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per l'innovazione

ARTES for technology transfer, and the internalisation of enterprise and research systems

FIELD: SCIENCE OF CONSTRUCTIONS, MATERIALS, ENERGY, WATER
AND AGRO - INDUSTRY

Summary of the Study Visit in EAC

February 22nd -27th 2015



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ARTES for technology transfer, and the internationalisation of enterprise and research systems.

Construction, materials, water, energy, agro-industry.

Background, Aims and Upcoming Initiatives

In the context of **A4I** (<http://www.artes-research.com/en/artes-4-internationalisation/>) ARTES is developing a programme for the internationalisation of the Italian and European excellence Know How, in the fields of Science of construction, materials, water, energy, and agroindustry; and more in general in the field of bio economy.

We mean to transform these Italian (and European) scientific and research capacities into an extraordinary leverage for the European productive systems and for the closest developing economies. Our goal is to create high-skill job opportunities, research spin offs for our researchers, in order to prevent their forceful departure from Italy, and create affordable context for our best SME. We plan to do all of this acting as connection and intelligence between the key institutional actors and the research sector of developing countries, between our vast network of research centres and Italian and European enterprises, and the big multilateral funds for development. In order to realise this strategy ARTES organises study visits and strategic missions in the target countries, makes periodical trips to Brussels and Washington and has committed a dedicated team of researchers to carry out the above-mentioned tasks.

Relatively to this action, ARTES and its international network promoted the definition and signing of two agreements.

The first one concerns the **DICAM** (<http://www.dicam.unibo.it/en/>) – **University of Bologna** and the **Burundian Ministry of Transport, Public Works and Equipment**, and it's aimed at the realisation of a centre similar to the one in Bologna – UNIBO for the **research, certification, and regulation of construction technologies (civil intelligence) and materials.**

The centre should serve the whole **EAC – East African Community** (that comprehends the Republic of Burundi, Kenya, Rwanda, Tanzania, and Uganda) acting as regulator of a chaotic,



for how attractive, market for natural resources, as well as the equipment and infrastructure for transport and energy, and in general all those infrastructures connected to the fast industrialisation and urbanisation.

The **second agreement** concern **Tunisia** and more specifically aims at setting an example by creating a **research driven cluster start-up** in the field of **industrial biotechnologies**, along with strong connections with local craftsmanship, eco design, accelerated programmes of micro agro entrepreneurship and tourism. Is an extended and consistent commitment of our network and several European research laboratories such as the Universities of BOKU (Vienna), IWNIRZ (Poznan), BCD (Barcellona), e AITEX (Alcoy -Alicante).

Both agreements include a feasibility study with the engineering of the model for economic and financial sustainability and the utilisation of the main instruments offered by EuropeAid and the multilateral funds, primarily GEF (Global Environmental Facility). Among these instruments the most interesting ones are the bio economy fund for Tunisia created by GEF, World Bank and AfDB (<http://www.afdb.org/en/news-and-events/article/afdb-creates-african-pilot-climate-technology-and-finance-centre-with-gef-support-13344/>), but also the blended funds such as the CIIP (Competitive Industries and Innovation Program) and the utilisation of the “delegated cooperation”.

Recently, in the context of this action also an agreement between the Burundian Ministry of Transport, Public Works and Equipment, GESAAF – University of Florence and CIRAM – Naples was signed. The agreement means to start a cooperation framework in the fields of hydrogeological hazard, flooding and water governance. The starting point will be a specific study for the evaluation of risk and individuation of methods and technologies for the mitigation of the risk of flooding in the area of Bujumbura, with a specific focus on the hill area near the urban centre and on the shores of the Tanganyika Lake. In order to quickly realise and properly fund programmes, and fit them into the new framework of policies for sustainable development, there are **three international missions in program**.

The **first, just ended**, concerned the East African Community, the **second** will concern Tunisia, the **third** the participation to the Spring Meetings organised by World Bank and IMF in Washington DC, April 17th-19th.



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Study visit in East African Community - (February 22nd – 27th 2015)



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ARTES and the no profit association Africa Renaissance Time organised a study visit in the East African Community (February 22nd-27th 2015), as the conclusion of a whole year of work, started with a first mission in August 2013 in Burundi, followed by another in October 2013 in Italy. The last visit covered three days in Bujumbura (February 22nd-25th) and two days in Nairobi (26th – 27th February).

The Italian delegation was composed by:

Prof. Lilia Infelise – President of ARTES Institute - <http://www.artes-research.com/>; <http://artesventures.tumblr.com/>

Prof. Tomaso Trombetti – University of Bologna, DICAM - <http://www.eng.dicam.unibo.it/>

Prof. Giulio Castelli - University of Florence, GESAAF - <http://www.gesaaaf.unifi.it/changelang-eng.html>

Mr. Vincenzo D'Agostino – CEO of OMNIA Group - <http://www.omniaenergia.it/EN/index.asp>



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The mission in Bujumbura started with a workshop organised by the General Director and Coordination of the Equipment, the Ministry of Transport, Public Work and Equipment.

Moderators of the Workshop: Ir. Nestor BARASOKOROZA (General Director of the Coordination and Equipment) and Prof. Déo Gratias NKINAHAMIRA (President of the Italian – Burundian association Africa Renaissance Time).

Secretariat: Venuste NDAYITWAYEKO, Térance RUHIMBI, Jean Bosco NKURUNZIZA

Media coverage and reportage by RTNB.

Ceremony curated by the Ministry of Transport, Public Works and Equipment.

The aim of the workshop was the presentation of the project for the realisation of a Excellence Centre in the Field of Construction Technologies and Materials (CRTM) but also the introduction of the international network of research laboratories promoted by ARTES, with specific focus on the institutes that took part to the mission: DICAM – UNIBO, GESAAF – UNIFI; CIRAM – UNINA. The workshop gathered all the general directors and counsellors of the main concerned Ministries, such as Environment, stakeholders from the Academic world, Chambers of Commerce, EU Delegation. Also the Counsellors of the President of the Republic took part as a delegate of East African Community Integration, Infrastructure and Public Procurement.

The participation was careful and rich of interesting questions; the Burundian contribution was particularly attentive. Very interesting the inedited documentary about the history of the infrastructures realised in Burundi starting from the colonial age, through the independence and until today, and the and the recommendations emerged during the previous workshops concerning the state of the infrastructures. Two interventions from the Burundi State University concluded the Burundian contribution, namely: “Issues regarding MIRWA and consequences on the City of Bujumbura » by Prof. Jean Marie SABUSHIMIKE and “Issues regarding construction materials in Burundi” by Prof. Théodose SIMUZEYE. The former Minister of Transport, Public Works and Equipment, Prof. Déogratias RURIMUNZU, participated to the workshop as one of the most committed endorsers of the project, as well as speaker with one introductory and one conclusive speech.



The workshop took place at the Sun Safari Club Hotel and was sponsored by the Burundian firm Robuco and the Italian – Tunisian ATI Engineering. In Annex 1 the introductory speech by Lilia Infelise and the Program of the Seminar. On ARTES' website is possible to download the ppt presentations (<http://www.artes-research.com/en/2015/03/04/study-visit-in-eac-the-workshop/>).

After the workshop, the Italian delegation accompanied by Prof. Déo Gratias NKINAHAMIRA (President of the Italian – Burundian association Africa Renaissance Time) visited the EU Delegation and met with Paul Vossen (Head of the Rural Development, Infrastructure and Energy Section) Chef de Section Développement Rural, Infrastructures et Energie), and Egide Niyogusaba (Program Manager for Infrastructure). The intense meeting allowed a better understanding of the instrument of Delegated Cooperation, and the possible inclusion of the CRTM project in the framework of the Regional Strategic Programme (approval expected April this year). It is considered important to organise a meeting with the EU delegation of Dar Es Salaam.

The two following days were dedicated to:

- The definition of the agreement with DICAM for the realisation of the research, education and material certification centre (CRTM) and the kick starting of the first phase of the project with a visit of the labs of the Ministry of Transport, Public Works and Equipment and of the University of Bujumbura;



- The drafting of an agreement with the University of Florence, for the study of appropriate methods and technologies for the management of hydrogeological hazard and conservation of the landscape of the hill area next to the city of Bujumbura;
- The study of the context and primary needs in the field of energy.



The mission in Nairobi involved the following activities.

- (February 26th, h15) Meeting with the **ABSF** (African Biotechnology Stakeholders Forum), represented by Kennedy Oyugi, Director of Scinnovent Centre and representative of CAFE (African Bio-Entrepreneurship), and by two researchers. ABSF is ARTES' partner in the field of green and white biotechnologies. Its members are biotechnologists, economists and researchers from various universities and research centres of Sub-Saharan Africa, all of them committed to foster the technology transfer and development for the modernisation and sustainability of the agro-food sector. ARTES presented the project N4F, the feasibility study for the creation of a research driven cluster specialised in the field of white biotechnologies and eco design and invited the ABSF to the next study visit in Tunisia, where a specific agreement for the realisation of the project has already been signed.



- (February 27th, h8,45) Meeting with the EU Delegation in Kenya represented by Sanne Willems (Programme Manager Infrastructure Section) and Anne Chaussavoine (Programme Manager Infrastructure Section). In this occasion, the project for the Burundian CRTM was presented, and the regional strategy for the EAC discussed, along with the model of Delegated Cooperation. The Delegation remarked that the priority will be given to the Energy, and that the EU Delegation in Dar Es Salaam will be responsible for the coordination of this action, while the Delegation in Kenya would have a national focus and will publish calls for action and tenders specifically for Kenya.
- (February 27th, h11) Meeting at the Italian Embassy in Nairobi with the Ambassador Mauro Massoni, the Commercial Officer Paolo Rotili, and the President of the Italian – Kenyan Trade Association Rita Ricciardi. During the meeting it was brought up the specificity of the country and its great potential for a bilateral cooperation with Italy. Specifically, ARTES suggested the possibility of realising in Kenya the project N4F and to create in the EAC a network of excellence centres, placing the centre for Energy in Kenya and the one for Technology of Materials and Constructions in Burundi. Italy was used as an example, referring to the emblematic policies that allowed the creation of advanced research centres in a fragile area of the country, the South, and to the **Centres of Competences** successfully realised in Campania and Emilia-Romagna. ARTES presented the three main instruments for fundraising (Delegated Cooperation,



CIIP, Public Procurement on EuropeAid and Multilateral Funds for Development). Referring to the connections already established with the DGCS of the Italian Ministry of Foreign Affairs, ARTES anticipated that the first accomplishments of the mission will be introduced during the NEXUS event on March 5th 2015 “Food, Water, Energy in Sustainable Development”, promoted by ENEA in collaboration with the Italian Ministry of Foreign Affairs.



- (February 27th, h15) Meeting at the EACCIA – East Africa Chamber of Commerce Industry and Agriculture, represented by Charles Kahuthu, CEO and Regional Coordinator. During the meeting, the long exchange started in March 2014 at the EU – African Business Forum was consolidated and the following topics were discussed: - EACCIA support to the CRTM as national and regional centre of excellence, to be built in Burundi in order to avoid a duplication of the efforts; -the set up of a programme financed by the ACP Secretariat for the consultation of all the stakeholders about the Bio economy challenges and the realisation of a Regional Seminar aimed at presenting the possibility of financing the research driven cluster N4F in Kenya.



- (February 27th h17,30) Meeting at the Serena Hotel with and Rita Ricciardi (President of the Italian - Kenyan Trade Association) and David Kimosop, CEO of Kerio Development Authority (public development agency for North Kenya). The meeting concerned: the possibility of organising a study visit in Italy for a better insight on ARTES intervention frameworks, specifically ALLIANCE e N4F; an in depth discussion with Rita Ricciardi about the internationalisation of Italian enterprises; the possibility of a Memorandum of Understanding with ARTES for the creation of a joint venture in the field of internationalisation in Sub-Saharan Africa.



Brief outlook on the programmes part of ARTES' fundraising.

(A) The meeting at the European Commission in Brussels, in November and in January, and the World Bank, highlighted the possibility of using significant resources available through the set up of a "delegation agreement". The ARTES' team thoroughly studied the documentation (***New Perspectives and European Instruments regarding Development Cooperation - Position Paper***) Building the agreement requires an highly skilled technical commitment. Concerning the involvement of the private sector, relationships with Italian and European enterprises are under construction, as well as the Delegations for Cooperation of other member states.

(B) During the meeting in Brussels, it also emerged the existence of another programme that among the others presented is extremely interesting, called CIIP – Competitive Industries and Innovation Program. The programme has been thoroughly studied and is steadily monitored (***CIIP - Competitive Industries and Innovation Programme - Outlook***). The relationships with the persons in charge of the programme in World Bank have already been initiated, as well as the ones with the ACP Secretary (during the January visit in Brussels). Those are big project, negotiated by World Bank directly with the interested countries. The connections with the institutional management of those countries are essential, in particular with the Ministries of Finances and Economic Development.

(C) During the meetings in Brussels, it was created a blueprint for successfully participating to tenders and calls for action, another essential instrument for accessing funding, and that will regard mainly the EU Delegations in the target countries. The first step is visiting the delegations. The EU Delegations in Tunisia (December 8th 2014), Burundi (February 23rd 2015) and Kenya (February 27th 2015) have already been met.



Annex 1 – Introductory speech by Prof. Lilia INFELISE

Bujumbura, February 23rd 2015

The great challenge of bio economy: designing the foundation of a new civilization.

The industrialised world is currently facing the most severe crisis of the economical and productive system of the last 500 years: 90% of all the planet's resources, including knowledge, know-how and intellectual property, belong to 17% of its inhabitants. As we speak, this system is falling apart. The symptom of this crisis have been evident since 1991, but it is only from 2008 on, when it hit the richest industrialised countries, that the whole model of development has started to be questioned. The economic indicators, the climate change, and the exhaustion of the vital natural resources are imposing to re-design the foundation of our civilization and create a new one where the destruction of main natural, human, and cultural heritage of vast areas of the planet would not be inherent to economic growth.

We are all now at the starting line, however there is huge inequality in the distribution of knowledge, know how, and in the abilities for the development and utilisation of individual and collective talents: the human capital.

The deepest form of poverty for a country is the underutilisation of its human capital, which takes the form of unemployment, underemployment, migration and the inherent fragility of the education and training systems.

ARTES Institute is committed to the mobilisation of an international network of researchers and research centres, and entrepreneurs of all backgrounds but equally persuaded that only the diffusion of knowledge and the mutual efforts towards finding solutions will allow the creation of the new civilisation, and avoid the risk of damaging conflicts and natural disasters related to an irresponsible exploitation of the planet's resources.

The core knowledge of the network that we have built through a process of continuous evolution and that we invite you to join, are: materials and construction technologies, energy, water, agro- industry, community regeneration and citizens' awareness rising.



We believe that history is giving to Africa and Europe the task of starting to build, with courage and intelligence, a new civilization that treasures its past, including its dramatic defeats, but also able to create new and inedited perspectives, with the help of science.

The main directive organs of the European Union drafted the strategy for a task that certainly appears extraordinary, and selected a strategic goal to be achieved by the year 2020: the Old Continent will have to become the world leader for **bio economy**, and this transformation will act as a trigger for the regeneration and development for the economy and the labour, besides the all over improvement of the life quality.

This is the goal that the European leaders set for us to guide the continent during this difficult times: talking about KBBE, Knowledge Based Bio Economy.

Bio Economy includes all the industries and the economic compartments that produce, manage and, to some extent exploit biological resources related to activities of consumption and service supply, including agriculture, food production, fishing and all the aquatic resources in general, forests, and so on.

Europe will not be able to achieve this goal, if both the Science and Industry worlds in these two continents will not join their forces to build shared teams and laboratories in such a way that they will become indispensable to each other, and the solutions for a responsible and sustainable utilization of the resources would also be joint. Still too many think that it's possible to transfer pre-made know how from the more advanced economies, and still to many are ready to build structures and physical infrastructures, but not to share the knowledge and the know how.

On the contrary, our motto is "conversion and creation of knowledge through sharing".

Today we are here with a small delegation of a vast network built not to transfer, rather to build a space for sharing and developing. This space would be well structured and properly equipped with scientific tools. This is why we need plenty of financial resources, and why ARTES has built an early watching system in order to predict and study the changes in the strategies, programs and financial instruments for the realization of our visions and support the efficient utilization of this network of knowledge that we want to build with you.

It's a big challenge and the burden is to be shared among all of us. We want to create a planet that know how to use its resources efficiently, a green one, where there is no longer aid to



development but a new generation of policies for innovation and development, where everyone, in every single corner of Earth would be able to feel at home.

This is the vision guiding us, and it's in clear contrast with the theory of the inevitable clash of civilizations. It's a hard work, to be done day by day and step by step: but even the hardest of job is doable if we have a clear goal and a definite method for the best use we can make of all of the energies we need.

We are going to introduce you our organizations and our know how, along with the financial instruments that we have discovered and that we hope to be able to use together.

I wish all of you a good and productive day.





Annex 2 – Programme of the Workshop

Exchange workshop for the implementation of a Research Centre on Construction Technologies and Materials for Civil Engineers (CRTM)

Location : Hotel Sun Safari.

Lieu de l'atelier : Hôtel Sun Safari.

Sponsors: Federal Chamber of Commerce and industry of Burundi; ROBUCO.

Logistics: Ministry of Transport, Public Works and Equipment.

Moderators of the workshop: Ir BARASOKOROZA Nestor; Prof. Déo Gratias NKINAHAMIRA.

Secretary: Venuste NDAYITWAYEKO; TERENCE RUHIMBI; Jean Bosco NKURUNZIZA.

Media coverage and infomercial: RTNB, supported by Ministry of Transport, Public Works and Equipment (DGCE).

Programme of the Workshop of 23/02/2015

N°	DESIGNATION	TIME
1	Welcoming reception of Participants : MTTPE protocol	08H30- 09H00
2	Welcome Speech : Prof. Déo Gratias NKINAHAMIRA – ART – Africa Renaissance Time	09H00 – 09H05
3	Introductory speech : Prof. Lilia INFELISE: Head of the Italian delegation	09H05 – 09H15
4	Introductory speech by Mr. Nestor BARASOKOROZA: General Director of Equipment Coordination.	09H15 – 09H30
5	Coffee break	09H30 – 10H00
6	Documentary film on infrastructure and assessment of the	10H00 – 10H30



	state of implementation of the recommendations of the past seminars regarding infrastructure: MTTPE	
7	Issues of MIRWA and their consequences on the City of Bujumbura: Prof. Jean Marie SABUSHIMIKE	10H30 – 11H00
8	Issues of construction materials in Burundi: Prof. Théodose SIMUZEYE	11H00 – 11H30
9	Debate	11H30 – 13H00
10	Lunch break	13H00 – 14H00
11	Presentations by members of the Italian delegation. ARTES Institute : Prof. Lilia INFELISE UNIBO DICAM: Prof. Tomaso TROMBETTI UNIFI – GESAAF : Dr. Giulio CASTELLI OMNIA ENERGIA : Vincenzo D'AGOSTINO ART Africa Reinassance Time: Prof. Déo Gratias NKINAHAMIRA.	14H00 – 15H00
12	Debate	15H00 – 15H45
13	Coffe break	15H45 – 16H15
14	Intervention by the Chamber of Commerce (CFCIB) : Ir. Anatole NZIGAMASABO	16H15 – 16H30
15	New cooperation programs of the European Union and the new financial instruments of the MDBs Development: Prof. Lilia INFELISE	16H30 – 16H45
16	Hot topics clarification	16H 45 – 17H00
17	Closing	17H00