Come take part in sharing agricultural knowledge through the creation of #Academies of Sahelian expertise and experience.

SOS SAHEL is actively involved in the design of innovative solutions and the construction of a dynamic technological ecosystem which will modernize agricultural production and strengthen food value chains for the economic inclusion of family farmers in the Sahel.

Collaborative problem solving, and the development, application and sharing of technological solutions will be concentrated and brought to life within the framework of an annual AGRI-HACKATHON.

SPARK2050, the broader platform, will serve as the base for these processes until 10 innovative agricultural technologies are identified to be deployed over 30 years, thus transforming the lives of 300 million Sahelians.

The Africa Camp aims to bring together all players - producers, leaders of cooperatives, economic operators, social enterprises, NGOs, local elected officials, leaders of civil society, communications advisors, development agents, researchers, instructors – to identify their needs and conceptualize innovative solutions that will modernize, adapt and scale up African agriculture processes.

Among other things, these solutions will help stakeholders across the region, support local initiatives, structure an inclusive economy for young people and women, link actors to one another, disseminate knowledge, support development policies, and strengthen and enhance skills to ensure local action is more effective.

THREE CORE THEMES OF LOCAL DEVELOPMENT

The objective of the Africa Camp is to share thoughts and ideas about innovative solutions that could aid in the dissemination of knowledge as it pertains to development issues in the Sahel. This work will be entrusted to six small groups of people from different backgrounds. Each group will work on one of the three themes below. These ideas and concepts will then be assigned to the participants of SOS SAHEL’s Agri-Hackathon who will be tasked with developing the technological solution. The Agri-Hackathon will take place in May 2020.
Theme 1: How to encourage access and use of agricultural and environmental knowledge at the intersection of traditional and academic sciences?

How do you start an orchard? Protect young plants from termite attacks? Grow and maintain sturdy hedges? Improve your compost process and restore the fertility of a particular type of soil? How do you tap gum trees without making them die? Ensure that natural gum forests remain dense? There are so many questions - but there are also many producers with personal experience who have the answers. Unfortunately, due to a lack of communication methods, these solutions are not easily shared.

In the Niayes, in Senegal, Modou Beye began to plant lemon trees on his 0.6 ha. After 8 years, thanks to effective agricultural solutions, he now has 7 ha of orchard, protected by robust hedges. Modou Beye is a guide and reference for the planters of his commune. He provides training on pruning for planters within a 50 km radius.

Working alongside another Senegalese planter, Professor Ibrahima Diedhiou of the University of Thiès discovered that Guiera, a shrub spread throughout the Sahel, can supply water to fruit trees planted nearby. After studying this phenomenon, Professor Diedhiou and his colleagues published this discovery in the *Frontiers in Environmental Science* journal. It has the possibility to revolutionize arboriculture in Africa.

In Chad, local villages have adapted and improved their methods of tapping gum trees as well as harvesting and storing the arabic gum. This has allowed for increased production as well as an improvement in the quality of the gum. Inspired by this success, neighboring villages often visit to learn from their techniques and bring this knowledge back home.

How can we help dozens of experts like Modou Beye and gum collectors spread this important knowledge more quickly and widely? How can we disseminate science-based agricultural practices to local producers?

There are many ways to share this knowledge: audio messages, photographs, images, videos, an exchange of names and reference addresses, sharing plans and geographical maps, through an exchange of technical services, research centers, cooperatives, etc.

Which applications are accessible to everyone, so that they may share this local knowledge on everyday agricultural problems?
The Various Actors

- Standards and certifications
- Agricultural inputs
- Agronomic research
- Technical services
- Climate, water, soil, environment
- Market information
- Transformation
  - Market
  - Consumption

Producers

Production
Solution 1 Brief: “SaheLink”

Theme 1: How to encourage access and use of agricultural and environmental knowledge at the intersection of traditional and academic sciences?

Why do we need an innovative solution?

We face many obstacles to access and use agricultural knowledge in the Sahel.

1. **Communication**
   Lack of information to produce, lack of knowledge about environmental safeguard measures (natural resources and ecosystems), poor network of communication.

2. **Infrastructure**
   Difficult access to water, weak sanitary system, difficulties in accessing land assets, lack of means of processing and marketing of production, lack of road infrastructure.

3. **Security**
   Food and nutrition insecurity and physical threats.

4. **Environment**
   Adverse effects of climate change, environmental degradation, drought.

5. **Transportation**
   Remote areas are difficult to access.

6. **Economy**
   Difficulties linked to the socio-economic conditions of the people, poverty which is especially prevalent among women and young people, poor production and lack of funding to support agricultural production.

We need a solution to increase the number of producers. The opportunities offered by SAHELINK include the acquisition of new skills, coordinated action between all the stakeholders via the sharing of experience and economic growth in Sahel countries, for example like the export of production surpluses.

What is the “SaheLink” solution for?

The solution is a technological innovation making it possible to remedy the problems affecting actors in the agricultural sector in the Sahel through the sharing and using of knowledge through a touch-activated system; thanks to the self-detection of solutions related to the problems in a well-defined environment and thanks to the automatic sharing of validated solutions with all the actors in the agricultural field having the same centers of interest.

The objectives of the solution are to:

- Innovate knowledge sharing techniques in the agricultural sector in the Sahel;
Disseminate knowledge and encourage collaboration;  
Provide a network to link actors in the agricultural sector;  
Promote experience sharing;  
Capitalise on farming best practices;  
Be able to access learnings;  
Seek solutions in response to the difficulties the actors in the agricultural world face

Who will use the solution and on what scale?
The solution benefits all stakeholders in the agricultural world in Sahel countries, with the possibility to extend to areas outside of the Sahel:

(1) Researchers (2) producers at all levels (3) processors (4) consumers (5) specialists in building capacity of agricultural techniques (6) tradespeople.

The solution is aimed at both educated or non-formally educated users, both sighted and blind. It is also intended for users who communicate verbally by phone, and for those with hearing problems.

The device is ergonomic and adapts to any type of user.

How does the intended end user imagine the proposed solution will work?
Users must have portable, simple, and easy-to-use SaheLink equipment in order to access the search engine and information database. Information is formulated through multimedia content (voice, videos, images, hologram, etc.). The device is specifically designed for the dissemination of information. It is tactile and contains a microphone and a loudspeaker allowing the user to communicate easily and to receive the response to his request via audio, images, or video. The device can be used in all languages and dialects found in the Sahel.

Instructions for use:
(1) Touch the device
(2) The device will prompt the user to ask a question
(3) The user speaks or photographs the object which presents abnormality, and the solution is displayed in hologram format.