

Annual Report and project tour September-October 2018

In Africa, more than 600 million people do not have access to electricity. Solar energy has the potential to speed up economic development, to improve daily life and to free millions of people from poverty. It is well known that Africa suffers from a high-level of unemployment. One possible contribution towards solving this crisis is the steady development of solar energy. Our motto is: “let us light many lamps”.

The first part of this report deals with the calendar of activities of our local partner company Solafrique. In the second part I would like to share with you impressions and results from the visit by a team of “notre soleil Suisse” in Burkina Faso.

1. Annual report of Solafrique 2018

January 2018: In January 2018, Solafrique organized a comprehensive course for graduating students at the University «Aube Nouvelle» in Bobo Dioulasso. The course covers the theoretical basics of photovoltaics and was complemented by exercises and practical work. Ten students visited the course; they can now contribute to the promotion of renewable energy in their country.



Learning about photovoltaics

In February, a workshop for the construction of solar ovens took place in **Zitenga**, with 10 women attending. People living in the village experienced for the first time that a meal can be cooked using energy provided directly from the sun. The course, which covered, both the construction and the daily use of solar ovens,

attracted many spectators, ranging from schoolchildren to villagers and civil servants.

The month of **March** was dedicated to maintenance work and the installation of simple solar-powered units for the family Traoré and the governor of the Hauts Bassins, Mr. Atiou. The roof over their courtyard now carries solar panels with a total installed power of 1200 W.

In **April**, the team of Solafrique installed a Lorentz PS1800 surface pump, solar panels with a total installed power of 3000 W and two streetlamps with automatic control in the village of **Djigui** in the commune of **Douna**. The project was directed by Swiss **NGO Helvetas**, as part of a larger project for supplying water for the pisciculture basin of a training center.



The installation of the pump is completed



The pisciculture basin gets its first water

In May the trainees of Solafrique were taught about the manufacturing and use of solar ovens and solar dryers.



In the workshop of Solafrique

during the same period the women of the Association Tanghin received help with their solar powered pump, which had been under-designed. Six new solar modules were installed. The pump does not yet fully cover daily needs - no surprise, as the hole drilling took place 50 years ago and has not been documented. Solafrique will try to define a solution, and several parties have indicated their willingness to help financially.



The garden of the women in Tanghin

A test drilling for the vegetable garden of a women's Association in **Po, Songo2** was very successful, with five cubic meters of water per hour at a drilling depth of only 30 m. In order to start exploiting their vegetable garden, the women are hoping for the installation of a solar-powered pump.

In June Mr. Asso, the director of Solafrique had the opportunity to extend its practical knowledge. He received training in alternative current design, the operation of electrical motors and the design of high-power solar installations. This took place in the training centre of Liweitari (CFL) in Benin, which is operated by Mr. Hans Leu, a member of the board of "notre soleil suisse".



Training in Benin at the CFL

As usual, the Solafrique team in Burkina Faso spent some time repairing and maintaining solar equipment; this is always a good opportunity for training and for giving visibility to solar solutions.

After his training in Benin Mr. Asso spends time transferring his know-how to the trainees of Solafrique. Student Guera Ali completed his degree in electrical engineering, specialising in solar technology and photovoltaics, with honours. Mr. Asso had been one of his thesis supervisors.

Six young people had registered with Solafrique as trainees to learn about the installation of solar equipment. It is very gratifying that they intend to put their knowledge to practical use. Mr. Ricardo Joseph

Kouhiwoura will represent Solafrique in the province of Nahouri and Mr. Zanga in the province of the Cascades.



Photovoltaic training at Solafrique



Graduation ceremony for six students

September was marked by a trip to Lomé and Cotonou in Togo. After the training, there was a rather touristic trip in Lomé, Togo. It was a good opportunity for the group to learn about the solar products available on local markets. They also had the opportunity to speak to Mr. Émile Abevi, an African just returned from many years in Switzerland and who wants to partially equip his new home with solar power.

Upon returning from Togo, the main focus turns to preparations for the inspection tour of the team of “notre soleil suisse”; 10 solar ovens had to be produced for the workshop in Koudougou and the installation of a solar pump in Songo2 also had to be prepared.

From September 17 to October 12, Solafrique spent most of its time in common project activities with the visiting team from Switzerland.

Visit in Guénon: the team visited the school, its educational garden, the local health center (CSPS) and the small church of Guénon. Member of the board Markus Groner could verify that all solar installations of the past few years (lighting, pump etc.) had been properly completed and were fully functional.

Several meetings and visits:

- **meetings** with the Coopération Suisse, Helvetas and CEAS (Centre Albert Schweitzer)
- meetings concerning **possible future projects:** orphanage “le Nid”, training centre “Centre biblique et agricole of Banankeledaga”, beekeeping project of Mr. Zongo.
- Visit of **tourist attractions** “forêt classée du Cou” (a small jungle), village artisanal (a village dedicated to traditional crafts), la vieille mosquée (an ancient mosque)...
- visit to **sponsored children**
- Visits related to **ongoing projects:** solar workshop, solar pump in Songo2
- **auditing the books** of Solafrique
- **Diagnosis and repair** of the lighting installation of the study center in Doulogou.

Solar oven workshop: the workshop had originally been planned for early in September 2018 but was pushed back a few weeks so that the visiting members could participate - a fantastic experience. Thanks to the workshop, and to generous financial support from Switzerland, the women's Association has now received 10 solar ovens.

Installation of a pump in Songo 2: the dream of the women's Association Tii-you-ti-winga (the name means “trees are life”) in Songo 2 became reality. Thanks to our organization and others, the local population now has an abundant water supply for gardening, pisciculture and the processing of local foodstuff. A medium-sized solar installation with 1500 W of installed power drives a high-

performance pump delivering more than 50 cubic meters of water per day. The project was supported by the **FEM** (Fonds Mondial pour l'Environnement) Burkina and by the **AMIFOB** (Amicale des Forestières du Burkina, the National Association of Woman Forrester).

Portable solar lamps: thanks to inputs from Mr. Heini Lüthi, who had joined the group for a few days, Solafrique now has a good source for portable solar lamps, and the first sales results are already encouraging. This is a natural complement to the fixed lighting installations already offered by Solafrique.

2. Project tour September 17 through October 12 2018:

In 2018, I had the pleasure of making the whole trip in the company of Markus Groner and Katrin Siegenthaler. Petra Samaras and Heini Lüthi also joined us for a part of our stay. As always, all expenses in connection with the visit to Burkina Faso were paid by the participants out of their own pockets.

Meetings in Ouagadougou:

Our first meeting was with the **CEAS (Centre Albert Schweitzer)**. We were keen to discuss ways of improving the performance of our tunnel-type solar dryer. After completing the developments, we intend to produce them in our central workshop which is now fully operational. We learned that the center has also developed a solar incubator.

Next, we visited representatives of the Swiss federal authorities in Burkina Faso, at the **Coopération Suisse**. Mrs. Crivelli, a member of the new direction, gave us a warm welcome and we had the opportunity to introduce Solafrique and its current activities. We hope that this will help Solafrique participate in future projects.

Another meeting in the course of our journey was with **Helvetas**. Solafrique has already worked with this NGO in the past, in connection with two projects, one for the photovoltaic training of 16 young people and the other one for a solar pump for the benefit of a pisciculture project in Banfora. We met with Mr. Blumenthal, a member of the new management team, and we hope to extend the cooperation.

Via Koudougou to Bobo:

After three hours on the road in the Toyota bus of Solafrique, we reach the Dima hotel in Koudougou, which is surrounded by a gorgeous park. Guinea hens and even a young antelope could be seen roaming around freely. At the gate, we were checked and searched by five heavily armed guards - public security measures are everywhere.

Next morning, we first visited a textile fair; the president of Burkina Faso had just attended the opening ceremony. Many women organizations were exhibiting their products, for example handcrafted fabrics and items of clothing. After this visit, we had our first meeting with the women's Association "Del Wende", to discuss the solar oven workshop in preparation.

Trip from Dedougou to Bobo-Dioulasso:

We reached Bobo-Dioulasso over very good roads, and stayed as usual in the Protestant centre of the „Alliance Chrétienne“. Fatoumata Traore, the president of our sister Association "Notre Soleil Burkina", was there to give us a warm welcome.

Visit of a plot of land for the new central workshop of Solafrique: in the meantime, the plot of land has already been purchased. The change of ownership has not yet been registered in the official ledgers, as this is a complicated and expensive transaction. The location is excellent, near a tarmac road between Bobo and Bama. In close alignment with our association, Solafrique intends to

construct a workshop for production and training, covering all important solar technologies, and also including accommodation for trainees. The plot has an area of 5 ha. We very much hope to find sponsors for this essential project; the land purchase itself has cost us 30 000 CHF.



The visit to our new plot of land

We had lunch at the Mairie of Bama in the company of a representative of the mayor and of the head of the primary school of **Samandeni C**. He let us know that the solar lighting which had been installed last year was in perfect working order.

Visit of the biblical and agricultural training centre **EFBAB** “Ecole de Formation Bibilique et Agricole de Banankeledaga”: this large facility of 35 ha was founded in 1978 by a Swedish mission which has since supported its activities. The students and training course participants can live on the premises with their families for up to 3 years and get a solid education in biological farming. There is recent a close corporation with the nearby bio-agricultural centre “Matourkou”. The facility also provides alphabetization courses, especially for women, as well as practical training in biological gardening and food-processing. It has a kindergarten and primary school, also open to the children in the neighborhood. In total, around 500 people live on the premises, a quarter of them students.

As the Swedish mission is phasing out its financial support and also because electricity is very expensive, the director of the facility contemplates using solar power for some of

the existing installations (pumps, lighting); this would have the added advantage of becoming less dependent on the frequent power outages.



The kitchens

Visit of the orphanage „le Nid / the nest “: on the next day we paid a visit to the orphanage built in the 1999 by the “Alliance Chrétienne Internationale”. Mr. Daniel Zouba, its director since 2009, explained to us that his institution takes care not only of orphans but also of abandoned children, of mothers who can no longer breastfeed their children, and of children suffering from malnutrition.

The children receive food enriched with baobab powder and peanuts. Again, one of the central problems is the high cost of electricity for lighting and pumps, along with the frequent brownouts of the electrical power grid.



Dinner in the orphanage le Nid

Visit at “Le Miel”: Mr. Ambroise Zongo showed us the center he is busy building.

More than 100 local farmers with beehives can bring their honey to the center where it will be processed and sold. During our visit, a training course was being offered for future

beekeepers. In March through July mangoes also have to be dried, which requires a lot of water and electrical power. Mr. Zongo is keen to acquire a solar pump (this also requires a test drilling) and also contemplates switching to solar power for lighting and for the five dryers he is operating.



Training session for future beekeepers

Auditing the books of Solafrique: Mr. Asso gave us a detailed guided tour of his bookkeeping; we couldn't find any error or inconsistency. He also gave some training in the practical details of installing a pump.

Visit of a solar oven user: Fatoumata took us along to meet the proud owner of a solar oven. She explained that she often uses the solar oven to make hot water, in addition to using it for cooking, for example rice dishes and sauces. She is quite satisfied with her solar oven. Unfortunately, we could find no time to visit other users and profits from their experience.

We had a meeting with two women's associations whose members are keen to acquire a **“Foyer amélioré” made of clay** (these are simple fireplaces which reduce the consumption of firewood by 60%). It was clear that these women lived in very poor conditions. Only one of them, the president of the Association, could speak some French. It was very clear that we should support their project, and also that they are not yet ready for “modern” products such as a solar oven.

Back to Koudougou for the solar oven workshop: Petra and I took a ride back, with

Jonathan as our driver, on the heavily loaded Toyota bus carrying 11 solar ovens to Koudougou. The others, Mr. Asso, Markus and Katrin, had wanted to experience a train ride. Unfortunately, their train was delayed by more than five hours, and they had no opportunity during the night to enjoy the beautiful landscape. This time again, we stayed at the Dima hotel.

The next morning, finally, we attended the solar oven workshop in **Koudougou** at the centre of the women's association “Delwende“, with 20 members attending. Mr. Asso had organized a workshop extremely well and started it with a very successful presentation on the four main advantages of cooking meals with the solar oven: 1. Spare the environment, 2. Protect your health, 3. Save money, 4. Save time.



Solar oven workshop

Our group contributed by cooking couscous, cookies and bread. In the center we could see a very old, rather dangerous-looking electrical mill being used for making maize flour. The main requires an enormous amount of electricity and this has a big impact on the budget of the Association. Needless to say, the women hope to switch to solar power. In their center, the association's members process different types of cereals for selling on the market. This provides them with a modest additional income to help feed their families and pay schooling fees.



The cereal mill

Installation of a pump for the garden of the women's association in **Songo2**: after staying for a while in Ouaga, we took a three-hour drive to Po at the border to Ghana, where we spent the night and Mr. Asso purchased some material needed for the installation. Next morning, a ride over dirt tracks brought us to the pumping station of Songo 2, where the members of the women's association "Tii-you-ti-winga" gave us a very warm welcome. The pumping station has been financed and built by the FEM (Fonds Environment Mondial), while "notre soleil Suisse" financed the solar installation including the pump. All the team members helped in the installation. By mid-afternoon, a strong jet of water was spurting out, originating from 40 m below ground. The

Lorentz pump was operating without a hitch. It was an unforgettable experience to witness the joy of the women as the water came pouring out. Mr. Asso and his team deserved a round of applause.



Pure joy as the water comes out



Arrival at the pumping station

3. Activities 2018 of our sister association Notre Soleil Burkina

The members of the association meet regularly. At present the prototype tunnel-type solar dryer of Solafrique still needs major improvement, and the association cannot use it yet to produce the bags of dried mixed vegetables they are selling on the market.

President Fatoumata has moved to a new location in a suburb of Bobo and has contacted another association of dedicated women whose objective is to stop using charcoal for

cooking. They will soon participate in a workshop for "Foyers améliorés" (improved fireplaces). President Fatoumata is particularly proud of the many trees the members of both associations have planted in their fields and around their houses and those of their neighbors. She expressed a deep gratitude for the support she received from our association. Preserving the trees and increasing their numbers is one of her great missions in life.



A neighbor with a mango tree seedling

Mr. Asso's objectives for 2019

* Basic training in photovoltaics for young people (groups of 10 younger women and men in each of the 13 regions of the country will receive such training, complemented by the implementation of a simple project such as lighting for a school, a health center, a church or a mosque.

* More workshops addressed at women's associations on the production and use of solar ovens and dryers in each of the five zones of the country.

* Major progress in the development of a solar mill and a solar kiosk

Our heartfelt thanks

This year again, thanks to the support of the Association "notre soleil Suisse", Solafrique could implement several projects and help improve the conditions of life of many people, and their efforts are much appreciated. We have a huge debt of gratitude towards the members of our association and its sponsors.

Please help our efforts with donations to the following account: notre soleil suisse, 8000 Zürich, 61-419994-4, IBAN CH61 0900 0000 6141 9994 4. Our association became tax-exempt in the early 2018, and donations to it are now tax deductible in Switzerland.

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