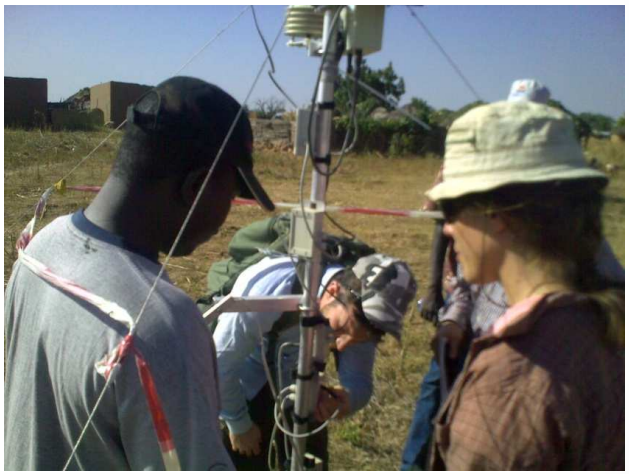
III CUCS Congress – Torino 2013

Imagining cultures of cooperation:
Universities networking to face the new development challenges



Appropriate technologies for a sustainable development

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Sciences and technologies

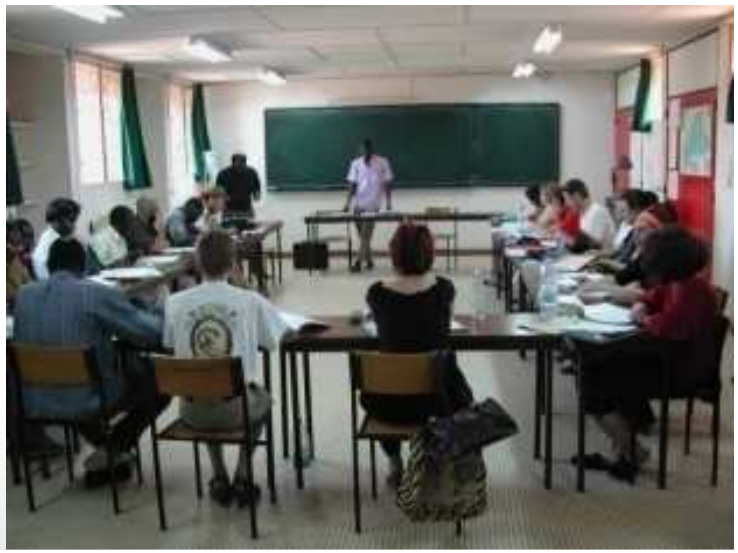
- Scientific research and technological innovation have always constituted a driving force of transformation in our societies
- Technologies play a prevalent role in the globalization of exchanges and in the creation of new living patterns as well as the geographical distribution of the assets
- Developing and emerging countries, given their demographic and geographical weight as well as the potential for growth will face the major challenges

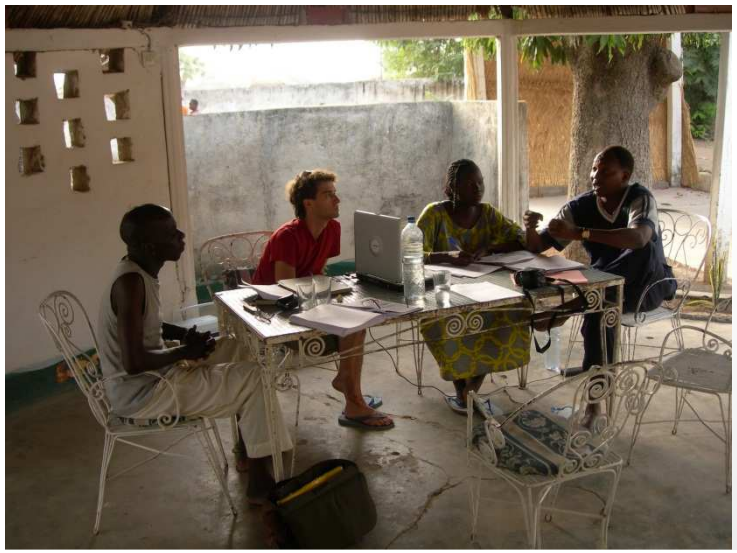
Challenges for the future

- In the future, only *high-level human skills* will provide the means of seizing these opportunities and forging them into development tools
- In sectors considered as *key points* for improving living standards in countries of the South :
  - e.g. agriculture, health, access to water, the fight against the deterioration of the environment, energy
- Necessity to implement *public policies* that promote science and technology, most notably in favor of information and communication technologies, giving better access to knowledge –
- As well as *educational policies* that are in line with these priorities

The dimensions of the debate

- The North-South relationship has long been a matter of debate
  - First in economic and then in political terms, and also from a sociocultural standpoint
  - From this point forward, the relationships between regions of the world, between nations and between the populations of these countries must also be perceived in terms of technology





Criteria to select projects and partnerships ?

The relevance of technologies :

- Is technological innovation universal in nature or, conversely, is it specifically intended for particular sectors, does it fulfill the particular needs of certain societies in conditions inherent to each context
- In Southern countries, the needs are huge -> by far not entirely or only partially met -> what are the priorities -> which technological solutions must be implemented and adapted to conditions prevailing in societies of the South?
- Appropriate technologies and technological transfer opens up a vast debate on priorities and their defining criteria (for whom, decided by whom, with which resources, with which impact)
- Tech strategies raise questions regarding the stakeholders involved directly or indirectly in this scientific, technological and socio-economic development process
- How the users will have access to modern technologies, knowing their cost of production and maintenance?

Globalization, economic growth and social disparities

- The most relevant changes are :
  - Globalization of economy: production, distribution, consumption
  - Telecommunications and information system networks are continuously linking up, in real time, all the inhabited areas of the world
  - Growing disparities between countries and between individuals despite economic growth
  - Investment in R&D – the driving force of innovation – remains highly clustered

Research, development and investments

Trends at international level

- 77.8% of R&D investment takes place in developed countries, which bring together 70.8% of world researchers (in OECD, R&D = 2,4% GDP)
- Developing countries – with 69.5% of the world's population and 39.1% of the world's GDP – allocate 22.1% of investment to the scientific field and account for 29.1% of researchers
- In less-developed countries –11.1% of the world's population and 1.5% of the world's GDP – funding of R&D amounts to 0.1% of the total world figure, for a corresponding 0.1% of world researchers
- Africa is probably the continent that is the most symptomatic of such socio-spatial disparities. For the nations on this continent, R&D amounts on average to 0.3% of GDP, though South Africa alone represents 90% of the 3.5 billion dollars invested every year in this sector across Africa.

Recommendations and advices for the future of the scientific cooperation for development

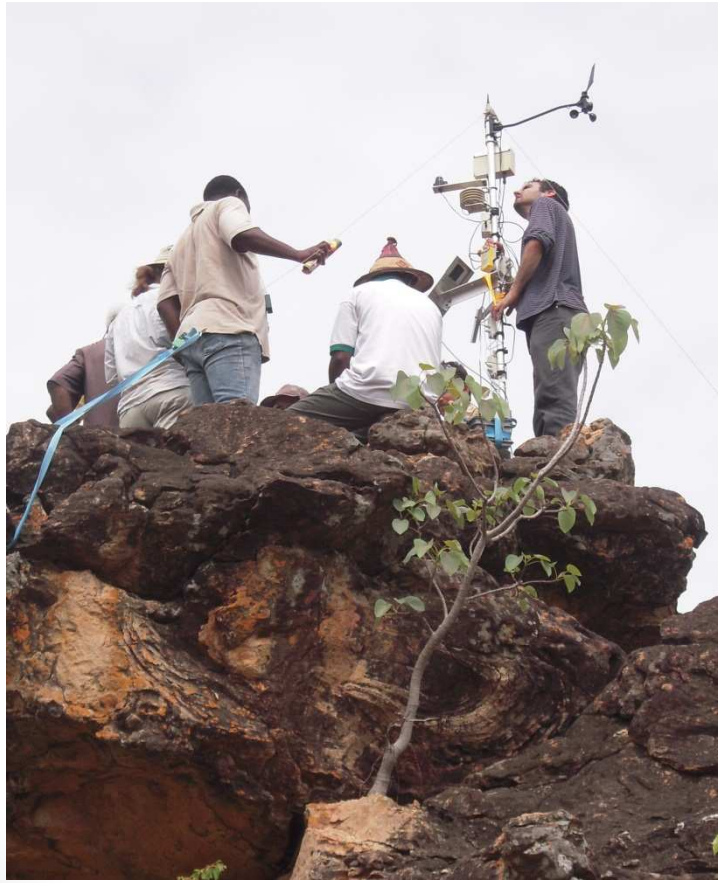
Conclusive words and guidelines :

- The analysis of technologies implemented in the South reveals the level of appropriation by local stakeholders and users. Emerging in the context of trade globalization and economic competitiveness, the majority of technologies are there to solve specific issues, but also represent arms of an "economic war" between producers of goods and services, developers and users, at worldwide level …
- Great diversity of technologies, made both by ancient traditions of imports "turnkey" tools produced in highly industrialized countries

- Adaptability to the context
- Not limit the assessment of technologies only to their technical performance
- Sustainable technologies have to be innovative in order to meet societal demands, taking into account the imperatives of profitability, but also for social inclusion and cohesion, and respect of environmental resources

EPFL Inter-School Projects

Linking the interdisciplinary scientific knowledge of EPFL with know how of our foreign partners



Info4Dourou : 3 units of EPFL with partners in Burkina Faso

A project that enables innovative information and communication technologies for the management of the natural resources of the Dourou-Singou watershed and supports the local community in their natural resource management (funded by private fundations)

Thank you for your attention

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