



International School of Perinatal Medicine for Africa



Sponsored by:

- International Academy of Perinatal Medicine (IAPM)
- World Association of Perinatal Medicine (WAPM)
- International Society "The Fetus as a Patient"
- Ian Donald Inter-University School of Ultrasonography

Promoted by:

- Matres Mundi International

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1. JUSTIFICATION AND BACKGROUND

The African continent suffers, generally speaking, not only a worrying situation of poverty and scarcity of resources, but also a clear difficulty in accessing to the most elemental education. Focusing on the health issue, it is obvious the scant per capita supply of health professionals (doctors, specialists, nurses, etc.), as well as the high need for hospitals and health centers in decent and elemental conditions of hygiene and public health.

For the time being in Africa there is only one Medical School per 10 million inhabitants, while in Europe the rate is one per each million. In 11 African countries there are none. And in the others Medical Schools are poorly equipped and have scarce resources. For this reason, while in Europe we have a doctor per 350 inhabitants, in the majority of the Sub-Saharan countries the rate is 1 doctor per 50.000 inhabitants. The same way, the number of midwives and nurses is too inferior to the acceptable minimum. This facts and the bad socio-economic situation explain why Maternal Mortality Rate (1.000 per 100.000 born alive) and Perinatal Mortality Rate (150 per 1.000 born alive) are the highest in the world.

In Africa each year around 300.000 women die during pregnancy, delivery or puerperium, as well as 5 millions children under 5 years of age perish. In their majority, the deaths are due to perfectly avoidable causes. The situation in the countries of Sub-saharan Africa is especially bad (Table 1).

Table 1: Situation of health in Sub-Saharan Africa

Life expectancy	47 years
Maternal mortality	920/100.000
Maternal mortality from abortion	600/100.000
Neonatal mortality rate	>45/1.000
Perinatal mortality rate	160/1.000
Children's mortality rate (under 5 years of age)	92/1.000
Incidence of HIV	5.8%
Children's undernourishment	37%
Teenage pregnancies	>30%
Hospital beds	<9/10.000
Deliveries that take place in an Health Center	40%
Doctors (all specialties)	1/50.000
Annual health care expense per inhabitant	8 €
Women with obstetrical fistulae	2-3 millions

Source: WHO, World Bank, Matres Mundi

To this high mortality, a very high morbidity rate has to be added. For each woman that dies, about ten suffer from serious complications: genital lacerations, urinary and/or fecal incontinence, pelvic inflammatory disease, genital prolapse, permanent infertility and, above all, urinary fistula of obstetrical

origin. Around two millions African women suffer this stigma, that permanently jeopardizes their life.

No doubt poverty (45% of Africans live with less than one dollar a day) and poor economic development in these countries (very low incomes), which, moreover, are in the last positions in the Human Development Index, do explain that dramatic situation. To all this we have to add other factors: hidden colonialism, bribery, permanent armed conflicts and so on (Table 2).

Table 2: Socio-economic situation of Sub-Saharan Africa compared with Euro-zone

	Sub-Saharan Africa	Euro-zone
Poverty (less than one dollar a day)	45%	10%
Hunger	33.4%	1.7%
Schooling	45.7%	98.9%
Population growth	2.3%	0.5%

Source: WHO, UNICEF, World Bank

2. BASIC AIMS

The main objective of the project is to improve the maternal and infant health of Africa, through the training of health professionals (doctors, midwives, nurses, nutritionists, etc.). To reach this basic aim we want to set up a Maternity Hospital with a International School of Perinatal Medicine for Africa, that should become a reference for the whole of Africa.

Africa has one hundred times more health problems, and relies on one hundred times less health professionals, than the necessary. As a matter of fact, Africa bears 24% of the global burden of diseases.

Moreover, more than 30.000 doctors and nurses emigrate each year to Europe and America for essentially economic reasons. For this reason, there are more doctors from Benin in France than in Benin itself, and more health professionals from Sierra Leone in Chicago than in Africa. Half of the doctors from Angola, Mozambique and Liberia work in a OECD country. Africa produces few doctors, and loses a major part of them due to emigration. According to the World Health Organization (WHO), among the 57 States of the world that lack doctors and health workers, 36 are African. No doubt the African zone where the situation of maternal and infant health is worst and relies on less resources is the Sub-Saharan area.

For this reason obstetrical care (pregnancy and delivery) often is not in qualified personnel's hands, but rather in empirical midwives, who in general are illiterate and without any academic education. This fact, together with poor hospital resources (most of the regional hospital don't have electricity), difficulties in reaching the hospitals and some anthropological factors (limited tendency to give birth in hospitals), explains such a high mortality rates.

The situation will not change until Africa reaches a minimum sufficient number of health workers, that will allow for right obstetric and pediatric care, and dynamizes health care in its complexity (hygiene, preventive medicine, sexual and reproductive health, etc.). This awful situation of maternal and infant health in Africa won't change by sending equipment, medicines, etc., that no one knows how to use. What Africa urgently needs is: doctors, specialists (obstetrics, pediatricians, perineonatologists), midwives, nurses, nutritionists, pediatric nurses etc. that replace the actual scarce human resources (traditional midwives, nurses with no academic education, and so on.).

On the other hand, it has not been very useful either to organize courses for empirical or traditional midwives. Using this strategy, maternal mortality not only has not decreased, but in some countries it has increased. That is not the way.

There is unanimity in considering that help to development has to prioritize this aspect, and that the continuous escape of African doctors toward developed countries has to be compensated with programs aimed at increasing the number of health workers.

Regrettably, for the time being in Africa it doesn't exist a maternal and infant hospital complex whose principal task is the education, training and permanent retraining of health professionals. For this reason it is necessary a complex found, implemented and organized fundamentally considering these aims.

3. BASIC CHARACTERISTICS OF THE PROJECT

MATRES MUNDI and the International Scientific Societies of Perinatal Medicine - of which the first is their solidarity agency - have developed a project to build, furnish and set to work a Hospital Center provided with a International School of Perinatal Medicine for Africa, that will serve as a reference for the whole Africa. For the time being in Africa there is only one Medical School (usually insufficiently equipped) for every 10-20 million inhabitants (Table 3).

Table 3: Sub-Saharan Africa: doctors and medical schools

Countries	47
Population	800 million
Medical schools	87 (1/10.000.000)
Doctors	1/50.000
Rate Europe/Sub-Saharan Africa	200/1

Source: Washington University

It will consist of a Maternity Hospital with services on Obstetrics, Pediatrics, Gynaecology, Internal Medicine and a Nutritional Center, located in an appropriate area of Africa capable to meet the needs, in terms of maternal and infant health, of a large geographical area with little health equipment, whose function will not be only assistant, but mainly educational for the whole continent.

3.1 AIMS

The International School of Perinatal Medicine for Africa will have three main objectives:

1. To become a Center of Training in Maternal and Infant Health, to serve as a reference point for the whole continent. This would imply the creation of a Medical School on maternal and infant health (education of specialists), a Medical School of related specialties (ultrasound scan, anaesthesia, gynaecology, obstetrics and gynaecologic surgery, etc.), a School of Nursing (midwives, nurses, auxiliary nurses, pediatric nurses, educators of community health) and a School of Public Health. This task would be the main differential characteristic of the Hospital. It would specialize in attending the medico surgical problems specific to Africa: malaria, obstetric fistulae, etc.
2. To do healthcare research and organization for the whole continent, especially the realization of a "health map of Africa". Regrettably, at the moment there are few works on Africa in the medical journals of the various medical specialties. And specifically in the field of maternal and infant medicine epidemiological and clinical studies are urgently needed. Up to a point, in this sense its mission is similar to the CLAP of Montevideo of the '70s.
3. To be the residence for teaching staff and for scholars from the whole Africa.

3.2 REQUIREMENTS OF THE LOCATION

The requirements fixed for the sitting are:

- location in the Sub-Saharan area (which is a priority in terms of needs)
- good land, aerial and maritime communications with the other African countries and the rest of the world
- quiet area without armed or tribal conflicts
- availability of resources and supplies
- adequate population density
- stable and collaborative government

3.3. CHOSEN LOCATION

After having studied several possibilities (Monrovia, Lagos, Libreville, Dakar, Nairobi, Brazzaville, Kigali, among others), Addis Abeba (Ethiopia) was chosen, since it fulfils all the conditions and, besides, now it is the capital of the African Union. The choice was also made because of the political stability of Ethiopia.

Ethiopia is one of the Sub-Saharan countries with more health problems and less resources to face them (see Table 4). Like most of the countries of the region it has to cope with a large emigration of its health personnel toward North

America and Europe. It is estimated that there are more Ethiopian doctors in Washington (USA) than in Ethiopia itself.

Table 4: Health situation in Ethiopia

A) Resources	
Medical Schools (Addis Abeba, Gondar and Jimma)	6
Hospitals	149
Health Centers	732
Help Centers	11.446
Private clinics	1.788
Non-profitmaking private clinics	271
Pharmacies	320
Drug shops	577
Rural sale posts of medicines	2121
One hospital room per	4.900 inhabitants
Annual health care expense per inhabitant	3.8 €
B) Indexes	
Life expectancy	45 years
Maternal mortality rate	1.000/100.000
Children's mortality rate (under 5 years of age)	140/1.000
Immunized children	20%
Incidence of HIV/AIDS	4.4%
Sons per woman	6.2

Source: World bank, WHO

On the other hand, besides fulfilling all the conditions mentioned in section 3.1, it offers several additional advantages in comparison with the surrounding countries: absence of religious fundamentalism (62% of Orthodox Christians), multiples ethnic groups (Oromo, Amhara, Tigray, Sidama, etc.) that coexist peacefully, and the end of the separatist war of Eritrea, once this territory obtained independence.

Ethiopia is also one of the founding members of the so-called Common Market for Eastern and Southern Asia (COMESA), as well as of the Inter-Governmental Authority in Development (IGAD).

During June this year, Addis Abeba will be the venue of the I Congress of the "African Association of Perinatal Medicine", founded in Barcelona in 2010, with the sponsorship of MATRES MUNDI INTERNATIONAL together with several International Scientific Societies, especially WAPM and IAPM.

Ethiopia has acceptable land, sea (through Djibouti) and air (22 companies operate in its capital's airport) communications, with direct flights to 40 African, European and Asian cities. Besides, we also enjoy appropriate political and medical contacts with the country.

3.4 DEPENDENCE

The International School of Perinatal Medicine for Africa is to be directed and administered by MATRES MUNDI and the International Societies of Perinatal Medicine, under the control and the collaboration of the Ethiopian government.

As a matter of fact, the School will be the African “headquarter” of MATRES MUNDI, the International Academy of Perinatal Medicine (IAPM) and several other International Societies.

A joint venture will be created by the International Associations of Perinatal Medicine (World Association of Perinatal Medicine (WAPM), International Academy of Perinatal Medicine (IAPM), European Association of Perinatal Medicine (EAPM), etc.), with the state and local governments and the academic authorities of the country.

This will allow the establishment of permanent schools of Perinatal Medicine (managed by WAPM), Fetal Medicine (managed by the International Society “The Fetus as a Patient”) and Obstetric and Gynaecologic Ultrasound Scan (managed by Ian Donald School). The Hospital will also be the headquarter of these international institutions in Africa.

3.5 FINANCIAL RESOURCES

MATRES MUNDI prioritizes this project above all others, be in Africa or in Latin America, to concentrate almost completely on this subject. Fund-raising will only focus on this project.

MATRES MUNDI will try to obtain funding from:

- private foundations and social investors with solidarity values.
- scientific societies, that will mostly contribute with professionals (courses, etc.)
- personnel of Spanish Solidarity Maternities, that should provide mainly volunteers, but also economic contributions.
- technological and pharmaceutical companies, that would participate furnishing equipments and laboratory supplies.
- professional associations (midwives, nurses, etc.) that would contribute with volunteers and organization
- business schools, that should also collaborate in training on hospital administration.

The undergraduate programs (specializations in Obstetrics, Pediatrics or Perinatal Medicine, etc.) and the postgraduate courses will have a registration fee calculated according to the economic situation of Africa. Furthermore, the Center will establish scholarships and will try to get the African and multinational companies and enterprises to defray these expenses.

4. BASIC CHARACTERISTICS OF THE EDUCATIONAL PROJECT

The International School of Perinatal Medicine would have the installations and resources necessary to carry out its educational mission. In this sense it ought to have:

1- Educative units, independent from the hospital structure, but close to it, and connected with it. They will be equipped with:

- Auditorium
- Classroom complex (6 classrooms with different capacities)
- Library
- Administration area.

Each of these areas is to have all necessary equipment for teaching and working.

2- Research area (reprography, computering and telecommunications room, etc.)

3- Residence for teaching staff and scholars:

- Scholars residence
- Foreign teaching staff residence
- Security staff residence
- Service and relax area.

Training will be given by a permanent (local and international) teaching staff selected by MATRES MUNDI, and a teaching staffs provided by the International Scientific Associations to carry out time-limited specific courses (perinatal medicine, fetal medicine, obstetric-gynaecologic ultrasound scan, obstetric-gynaecologic surgery, etc.). To reach this goal the Hospital is to be the permanent African headquarter of the various International Scientific Associations, that will establish in it permanent schools of the various specialties.

The collaboration with Addis Abeba University is fundamental to achieve these expectancies.

The Hospital would collaborate with the University in:

- 1- the education of the future doctors (the University will fix its requirements)
- 2- the training of specialists in perinatal medicine (obstetricians and pediatricians), as well as midwives and specialized nurses (pediatrics, nutrition, etc.).

The degrees and/or qualifications the center will confer would be guaranteed by Addis Abeba University and the various International Scientific Associations.

The International School of Perinatal Medicine for Africa would have the appropriate medical technology to facilitate the learning and education of the various specialties.

The scholars, from the various African countries, would gain entrance to the project through an appropriate selection, and would have to sign an agreement by which they commit themselves to work in African health centers at least during the lapse of five years following their education period.

The program of the various courses shall be developed by the International Societies, with the agreement of the local University authorities.

Representatives of several International Scientific Societies of Perinatal Medicine will be part of the " Scientific Committee" of the Center.

Once the construction of the International School will be completed, it will be set in motion and direct and managed for an indefinite period by MATRES MUNDI, as the representative of the abovementioned Scientific Societies.

Courses

- Maternal and Perinatal mortality
- Neonatal assessment
- Perinatal nursing care
- Obstetrical Operations
- Pregnancy related abnormalities
- Prenatal diagnosis
- Pediatric cardiology
- Pediatric Dermatology
- Analgo-anaesthesia in perinatology
- Sexually transmitted illness
- Family planning
- Medical laboratory technology
- Perinatal nutrition
- Reproductive Health
- Pediatric Infectious Diseases
- Obstetric Ultrasonography
- Perinatal Ultrasonography
- Emergencies in Perinatal Medicine
- Doppler in Perinatal Medicine
- Screening in Perinatal Medicine
- Preterm delivery
- Fetal monitoring
- Multiple pregnancy
- Labor and delivery
- Maternal diseases
- Obstetric fistulas

5. EXPECTED RESULTS

Through the programming of academic activities elaborated by Matres Mundi with the help of several international scientific societies, it is expected to achieve the following immediate results:

1. Annual graduation of 50-60 specialists in Obstetrics and Perinatal Medicine.
2. Annual graduation of 50-60 specialists in Pediatrics and Perinatal Medicine.
3. Annual graduation of 100 academic midwives.
4. Production of 40 annual postgraduate courses about specialties related to Perinatal Medicine (Ultrasonography, Emergencies in Perinatal Medicine, Fetal monitoring, Obstetric fistulas, Perinatal nutrition, etc.): as a whole, the trainees will be 1800 per year.

The medium/long-term objective is to reduce the high numbers of maternal (270.000 deaths), perinatal (1,2 millions deaths) and infant (14 millions deaths) mortality in Africa thanks to the action of this new professionals of the maternal and infant health. (Source: United Nations, 2007).

6. PROMOTERS OF THE PROJECT

The NGO MATRES MUNDI is the main promoter of the project. The project will be formulated and carried out thanks to its basic infrastructure (central headquarters, administrative structure, management area, communications area, international relations area, etc.), together with its human resources (volunteers, workers, etc.).

As it is known, MATRES MUNDI is a NGO on development with 16 years of experience, whose fundamental aim is the improvement of maternal and infant health all over the world. It was founded and it is managed by maternal and infant health professionals (obstetricians, pediatricians, neonatologists, midwives, nurses, etc.). Up to today it has carried out more than 300 projects of cooperation in the maternal and infant field, in African (Democratic Republic of Congo, Rwanda, Mozambique, etc.), Latin-American (Peru, Bolivia, Nicaragua, etc.) and Asian (Philippines) countries. From an international perspective it's the solidarity agency of most of the Associations or Scientific Societies of Perinatal Medicine (WAPM, EAPM; IAPM, Ian Donald School, The Fetus as a Patient, etc.).

In September 2010, in Barcelona, it organized the "First Global Congress of Maternal and Infant Health", attended by delegations from 127 countries, with a total of 2000 delegates and global experts. During this event two Scientific Continental Associations of Perinatal Medicine were formed: the African Association of Perinatal Medicines (AAPM) and the Latin-American Federation of Perinatal Medicine (FLAMP). At the same time this project was presented, the ceremony being attended by all the presidents of the national and international Perineonatalogical Associations.

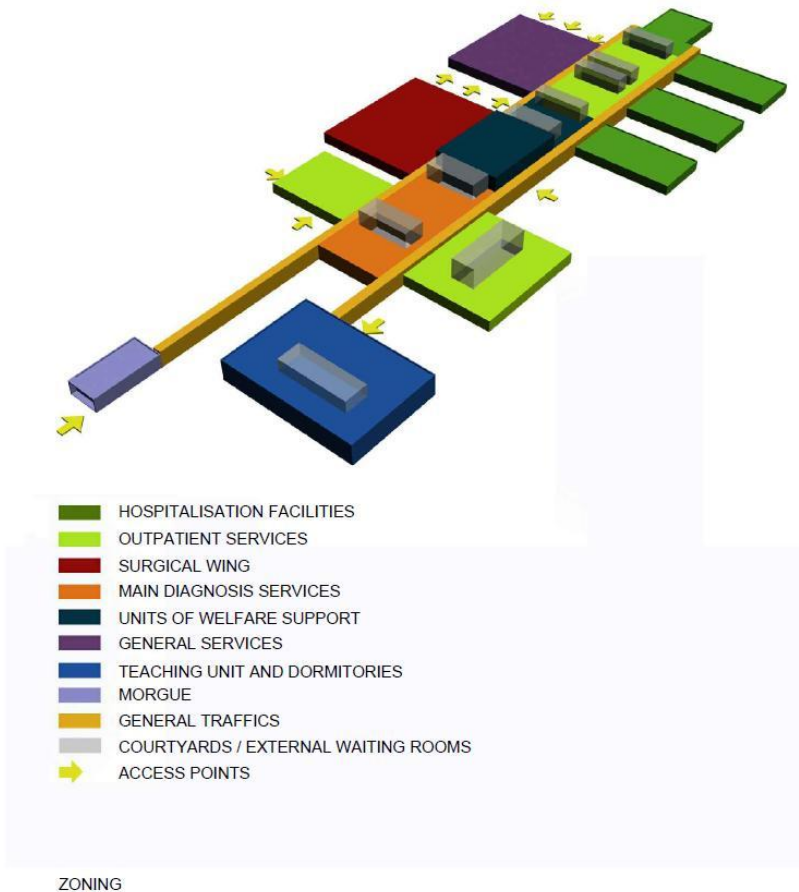
For the realization of this project an International Foundation will be created, whose specific aims will be fundraising for its realization, establishment of an appropriate management structure, capable of planning and caring out the project, and laying the foundations for its sustainability in the future. The Foundation, called "Life for Africa", will be structured in a Council, an Honour Committee, a Scientific Committee and an Advisory Committee. Prestigious personalities of international importance will participate in this bodies, as well as the Presidents of the International Scientific Societies that sponsor the project. At the moment the necessary steps to internationally register this Foundation are being taken.

The project relies on the patronage and collaboration of all the International Scientific Societies of Perinatal Medicine, especially of the World Association of Perinatal Medicine (WAPM) and the International Academy of Perinatal

Medicine (IAPM), as well as on the valuable auspices of the World Health Organization (WHO).

7. FUNCTIONAL PLAN (March 2010)

Plan 1



A. TEACHING UNIT (Table 5)

It contains the classroom complex, the library and the areas of reprography, telecommunication, research, etc.

The aim of the School is, besides its essential mission of health caring, the permanent education of its personnel and the training of residents and scholars from the various African countries. Of course it will be equipped with the support installations necessary to fulfil its function.

It will have the following two areas: training and library.

TRAINING AREA

The activities of this area have to endeavour the possibility of training different levels of professionals (doctors and nurses, undergraduates or postgraduates), through clinical sessions, development of varied-level programs and continuous education, be it for the technical staff or for administrative and service staff.

The teaching areas can be common or specific, though they will be multipurpose in most cases, and placed in such a way as to allow for a flexible use by the internal and external personnel. The area will have an auditorium to hold meetings of various kinds, including lectures, with support rooms and adequate didactic and audiovisual equipment.

Plan 2



LIBRARY

The functions of the library will be:

- bibliographical and documental support
- reprography of scientific material
- bibliographical recovery.

The library will be helped by the sections on reprography and editing, for the reproduction of scientific material, and by the communications and publications area.

The library will be one and centralized for a common use by all the professionals of the hospital, the teaching team and the students and trainees.

Table 5: Distribution of functions and layout

Classrooms 3 x 50 sqm (45 seats)	150 sqm
Classrooms 3 x 40 sqm (30 seats)	120 sqm
Auditorium (1) 350 seats	450 sqm
Academic administrative services	240 sqm
Library	90 sqm
Reprographics room	16 sqm
Telecommunications and computer area	16 sqm
Coordinator's office	12 sqm
Research unit	50 sqm
Meeting room	25 sqm
Cleaning and warehouse	8 sqm
Toilets	10 sqm
Total Teaching Unit	1187 sqm

B. RESIDENCE FOR HEALTH STAFF (Table 6)

CHARACTERISTICS

It includes accommodations of medical staff (doctors, midwives, nurses) and students from the various African countries.

A hostel for medical staff with a capacity of 10 to 12 professionals: doctors (IDR's, doctors on duty...). is to be planned, which means a total of 8 dormitories. And from 30 to 50 student doctors from other countries (or towns) will reside in the hostel (some 15 to 30 dormitories).

Two double rooms will be located near the emergency department. They are included in the unit and will meet the needs of Intensive Care Unit.

Plan 3



Table 6: Distribution of functions and layout

Residence of teaching staff	250 sqm
Scholars' residence	250 sqm
Mini-kitchen	40 sqm
Dining room	40 sqm
Warehouse (cleaning...)	20 sqm
Total	600 sqm

Plan 4

