WORKSHOP

"La Prevenzione del Futuro tra conoscenza e partecipazione"

BOLOGNA, 11-12 aprile 2019

Aula Magna Ospedale Maggiore, Largo Nigrisoli

www.snop.it

Esperienze di partecipazione nella cooperazione internazionale per la salute dei lavoratori e delle popolazioni

Daniela Marsili

Dipartimento Ambiente e Salute

Istituto Superiore di Sanità'

Il REPARTO DI EPIDEMIOLOGIA AMBIENTALE E SOCIALE DELL'ISS E LA COOPERAZIONE SCIENTIFICA INTERNAZIONALE

APPROCCIO

La cooperazione è un ambito di lavoro multi e cross-disciplinare in grado di affrontare temi di salute pubblica ben conosciuti e temi emergenti in un ottica di prevenzione e di equità

L'approccio è basato sul mutuo riconoscimento di conoscenze, competenze ed esperienze tra i diversi paesi e sul contrasto alle disuguaglianze nella salute

L'adozione di questo approccio promuove la partecipazione dei diversi portatori di interesse a livello locale nelle attività di cooperazione

ATTORI e ATTIVITA' DELLA COOPERAZIONE

L'ISS è impegnato da 2003 in attività di cooperazione internazionale nel settore Ambiente e Salute

L'ISS collabora in Italia e nei Paesi cooperanti con:

- **Attori Istituzionali**
  - **Istituzioni di Ricerca, Università, Strutture Sanitarie e Ambientali regionali e locali,**
- **Attori sociali**
  - **ONG, Associazioni locali, Sindacati**

Le attività di cooperazione riguardano principalmente:

- **Collaborazione scientifica**
- **Formazione per diversi attori istituzionali e sociali**
- **Comunicazione e Informazione diretta al coinvolgimento degli attori istituzionali e sociali**

TEMI e LUOGHI DELLA COOPERAZIONE

Temi di Ambiente e Salute

- **Amianto,** prevenzione delle malattie amianto-correlate
- **Siti inquinati,** impatto sulla salute delle popolazioni che risiedono in prossimità delle aree contaminate

LUOGHI

Alcuni Paesi dell'America Latina

- ECUADOR
- BRASILE
- BOLIVIA
- COLOMBIA

Alcuni Paesi della Regione Europea del WHO

- AZERBAIJAN
- GEORGIA

ASBESTOS: a global public health issue

Global Asbestos Disaster. Furuya et.al. *Int. J Environ Res Public Health* **2018**. doi: 10.3390/ijerph15051000.

Global trends in mortality from malignant mesothelioma: Analysis of WHO mortality database (1994-2013). Abdel-Rahman O. *Clin Respir J.* **2018.** doi: 10.1111/crj.12778.

The Global Health Dimensions of Asbestos and Asbestos-Related Diseases. Takahashi et.al. *Ann Glob Health*. **2016**. doi: 10.1016/j.aogh.2016.01.019

The asbestos paradox: global gaps in the translational science of disease prevention. Ogunseitan OA. *Bull World Health Organ*. **2015**. doi: 10.2471/BLT.14.142307.

Eliminating Occupational Cancer in Europe and Globally. Takala J. European Trade Union Institute (ETUI); Brussels, Belgium: **2015**. *ETUI Working Paper* 2015.10.

The global spread of asbestos. Frank & Joshi. *Ann Glob Health***. 2014**. doi: 10.1016/j.aogh.2014.09.016.

Asbestos case and its current implications for global health. Marsili & Comba. *Ann Ist Super Sanita*. **2013**. doi:10.4415/ANN_13_03_03.

Global magnitude of reported and unreported mesothelioma*.* Park et.a. *Environ Health Perspect*. **2011** Apr;119(4):514-8. doi: 10.1289/ehp.1002845.

2016 - CONSUMO di amianto 1.370.000 tonn.

PAESI che mantengono il consumo di amianto (ton)

INDIA 308.000; CINA 288.000; RUSSIA 234.000; BRASILE 120.000;

INDONESIA 114.000; UZBEKISTAN 70.600; VIETNAM 58.100; SRI LANKA 47.400;

TAILANDIA 32.700; KAZAKISTAN 25.200; UCRAINA 18.600; BANGLADESH 11.900;

KIRGHIZISTAN 6.800; BIELLORUSSIA 5.530; MESSICO 4.530; COLOMBIA 5.950

(2015); BOLIVIA 4.740; TURKMENISTAN 4.280; CUBA 3.080;

ECUADOR 3.090; FILIPPINE 3.110; PAKISTAN 2880; ZIMBABWE 1.550(2015);

MALESIA 2.240; e altri Paesi con minori quantità di consumo

Fonte: US Geological Survey , May 2018 (from U.N. database)

COOPERAZIONE con l' AMERICA LATINA

COLOMBIA → Universidad de los Andes Colombia; Universidad Nacional de Colombia – Instituto de Salud Pública

ECUADOR → FLACSO ECUADOR; IFA Corporación; DEVELOPMENT, ENVIRONMENT AND TERRITORY

BRASILE → Ministério do Trabalho – FUNDACENTRO; Instituto de Saúde Coletiva – Universidade Federal da Bahia

BOLIVIA → Estado Plurinacional de Bolivia; INSO – Inicio Institucional; Relaciones Internacionales

Attività

- **Formazione** → Corsi e Seminari
- **Comunicazione e Informazione** sul rischio e impatto dell'uso dell'amianto → Seminari, Convegni, Riunioni *ad hoc*, Focus group

Target

- **Studenti Universitari, Operatori Sanitari, ONG, Sindacati/ Lavoratori**

Lima, Perù 2009

Foto: Daniela Marsili

Riobamba, Ecuador 2015

Foto: Daniela Marsili

Periferia di Bogotà, Colombia , 2018

Foto: Daniela Marsili

Cartagena, Colombia

ECUADOR - Dal 2003 l'ISS e l'IFA/ONG hanno siglato accordi di collaborazione pluriennali

EPIDEMIOLOGIA AMBIENTALE

- ✓ Comba P, Harari R. El Ambiente y la Salud - Epidemiología Ambiental. Quito, Ecuador: Ediciones ABYA-YALA; 2004.
- ✓ Harari R, Comba P, Marsili D, Pirastu R. (Ed.). Cooperazione scientifica fra Italia e Ecuador nel settore dell'epidemiologia ambientale: finalità, ambiti applicativi, approcci metodologici. Roma: ISS, 2006 (Rapporti ISTISAN 06/1).
- ✓ Marsili D. Environmental health and the multidimensional concept of development: the role of environmental epidemiology within international cooperation initiatives. Annali ISS, 2009;45(1)2.

2008 - Proyecto de Cooperación Internacional EX-SOL

Desde las EXposiciones hasta las SOLuciones

REGIONE MARCHE

Cooperazione allo sviluppo
e solidarietà internazionale

ZONA Civitanova Marche

Dipartimento di Prevenzione

Servizio Prevenzione e
Sicurezza Ambienti di Lavoro

IFA Corporación para el Desarrollo de la Producción y el Medio Ambiente Laboral

ONG - CORPORACION para el DESARROLLO de la PRODUCCION y el MEDIO AMBIENTE LABORAL

CGIL

CISL CONFEDERAZIONE ITALIANA SINDACATI LAVORATORI

COMUNITA' di CAPODARCO
di Roma

ISTITUTO SUPERIORE DI SANITÀ

Proyecto de Cooperación Internacional EX-SOL
Desde las EXposiciones hasta las SOLuciones

SCOPO: FORMAZIONE per la prevenzione e protezione occupazionale e ambientale
- rischi chimici e biologici e prevenzione tecnica e sanitaria correlati alle attività professionali e agli ambienti di vita in settori produttivi importanti in Ecuador -
(floricoltura, produzione del banano, industria/lavorazioni connesse con l'amianto, petrolio)

PARTECIPANTI: rappresentanti territoriali dei lavoratori dei settori produttivi; **responsabili di Servizi di Prevenzione e assistenti sanitari** del sistema pubblico dell'Ecuador

ATTIVITA': 4 moduli formativi
realizzati a **Quito** e **Guayaquil**
a **giugno** e **novembre 2008**
Totale di **180 partecipanti**

I materiali formativi sono diventati patrimonio di IFA per poter riproporre attività di formazione a livello locale

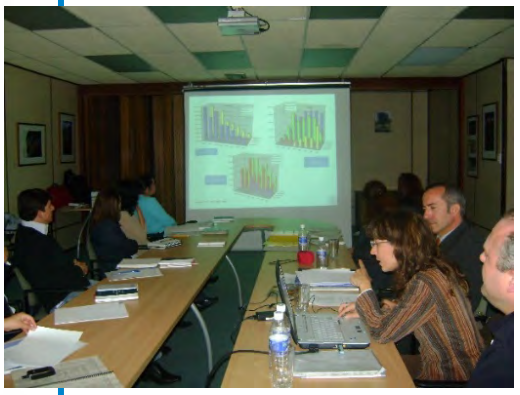
Rev. salud pública. 12 (4): 682-692, 2010

Ensayos/Essays

La prevención de las patologías del asbesto: perspectivas operativas de la cooperación italiana con los países de América Latina

Preventing asbestos-related diseases: operative action for Italian cooperation with Latin-American countries

Daniela Marsili[1], Pietro Comba[1], Caterina Bruno[1], Roberto Calisti[2], Alessandro Marinaccio[3], Dario Mirabelli[4], Lorenzo Papa[5] y Raúl Harari[6]



2009

2013

Cooperazione Scientifica

COLOMBIA e BRASILE

International Journal of *Environmental Research and Public Health*

2016
doi: 10.3390/ijerph13050494

Review

Prevention of Asbestos-Related Disease in Countries Currently Using Asbestos

Daniela Marsili [1,*], Benedetto Terracini [2], Vilma S. Santana [3], Juan Pablo Ramos-Bonilla [4], Roberto Pasetto [1,5], Agata Mazzeo [6], Dana Loomis [7], Pietro Comba [1,5] and Eduardo Algranti [8]

Global Health

2019

Algranti E, et al. Prevention of Asbestos Exposure in Latin America within a Global Public Health Perspective. *Annals of Global Health* 2019; 85(1): 49, 1–15. DOI: https://doi.org/10.5334/aogh.2341

REVIEWS AND PERSPECTIVES

Prevention of Asbestos Exposure in Latin America within a Global Public Health Perspective

Eduardo Algranti*, Juan Pablo Ramos-Bonilla†, Benedetto Terracini‡, Vilma S. Santana§, Pietro Comba‖, Roberto Pasetto‖, Agata Mazzeo¶, Fulvio Cavariani**, Andrés Trotta†† and Daniela Marsili‖

Universidad de los Andes

Colombia

Universidad de los Andes

Collaborazione per lo studio dell'impatto ambientale e sanitario dell'amianto in una cittadina colombiana nella regione di Cundinamarca, a sud di Bogotà

Dal 1942 è attivo nella città di Sibaté uno dei tre stabilimenti Eternit presenti in Colombia.

Emersione di un problema di salute pubblica
malattie amianto-correlate

Adozione di un approccio partecipativo

Ascolto e dialogo con la popolazione residente e i lavoratori dell'impianto di cemento-amianto

An Underground Layer of Friable Asbestos in a Small Municipality in Colombia: Another Asbestos Contaminated Town?

ID: 2998665

Benjamin Lysaniuk[1], Juan Pablo Ramos-Bonilla[2], María Camila Rodríguez[2], María Fernanda Cely-García[2], Benedetto Terracini[3], Pietro Comba[4], Roberto Passeto[4], Daniela Marsili[4], Valeria Ascoli[5], Agata Mazzeo[6], Margarita Giraldo[2], Rocío López[7], Margarita Baldión[7], Luis Jorge Hernández[2].

[1] Centre National de la Recherche Scientifique, Paris, France. [2]Universidad de Los Andes, Bogotá, Colombia. [3]Torino University, Torino, Italy. [4]Istituto Superiore di Sanità, Rome, Italy. [5]Sapienza Università di Roma, Rome, Italy. [6]Universidad de Bologna, Bologna, Italy. [7]Fundación Santa Fe de Bogotá, Bogotá, Colombia.

Background

Sibaté is a small town (38.000 inhabitants) nearby Colombia's capital, Bogotá. The asbestos industry began operations in Colombia in 1942, with an asbestos-cement plant located in Sibaté. Currently what seems to be a large number of people from Sibaté are being diagnosed with mesothelioma and other asbestos related diseases. Since 2015, our research group is evaluating the potential existence of a mesothelioma cluster in this town.

Based on information provided by residents of Sibaté, obtained using structured questionnaires, potential sources of asbestos environmental exposure include the disposal of asbestos containing materials (ACMs) in different areas of the town, and the existence of landfills built using ACMs. On top of these landfills residential, recreational, and educational facilities were constructed.

The aims of this presentation are to confirm the existence of the landfills, and determine the presence of ACMs in them.

Methods

Identification and location of potential landfills

Location of potential landfills in Map 1

Satellite images and maps from different years were analyzed using GIS to identify topographic changes in height, which could indicate potential filled areas.

Participatory workshop

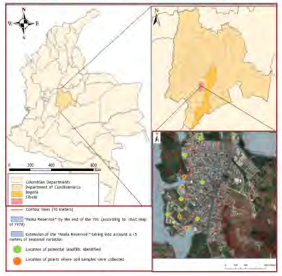
Historical maps, focus group and plenaries were used to confirm the location of the landfills, the historical change of land use in Sibaté, and how the disposal of ACMs occurred.

Exploratory soil sampling

- Soil sampling campaigns were conducted in four of the potential landfilled areas identified (orange dots in Map 1).
- Soil samples were collected and analyzed by PLM following ASTM D7521-16 method and EPA's soil screening guidance.
- Samples were analyzed in an AIHA accredited laboratory.
- Wet methods and proper PPE and RPE were used during soil sample collection.

Results

Map 1 - Location of potential landfills and areas sampled.



Exploratory soil sampling

Point 1 – Outside Stadium

Number and type of samples analyzed	Sample depth (cm)	Asbestos type found	Asbestos content (%)
1 sample of non-friable construction material	10	Chrysotile	10 %
1 sample of friable material	17	ND	ND
1 sample of friable material	110	Chrysotile	5 %
2 samples of sandy gravel	23 & 105	ND	ND

Point 2 – Public School

Number and type of samples analyzed	Sample depth (cm)	Asbestos type found	Asbestos content (%)
1 sample of friable material	35	Chry / Cro	10 % / 2 %
1 sample of silt	71	ND	ND
1 sample of sandy gravel	18	ND	ND

Point 3 – Inside Soccer field with athletic track

Number and type of samples analyzed	Sample depth (cm)	Asbestos type found	Asbestos content (%)
5 samples of friable material	63, 67 & 98	Chrysotile	5 %
	80	Chrysotile	10 %
	80*	Chrysotile	2 %
		Chrysotile	10 %
1 sample of soil	44	Chrysotile	2 %

* Sample had 2 layers. Total asbestos content of the sample is reported as 6 %.

Point 4 – Outside Soccer field with athletic track

Number and type of samples analyzed	Sample depth (cm)	Asbestos type found	Asbestos content (%)
2 samples of non-friable construction material	77 & 85	Chry / Cro	2 % / 2 %
2 samples of sandy gravel	45	ND	ND
	105*	ND	ND
		Chry / Cro	10 % / 2%

* Sample had 2 layers, one without asbestos (95% of the sample), and other with Chrysotile and Crocidolite (5% of the sample). Total asbestos content of the sample is reported as "trace".

Participatory workshop

- Residents from Sibaté and former workers of the asbestos-cement plant participated and contributed in the understanding of the history and characteristics of the landfills.
- During the mid-1970s and mid-1980s, at least 4 main areas within Sibaté were used as asbestos dumps by the asbestos-cement plant.
- ACM disposed included parts of construction products, parts of pipes, and factory waste (i.e., asbestos-rubble, -debris, -mud and - dust).

- Residents had free access to the asbestos material disposed, and some used it for the foundations of their homes, to level the floors, and kids played at the dumps with the material disposed.
- By ~1986, these dump areas were leveled by the municipality and different public facilities were built on top of them, including a soccer field, a school, and a stadium.

Discussion

- An important potential source of asbestos exposure (i.e., chrysotile and crocidolite) has been confirmed in Sibaté.
- **Friable** and non-friable ACMs were disposed in different areas of the town.
- This is a public health problem with important and concerning implications. Authorities from Sibaté have been informed about these findings.
- Further work is required and will be conducted to determine:
  - Boundaries and characteristics of the landfills.
  - Current risk of asbestos exposure at the surface level (i.e., using Activity Based Sampling methods - ABS) (EPA, 2007; 2008).

Acknowledgements

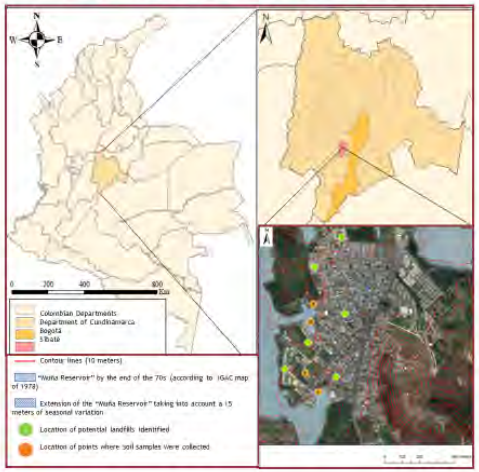
- Fondo Nacional de Financiamiento para la Ciencia, la Tecnología y la Innovación "Francisco José de Caldas" (Colciencias, Call 784, 2017), and Universidad de Los Andes for the financial support.
- Sibaté's Major Office and Secretary of Health.
- Melquicedec Fiquitiva and Andrés Velasquez for their help during sampling campaign.
- Forensic Analytical Laboratories for the analysis if the soil samples.

References

- ATSM D7521-16 Standard Test Method for Determination of Asbestos in Soil. 2016.
- EPA. 2007. Standard Operating procedures for ABS for asbestos (SOP 2084). USA.
- EPA. 2008. Framework for investigating asbestos-contaminated supefund sites. Prepared by the Asbestos Committee of the Technical Review Workgroup of t Office of Solid Waste Emergency Response. USA.

Universidad de los Andes
Department of Civil and Environmental Engineering
Carrera 1 Este # 19 A-40, ML, Of. 417 and 328 Bogotá, Colombia - Phone: (571) 339 4949 ext 1733 - 3693
Email: mf.cely46@uniandes.edu.co - jramos@uniandes.edu.co

Map 1 - Location of potential landfills and areas sampled.



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WHO Europen Region
Environment and Health Process

53 Stati Membri

2010 –V Conferenza Interministeriale Ambiente e Salute

- Azione prioritaria: adozione di piani nazionali per l'eliminazione della patologia da amianto

2017 - VI Conferenza Interministeriale Ambiente e Salute

- Richiamo a tutti gli Stati della Regione per aumentare l'efficacia delle azioni dirette alla prevenzione della patologia da amianto

- Dichiarazione di Ostrava: Azione prioritaria sui siti contaminati e rifiuti

World Health Organization
REGIONAL OFFICE FOR Europe

WHO Europen Region

53 Stati Membri

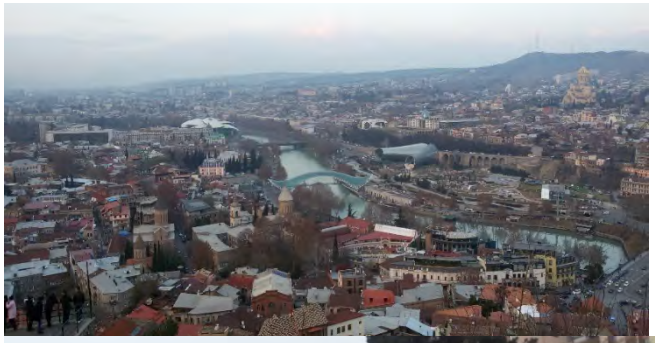
l'uso dell'amianto è permesso in diversi Stati Membri che mantengono produzione, commercio e consumo:

ALBANIA, ANDORRA, ARMENIA, AZERBAIJAN, BIELLORUSSIA, BOSNIA ERZEGOVINA, GEORGIA, KAZAKHSTAN, KYRGYZSTAN, MOLDAVIA RUSSIA, TAJIKISTAN, TURKMENISTAN, UCRAINA, UZBEKISTAN

Kameda et al. Asbestos: use, bans and disease burden in Europe. Bulletin of the WHO 2014;92:790-97

Twinning Project - Institutional Strengthening of Environment Health System in GEORGIA

TBILISI, 2018-2019



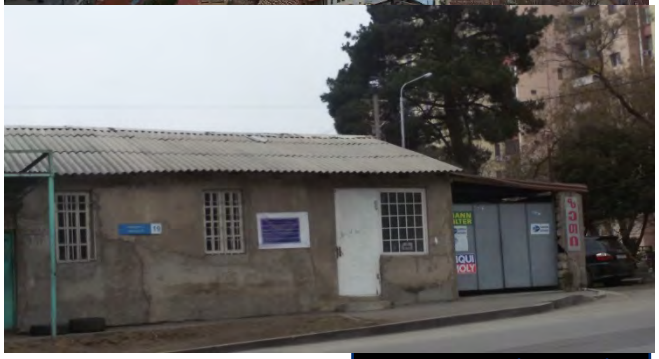


Foto: Daniela Marsili

Istituto Superiore di Sanità /EAS
Univ. Sapienza di Roma
INAIL/ReNaM
COR Lombardia e CRA Lazio

- **PREVENTION OF ASBESTOS-RELATED DISEASE**
- **CONTAMINATED SITES**

2018-2019 Eventi formativi 5
Training the Trainers

Target: Operatori sanitari e Ricercatori

Materiali formativi per riprodurre formazione a livello locale

La cooperazione internazionale Siti Contaminati

S.E.N.T.I.E.R.I.

Studio Epidemiologico Nazionale Territori e Insediamenti Esposti a Rischio da Inquinamento

COMMUNICATION IN INDUSTRIALLY CONTAMINATED SITES - LINES OF ACTION FROM THE ITALIAN SENTIERI PROJECT

Daniela Marsili[1,2]

1. Department of Environment and Health, Istituto Superiore di Sanità, Rome, Italy; 2. WHO Collaborating Centre on Environmental Health in Contaminated Sites, Rome, Italy

daniela.marsili@iss.it

ICSHNet COST ACTION

Introduction

In the last decade, international and national organizations in the WHO European Region have proposed theoretical approaches and practices for adopting effective communication strategies in contaminated areas.

In this poster we summarize and present the outcomes of two papers recently published in the *WHO Public Health Panorama* Journal (Marsili et al, 2017) and in *Epidemiologia & Prevenzione* Journal (Marsili et al, 2019-a) as a part of the activities carried out by the Project Communication group in the Italian SENTIERI Project (National epidemiological study of populations residing in contaminated sites).

The two papers rely on the bi-directional communication approach which involves public health authorities and affected communities and represents a key lesson learnt from scientific international literature and tested in communication activities undertaken in contaminated areas in Italy and elsewhere in Europe.

Recommendations

In the paper by Marsili et al. (2017) "*Communication plans as prevention tools for informed policies*" we propose recommendations aimed at strengthening the decision-making chain for adopting effective communication plans in contaminated areas.

These recommendations concern the international, national and local frameworks, as follows:

INTERNATIONAL. Consolidate interactions among WHO and/or national organizations in the WHO European Region in order to collect and make available information on practices for communicating environmental risk and health impact in contaminated sites.

NATIONAL. Plan national initiatives to foster the adoption of communication plans in areas affected by major environmental contamination by sharing a communication plan prototype.

LOCAL. Promote the adoption of the communication plan prototype and its implementation, taking into account the specificity of the local context.

Key aspects for building a communication plan

Elaboration of a communication plan should consider the following aspects:

- Severity of the possible health impact related to environmental contamination;
- Attention to vulnerable groups living in the polluted site;
- Identification of stakeholder categories and target audiences;
- Feasibility of the communication plan.

Lines of Action for communication

SENTIERI project has also proposed Lines of Action in for communication in contaminated sites of national interest for remediation in Italy (Marsili et al, 2019-a) with the goal to be shared and adopted by multi-disciplinary teams in local contexts involving health, environment and social sciences experts.

The proposed Lines of Action are summarized below.

- CONSTRUCTION of a communication process requires the existence of effective procedures adopted by national and local authorities capable of harmonizing different stakeholders viewpoints and socio-economic interests in order to facilitate informed decision making.
- ACCESSIBILITY to epidemiological data has to be ensured making them comprehensible to different stakeholders for creating trust towards the involved researchers and the health and environmental institutions. Trust means perceived competence, objectivity and coherence.
- COMPLEXITY of scientific contents has to be taken into account in selecting the information and in communicating scientific evidence and uncertainty in lay language to the people living in contaminated sites.
- TRASPARENCY is an unavoidable requisite of any communication process in order to recognize the authoritative role of scientific institutions involved in the study of contaminated sites and in epidemiological surveillance.
- INTERSECTORIAL RELATIONSHIPS among national and local institutional actors as well as among scientists and local environmental and health prevention operators in charge of undertaking the interventions have to be strengthened. An effective communication process constitutes the framework to build an affective network.
- LOCAL MEDIA have the essential function of mediators of scientific information since they contribute to information dissemination and to increase environmental health literacy. The relationships between involved scientists and local media have to be long-lasting and should not solely rely on occasional meetings.
- LOCAL EDUCATIONAL SYSTEMS in contaminated areas should include environmental health issues in annual educational programs and envisage students' engagement in related activities.
- ASSESSMENT of communication activities has the goal of verifying the appropriateness and effectiveness of communication in each contaminated area.

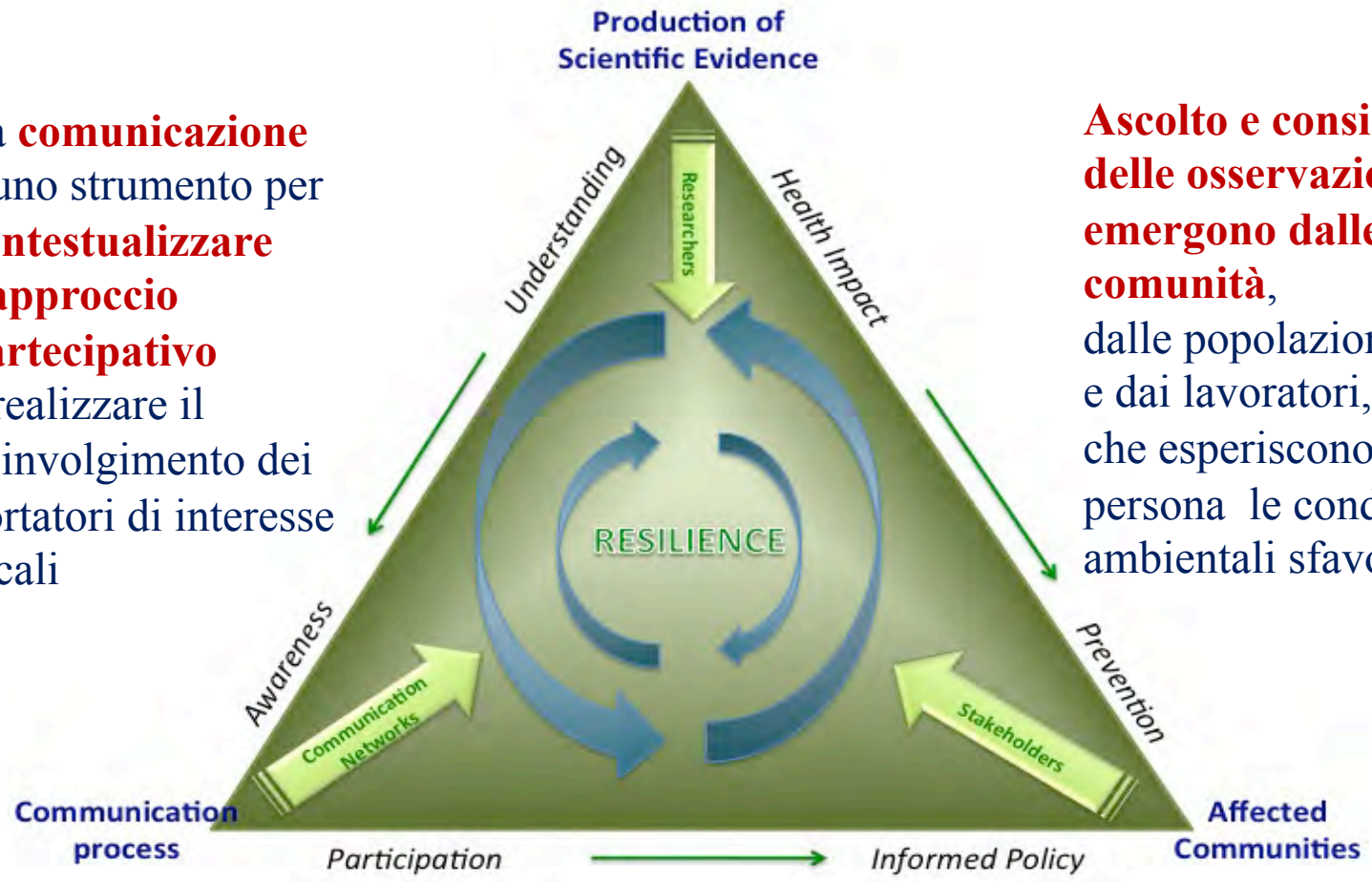
ICSHNet COST ACTION IS1408

RECOMMANDATIONS

.....

Developing a science-based communication plan addressed at societal stakeholders

La **comunicazione** è uno strumento per **contestualizzare l'approccio partecipativo** e realizzare il coinvolgimento dei portatori di interesse locali



Ascolto e considerazione delle osservazioni che emergono dalle comunità, dalle popolazioni e dai lavoratori, che esperiscono in prima persona le condizioni ambientali sfavorevoli

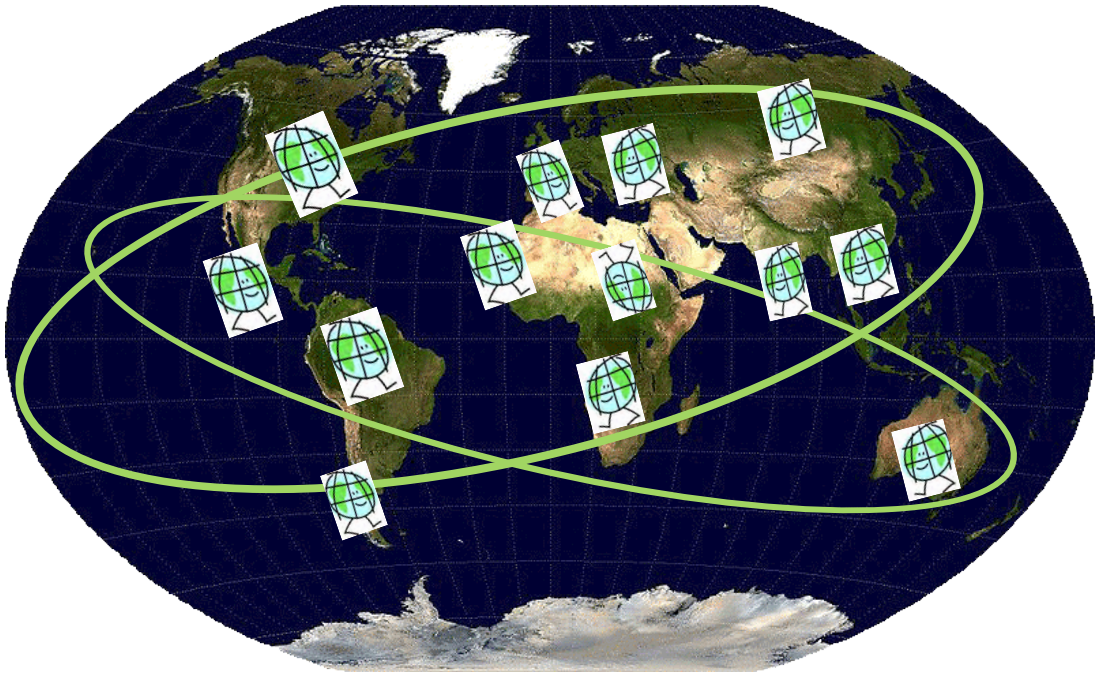
Marsili et al. Communication and health education in communities experiencing asbestos risk and health impacts in Italy. Ann Ist Super Sanita. 2019. doi:10.4415/ANN_19_01_14

La Cooperazione internazionale per l'equità nella salute

3.9 Entro il 2030, ridurre sostanzialmente il numero di decessi e malattie da sostanze chimiche pericolose e da inquinamento e contaminazione di aria, acqua e suolo

Cooperazione scientifica internazionale. Prevenzione ed equità nella salute. Mutuo riconoscimento di conoscenze ed esperienze. Partecipazione dei soggetti istituzionali e sociali.

Contrasto alle disuguaglianze nella salute tra Paesi. Ridurre il carico di malattia evitabile dovuto ad esposizioni involontarie ad amianto e altre sostanze pericolose negli ambienti di vita e di lavoro



Grazie!

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