funds of national and European Organizations or Institutions.

At the arrival in Ulaanbaatar's international airport a warm and impeccable reception, organized by Ms. S. Enkhtuul, Director, Office of International Relations of Mongolian Academy of Sciences (M.A.S.), has welcome the visitors, then lodged in a fully furnished guest flat.

A series of official meetings, opened by the introduction of the Italian delegation to Prof. B. Enkhtuvshin, Vice-President of M.A.S., and other central board Members<sup>3</sup> have characterized the daily works, dedicated to the thorough examination of the main research activities of the two homologue state Institutions for establishing a solid platform of co-operation.

Guided visits have been done to several selected Institutes of M.A.S.<sup>4</sup> and related Organisations, whose research fields are demanding exchange of information and scientific partnership at international level, as well as to various State collections and outstanding monuments<sup>5</sup> in Ulaanbaatar and surroundings (*see photos n. ...*). Moreover the Italian visitors, on invitation of the Mongolian Colleagues, have held a seminar at the headquarters of M.A.S. on the recovery of cultural and natural resources by means of advanced remote sensing and informatics techniques<sup>6</sup>, followed by a discussion which has brought noticeable contribution to the reciprocal knowledge.

After the first week the delegation had the pleasure to meet Prof. Baatariin Chadraa, President of M.A.S. and Member of the State Great "Hural" (Parliament), who reconfirmed the strong interest of

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<sup>3</sup> Prof. A. Ochir, Director of the Institute of History ; Dr. O. Sukhbaatar, Secretary of the Institute of Language and Literature; Prof. D. Tseveendorj, Director of the Centre for Mongolian Archaeology/Institute of History.

<sup>4</sup> Institute of History directed by Prof. A. Ochir; Institute of Language and Literature; Institute of Informatics and Remote Sensing directed by Prof. M. Ganzorig; Renewable Energy Corporation directed by Dr. M. Ulzutogtokh; International Institute for the study of Nomadic Civilizations directed by Dr. G. Chuluunbaatar.

<sup>5</sup> Natural History State Museum, and particularly its Palaentological Section, directed by Prof. R. Barsbold; "Gold Fund of Books"; one day trip to the Monastery of Manzshiryn khiid, some 50 km to the south of U.B.; two days trip to Selenge "aimak" with the visit of a middle age archaeological site ("White lake" paper-mill, near Nart) and Darkhan town.

<sup>6</sup> - Seminar's content:

- B. Marcolongo: "Remote Sensing and its application in Geo-Archaeology. Some outstanding examples coming from South Asia and Italy"
- G. Fuggetta: "Application of GIS in Archaeology. Example of Tell Mozan in Syria"
- P. Biagi: "Mesolithic and Neolithic in Rori Hills of Pakisthan. A new approach to field survey"

the President of Mongolia and his Government for a scientific opening towards the National Research Council of Italy, a twin institution of the Academy. Prof Chadraa mainly underlined the attention they address to any technological improvement in various research field, with particular focus on renewable energy production (aeolian and solar energy) and environment resources assessment (ground-water and minerals), where Italian institutes and industries are making strong efforts. Mongolia is a great country considerably rich in natural resources, whose exploitation could be sensibly optimized by applying advanced techniques. A sustainable growth of the whole society needs implies a general evaluation and planning of such resources, based on refined means like remote sensing integrated by field survey. Sharing of experiences and know-how between M.A.S. and C.N.R. proceeds towards these applied research objectives.

From this fruitful exchange of opinions important points of desirable co-operation emerged, which have been recalled and inserted in the final “Memorandum of Understanding”, subscribed by both the Parts during an official ceremony of closure of the mission (*insert photo*).

It is here opportune to synthesize the main passages of the agreement, because they already contain a concrete perspective of building joint projects in the framework of the international and bilateral co-operation, being Mongolia a fully eligible State for activating European and Italian funds.

*“ The Mongolian Academy of Sciences (hereinafter referred to as MAS) and the National Research Council of Italy (hereinafter referred to as CNR) led by their mutual desire to strengthen the friendship between Mongolian and Italian people, promote co-operation of scientists of the two countries and with reference to the Implementation Protocol of the Cultural Agreement between the Governments of Mongolia and Italy for the period 2000-2003 have agreed on the following.*

*The parties will promote and develop scientific co-operation between the scientists of their respective countries in all disciplines of natural, social and engineering sciences.*

*In particular both Parties intend to:*

- *facilitate study visits in each direction by individual scientists from all institutions (the Academies, universities and governments research organizations) to undertake research;*
- *facilitate projects of mutual interest to scientists in each country;*
- *consider applications for the support of seminars, workshops on scientific topics of interest to both Parties.*

*The Parties have provided each other with outlines of areas of interest for joint research and agreed to focus, but not confine themselves, to the following interdisciplinary projects:*

1. *historical and cultural heritage of the nomadic civilization;*
2. *study of biological and mineral resources of Mongolia;*
3. *development of solar technology under various climatic and geo-ecological conditions;*
4. *reconstruction of palaeo-climate and palaeo-environment of southern Ovorkhangai region by archaeological studies and remote sensing techniques.*

*The external relations units of MAS and CNR respectively shall ensure smooth co-ordination of the activities of co-operation under this Memorandum of Understanding.*

*The Parties note with satisfaction that the co-operation will be supported and assisted by the Honorary Consulate of Mongolia in Trieste/Italy and Italian-Mongolian Association (Associazione Italia-Mongolia).*

*The Memorandum of Understanding will enter into force on the date of signing and will remain in force for five years. Unless one of the Parties express its wish to alter or cease the Memorandum of Understanding it will be automatically prolonged for another five years.*

*Done on September 27, 2000 in Ulaanbaatar in two original copies, both in English, one for each Party*

*For and on behalf of  
the Mongolian Academy of Sciences  
Prof. Baatariin Chadraa,  
President*

*For and on behalf of  
The National Research Council of Italy  
Dr. Bruno Marcolongo  
Director of Research Unit CNR/IRPI “*

Once back to Italy, after this enriching experience from both the cultural and the human viewpoint, a new phase of accomplishment of the M.O.U.'s resolutions, for giving continuity to action of co-operation, has started with the active and constructive sustain of the Honorary Consulate of Mongolia in Trieste.

The Honorary Consul, consenting to one of the major topical subject for Mongolia, that is renewable energy production mainly by means of aeolian power plants spread through the country to meet the nomadic society's needs, has suggested and promoted the inclusion of "Ansaldo Sistemi Industriali" (headquarters in Monfalcone /Trieste) as partner in a possible project of environmental resources recovery in South Mongolia.

The long experience of this well renowned Industry, leader in the production of electrical engines for aeolian power stations, coupled with the scientific knowledge of National Research Council of Italy, represents a solid starting point for the elaboration of an articulated programme of analysis of the natural/social/cultural boundary conditions and realization of some experimental production stations.

The foreseen project takes as area of intervention the selected region of Övörkhangay-Bayankhongor, already singled out as prominent band rich not only in environment resources (minerals, ground-water, flora and fauna), but also in cultural evidences (rock art, palaeontological and archaeological sites). Its favourable position, between Khangayn range to the North and Altayn range to the South, since ever acted as corridor of trading and diffusion of central Asia cultures towards East and vice versa. Rock inscriptions near Tsagaan Agui Cave and dinosaur's fully preserved skeletons in the locality of Bayanzag are only two of the most outstanding features met there. Moreover the abundance of lakes and smaller water bodies renders its landscape attractive for human settlement and economy (cattle-breeding and grazing). Last but not least, the area has not been so far covered by remotely sensed images studies and no any international co-operation mission is working there.

Thus, the opportunity to built a project, jointly with Ansaldo Sistemi Industriali and may be other national or international outstanding Organizations like "Area-Science Park" of Trieste, is arisen as a logic consequence of M.O.U.'s statements dropped in to a pilot context.

*"Integrated development of a southern Mongolia region (Ovorkhangay): recovery of environment resources for an homogeneous and sustainable economic growth, through aeolian energy production development"* is the proposed title of the project. It aims to contribute, through tight scientific and technological exchanges, to the improvement of the nomadic life conditions, based upon not only the global planning of natural resources exploitation, but also the restoration and safeguard of cultural testimonies. To pursue that, it is indispensable to increase the production of renewable aeolian energy, the most adapted source of energy in relation to the local physiographic, climatic and social conditions. Installation of some wind generators is foreseen in selected "sum" centres, to satisfy the basic needs of nomadic livestock herding families of the dispersed and distant rural communities.

The project will be realized in three years with a first feasibility study, focussing the various environmental, cultural and social elements involved, and a second operative phase of provision of electricity to small test "sums".

The project could last two years more (3 + 2 years) and enlarge the experimental area if sensible success will be attained in generating the virtuous cycle:

*natural and cultural resources recovery – renewable energy's production – nomadic life's improvement – resources exploitation.*

## **Acknowledgements**

The Authors wish to express their sincere thanks to Dr. Aldo Colleoni, Honorary Consul of Mongolia in Trieste, for His encouragement and concrete sustain to the initiative and in particular for having perfectly organized, in collaboration with his secretary Ms. Pea Desantis, the mission's schedule and logistics in Ulaanbaatar. Their help has been essential for the success of the visit of National Research Council of Italy's delegation to Mongolian Academy of Sciences, with the consequent signature of an official Memorandum of Understanding.

Gratefulness must be also expressed to Mr. Gantulga Lkhagva from Institute of Informatics/Mongolian Academy of Sciences, precious and always likeable guide during the whole stay in Mongolia, as well as to all the other numerous Mongolian friends met in various circumstances.



*Photo 1: Official ceremony of the Memorandum of Understanding's signature on Sept. 27<sup>th</sup> 2000 at the headquarters of Mongolian Academy of Sciences in Ulaanbaatar*  
- front left to right: Prof. B. Marcolongo and Prof. B. Enkhtuvshin  
- rear left to right: Mr. L. Gantulga, Dr. G. Fuggetta, Dr. T. Galbaatar, Prof. S. Norovsambu, Prof. P. Biagi, Mrs. S. Enkhtuul



*Photo 2: the library of the monastery of Gandantegchinlin in Ulaanbaatar*



*Photo 3: the temple of Zhanraiseg, monastery of Gandantegchinlin, Ulaanbaatar*



*Photo 4: the temple of Gol sum in Ulaanbaatar*



*Photo 5: remains of the monastery of Manzshiryn khiid, some 50 km to the south of Ulaanbaatar*



*Photo 6: restored fresco in the monastery of Manzshiryn khiid, representing TSAGAAN ÖVGÖN “The White Old Man”, a patroness divinity of the lamaism pantheon recalling the ancient sciamanic cult of the “Lords of the places” (gazaryn ezen)*



*Photo 7: archaeological remains near Nart “sum”, Selenge “aimak”. The site, called by local people “white lake” and placed on the right side of Orkhon Gol, is probably a middle age paper-mill, one of the oldest in the world*