CROPBASE - THE FIRST GLOBAL KNOWLEDGE BASE FOR UNDERUTILISED CROPS

Current data models that focus on a 'business as usual' approach on major crops will not be sufficient to feed and nourish a growing population on a hotter planet. We need innovative data solutions that can identify agricultural diversification opportunities in the climates and markets of the future now.

Knowledge has empowered humans for generations but it is usually shared amongst family, friends or a common circle. This is no different to the farmers' knowledge. Knowledge and expertise on different crops and ingredients, their qualities, how to grow and cook them, is passed down through generations, often only through the spoken word. So, when a farmer dies, what happens to that knowledge, if it isn't stored or documented? The library of knowledge dies *with* them. How do we ensure that such information and knowledge is accessible to the rest of the world? Such knowledge is even more critical where there is little scientific research and published information on 'underutilised' crops that can have immense impact on our food and nutrition security, now and in the future.

Today, there is a lack of knowledge and scarcity of data on underutilised crops at the global scale. To access such information, datasets need to be harvested and aligned from local communities around the world and linked to new research data, using state-of-the-art technologies. Data will play a key role in the future of agriculture as farmers need to make more informed choices, particularly when it comes to business decisions about new cropping options.

We need better information about the many hundreds of underutilised crops that can provide food and non-food opportunities to diversify agriculture. CFF is addressing this need by developing the first Global Knowledge Base for underutilised crops. CropBASE provides an online and accessible gateway to data from a variety of sources on the agricultural value chain – from genetics to consumption – for currently underutilised crops that have the potential to be `crops for the future'.

CropBASE integrates qualitative and quantitative knowledge into decision support systems and user applications. At its core are 9 million data points on over 2,700 plant species and their potential uses for any location around the world. This allows farmers, researchers and the industry to obtain deep understanding of diversification opportunities and make informed decisions about the cultivation and potential uses of underutilised crops at the click of a button.

SELECTCROP, a 'crop selection tool' currently under development, shortlists crops for any location with an estimation of crop suitability, recorded yield and income for farmers and investors. By entering their specific location, the tool will provide users with the potential crops that can grow in their area based on climate condition and soil quality at that location. A fully developed SELECTCROP, together with other CropBASE Apps, provides the much needed two-way communication information exchange between farmers and experts. The tools has gained positive feedback from the farmers, extension workers and the government of Malaysia.

Dr Ebrahim Jahanshiri, CropBASE Research Programme Director, highlights the important role technology plays in the future of agriculture. "Agriculture and food industry will be challenged heavily in the future, therefore transformative innovations in farming systems, education, policies, marketing and communication is the need of today. Information technology can be the source of many innovations in agriculture. We hope that by establishing CropBASE as a single Global Knowledge Base for underutilised crops, we can identify and overcome gaps that are currently preventing the industry to utilise the vast potential of underutilised crops and empower farmers and other stakeholders in their decision-making processes for agricultural diversification."