



“Co-operation in health research : some initiatives in developing countries to face global health issues ”

By Benoit MIRIBEL

Science diplomacy in action • Paris • February 11, 2013

des racines pour la vie



roots for life



MISSION



‘Strengthen local capacities in developing countries to reduce the impact of infectious diseases on vulnerable populations’



*In partnership with Fondation
Christophe et Rodolphe Mérieux
(Institut de France)*



Our beneficiaries

- Local governments
 - Ministries of health
 - Hospitals
 - Universities
 - Research laboratories
- Health professionals
 - Medical Doctors
 - Laboratory Professionals: Biologists, Technicians
 - Researchers



2015 Priority: biological diagnostic




WHY ?

- Crucial for disease and resistance surveillance
- Neglected sector in developing countries
- Necessary for effective implementation of international health programs
- Needed for the respect of international engagements:
 - Millennium Development Goals (MDG)
 - International Health Regulations (IHR)



Our 3 strategic axis for 2015



Axis 1: Strengthen the **local capacities of biological and applied research laboratories** to better identify infectious diseases.

Axis 2: Improve the **access of vulnerable populations to quality biological diagnostics** for appropriate treatment.

Axis 3: Facilitate exchanges, mainly at the Pensières Center, among all of those involved in public health, so as to **foster the development and the dissemination of knowledge of infectious diseases**, and to encourage the development of innovative projects.



Axe 1: Strengthen the local capacities of biological and applied research laboratories to better identify infectious diseases.

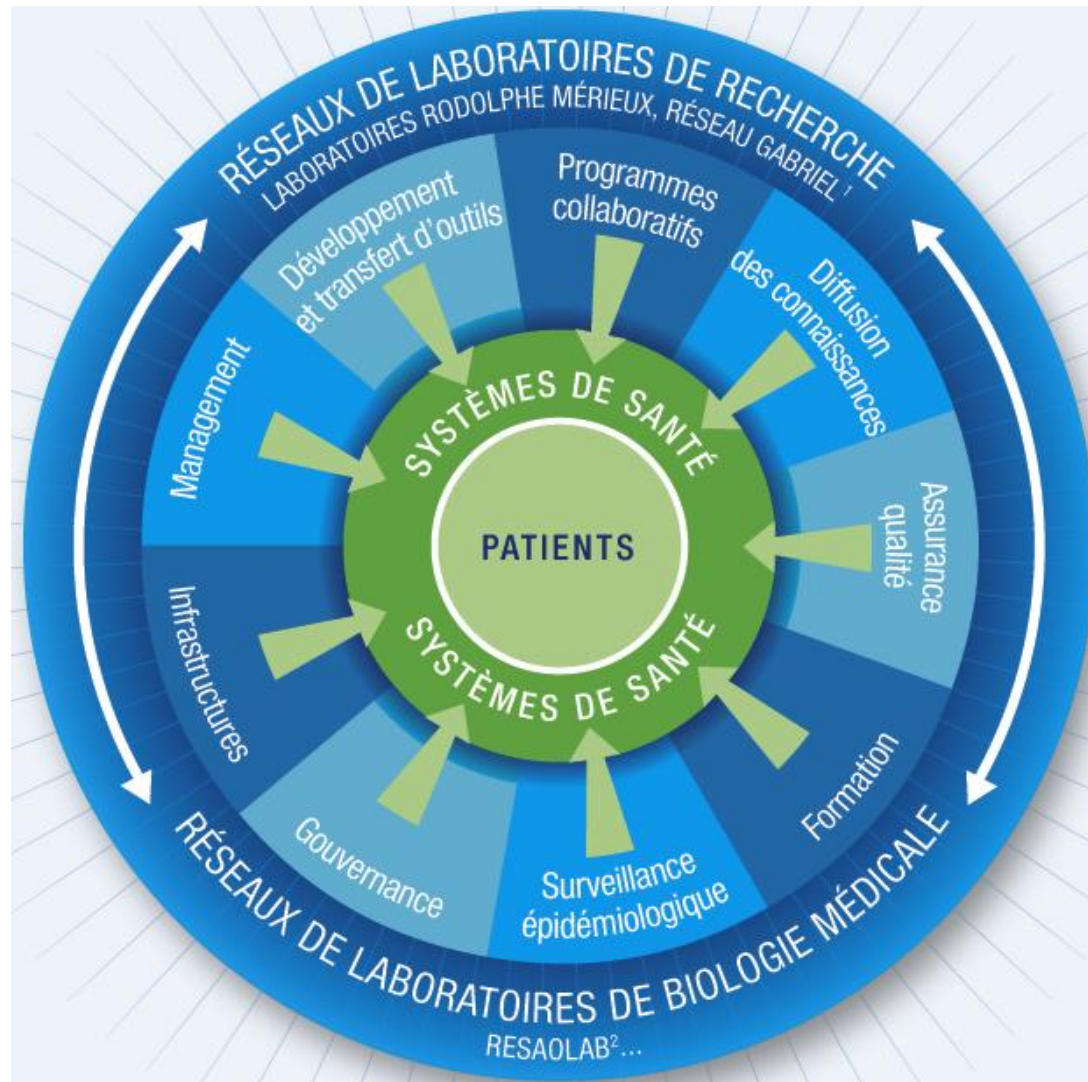


OUR PRINCIPAL ACTIONS

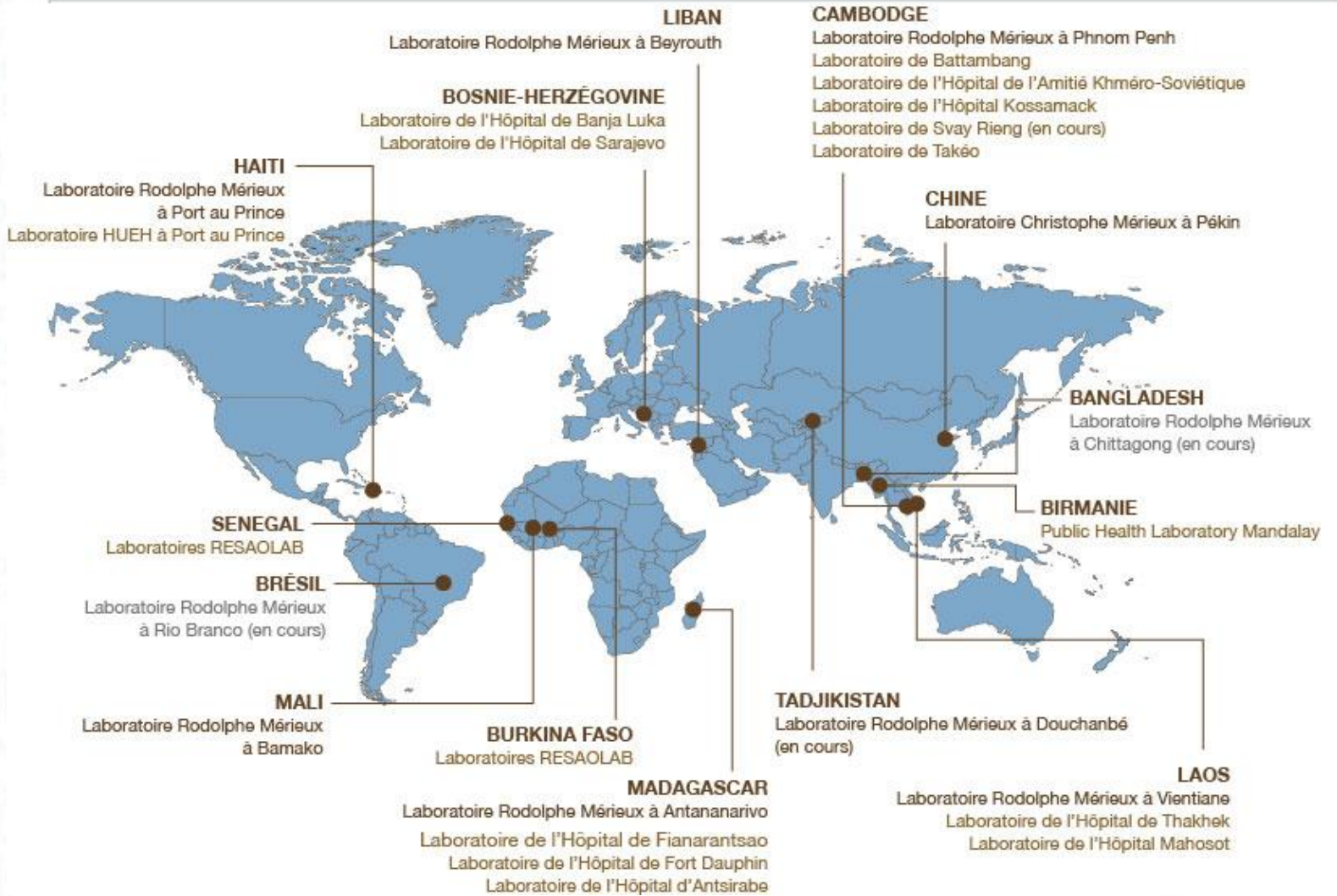
- Assist countries in formulating their research strategy
- Provide assistance in building, equipping and running of locally owned infectious disease research laboratories
- Link research laboratories to international networks
- Coordinate the setting-up and implementation of multi-centric epidemiology studies
- Provide continuous education to researchers on technical and soft skills
- Develop, transfer, adopt and evaluate locally relevant diagnostic tools and solutions to global health problems
- Share results with the research community as well as all relevant stakeholders



Identified priority interventions



LABORATORIES SITUATION



Locally owed Infectiology Centers



CAMBODGE

Laboratoire Rodolphe Mérieux à Phnom Penh
 Laboratoire de Battambang
 Laboratoire de l'Hôpital de l'Amitié Khméro-Soviétique
 Laboratoire de l'Hôpital Kossamak
 Laboratoire de Svay Rieng (en cours)
 Laboratoire de Takéo

CHINE

Laboratoire Christophe Mérieux à Pékin



BANGLADESH

Laboratoire Rodolphe Mérieux à Chittagong (en cours)

BIRMANIE

Public Health Laboratory Mandalay



LAOS

Laboratoire Rodolphe Mérieux à Vientiane
 Laboratoire de l'Hôpital de Thakhek
 Laboratoire de l'Hôpital Mahosot



TADJIKISTAN

Laboratoire Rodolphe Mérieux à Douchanbé (en cours)



LIBAN

Laboratoire Rodolphe Mérieux à Beyrouth



BOSNIE-HERZÈGOVINE

Laboratoire de l'Hôpital de Banja Luka
 Laboratoire de l'Hôpital de Sarajevo

MADAGASCAR

Laboratoire Rodolphe Mérieux à Antananarivo
 Laboratoire de l'Hôpital de Fianarantsao
 Laboratoire de l'Hôpital de Fort Dauphin
 Laboratoire de l'Hôpital d'Antsirabe

BURKINA FASO

Laboratoires RESAOLAB

MALI

Laboratoire Rodolphe Mérieux à Bamako



BRÉSIL

Laboratoire Rodolphe Mérieux à Rio Branco (en cours)

SENEGAL

Laboratoires RESAOLAB

HAITI

Laboratoire Rodolphe Mérieux à Port au Prince
 Laboratoire HUEH à Port au Prince



France
 Laboratoire des Pathogènes Emergents



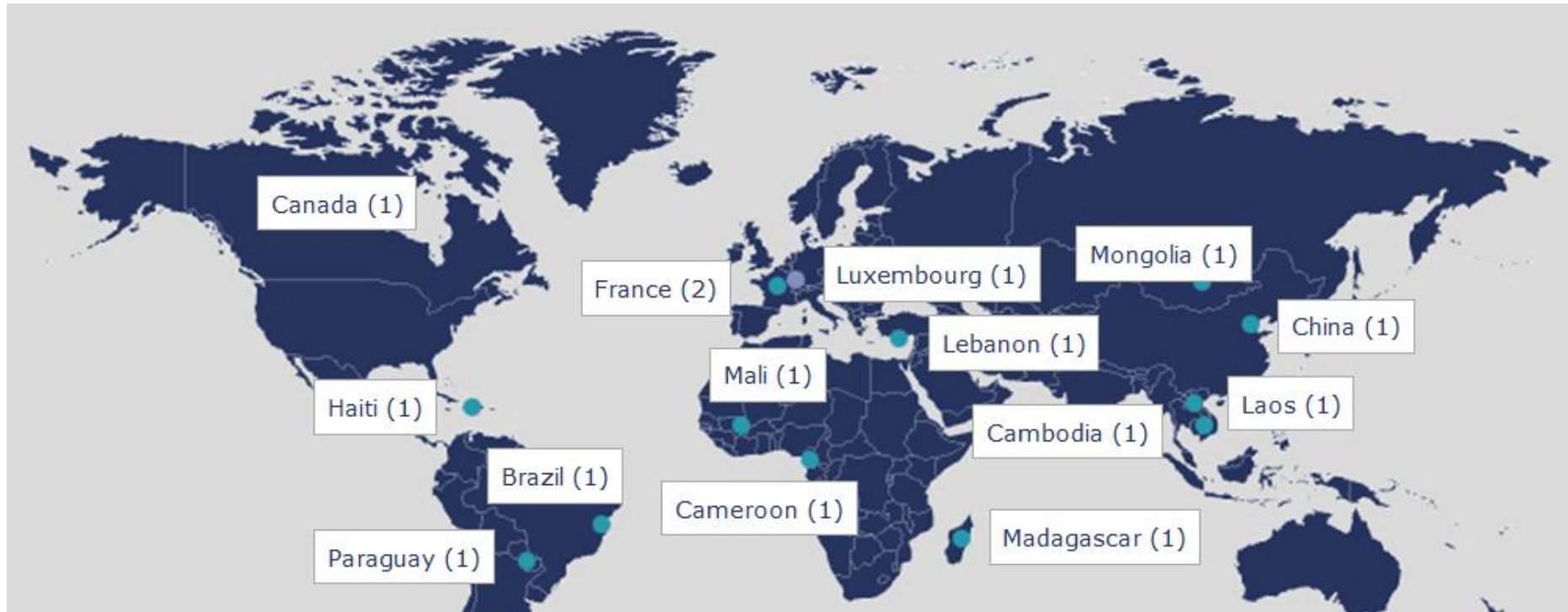
Global capacity building approach

- Research infrastructure capacity building
- Training:
 - Research skills
 - Diagnostic skills
 - Management and administrative skills
 - Strategic and policy setting skills
 - Funding skills
- Networking
- Involvement in collaborative research projects
- Health System Strengthening





GABRIEL Network



Example: identify viral and bacterial agents in children under 5 presenting a pneumonia in order to study their prevalence and role in the disease



Technology transfer: molecular diagnostic tools for MDR-TB



Supranational
TB Lab Hong
Kong

1. Select appropriate technology for transfer to Mali, Madagascar, Haiti and Laos
2. Train laboratory personnel
3. Implement standardized procedures
4. Elaborate external quality control (EEQ)
5. Implement epidemiology studies for surveillance of MDR-TB
6. Local ownership of study results
7. Integration of study results into national TB policy (second-line treatment)



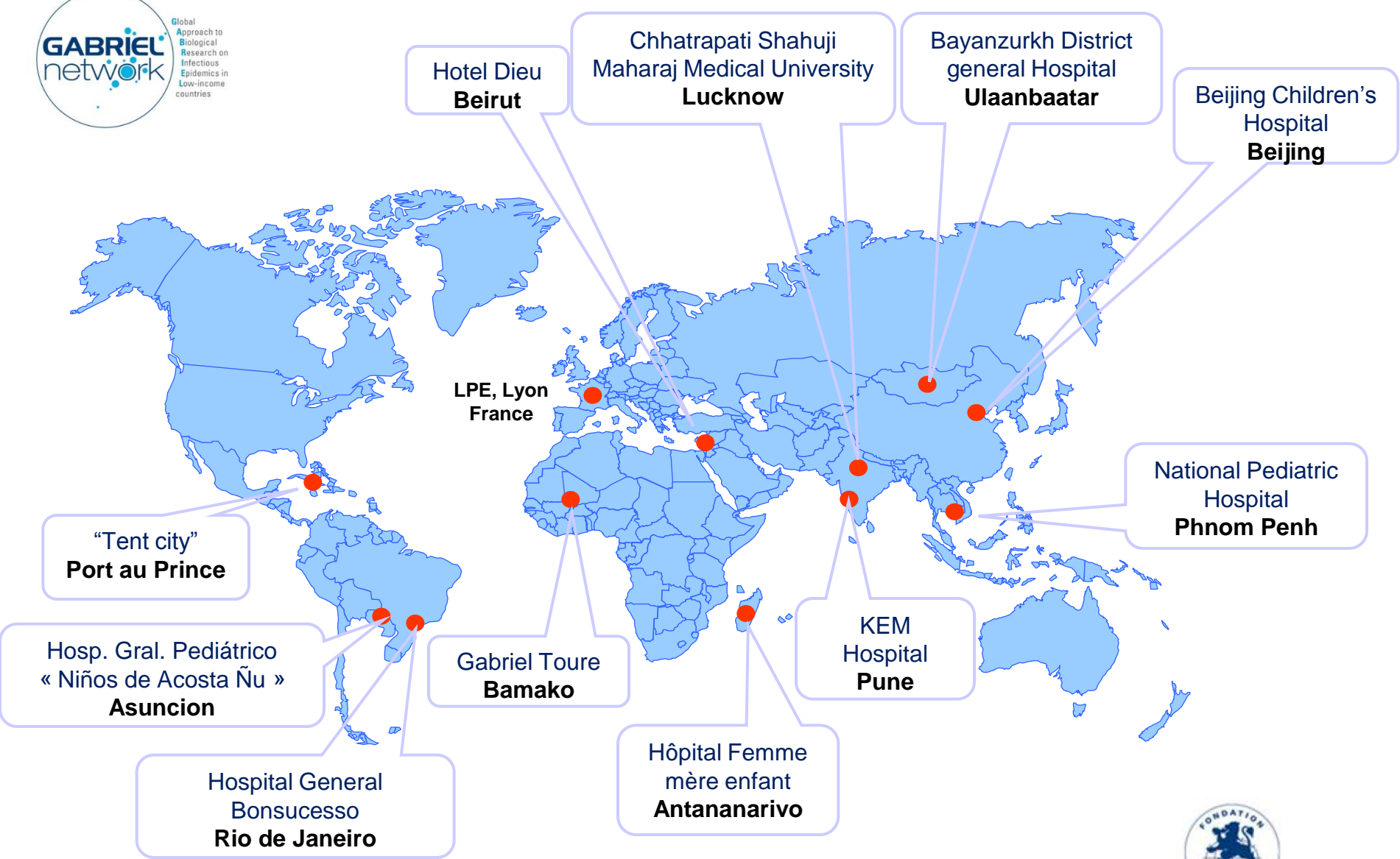
CASE / CONTROL PNEUMONIA MULTICENTRIC STUDY

Design: A 10-country case-control study of pneumonia in hospitalized children under 5 years of age compare with a control group.

Principal objective:

- ✓ To identify the viral and bacterial agents involved in pneumonia in children under five years of age to determine their prevalence and involvement in the onset of Severe Acute Respiratory Infections.

Hospital involved in the Pneumonia multicentric study:



Technology transfer and standardization of tools

Children under 5 hospitalized with a pneumonia

Inclusion criteria: WHO + (Chest X Ray)

Respiratory Samples:
Nasal aspirates and
pleural effusions

Molecular detection:

- viruses and bacteria*
- *S. pneumoniae* typing*

Whole Blood

Molecular detection:

- bacteria*
- *S. pneumoniae* typing*

Blood culture
Blood count

Serum

PCT*
CRP*

Urine

Broad
antibiotic
detection*



AFRICARAMI Project

Scientific Capacity Building



Training Topics	Haïti	Cameroun	Madagascar	Mali	Total
Epidemiology	20	16	60	13	109
Quality assurance	18	14	15	13	60
Management of research activities	16	19	30	13	78
Molecular Biology	19	10	20	20	69
Data Management Programme	0	0	2	3	5
Funding of R&D activities	16	21	30	13	80
Bioinformatics	0	22	15	7	44
Research Protocol Writing	0	0	5	0	5
Scientific Writing					
Number of trained people	89	102	177	82	450





GABRIEL network organization

**Coordination by the scientific
department of Fondation Mérieux**

**Steering Committee
7 members**

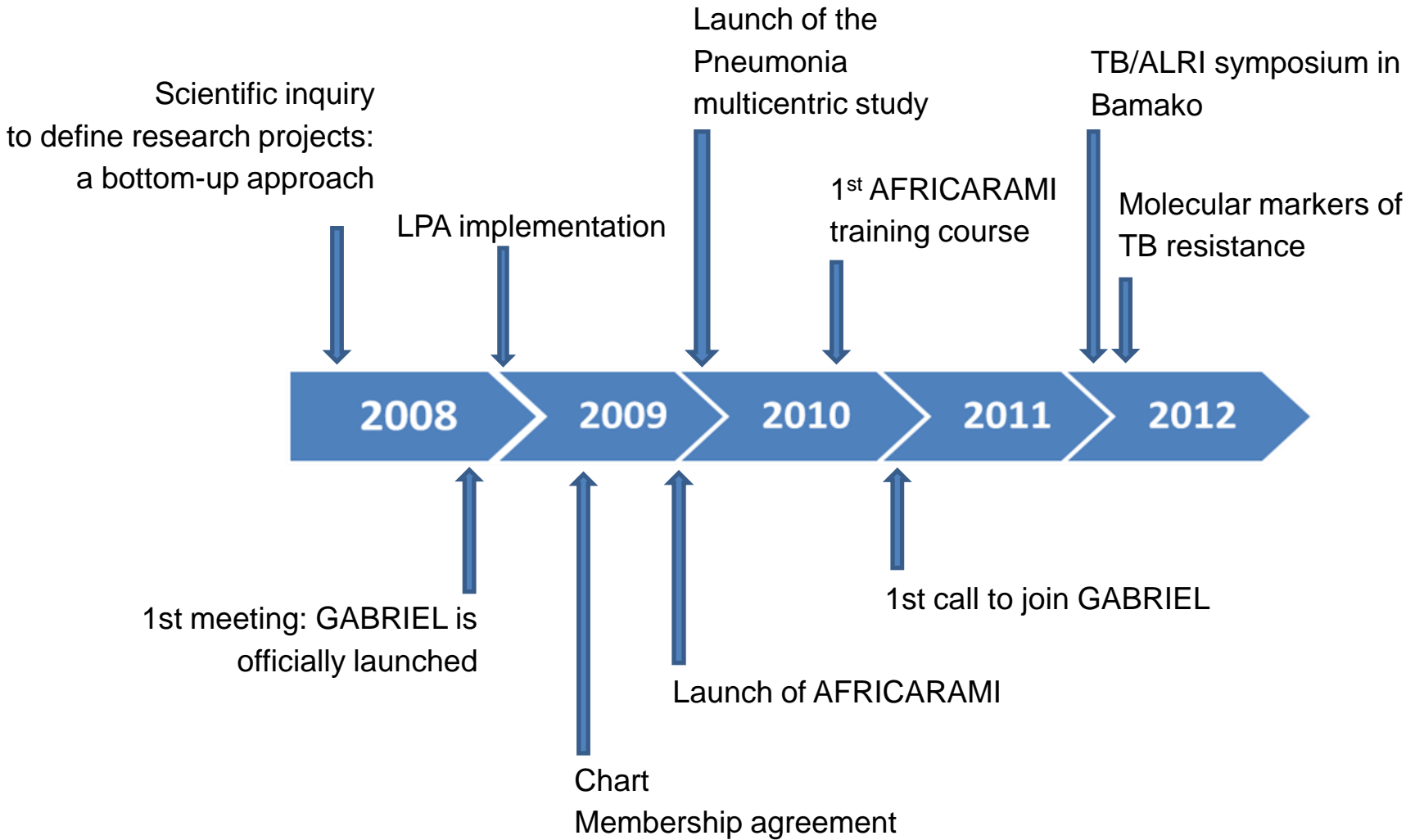
- Define GABRIEL strategy
- Identify new research projects
- Review proposals for new members
- Select partners and investigator in each project

**Research Committee
7 members**

- Review research projects and grant applications
- Review joint publications and patent applications



Main GABRIEL accomplishments



Regional Laboratory Capacity Building



- Quality laboratory data is crucial for quality research projects
- Active involvement of 7 local governments
- Programs developed according to local needs and priorities
- Definition of regionally harmonized policies and strengthening of laboratory system governance
- Funder collaboration and contribution to national health plans





Training

Title	Location
 DES de Biologie Médicale	Cambodge
 UNIVERSITÉ DE GENÈVE Advanced Vaccinology Course ADVAC	France
 Bachelor en Biologie Médicale Appliquée BAMS	Mali – Haïti
 Advanced Course on Diagnostics ACDx	France
Cours Français de Vaccinologie	France
  Formation de laboratoire sur VIH	Mali
Cours Pasteur-Mérieux	Laos





TA Grant beetween CICM and IDB



ICT Based Regionnal capacity Building for Biomedical Laboratory Technicians from December 2010 - December 2012
300K\$ from IDB



Expected results
Training of 15 laboratory technicians from 7 francophone countries members of the IDB
Development of a Learning management system for E-learning
Training of local tutors
Development of a two training modules
Setting an online community of Alumni
Organization of online forum discussions





BAMS Mali

2010-2011 Graduated Promotion



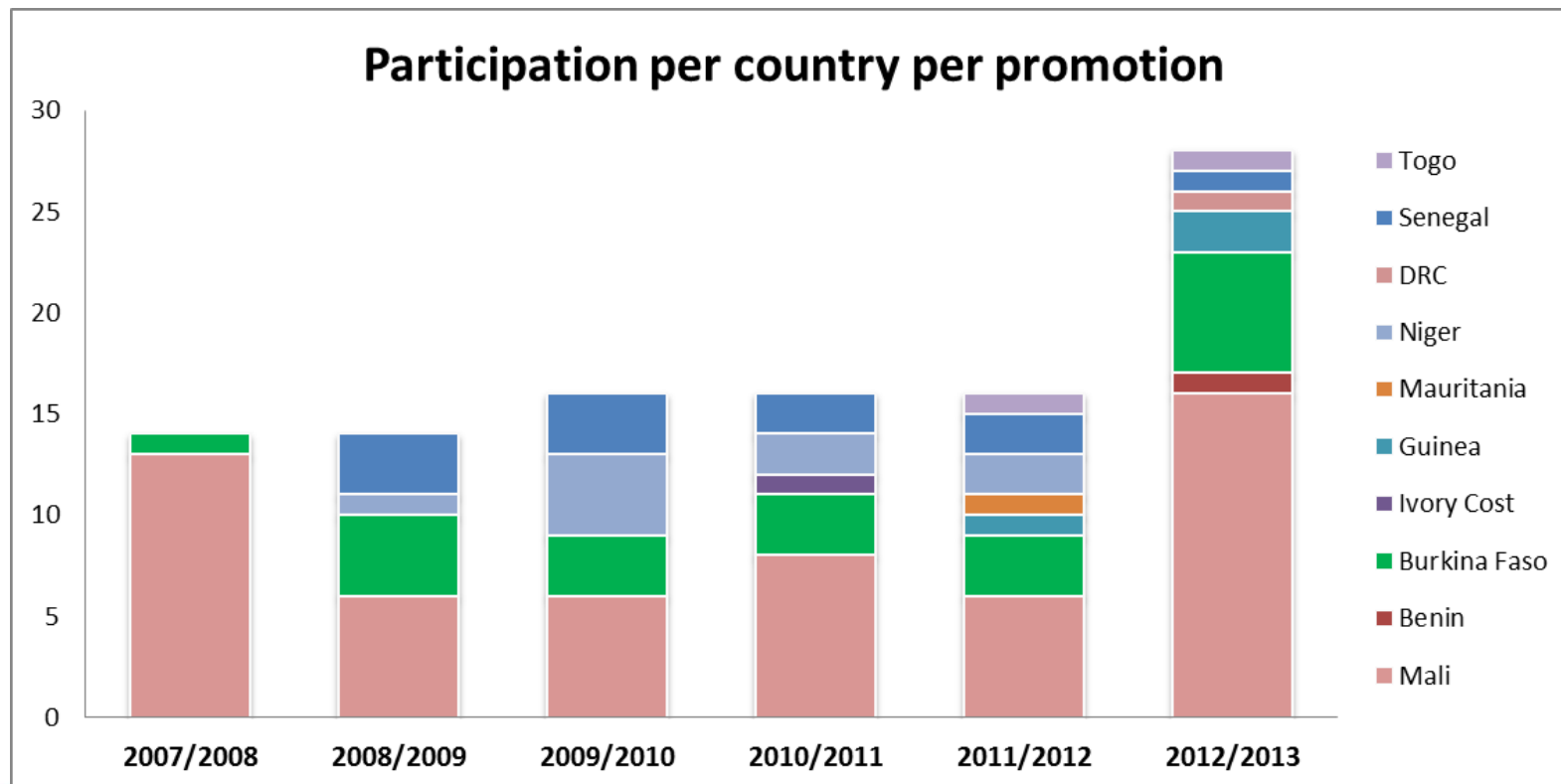
BAMS Mali

Graduated 2011-2012 Promotion



BAMS Mali

2012-2013 Promotion (in progress)



E-learning



Expected results

Development of a Learning Management System for E-learning

Training of local tutors

Development of a two training modules

Achievements

- Setting and design of an open source Learning Management System Moodle adapted to training programs organized and supported by Fondation Mérieux in developing countries
<http://moodle.globe-network.org/>
- Training in Ouagadougou of 7 Malian tutors on using Moodle for tutor assisted sessions
- Bacteriology & Molecular biology modules
Instructional design and media conception



European Foundation Initiative for African Research into Neglected Tropical Diseases (EFINTD)



- Initiative of 5 European Foundations
- Strengthen African research capacities on NTDs locally (Post-Doctoral fellowship programme, training, networking)
- 25 researchers trained so far
- African NTD-Academy: concept stage



Knowledge sharing and application

- Knowledge sharing with:
 - Local authorities for integration into policies (science in society)
 - Scientific community: conferences, workshops, training, publications, e-portal
 - Private partners for co-development of locally appropriate solutions

1st International Forum on Diagnostics IFDIAG



<http://www.globe-network.org>



Information and Commentary

Enhancing research capacities in infectious diseases: The GABRIEL network, a joint approach to major local health issues in developing countries

Florence Komurian-Pradel^{a,*}, Nina Grundmann^a, Marilda M. Siqueira^b, Monidarin Chou^c, Souleymane Diallo^d, Wilfred Mbacham^e, Phimpha Paboriboune^f, Graciela Russomando^g, Pagbajab Nymadawa^h, Dolla Karam Sarkisⁱ, Luc Hervé Samison^l, Jianwei Wang^b, Jean W. Pape^l, Gláucia Paranhos-Baccalá^a, Guy Vernet^a



FONDATION MÉRIEUX

Priority setting

- Presence in developing countries/regions
- Strong collaboration with governments, local research institutions and partners
- Help countries identifying health priorities (conduct epidemiological studies)
- Help countries defining research priorities and a research agenda (AFRICARAMI: research agenda definition for MDR-TB and LRTI in Mali, Madagascar, Cameroun and Haiti)
- Communicate identified global health research priorities for consideration at national, regional and international level and promote global partnerships



Funding and spending

- Work in partnership!
- Local appropriation, governance and co-funding
- Try to be “partners” and not only “funders”
- Contribute to better funder coordination at different levels
- Lobby for increased global health research funding at national, regional and international level
- Facilitate access to funding: less complicated procedures, involve partners from developing countries
- Offer training on writing and management of collaborative research projects





Horizon 2020 (~80 billion €/7 years)

Challenges for global health research in the initially suggested framework program:

- No budget dedicated to international cooperation and actions targeting research for development
- No mentioning of capacity building and health system strengthening
- Infectious disease research (diagnostic, anti-microbial resistance) focused on Europe
- Future of Research on NTDs unclear

Need to prepare together EDCTP2



Main recommendations

- Need for an **international agenda and define priorities** for global health research.
- Taking into account both the global and **local impact** in global health programs and agenda
- Lobby at regional and international level for **more research funding accessible to scientists** from disease-endemic countries
- Strengthen **local capacities** in developing countries at all levels (research, management, infrastructure, health system, laboratory etc.)
- Recognition and management of the **career of keys health experts and scientists** from developing countries.
- Better coordination and stakeholder involvement through new tools
- Promoting the **new generation of research partners** involved at field level in developing countries
- Encourage applicability of research results and their **integration into policy**



ENTION biology
RIFIC Information
earch vaccinology
ountries around the world
NOSTICS LABORATOIRES
al surveillance COORDINATION
Action WORKERS
ations Health
ODIA • MADAGASCAR • HAITI • LAOS
PIES PREVENTION
earch Information
ve solutions THERAPIES
US DEVELOPMENT
TION innovative solutions
iology DURABLE
TIFIC MALI • CAMBODIA • MADAGASCAR
ology Tools High level of expertise
ne world LABORATORIES
at COORDINATION SENTINEL
ce HEALTHCARE WORKERS MICRO-CREDITS
Conferences Centers

MALI • CAMBODGE • MADAGASCAR



Roots for life



THANK YOU!

LABORATOIRES

LABORATOIRES

MICRO CREDITS

innovative solutions

vaccinology DIAGNOSTICS

MALI • CAMBODIA • MADAGASCAR

Treatment centers

SENTINEL

HAITI • LAOS