

Social Innovation in Africa: "The Footprint" of 2iE

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"Social innovation" is a hot topic these days. Why such an interest in social innovation? Long considered as exclusively for Western countries, this notion also resonates in Africa. This article aims to present the experience of 2iE, an institution training engineers from 27 countries and actively working for social innovation through entrepreneurship in Africa. This article will expose the interest for social innovation, present 2iE's model of education to promote social innovation and finally, provide examples of successful social businesses emerging from 2iE.

This concept has multiple definitions but we retain Bouchard (1999) and Tremblay's (2007) who consider that "social innovation is any new approach, practice or intervention or any new product developed to improve a situation or solve a social problem." In other words, social innovation aims to develop new answers to social needs poorly met in the current market conditions and social policies by governments: poverty, education, health, social exclusion, environmental protection and also unemployment (Rouselle 2011). This last problem is exacerbated by the 2009 financial crisis, and is

particularly critical for youth.

Indeed in most African countries, unemployment, under-employment and poverty levels have continued to increase despite national governments and international development agencies' considerable efforts to promote sustainable development. In recent years, there has been increased concern over the tragic waste of human potential: 20,000 highly-qualified Africans leave the continent annually. If they remain in Africa, most of them are either unemployed or underemployed. So how do we create employment opportunities for young Africans?

Social innovation appears as a means to create quality jobs and propose long lasting solutions while also boosting the local economy (Mulgan et al. 2007; Bornstein 2004). As a result, universities and schools are offering training programs supporting this trend. In the following section we present 2iE's unique model.

2. 2iE's specific approach for getting young African people back into jobs

Based in Ouagadougou (Burkina Faso), the International Institute for Water and Environmental Engineering -2iE- is a bilingual, higher education institute and research center. 2iE's main challenge is to develop students' innovation, technical and managerial capacities by providing them with the opportunity to start up their own businesses in the fields of water, energy, mining, environment and civil

engineering. 2iE is committed to social innovation in Africa through two essential pillars: training and entrepreneurship programs.

Training Programs:

- *in strategic sectors* like energy, water, civil engineering, agri-business etc. Many enterprises in Africa struggle to fill open positions because there is a mismatch of skills between what job seekers have to offer and what employers require. In South Africa for example, there are 600,000 unemployed university graduates versus 800,000 vacancies (The Economist 2012). Moreover, recent job market studies show that employers in Africa are looking for more engineers with both technical and managerial competencies. 2iE identifies this trend and focuses on key sectors to build tomorrow's Africa.
- *at different levels and throughout life* with a guarantee of employability. The wide range of courses offered by 2iE, which include initial training and online vocational training, aim at fast employment of its graduates. 2iE's priority is to adapt training programs to the reality of the African and international labor market and businesses' needs. Thus, 95% of 2iE's students find a job within six months of graduation. And over 90% of graduates are employed in the private sector in key areas of the African economy. Finally, 98% work in Africa,

contributing to the economic development of the continent and its overall capacity building.

Focus on innovation and entrepreneurship

Today, Africa needs more entrepreneurs able to boost sustainable economic development, creating added value and employment. Innovation and responsible entrepreneurship are undoubtedly the keys for sustainable economic development. Recognizing this, 2iE supports innovative start-ups in the areas of green growth to stimulate employment locally, thanks to two platforms:

- *Joint research centers*: One research center is dedicated to applied research on Water and Climate, designed for secure water access and sanitation for all. Meanwhile, the other focuses on Energy and Sustainable Habitat and is designed for studying sustainable access to energy and housing for all.
- *Technopole*: At the heart of 2iE's campus, Technopole provides technical, managerial and financial assistance to transform innovative ideas into business realities. It helps engineers become social entrepreneurs by giving them the desire and the capacity to undertake the challenges the country faces. For this, students have the opportunity to join the *business incubator* to develop prototypes and a solid business plan, taking into account the social impact of their business. At the end of a successful incubation period, start-ups can enter 2iE's *business*

nursery and benefit from its many advantages. They are furthermore eligible for funding via 2iE's network of business angels.

Thus, 2iE is an ecosystem combining training, research and businesses on-site, allowing students and graduates to evolve in a stimulating and innovative environment. We refer to some success stories emerging from 2iE's ecosystem in the next section.

3. 2iE: a booster of Social Innovative start-ups in Africa

InnoFaso is a start-up in 2iE's nursery designed to treat severe malnutrition.

Omar Coulibaly joined 2iE in 2009 to become an engineer specializing in environment. Looking for an internship in 2010, he was hired as a work-placement student in the French plant of Nutriset SA. He learned about food production and solutions against severe malnutrition. He decided to develop Nutriset's network in Burkina Faso.

After an incubation period, the plant set up on 2iE's campus, and Omar and his employees started producing Plumpy Nut in 2012.

Most of the raw materials come from Burkina Faso, creating new agricultural revenues. The estimated production of the first year is 600 tons, which will treat 5% of children under age 5 suffering from malnutrition in

the country.

Omar signed 2iE's "Responsible Entrepreneur" charter and is creating his business as a social and eco-friendly entrepreneur. InnoFaso has created jobs: 18 employees have already been recruited in 2013. Omar's experience serves as an example to other African entrepreneurs who have a business idea they would like to bring to life.

FasoPro is a social entrepreneurship project in the incubator phase

FasoPro is an agribusiness project aiming to process shea caterpillars, a highly nutritious larva commonly eaten in many regions of Africa. FasoPro wants to innovate by producing and distributing a range of enriched caterpillar powders as a nutritional complement to meals in order to prevent malnutrition. Kahitouo Hien and Christophe Mandi, promoters for this project, are both graduates from 2iE.

At 2iE, they received training in managerial sciences and had to write a business plan. In 2012 with the support and coaching from 2iE's staff, they participated in the Global Social Venture Competition (GSVC), the only international Business Plan competition of social projects, targeted at students and young graduates, which combines economic viability and social impact.

They reached the finals at the University of Berkeley and ultimately won the Social Impact Award (USD \$10,000).

The team graduated in 2012 and entered 2iE's business incubator. Coaching by Nutriset staff and a visit to its plant and labs in France enabled them to understand the requirements for an agribusiness accredited by UNICEF. Today, coaching is ongoing with 2iE's staff and partners, and Kahitouo and Christophe are on their way to commercializing products based on insects to prevent malnutrition; a social innovation in Burkina Faso.

Faso Soap, a successful project to prevent malaria

Moctar Dembele and Gerard Niyondiko are engineering students specializing in water and sanitation at 2iE.

They innovated to offer an anti-malaria solution to the African population. They developed a simple solution to produce mosquito-repellent soaps made from local and natural resources and affordable to any household budget. This solution could make all the difference in Africa, where a child is dies from malaria every 30 seconds.

In April 2013, at Berkeley University in California, they won the Global Social Venture Competition.

For the first time in the GSVC history (launched in 1999), a team from somewhere other than America, won this prestigious award. Facing a jury made up of a dozen investors, social entrepreneurship professionals and teachers, the Faso Soap team was selected among more than 600 projects of aspiring entrepreneurs from all over

the world.

Social innovation is not only a concept in Africa, it is currently in action and might just represent the major areas of economic development in the future. 2iE is working on its development while fostering training, innovation and social entrepreneurship. This paper shows some examples of these actions to reveal the talents of African youth to solve social problems. But much remains to be done, such as convincing partners to invest in sustainable business models and social responsibility. And it is just the beginning.

Paul Ginies is currently 2iE's managing director. He has a degree in Rural engineering, water and forestry and a post-graduate degree from the Political Science Institute of Paris. Since his appointment to managing director, major reforms are being implemented. These include the opening of 2iE to the private sector and to English-speaking countries, and the creation of innovative governing rules both on the financial and academic sides. He is a member of the African Initiative for Science and Technology (launched by the Nelson Mandela Institute), the African Renaissance Initiative of Science and Technology, and is president of "Institut d'Afrique," a public-private partnership promoting quality education in Africa.

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