

SUEZ Initiatives – French Institute Awards

“Social Entrepreneurship” Prize

2015-2016 edition

"Recycling and reuse of electrical and electronic equipment waste (e-waste)", Cameroon

Solidarité Technologique



Structure

Solidarité Technologique is a French association established under France’s 1901 law whose vocation is to permit young underprivileged populations in developing countries, and more particularly in Africa, “access to dignity via tools and knowledge”. Solidarité Technologique (or “Solitech”) has been present in Cameroon since 2003 with the objective of encouraging the integration of deprived youngsters and fighting against the digital divide thanks to very low-cost professional training programmes in I.T-related domains (computer maintenance, secretariat – office automation) in its training centre in Yaoundé. Solidarité Technologique has benefitted from various sources of support in its actions, sometimes in the form of donations of second-hand I.T equipment. As time has passed and the service life of I.T equipment has expired, Solidarité Technologique has been confronted with an ever-growing quantity of I.T waste.

Context

At a local level there is no “ecological” solution to treat specific electrical and electronic equipment waste (WEEE), which is extremely toxic. Waste is typically collected then broken up and burned by informal scrap metal workers who live in extremely precarious conditions. In addition, just like the phenomenon of the digital divide, the proliferation of electronic waste (or WEEE) is a systemic consequence of today’s technological development.

The main needs to which the project is looking to respond are:

- Need for a healthy environment for populations. In Cameroon, the right to a healthy environment for every person features in the Constitution as well as in the 1996 framework law on environmental management;
- Need for a solution to manage WEEE for States and local authorities ;
- Need for decent employment for informal recyclers ;
- Need to secure employment for deprived youngsters in cities ;
- Need for access to technology for the poorest populations.

In 2010, Solidarité Technologique obtained financing from the France-Cameroon cooperation in order to implement a pilot project in partnership with the French NGO la Guilde du Raid. This pilot project took place in Yaoundé between 10/06/2011 and 10/06/2014 and led to a functional activity being put in place which was capable of generating income. Today, Solitech continues to develop its activity and is looking to accelerate its development in Cameroon and reproduce projects in other countries.

Objectives

Global objective

- To respond to the health, ecological and climate threats posed by the proliferation of WEEE in developing countries via actions with simultaneous economic, ecological and social impacts, which are effective, sustainable and able to be replicated in other developing countries.

Specific objectives

- To develop an ecological recycling and recovery activity for various WEEE categories,
- To bring together the optimum conditions for the continuity and development of a WEEE recycling activity,
- To support the improvement of working conditions for informal recyclers.

The challenge of this project is to succeed in transforming the threats constituted by WEEE into a motor for sustainable development. It consists in developing an ecological and economically viable WEEE recycling and recovery activity with a social impact on the working conditions of informal recyclers. Income from the activity can permit the deployment of additional social aspects such as professional training or equipping educational establishments with I.T equipment.

Description of the project

The project encompasses various activity domains.

- **Introduction of a WEEE recycling and recovery activity.**

WEEE is comprised of a very heterogeneous stream of materials which counts numerous equipment categories, each with its own characteristics. The problem faced by Solidarité Technologique was that it was historically linked to I.T waste and the activity initially targeted WEEE from "I.T. and telecommunications equipment" (category 3 in the European classification).

The first task was to design the activity process based on the two existing models, each of which was inapplicable as it stood: the industrialised activity of countries from the North, costly and not adapted to comparatively low flows, and the informal activity of the countries from the South which does not meet satisfactory health or ecological standards.

The process developed is entirely manual and namely realised by qualified technicians. WEEE are itemised and sorted, then depending on their condition, oriented towards recycling or recovery. Recovery occurs in two phases, equipment followed by software, in adapted spaces. Equipment is packaged and placed on the market. Recycling consists in dismantling the WEEE into fractions which

are as simple as possible, then packaging them in order to ship them to specialised organisations such as metalworkers or plastic producers.

A 220 m² recycling centre has been built. It includes storage and sorting areas, a dismantling bench and hardware and software recovery areas, as well as a showroom intended to market equipment and offices with a meeting room.

Development of the activity

The development of the activity consists in ensuring that the volumes of WEEE treated by the centre and the income generated continue to progress, but also to maximise its health and environmental impacts thanks to the continuous improvement of treatment processes. In addition, Solitech is preparing to expand this activity to other WEEE categories, with priority being placed on the most toxic waste.

On an economic level, the recycling centre has three sources of income: collection services billing, the sale of recovered equipment and the sale of recycled fractions to recyclers. The development of collection relies on regular canvassing and communication activities. Recovery is developed by progressively building up a faithful clientele and partnerships with retail outlets. Lastly, the development of recycling is ensured by a continuous search for potential buyers in Cameroon or abroad for the fifty different fractions produced by the centre.

In parallel, permanent research and development work is carried out in order to improve the activity's health and ecological standards and prepare its extension to other WEEE categories.

- **Awareness-raising and advocacy**

One of the most significant obstacles to the development of the activity is the ignorance of local populations. Unaware of the ecological and health hazards posed by WEEE, companies and private individuals throw this waste out with domestic waste or sell it to informal players. Awareness-raising actions have therefore been undertaken since the beginning of the project.

An awareness-raising and advocacy campaign has also been put in place with governance bodies. The first target is the main authority on toxic waste issues in Cameroon: the Ministry for the Environment, the Protection of Nature and Sustainable Development (MINEPDED). As a multi-disciplinary issue, the treatment of WEEE concerns several institutions (Ministries for Public Health, Postal and Telecommunications Services, Department of Commerce, State Property and Land Affairs, Communications, Decentralised Local Governments...)

- **Support for the informal recycling sector**

Support began with the realisation of a map of this sector in Yaoundé, of its activity zones and players, then by the establishment of a partnership with a focal point in order to identify needs and define the actions required to meet them. Following this process, a series of short training sessions was put in place in order to make recyclers aware of the health and ecological risks of their profession and how to minimise them via a better working organisation. Longer professional training programmes are also proposed to them. In the long-term, a commercial partnership between informal recyclers and the recycling centre is envisaged in order to completely eradicate harmful practices whereby such waste is broken up and/ or burned.

Description of the innovation

Organisational: WEEE treatment only exists in an industrial form in the North or in an informal manner in the South. The project has imagined a new form of activity adapted to the local context.

Legal: existing legislation on WEEE is very heterogeneous and limited to developed countries. The project works on the adaptation of these texts to permit the emergence of legislative frameworks specific to WEEE in developing countries.

Economic: unlike models in developed countries which function with the support of subsidies, the project has the objective of being autonomous, which also renders it replicable.

Social: the project supports a new group of beneficiaries: informal recyclers who represent hundreds of

people in extremely vulnerable situations and who are widely ignored by classic development programmes.

Results

The results of the pilot project undertaken between 2011 and 2014 were very encouraging. The project is continuing to develop, providing 9 permanent jobs, and every year contributes towards financing the professional training of 40 youngsters in difficulty. The equipment recovered is sold at a low cost to associations, schools, entrepreneurs and private individuals. The first WEEE legislation in Sub-Saharan Africa appeared in Cameroon and the recycling centre has become the country's leading approved establishment for WEEE treatment.

Reproducibility of the project

The implementation of a similar project to that of Solidarité Technologique requires a sufficient level of WEEE production to achieve financial autonomy. This production depends on the population, the penetration rates of the different types of equipment and urban concentration. The country must not already be equipped with a wide scale WEEE management system.

Conditions of reproducibility

The project must simultaneously develop 4 activity domains:

- **Treatment:** dismantling and recovery. Depending on its scale and the available means, it can be implemented in a very small room, which must have an impermeable surface and be protected from bad weather.

- **Collection:** convincing companies and households to get rid of their WEEE requires a change in mentality. Commercial prospecting activities must be coupled with communication and awareness-raising actions in order to be more effective. It is also important to maintain relations with informal players in such a way as to position ourselves in an optic of cooperation as opposed to head-on competition.

- **Sales:** it consists in selling the equipment recovered by the project as well as finding, for the dozens of fractions produced, local or international treatment outlets.

- **Advocacy:** the appearance of legislation is an unavoidable stage in structuring this activity sector. Given that no "ready-made" legislative solution adaptable to multiple contexts exists in this domain, an in-depth study must be undertaken on the topic according to the specificities of the local context.

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