

INTERNATIONAL COOPERATION IN ENVIRONMENTAL EPIDEMIOLOGY: THE CASE-STUDY OF ISS (ITALY) - IFA (ECUADOR) COOPERATION

Raúl Harari¹, Daniela Marsili², Pietro Comba² and ISS-IFA collaborative study group*

*ISS-IFA collaborative study group:

G. Albuja¹, P. Amendola³, R. Brillante⁴, R. Calisti⁵, P. Comba², M. Fierro⁴, F. Forastiere⁶, R. Freire¹, F. Harari¹, H. Harari¹, N. Harari¹; R. Harari¹, R. López¹, G. Mariutti², D. Marsili², S. Mattioli³, C. Obando¹, A. Polichetti², R. Romizi⁷, M. Sunta¹.

¹ IFA - Corporación para el Desarrollo de la Producción y el Medio Ambiente Laboral, Quito, Ecuador;

² Istituto Superiore di Sanità, Rome, Italy;

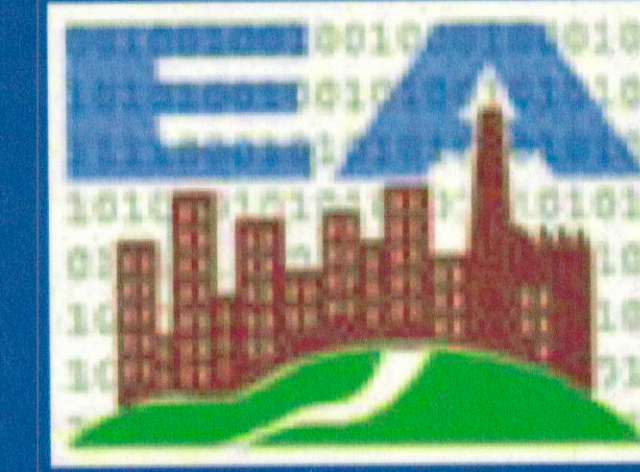
³ University of Pavia, Italy;

⁴ University of Bologna, Italy;

⁵ Marche Region Health Authority, Italy;

⁶ Department of Epidemiology, Health Authority, Rome, Italy;

⁷ ISDE, Italy



The cooperation framework and the adopted working methodology

The ISS-IFA technical and scientific cooperation benefits of the

–ISS multidisciplinary expertise on public health issues concerning environment and health;

–IFA expertise on occupational and environmental field studies. IFA, as a NGO particularly keen on Ecuadorian community needs and problems, ensures the adoption of a participative methodology and the transfer of knowledge towards social groups, communities and local decision-makers.

The scientific collaboration activities on environmental and occupational epidemiology are addressed to mutual exchange of scientific knowledge and local experiences matured by each partner. This allows the identification of specific problems of the Ecuadorian context related to occupational and environmental health issues and addresses the research activities in Ecuador.

The adoption of high scientific standards for epidemiological investigations and robust scientific methodologies represent a guarantee to progress for both the cooperating partner, and the possibility to reach and share an advanced level of knowledge promoting actions aimed to strengthen the local capacity building process.

Results

> Documents concerning methodological issues of environmental health (Comba and Harari, 2004; Harari et al., 2006)

> Field studies focused on known risks affecting particular population groups, namely concerning the effects of pesticides exposures for children in a school near a flower plantation (Harari et al., 2007a); the synergy of social and environmental factors as determinants of silicotuberculosis affecting a community living close to a mining industry (Harari et al., 2007b); the possible impact on health of non-ionizing radiation exposures due to different sources existing in the neighbourhoods of Quito (Polichetti, 2007).

> Evaluation of the health impact of specific exposures, namely asbestos fibers (Marsili, 2007; Harari et al., in publication).

> Dissemination activities focused on the key topics characterizing field studies and on social and health impact of asbestos exposures, dedicated to local communities and to local and national policy-makers;

> Training activities on environmental and occupational health issues and work safety (Quito and Guayaquil, 2008).

Collaboration outcomes

- Comba P, Harari R. (Compiladores). *El Ambiente y la Salud – Epidemiología Ambiental*. Quito Ecuador: Ediciones ABYA-YALA; 2004.
- Harari R, Comba P., Marsili D., Pirastu R. (Ed) *Italy-Ecuador scientific cooperation in environmental epidemiology: scope, applications and methods [in Italian]*. Roma: Istituto Superiore di Sanità; 2006 (Rapporti ISTISAN 06/1).
- Marsili D. : *Health and development: asbestos in developing countries [in Italian]*. Roma: Istituto Superiore di Sanità. (Rapporti ISTISAN 07/20).
- Harari R, Harari H, Sunta M. *Environmental and health in children at school beside a flower plantation in Ecuador*. Abstract of Ramazzini Days 2007a. Jubilee Celebration 25th Anniversary of the Collegium Ramazzini. 25-28 October 2007 Carpi, Italy. p. 10-11.
- Harari R, Harari H, Feire R. *Silicotuberculosis in Ecuador: a synergy between social and environmental problems*. Abstract of Ramazzini Days 2007b. Jubilee Celebration 25th Anniversary of the Collegium Ramazzini. 25-28 October 2007 Carpi, Italy. p. 28.
- Polichetti A. *Exposición de la población a campos electromagnéticos a radiofrecuencia y microondas en la ciudad de Quito*. In: *DMQ (Distrito Metropolitano de Quito), Ambiente y Salud. Proyecto piloto de "Valoración del impacto en salud en el DMQ"*. Ecuador: Alcaldía Metropolitana de Quito-Dirección Metropolitana de Medio Ambiente - Fondo Ambiental - IFA; 2007. p. 63-73.
- Harari R, Marsili D, Comba P. *La prevención de las enfermedades relacionadas con el asbestos: un problema de salud pública*. Roma: Istituto Superiore di Sanità, (Rapporti ISTISAN) in publication (in Spanish).



Conclusions

According to the adopted cooperation strategy and relying on the experience matured within this cooperation framework, we can highlight the following issues:

- ❖ International cooperation, relying on a multidisciplinary approach, must be addressed to the environmental health priorities characterizing the local context
- ❖ There is a need to investigate *in-situ* well-known hazardous exposures affecting population sub-groups in developing countries, accounting for the interconnection between environmental and socio-economic factors, in order to get solutions appropriate to the local context
- ❖ The participative working methodology and the transfer of knowledge at different levels increase the awareness on social and health impact of hazardous exposures in occupational and living environment, and contribute to provide scientific foundations for decision-makers
- ❖ Dissemination activities at scientific and institutional levels may play a major role in order to achieve specific results, e.g. the ban of asbestos

References

1. Krieger N. Why Epidemiologist cannot afford to ignore poverty. *Epidemiology* 2007;18(6):658-663.
2. O'Neil M. S., McMichael A.J., Schwartz J., Wartenberg D. Poverty, Environment, and Health: the Role of Environmental Epidemiology and Environmental Epidemiologists. *Epidemiology* 2007; 18(6): 664-668.
3. Soskolne Colin L., Butler Colin D., Jsselmuiden Carel I., London Leslie, Von Schirnding Yasmin. Toward a global agenda for research in environmental epidemiology. *Epidemiology* 2007; 18(1):162-166.
4. United Nations - 2000 Human Development Report. p.17. Available online: http://undp.org/en/media/hdr_2000_en.pdf.
5. Sen AK. The concern for equity in health. In: Anand S, Peter F, Sen AK (Ed.). *Public health, equity and health*. Oxford: University Press; 2004. p. 21-34.
6. Marsili D. Environmental health and the multidimensional concept of development: the role of environmental epidemiology within international cooperation activities. *Annali Istituto Superiore di Sanità* 2009. Vol. 45, n. 1, 2009.

Background and objectives

The interactions between hazardous environmental and occupational exposures and poverty represent a framework for international cooperation on environment and health (Krieger, 2007; O'Neil, 2007; Soskolne, 2007).

Taking into account that

- deprivation in a long and healthy life, in knowledge, in a decent standard of living and working, in participation, represent social and economic deprivation conforming poverty as multidimensional impoverishment (UN, 2000)

and

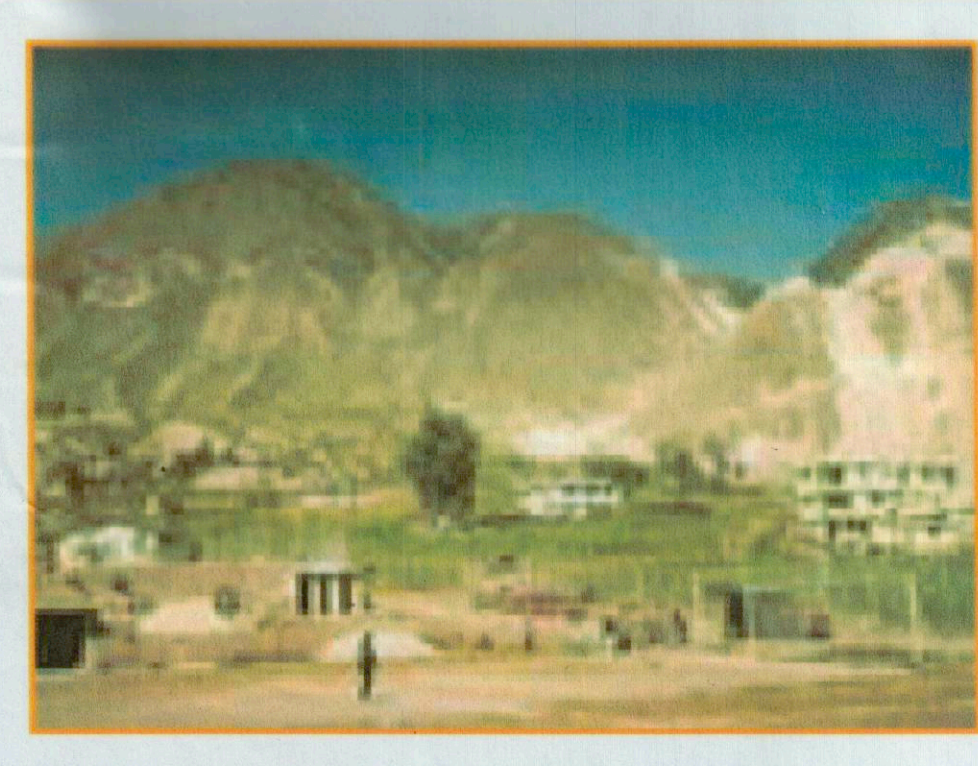
- the betterment of knowledge on health and the increasing control on living and working conditions by social groups and communities are embedded in the process of *capability's* enlargement and in the pathway toward equity in health as goals of human development (Sen, 2004),

we consider international cooperation in environmental and occupational epidemiology as an appropriate framework for contributing to understand the environmental health deprivation impact on poverty that affects local communities and population subgroups in developing countries (Marsili, 2009).

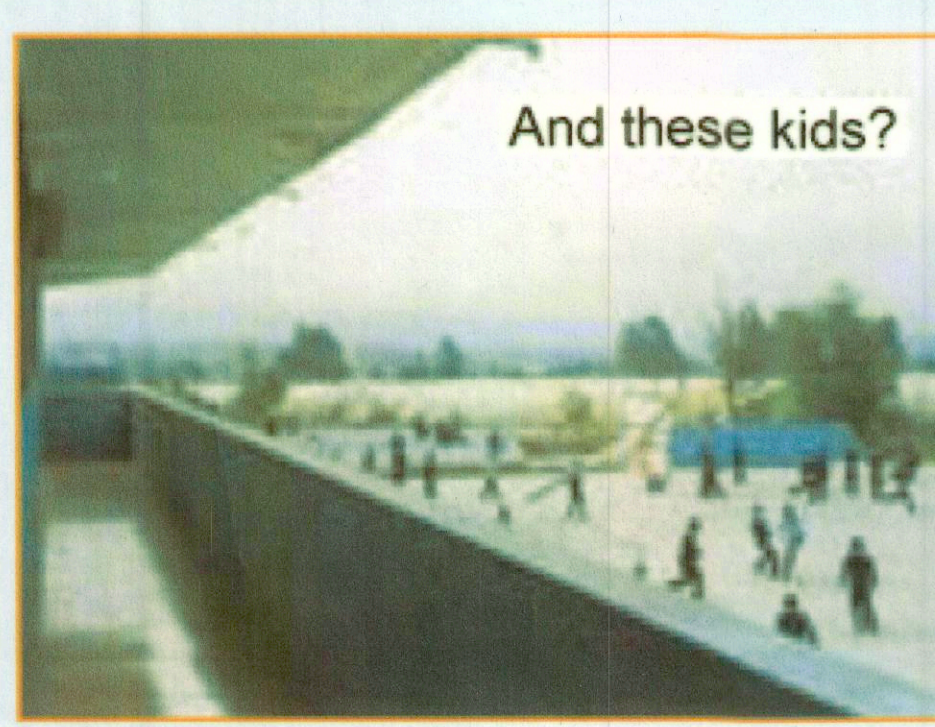
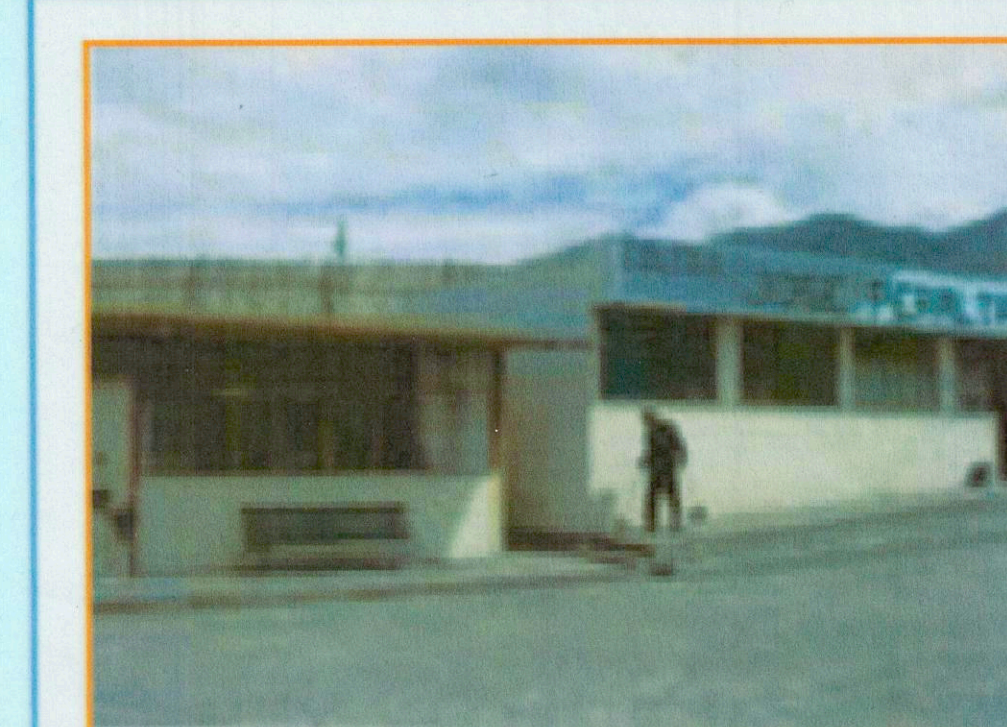
On these premises, an experience of technical and scientific cooperation on environment and health is presented through a case study involving

- ❖ ISS - Istituto Superiore di Sanità, the Italian National Health Institute
- ❖ IFA - Corporación para el Desarrollo de la Producción y el Medio Ambiente Laboral, an Ecuadorian NGO.

Tanlahua (close to Quito)



Mulalillo (100 km from Quito)



And these kids?