

Going beyond rhetoric in building multi-actor environments at universities

Julio Lumbreras, Associate Professor, Technical University of Madrid (UPM) - MC/MPA, Harvard Kennedy School

julio.lumbreras@upm.es - julio_lumbreras@hks17.harvard.edu

(0034) 91 452 49 00 - 1661

Innovation and Technology for Development Centre (itdUPM)

Avenida Complutense, s/n

Madrid, Spain, 28040

Carlos Mataix, Associate Professor, Technical University of Madrid (UPM)

carlos.mataix@upm.es

(0034) 91 452 49 00 - 1661

Innovation and Technology for Development Centre Director (itdUPM)

Avenida Complutense, s/n

Madrid, Spain, 28040

Alejandra Rojo, Researcher, Technical University of Madrid (UPM)

alejandra.rojo@upm.es

(0034) 91 452 49 00 - 1661

Innovation and Technology for Development Centre (itdUPM)

Avenida Complutense, s/n

Madrid, Spain, 28040

Manuel Pastor, Researcher, Technical University of Madrid (UPM)

m.pastor@upm.es

(0034) 91 452 49 00 - 1661

Master's program on sustainable development

Avenida Complutense, s/n

Madrid, Spain, 28040

Sara Romero, Researcher, Technical University of Madrid (UPM)

sara.romero@upm.es

(0034) 91 452 49 00 - 1661

Innovation and Technology for Development Centre (itdUPM)

Avenida Complutense, s/n

Madrid, Spain, 28040

Jaime Moreno, Researcher, Technical University of Madrid (UPM)

jaime.moreno@upm.es

(0034) 91 452 49 00 - 1661

Innovation and Technology for Development Centre (itdUPM)

Avenida Complutense, s/n

Madrid, Spain, 28040

Javier Mazorra, Researcher, Technical University of Madrid (UPM)

javier.mazorra@upm.es

(0034) 91 452 49 00 - 1661

Innovation and Technology for Development Centre (itdUPM)

Avenida Complutense, s/n
Madrid, Spain, 28040

Xosé Ramil, Researcher, Technical University of Madrid (UPM)

xose.ramil@upm.es

(0034) 91 452 49 00 - 1661

Innovation and Technology for Development Centre (itdUPM)

Avenida Complutense, s/n

Madrid, Spain, 28040

Mónica del Moral, Researcher, Technical University of Madrid (UPM)

monica.delmoral@upm.es

(0034) 91 452 49 00 - 1661

Innovation and Technology for Development Centre (itdUPM)

Avenida Complutense, s/n

Madrid, Spain, 28040

Javier Carrasco, Emeritus professor, Technical University of Madrid (UPM)

javier.carrasco@upm.es

(0034) 91 452 49 00 - 1661

Innovation and Technology for Development Centre (itdUPM)

Avenida Complutense, s/n

Madrid, Spain, 28040

Summary

Sustainable Development Goals (SDG) represent an ambitious and universal commitment whose implementation requires important doses of political, technological and organizational innovation. The need of fostering a collaborative action of all kind of actors –public, private and social- through public-private-partnerships (PPPs) has been stressed insistently in all declarations, reports, and recommendations that have paved the way to the 2030 Agenda. In fact, Goal 17 calls for revitalizing global partnerships for sustainable development.

As it happens with many of the generic calls to action that conform the “rhetoric” of the international development speech, not many objections can confront this statement. But the way from saying to doing, including organization cultures, is not an easy journey. The majority of practitioners involved in multi-actor partnerships for sustainable development recognize its complexity and limitations.

In this paper we present a case study that illustrates how a partnership can be put into practice and facilitated by a University. “Alianza Shire” is a pioneer partnership to improve energy supply in refugee camps involving three private technological companies, one UN agency, one official governmental agency specialized in Humanitarian Aid, and an international NGO.

Universities and SDG17

Universities have characteristics -neutrality, rigor, legitimacy and long-term focus- that allow them to be ideal spaces to promote, design and facilitate this kind of multi-actor

partnerships to deal with wicked sustainable problems.

Partnership's **brokers, facilitators, intermediaries or integrators**, either individuals or organisations, play a crucial role in boosting, creating, managing and monitoring the joint work. They can facilitate consensus, integrate different points of view and form a 'complete picture' out of diverse visions of each Partnership member.

The Innovation on Technology for Human Development Centre of the Universidad Politécnica de Madrid (itdUPM) is the brokering institution that creates and manages the enabling space where partners can work together.

The case study: Alianza Shire¹

According to data provided by the United Nations High Commissioner for Refugees (UNHCR), by the end of 2015 there were more than 65 million displaced persons around the world. Around 21 million of them are refugees who were forced to flee due to persecution, conflict, repression and natural disasters.²

The priority of the humanitarian community is to provide these people with basic services such as shelter, food, water and protection. Nevertheless, access to energy has been historically disregarded among refugees' needs, despite its relevance and cross cutting impacts.

Once this problem was identified, and bearing in mind the potential of several Spanish energy companies, the Office for Humanitarian Action from the Spanish Agency for International Development Co-operation (AECID) and the Centre for Technology Innovation for Human Development from the Universidad Politécnica de Madrid (itdUPM) fostered the creation of Alianza Shire in 2014. It constituted a multiactor partnership, within which the said institutions and Iberdrola, Philips Lighting Spain and Fundación ACCIONA Microenergía collaborated to develop, in a coordinated way, innovative and sustainable solutions for energy provision for refugees and displaced persons. The United Nations High Commissioner for Refugees (UNHCR) is a collaborating partner and the NGO Norwegian Refugee Council (NRC) was the implementing partner on the field.

First partnership's experience took place at the Shire refugee camps, in the north of Ethiopia, and specifically at Adi-Harush camp, where more than 8,000 Eritrean people live, many of whom are unaccompanied minors.³

The need to activate multiactor strategic partnerships is emphasised by the Sustainable Development Goals (SDG)⁴. Alianza Shire is today a collaboration and innovation space enabling organisations from very different working cultures and backgrounds to collaborate and innovate in order to face a complex problem: to improve energy services for people who are forced to flee and to temporarily settle in refugee camps.

¹ A first version of this case study was published as a working document by itdUPM in June 2017. <http://www.itd.upm.es/alianzashire/?lang=es>

² Trends, UNHCR Global. "Forced Displacement in 2014." World at War. Geneva: UNHCR (2015). Accessed July 31, 2017, <http://www.unhcr.org/576408cd7.pdf>

³ Alianza Shire, Characterization of Shire Refugee Camps and Energy Needs Assessment, 2014. <https://nube.cesvima.upm.es/index.php/s/3tLiRensZEQgG08>

⁴ Alianza Shire, Characterization of Shire Refugee Camps and Energy Needs Assessment, 2014. <https://nube.cesvima.upm.es/index.php/s/3tLiRensZEQgG08>

The next sections of this paper are structured as follows: firstly, the purpose and **methodology applied** in this case study are defined by providing a summarized description of the context and the problem of energy access in refugee camps as well as its consequences in the provision of basic services. Then, the **approach applied** to find a solution to the problem is explained, detailing **Alianza Shire's management and service models** set up in the pilot project.

Lately, the three elements, which turn out to be key in these two years of work are presented: **innovation, sustainability and scalability**. Their practical appliance within the multiactor partnership, and in particular in the pilot project, is also detailed.

Finally, **main lessons learnt** are drawn both from the analysis of technical aspects and model management and from conclusions about the contribution of this kind of multiactor partnership to find solutions to complex problems and the role that the University can play to promote and facilitate them.

This case study is based on the analysis of the documents produced by the working committees and on the field mission which took place from 2014 to 2017 in the frame of the said pilot project.

1. Problem Analysis

Access to Energy in Refugee Camps

There were more than 21 million refugees in the world at the end of 2015. These people were forced to flee due to persecution, conflict, repression and natural disasters⁵.

The humanitarian community has attempted, over the years, to provide this population's basic needs such as shelter, food, water, education, health and protection. However, all these services require access to energy, which is key in order to ensure adequate and quality coverage.

The Sustainable Development Goals (SDGs) Framework launched by the UUNN in 2015, includes a Goal (#7) aimed at "ensuring access to affordable, reliable, sustainable and modern energy for all"⁶. Likewise, refugees should be included in this worldwide commitment. However, almost 90% of people living in refugee camps do not have access to electricity⁷. In order to change this situation, the UNHCR launched the Safe Access to Fuel and Energy (SAFE) campaign in 2013, a global strategy to solve this problem⁸.

At refugee camps there are energy needs at household, production and community levels. In households, energy is required for cooking, heating and lighting. The productive uses of energy can range from charging a mobile telephone to providing lighting or using electric devices in small businesses. Regarding communal use, energy is required for the provision of basic services such as education, sanitation, water supply, or health. These communal services cover the basic needs of a high number of users with an affordable energy demand.

⁵ Trends, UNHCR Global. "Forced Displacement in 2014." World at War. Geneva: UNHCR (2015). Accessed July 31, 2017, <http://www.unhcr.org/576408cd7.pdf>

⁶ "United Nations, Sustainable Development Goals". Accessed July 31, 2017, <http://www.un.org/sustainabledevelopment/en/objetivos-de-desarrollo-sostenible/>

⁷ "Chatham House. The Royal Institute of International Affairs. Moving Energy". Accessed July 31, 2017, <https://mei.chathamhouse.org/findings/?section=energy-poverty>

⁸ "Safe Access to Fuel and Energy (SAFE)". Accessed July 31, 2017, <http://www.safefuelandenergy.org/>

Around 80% of the people living in refugee camps have minimal access to energy for cooking and heating purposes⁹. In these cases, firewood collected from surroundings areas is the main source of fuel. The constant collection of firewood increases deforestation and usually is a trigger for conflict with the host communities due to the scarcity of resources. Additional dangers are caused by lack of security in the camps and the collection of firewood without night lighting. Women and girls may be frequently exposed to safety risks and gender-based violence. Moreover, burning firewood and diesel (which is expensive) leads to environmental degradation due to emissions of greenhouse gases.

Therefore, energy access at refugee camps is a **complex and wicked problem** that can not be resolved by applying the traditional project approach through one-time interventions. It requires innovative proposals involving different stakeholders (from public and private sectors as well as from the civil society) holding special skills (in resources, knowledge, experience) in order to provide an adequate, integrated and sustainable response.

Context Analysis

Alianza Shire's first experience, described in this case study, is focused on the pilot project carried out at Shire refugee camps, in the Tigray region, in the north of Ethiopia. Ethiopia has become a transit country for Eritreans attempting to reach Europe. In recent years, thousand of Eritreans, many of whom are unaccompanied minors, constantly fled from their country due to the continuous violations of human rights [18].

According to the UNHCR, at the beginning of 2017, there were around 36,000 refugees, mostly Eritreans, in Shire refugee camps¹⁰. In particular, at Adi-Harush refugee camp, where this pilot project of Alianza Shire is taking place, hosts today around 8,000 Eritrean men and women.

Shire refugee camps (with the exception of Hitsats camp) are connected to the national electricity grid. It provides power to some communal services at the refugee camp, like communal kitchens and training centres. The UNHCR, through the Administration for Refugees and Returnees Affairs (ARRA), is currently covering the electricity costs in the camps paying them to the Ethiopian Electric Utility (EEU), which is the national electrical company.

However, the poorly installed electrical wiring and the irregular power supply jeopardizes service availability and causes power cuts, so there are only six hours of electricity per day. Furthermore, there is a high risk of electrical shocks due to lack of protection devices.

The remaining communal services get power from fuel generators or are not connected to the grid.

Small businesses at the camp use individual diesel generators to get electricity. The main problem is the high cost of this supply. For example, any small 'restaurant' managed by refugees in the camp has to monthly pay around 1,500 ETB (approximately 60 EUR, to provide power for few luminaires, a fridge and a speaker. Energy use at household level is mainly required for cooking, firewood being the main fuel source at the camps. Nevertheless, due to continuous collection over the last few years and climate conditions, the surroundings of the camps are becoming deforested

⁹ "Chatham House. The Royal Institute of International Affairs. Moving Energy". Accessed July 31, 2017, <https://mei.chathamhouse.org/findings/?section=energy-poverty>

¹⁰ "UNHCR, Ethiopia Fact Sheet". Accessed February 1, 2017. <https://data2.unhcr.org/en/documents/details/54661>

and women and girls have to walk longer distances (between five and seven kilometres) in order to get firewood for cooking. Another coping strategy is selling part of the food ration at the local market to be able to buy firewood.¹¹

In this context, Alianza Shire's pilot project aims at providing a comprehensive solution for the lack of energy access at refugee camps.

2. The Partnership's Management Model

The partnership is made up of three leading private companies in the energy sector (Iberdrola, Fundación Acciona Microenergía and Philips Lighting Spain) which provide their technical knowledge on models for energy service provision, innovation, renewable energy, lighting, and business models.

Furthermore, the presence of a governmental agency (AECID) and a multilateral organisation specialised in the work with refugees (UNHCR) ensures institutional support and a wider knowledge of the humanitarian context.



Fig.1: Alianza Shire Management's Model (2017). Source: *the authors*.

The Centre for Technological Innovation for Human Development from the Universidad Politécnica de Madrid (itdUPM) is playing the role of facilitator or promoter and responsible for designing and managing a space for collaboration as well as for carefully monitoring all working processes. Moreover, the itdUPM promotes management and dissemination of knowledge generated by the partnership.

¹¹ Alianza Shire, Characterization of Shire Refugee Camps and Energy Needs Assessment, 2014. <https://nube.cesvima.upm.es/index.php/s/3tLiRensZEqG08>

Furthermore, after several identification missions, the NGO Norwegian Refugee Council (NRC) joined in, mainly to support field implementation.

Structure and Governance

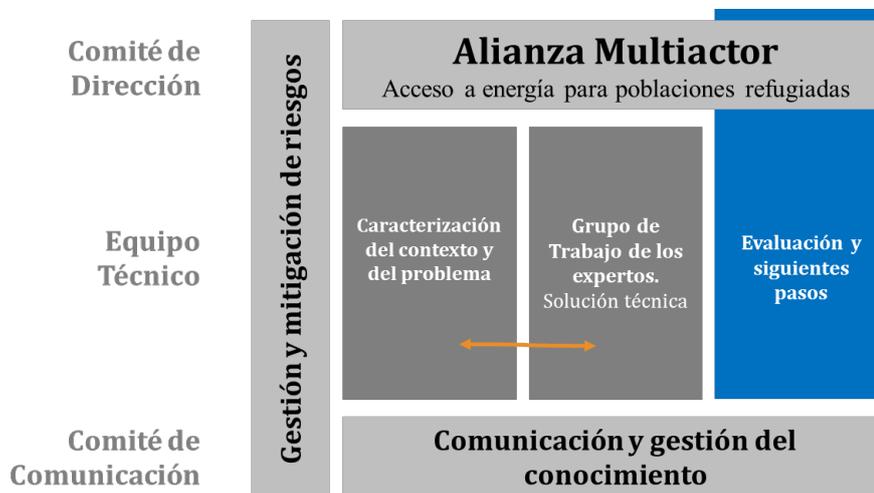


Fig.2: Alianza Shire. Structure and Governance (2017). Source: *the authors*.

- **Steering Committee.** This committee works at the partnership's strategic level, and it is made up of managers from each partner entity. The Steering Committee is in charge of guiding the strategic mission of the partnership and of its initiatives and projects.
- **Technical Team.** The Technical Team consists of experts on energy from each partner entity. According to the characteristics of the requested project, they are able to enjoy specific support of groups of experts within their own organisations.
- **Communication Committee.** The Communication Committee is composed of one member from each partner entity who is an expert in communication. Its main tasks include managing Partnership internal communication, developing communication protocols and planning an external communication strategy. It is also responsible for developing an internal communication platform containing all meeting minutes, news of interest and technical reports in order to allow an efficient knowledge management and an adequate documentation of the whole process.

3. The Pilot Project

The Partnership's Service Model

The partnership is conceived as a platform for innovation to develop energy supply solutions that improve services and quality of life of refugees. Once those solutions are tested and documented, the partnership eventually transfers them to humanitarian actors and offers support in their implementation. It does not attempt to become a conventional humanitarian operator. Given the specificities of the humanitarian context, there are other organisations with more suitable experience, structure and resources.

The partnership offers the following additional services in humanitarian projects and interventions:

- Design and implementation of innovative projects in camps with refugees and displaced persons.
- Strategic advice and consultancy work for the UNHCR (and other international organisations within the humanitarian community) on topics such as energy and sustainability in refugee camps.
- Provision of technological solutions for the humanitarian community.
- A management model for other multiactor actions in the humanitarian and development sector.
- Monitoring and evaluation of other implemented experiences.
- Knowledge generation and sharing: collection of experiences and lessons learnt and problem solving.
- Awareness raising about the refugees' situation and sharing of successful and failure experiences and solutions.
- Training for professionals in the humanitarian sector, on both technical and organisational aspects related to partnerships' management in the humanitarian context ¹².

Adi-Harush Project

As a first experience, the partnership successfully designed and implemented this pilot project from 2014 to 2017 in the Eritrean refugee camp of Adi-Harush in Shire. This project aimed at improving the access and quality of energy services for the refugees and proved that multiactor partnerships are an effective alternative for offering innovative solutions in complex contexts.

In the initial phase of the partnership, working teams, implementation and operational mechanisms were agreed and consolidated. An internal communication platform and a website for information sharing were set up. Moreover, the partnership gained a remarkable capacity on 'technological surveillance', and registered main progresses of its work and shared them through the said platform.

In the same period, the design phase of this pilot project started by characterising and assessing the energy needs in Shire refugee camps. As a result of this study and two field missions, technical solutions were designed in order to improve energy access in the camps.

Furthermore, first actions to ensure solutions' feasibility were undertaken that consisted of an audit of the electricity grid in the camps, a guide to optimise the electricity distribution grid, a training toolkit for maintenance and repair of the electricity grid, and a report on logistics and field operations.

¹² Alianza Shire, Strategic Guidance and Principles Framework, 2016.

After the audit and the characterisation of the most appropriated technical solutions, the project pilot was defined to improve and extend the electricity grid of Adi-Harush, the connection of the communal services, the installation of public street lighting connected to the grid and indoor lighting in communal kitchens. These activities were carried with the participation of refugees who had received theoretical and practical training on electricity and lighting.

In order to carry out this project, all Partnership members mobilised not only material, financial and cost-price material resources, but also other resources such as knowledge, skills, human resources, capacities, and contacts.

- Training

Refugees' participation was crucial in the project implementation. It was mainly possible because of the provision of theoretical and practical training focused on the results of the needs assessment. People from the host community also joined the training.

- **Theoretical Training**

In December 2016 experts from Philips Lighting and Iberdrola gave a workshop for 28 people in order to set the theoretical fundamentals regarding the technology to be installed. This group was composed of refugees, members of the host community as well as staff from ARRA, NRC, and the electric company.

The training, whose educational material was adapted to the context and participants' capacities, was focused on three aspects: safety, electrical grids, and public street lighting.

- **Practical Training**

Installation of equipment was done in February 2017. Fifteen refugees and four people from the host community participated in the process. Participants had been previously selected by the partner on the field -NRC- and had taken a course on electrical installation at the training centre managed by the said organisation at the camp.

Furthermore, staff from the Ethiopian electrical company and a refugee who works as a technical electrician for ARRA supported the process of installation. All activities were supervised and directed by Iberdrola and Philips' experts. Staff from itdUPM helped to coordinate it.

Both practical training and installation were undertaken at the same time which delayed the process. Nevertheless, according to the partnership approach initially agreed, this was the only way to ensure that the people trained will be able to maintain the facilities once implementation is finished.

These activities covered the improvement and extension of the electricity grid in the camp and included the installation of protection devices at the communal services, rehabilitation of equipment and connection to new services, such as the primary school, two communal kitchens or markets hosting 36 small businesses. Furthermore, 63 LED luminaries were installed as public street lighting covering a distance of more than 4 km.

- Impact Estimation

On Safety

According to a preliminary evaluation undertaken by the UNHCR at Adi-Harush camp, intervention will reduce night-time robberies by 60%.

Moreover, lighting a big part of the camp seems to make the situation safer for women and girls, so a reduction of assaults is expected. Nevertheless, violence against women and girls is a very sensitive problem, so attribution of results should be done carefully.

On Deforestation

Since communal kitchens and the primary school are now connected to the electricity grid, the amount of firewood collected is expected to be reduced. Depending on the available electricity power and the use of diesel generators, several scenarios were defined with a reduction of firewood collection of around 1,500 tonnes per year.

On Carbon Dioxide Emissions

Similarly, burning firewood for cooking or diesel for making some communal services work, causes the emission greenhouse gases into the atmosphere. Focusing on CO₂ in particular, and depending on the selected scenario, around 2,000 tonnes of carbon dioxide emissions are expected to be avoided every year.

On Economic Saving

Using diesel for generating electricity in some communal services in Adi-Harush camp has a very high economic cost both for the UNHCR and for the organizations present in the camps, like NRC. The economic saving in diesel purchase by connecting several communal services to the electricity grid will be of around 30,000 EUR per year.

On Income Generation and Livelihoods

The pilot project will contribute to improve livelihoods of the training participants. Firstly, four of them will be employed by NRC for three years to maintain the facilities and they will benefit from the incentives stipulated by the UNHCR for qualified employments. Secondly, the remaining participants in the training will be able to set up a business related to electricity at NRC markets. Lastly, public street lighting will allow the realization of productive activities during more hours a day¹³.

4. Innovative Aspects, the 4Ps of innovation

In products and services innovation, the '4 P's of innovation' are commonly used¹⁴. The following innovative elements at Alianza Shire were identified:

Product Innovation

Provision of sustainable technology, environmentally adapted to the context, and creation of specific tools (such as the training toolkit and the guidelines for grid maintenance) which can be easily scaled up.

Process Innovation

Management Model. Building of multiactor partnership under a multidisciplinary approach and the joint participation of stakeholders from the private or public sector, international organisations, civil society or university.

Service Model. Users become the focus in every phase in order to ensure the facilities' sustainability. Practical training addressed to the creation of a group of technicians composed by refugees.

¹³ Alianza Shire, *Pilot Project Technical Report*, 2017.

¹⁴ Bessant, John, and Joe Tidd. 2007. *Innovation and entrepreneurship*. England: John Wiley & Sons.

Position Innovation

Enhanced perception about the provision of energy supply in refugee camps. Involvement and active participation by local organisations working in the energy sector and with refugees like ARRA and EEU. This has been reflected through the promotion of a coordination group about access to energy in the camps.

Paradigm Innovation

Bringing awareness about energy as one of the main problems to be solved in humanitarian contexts. The access to energy is a key question in basic services provision such as education, health or protection on a more effective and sustainable manner. The partnership also represents a new mean to face important challenges in sustainability.

5. Sustainability

From the beginning of the Partnership, sustainability has played a key role and has become the central pillar of the pilot project. In particular, in fragile contexts like the humanitarian one, solutions should be adapted to the environment and be sustainable in time.

There are several elements at this pilot project which are crucial to ensure sustainability:

- Creation of a group of technicians

Four training participants, who were selected by the companies' experts regarding their skills shown at the installation process, will be the one in charge of the maintenance of the electricity grid and installation of public street lighting. Moreover, a technician from ARRA who also participated in the training, will provide support to this group. These technicians are hired by NRC for a period of 3 years and will enjoy monthly incentives set by the UNHCR. Their Terms of References are currently being developed so their main tasks and a safety action plan are agreed.

-Training Toolkit

In refugee camps like Shire, the number of secondary movements (individual transfers from the host country to a third country) is very high¹⁵. Therefore, a training toolkit was developed and donated to the partner on the field to be included in its general training programme. The purpose of it is to ensure that the group of technicians in charge of maintaining the facilities gain the required skills and knowledge.

Moreover, this group of technicians will be also responsible for regular monitoring and gathering information regarding the installations status as well as the energy consumption.

- Involvement of the Ethiopian Electrical Utility (EEU)

Involvement of the EEU is a must in order to ensure sustainability of the facilities, since the organization is the ultimate responsible of the electricity grid in the camp. From the beginning, EEU has participated in the characterisation assessment as well as in the design of solutions. Therefore, EEU's support on the implementation was remarkable by participating in the training and by helping on specific aspects which required the intervention of qualified staff.

¹⁵ Overseas Development Institute, "Journeys on Hold" (2017). Accessed July 31, 2017, <https://www.odi.org/sites/odi.org.uk/files/resource-documents/11336.pdf>.

Furthermore, the improvements carried out by EEU in low voltage facilities, as installation of new electricity towers and wiring, will upgrade the quality and stability of the service in Adi-Harush camp.

- Promotion of a Coordination Group on Energy

During the whole implementation process, Alianza Shire has organised meetings with the main organisations working on energy provision in refugee camps. The aim is to make the issue of energy become a permanent and official question within the UNHCR, ARRA, NRC and EEU. The topics discussed were installation of control panels, extension to other camps, inventory management and introduction of new technologies¹⁶.

6. Scalability

- In Shire refugee camps

Once the pilot project was successfully implemented in Adi-Harush refugee camp, the replication of the intervention in the remaining camps in Shire seems a feasible option in order to consolidate the partnership as a real and strong solution for the energy issue. The existence of context knowledge, adapted material for the camps (training toolkit, grids audit) and synergies among different stakeholders offers the possibility to upscale the pilot project in the rest of the Shire refugee camps.

- In other refugee camps in Ethiopia

Since the partnership relies on a wide and medium-long term vision from its creation, local entities were actively involved such as the national electric company (EEU) and the national agency responsible for refugees in Ethiopia (ARRA). Their role is crucial in upscaling this project in other camps in Ethiopia. Moreover, all Ethiopian camps share a common element: the proximity to the national electricity grid, so in principle, the centre of the interventions could possibly be quite similar to the one of this pilot project.

- In other refugee camps

Since the UNHCR is the main body in charge of refugees and displaced persons worldwide, and the partnership has proved to be able to provide sustainable and innovative energy services, the potential upscaling in other refugee camps in the world seems an interesting option to explore.

- In other sectors

Regardless of the location and bearing in mind the importance of energy, future activity of the Partnership is open to boost other sectors too. To establish a link, for example, with water access, provides the opportunity to apply solar pumping. Other options are to connect small private businesses or households through prepaid intelligent control panels, business models through biogas, solar recharge centres, and so on.

7. Conclusions and lessons learnt

The application of technological solutions, which were identified by the partnership in order to improve the access to energy in Adi- Harush refugee camp, was satisfactory, bearing in mind the specificity and complexity of the context. Public street light is

¹⁶ Alianza Shire, *Pilot Project Technical Report*, 2017.

nowadays working properly and the majority of communal services of the camp are already connected to the electricity grid.

However, as in every project design and implementation of technological solutions, there are lessons learnt that can be of use to improve the service and management model of future interventions carried out by the partnership. A **number of significant lessons learnt** are listed below:

Lesson Learnt 1

A thorough and detailed identification is crucial in order to gain deep and up-to-date knowledge of the context by all partnership members. In this pilot project, a characterisation report of the refugee camps in the area was carried out at the beginning.

Lesson Learnt 2

Solutions of context-applied technology should be better adapted to the specific situation and available resources on the field, in regards to equipment, tools, materials, and installations. Identification of solid solutions to be easily set up and simply maintained is essential in order to guarantee the sustainability of a project with these characteristics.

Lesson Learnt 3

In order to guarantee the intervention's sustainability, **it is important to train refugees and to form a group of technicians who are able to repair the equipment and do maintenance work.** Training and creation of the group highlighted the added value of this Partnership according to the main humanitarian actors working on the field.

Lesson learnt 4

Mentoring during training and creation of employment opportunities should be provided. Refugee camps, in some cases like the camps of Eritrean refugees, are becoming long term settlements. Refugees' livelihoods should enable them to at least cover their basic needs. Integration of livelihood strategies and promotion of income generating activities are now prioritized by the humanitarian community operating in this type of contexts.

Lesson Learnt 5

In order to achieve project results, it is crucial to involve all local partners from the identification phase as well as to coordinate all stakeholders in the energy sector. Participation of all stakeholders is the only way to ensure, on one hand, identification of context-adapted solutions, and on the other hand, the intervention's sustainability. A **system for equipment supervision and impact assessment** has been set up involving all stakeholders in one way or another.

Lesson learnt 6

In order to guarantee transparency and mutual accountability, a fluent internal and external communication should be ensured.

Lesson Learnt 7

Work in partnership allows coordination of material, financial and in kind resources (at cost price) but also of other resources such as knowledge, skills, human resources, capacities and contacts. One important lesson learnt related to resources is to go beyond the approach merely focused on obtaining economic resources.

Lesson learnt 8

The required time for creating and implementing Alianza Shire should not underestimated. It is now, two years after its creation, when the partnership has the adequate knowledge and services to offer to the humanitarian community, thanks to the acquired knowledge¹⁷.

Lesson learnt 9

The “brokering organization” is essential for the Partnership’s consolidation and its sustainability. In the frame of Alianza Shire, the management capacity of the facilitating entity has been crucial. The **University** enjoys a unique position and space to play the role of facilitator or broker.

Final Remarks

Over the last two years of joint work, the clear vision and institutional commitment of each partnership organisation was crucial. This enabled the efficient implementation of the pilot project despite the challenges of a context with these characteristics.

To clarify, from the beginning, the implications of working in partnership (risks and benefits shared by all members) and in the humanitarian sector (volatile and demanding contexts) was also crucial.

Similarly, the promoter and facilitator’s role of the University was proved to be essential to ensure the dynamic work of the partnership. Therefore, the capacity of the facilitating organisation should be guaranteed.

itdUPM offers a **neutral space for meeting and unlikely interactions**. This strengthens even more the University’s capacities and role in finding innovative solutions to contribute to the achievement of the Sustainable Development Goals.

References

Alianza Shire, Characterization of Shire Refugee Camps and Energy Needs Assessment, 2014. <https://nube.cesvima.upm.es/index.php/s/3tLiRensZEqG08>

Alianza Shire, Synthesis and Characterization of technical solutions for Shire Refugee Camps, 2015. <https://nube.cesvima.upm.es/index.php/s/QJOMyCdp8IIC0Le>

Alianza Shire, Viability study of biogas for cooking for Shire refugee camps, 2015

Alianza Shire, Optimal model for electricity distribution grid on refugee camps: Guide for optimal management, 2015.
<https://nube.cesvima.upm.es/index.php/s/Ccu6kQi2Ut5e77D>

Alianza Shire, Key Elements on Logistics and Field Operations Report, 2015.

Alianza Shire, Communication Strategy, 2016.

Alianza Shire, Strategic Guidance and Principles Framework, 2016.

¹⁷ Overseas Development Institute, “Journeys on Hold” (2017). Accessed July 31, 2017, <https://www.odi.org/sites/odi.org.uk/files/resource-documents/11336.pdf>

Alianza Shire, Training Toolkit, 2017.
<https://nube.cesvima.upm.es/index.php/s/xGNtJHVOJBVKhR8>

Alianza Shire, Pilot Project Technical Report, 2017.

Alianza Shire, Document on Lessons Learnt, 2017.

Amnesty International, "Amnesty International Annual Report 2016/2017", accessed July 31, 2017,
<https://www.amnesty.org/download/Documents/POL1048002017ENGLISH.PDF>

Bessant, John, and Joe Tidd. 2007. *Innovation and entrepreneurship*. England: John Wiley & Sons.

"Chatham House. The Royal Institute of International Affairs. Moving Energy". Accessed July 31, 2017, <https://mei.chathamhouse.org/findings/?section=energy-poverty>

itdUPM, Public-Private Partnerships for Humanitarian Action, 2013.
http://www.itd.upm.es/download/appah/Executive%20Summary_ECOSOC_final.pdf

Overseas Development Institute, "Journeys on Hold" (2017). Accessed July 31, 2017,
<https://www.odi.org/sites/odi.org.uk/files/resource-documents/11336.pdf>

"Safe Access to Fuel and Energy (SAFE)". Accessed July 31, 2017,
<http://www.safefuelandenergy.org/>

Trends, UNHCR Global. "Forced Displacement in 2014." *World at War*. Geneva: UNHCR (2015). Accessed July 31, 2017, <http://www.unhcr.org/576408cd7.pdf>

"UNHCR, Ethiopia Fact Sheet". Accessed February 1, 2017
<https://data2.unhcr.org/en/documents/details/54661>

"United Nations, Sustainable Development Goals". Accessed July 31, 2017,
<http://www.un.org/sustainabledevelopment/en/objetivos-de-desarrollo-sostenible/>