**Agrolly – Farming Technology**

**The agricultural industry** is one of the most vulnerable to climate change as it directly depends on rainfall and temperature. Abrupt changes in those variables are normally associated with reduced crop yields. In the last years, developed countries with a good farm infrastructure had more than 17% yield decrease because of climate changes (Nelson et al, 2013). However, the climate change impact is even more accentuated to small farmers in emerging countries, given their small scale, the burden of economic exclusion, and lack of access to critical resources. Those farmers do not have adequate networking, from which they can learn and easily exchange know-how. They also do not have access to educated information regarding climate change trends and knowledge of climate-smart practices. Furthermore, those farmers are not skilled in climate risk assessment, which is an important factor in obtaining financing from financial institutions.

**Agrolly** aims to bring technology for the small farmers' hands, fill in the information gap so that farmers can make more educated decisions, obtain the necessary financing, and improve their economic outcome. Our platform is already available for download in the google store, free of charge and accessible to all. It provides a long-term rainfall forecast, which is tested periodically for increased accuracy. We combine the weather forecast with the crop water requirements for the Food and Agriculture Organization for the United Nations (FAO), which is tailored for the location of each farmer, type of crop, and stage of the plantation. Agrolly also provides a forum module for the network between the farmers for the exchange of information and solutions, which allows text and picture upload. Finally, our crop-risk algorithms represent an innovation for the farm industry by allowing risk assessment to small farmers. Our technology is built on IBM Cloud Object Storage and IBM Watson Studio technology, and our program is written in C/C++, Java, Javascript (ES6/ES7), PHP, AngularJS, IONIC, RxJS, Rstudio, Qt framework to provide the user the best operating system.

**Why is Agrolly different?** Agrolly is the only automated solution to help small farmers to risk assess their agriculture planning in an easy, visual, and interactive way. Our algorithms do the heavy lifting, bringing the best-fitted results of weather predictions to farmers' hands. While many paid companies focus on the forecast or have a website describing the crop weather conditions needs, there is no single, integrated digital platform that provides this service to farmers.

**For our Pilot,** we chose to start in Mongolia, followed by Brazil. Mongolian had an increase in the temperature over the years, resulting in greater grassland aridity and shifting precipitation patterns. So Agrolly is fighting together with them in this new solution. Our pilot is scheduled to start in Brazil in September/2020.

Our **Vision,** it to become a reference on emerging countries' agriculture data, sharing good practices globally and demystifying farming technology for everyone. It also aims in providing features to mitigate inequalities in the agriculture sector globally.