



RESEARCH
PROGRAM ON
Integrated Systems
for the Humid
Tropics



The story of Humidtropics Capacity Development 2014-2016

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Nairobi, Kenya

December 2016

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Table of contents

Executive summary	3
I Introduction	4
2 Development and use of groundbreaking learning technologies empowering capacity development	5
2.1 Building the Learning Management System	5
2.2 Including areas with poor or inexistent Internet connection in innovative learning technologies	7
2.3 Going mobile	7
2.4 Ensuring results transparency and learning effectiveness	8
3 Capacitating the innovation platforms facilitators	9
3.1 The pilot	9
3.2 2016 – the year of improvements	10
4 Overcoming poverty and hunger with the Feed Assessment Tool and methodology	12
4.1 Implementing innovative learning technologies to scale up the FEAST learning process	12
4.2 Introducing the Intervention Ranking Analysis Report to help facilitators choose the best solutions	13
4.3 Participating in the AVCD project in Kenya	14
4.4 Assessing the impact of the enhanced FEAST training materials	15
5 Support for the revision of the Ex Ante Tool for Ranking Policy Alternatives (EXTRAPOLATE)	16
6 Learning from example: studying mature innovation platforms	17
6.1 Selecting the best Humidtropics innovation platform case studies	17
6.2 The best case studies published as a book	18
6.3 Policy: a key stakeholder in innovation platforms and its influence	19
6.4 Academic article	20
6.5 Using the case studies as part of the learning materials on innovation platforms	20
7 Capacity development projects in the Central American and Caribbean flagship	22
7.1 Training in a Participatory Video project to empower rural women and youth	22
7.2 Developing capacity of Policy Analysis with a Gender Lens	23
7.3 Developing capacity for Effective Organizational Analysis in the action sites of Humidtropics	24
8 Tools and training materials to help mainstream gender in Humidtropics activities	25
9 Support for an enhanced Tools for System Analysis (TOSA) portal	26
10 Capacity development in Agri-Food Systems briefs	27

Executive summary

The CGIAR Research Program on Integrated System for the Humid Tropics, or Humidtropics, works towards transforming the lives of the rural poor in several action sites in Asia, Africa and Tropical America. In doing so, different technologies and innovations were implemented and while at first the capacity development was going on almost intuitively, as an integrated part of the implementation process, it has soon become clear that such groundbreaking activities and ideas require a more organized and supervised approach. Thus, in 2014 the Humidtropics Capacity Development (CapDev) unit was formed to have a team of experts focused on delivering the necessary training, supervise the development of new tools and think of new, innovative ideas to implement across the flagships.

In the three years since then, great advancements took place. In fact, from the CapDev's point of view, these were years filled with disruptive activities that not only work within the Humidtropics context but were also built in a way that they can be scaled up and adapted to the specific needs and requirements of whatever project, organization and/or context. Innovation and technology were key in these processes; with all the tools and resources available nowadays, many communication, connectivity and location barriers have been overcome to go beyond mere classroom delivered material and create a community of agriculture professionals who now have new knowledge to build on, new channels at their disposal to use to communicate with their peers and new sources of inspiration and information when trying to find the best solution for the issues they need to address.

This report brings together all the stories behind the greatest Humidtropics CapDev achievements, from building a learning management system to going beyond traditional on-site workshops, scaling up existing methodologies and tools, as well as developing new ones, introducing fun and exciting projects and activities the rural poor feel excited to use or participate in. It is a summarized overview, introducing the crucial key points related to each achievement, one that can be used as an infinite source of inspiration for researchers, farmers, research organizations, privately held companies and governments.

I Introduction

In the world of non-ceasing research and searching for new ways of assisting those who do not have the skills or the conditions in improving their current situation, capacity development is key. Sharing knowledge and training interested stakeholders in how to use different tools, as well as looking for new technology and innovative ideas on how to go beyond what has already been done, is essential and should not ever be considered as a secondary activity of any research program.

Therefore, it is no wonder that the Capacity Development aspect of the Humidtropics was one of the most important ones to help the program stay focused on the CGIAR goal to fulfil its mandate as a worldwide partnership addressing agricultural research for development (AR4D). By investing in CapDev as a cross cutting activity, the program has made great progress in adapting new approaches to the learning process, learning technologies development and new materials creation, among other activities. Now, almost three years later, it is time to look back on everything that has been done, evaluate it and communicate it to the rest of the CGIAR and other interested organizations, researchers and the general public. 2016 came to an end and with it the preparation of all of the materials that will be left behind as 'The Story of Humidtropics CapDev 2014-2016'.

The present report means to tell the story behind every groundbreaking innovation and all innovative ideas that were implemented in the Humidtropics to, on the one hand, showcase the hard work and dedication behind it, and, on the other, attract other interested organizations into adopting the same initiatives, innovations and activities. It is also the base for three other products – a whiteboard video, a timeline and dedicated website, all of which are available on <http://www.humidtropicscapdev.info>. Each of these materials presents the achievements and the stories behind them in a different manner, typical for the chosen media.



Yet, none of the materials is as complete as this report, which is where the details related to the most important CapDev activities are gathered for the readers to have access to all of the stories in a single place.

they completed its prerequisites). To be able to do that, a specialized web application – a Learning Management System – needed to be developed and implemented as a part of the transition to the blended learning modality.

There are four main functions of an LMS, namely user management (collecting user information, assigning users to groups, registering users/groups etc.), reporting on user progress and performance, content management (referring mainly to hosting the learning content) and tracking/blocking (granting access to content upon completing the prerequisites). LMS solutions providers approach each of these functions differently, therefore finding a match in both mentality and perspective was essential. However, these two were not the only requirements. The selected provider also needed to be willing to understand Humidtropics' specific needs and adapt to the available budget.

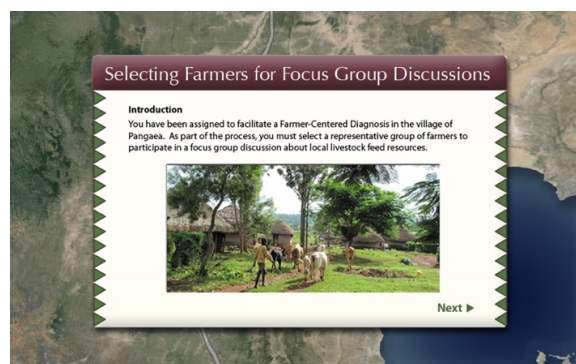
Taking a closer look at the solutions offered on the market and making the first approach to see if these solutions are compatible with the existing Humidtropics' needs and requirements, proved that the process of getting an LMS up and running was going to be a bigger challenge than anticipated. There are, without a doubt, plenty high-quality solutions available, each with its specific characteristics, advantages and disadvantages. Many first contacts grew into negotiations and some even came as far as working on the first tests, yet none of the providers were up for the task for many different and understandable reasons.

Sonata Learning, a consultant on the subject of learning and content development that has been working with ILRI prior to detecting the need for a blended learning approach and, consequently, an LMS, was requested to assist in finding the best provider and coordinating the project development. However, Sonata Learning was already working on its own version of an LMS and the progress they were making proved their product to be qualitatively superior to other in its price range, making it an excellent choice for Humidtropics. Therefore, in early 2015, the quest for finding the best provider was concluded and a partnership between ILRI and Sonata Learning was amplified to include the LMS development as well.

The LMS as it is available today has everything that was initially planned for. It is compatible with a blended learning approach, it offers the ability to track learner progress through modules (including results on exercises and quizzes), it can be scaled up to more complex course designs while keeping the costs to a minimum and it is available in an offline version as well. And yet, it goes beyond these minimum requirements.

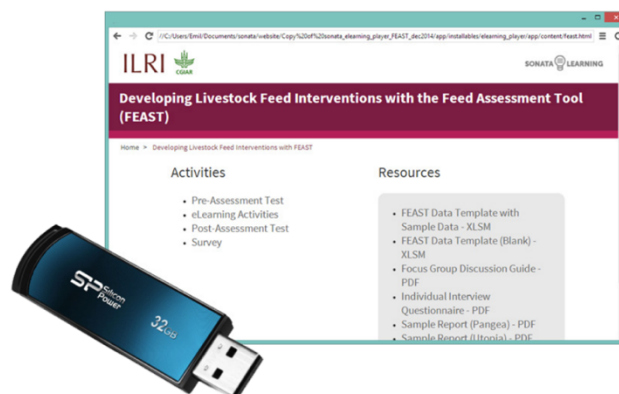
It has a very simple, clean and intuitive user interface, making it suitable for all participants and it includes different learning techniques, everything from video contents to quizzes, exercises and games. By giving the instructors the possibility to grant or restrict access to lessons during a training session and giving scores for attendance and participation, it is fulfilling with the 'blended first' approach to delivery.

Social learning is now a part of the learning process as well, in the form of posting to discussion forums for the participants to be able to proceed with the course and there is even the possibility of branding and sub-portals, including options to share or separate content for different audiences or setting different preferences for each. Also, there is a unique approach to grading, which includes support for conducting and analysing pre- and post-assessment tests and assigning weightings to different assessments, as well as reporting features that present the possibility of generating HTML5 graphs and dashboards.



2.2 Including areas with poor or inexistent Internet connection in innovative learning technologies

However, one of the biggest requirements from the very beginning was that the LMS would also be available offline, in order for all of the Humidtropics partners, including those who live in the rural areas of low and middle income countries and do not have access to a stable broadband Internet connection, can benefit from the same state of the art learning technologies. This way they can live the same high-quality learning experience as they do in the regions where they are not facing Internet connectivity issues.



Sonata Learning provided with a beyond satisfactory solution; an offline player module that is distributed in the form of a USB drive and does not require any software instalment, as well as prevents any possible browser compatibility issues by using its own self-contained browser to play the content. The progress and assessment data are saved on the USB, from where they can be copied to a central computer and, last, but not least, preparing multiple USB drives is a very simple process, so whenever there is a need for a larger amount of USBs (a workshop, for example), they can be prepared quickly and easily.

2.3 Going mobile



The LMS and Offline Player were excellent first steps into the world of learning technologies. However, if there is a constant when it comes to technology, it is that it is always changing. What is used today is outdated tomorrow. The latest trends show that the device that is most popular nowadays, especially among youth in rural areas, are smartphones. Therefore, the logical next step in scaling up the Humidtropics capacity development was to go mobile and offer an Android app as an additional way of completing the eLearning phase of the blended learning approach.

The app is currently being developed in collaboration with Sonata Learning and will be compatible with all cellular phones or tablets using the Android operating system. The goal was to give the facilitators taking the courses another exciting channel to use by the end of 2016 and complement the already existing technology. In December 2016, the beta version of the app has been delivered to ILRI, and made available on the Google Play Store, as well as the LMS after receiving the final OK from the project managers.



Again, one of the biggest requirements was that the courses are made available offline as well. Many times facilitators find themselves in a situation with no access to either a computer or an Internet connection but can spare the time to work on the courses and it is very important to give them the option to do so. As a solution, the app is not only be available via Google Play Store, but also as an application package (.apk) that the users will have the option to download from the LMS website, saving the files to the internal storage or SD card of the device and installing the app by using the 'side loading' process (enabling direct installation).

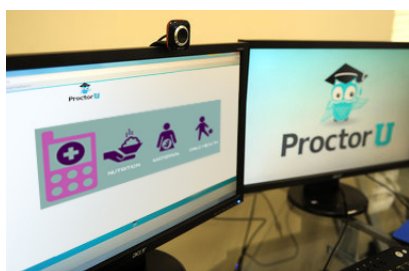
The users are able to use the app for all the learning activities (quizzes, games etc.) and their progress and results are synced or emailed once the device connects to the Internet. However, they do not have access to the Admin Features, Discussion Activities, groups or any activities that require them to visit outside web links, as these require an Internet connection.

One of the biggest limitations when it comes to developing an app, especially one with as much material as the Humidtropics eLearning courses, is storage. While computers tend to accommodate any reasonable amount of space required with no major issues, not all mobile devices have sufficient storage for the users to download and go through all of the courses without difficulties. To offer an alternative for all the Android users who do not own devices with sufficient storage capacity, Sonata Learning enabled the possibility to temporarily 'un-load' media files to free up storage. If users choose to do this, progress data for the course is preserved but the course is locked until the requisite content is re-loaded.

Developing the Android app is taking the entire eLearning process one step further in the direction of establishing a learning approach that will be more effective, efficient and exciting. With this, all of the participants in the eLearning have yet another tool at their disposal to obtain all the knowledge available on the online courses and the best part is that they can access it on the go! It reduces the need of having to search for a computer and a desk, reserve some time and focus on nothing else. Travelling, waiting for an appointment, in the middle of a city or in the field, the app makes every free moment a great one to work on the materials, on- or offline.

2.4 Ensuring results transparency and learning effectiveness

With the technology in place and the content ready, it was time to take the LMS for a test drive. As previously mentioned, taking the online course is the first step in the so-called blended learning approach, which is usually followed by a workshop where the participants can discuss deeper and more complex issues and ideas in person. To make these workshops as productive as possible, it is essential that all the participants come prepared and a way to assure this is to take advantage of the online quizzes and exercises included in all of the online courses.



To measure the effectiveness of the eLearning, at least on a very basic level, a test was given to the participants before and after completing the course to compare the results. This is a practice that is often used in face-to-face workshops organized by CGIAR organizations and institutes. The results of the pre- and post-eLearning tests showed that many of the participants cheated, which skewed the results of the quizzes and tests the participants took. It became obvious that even if assured that there will be no consequences regardless of their results, it is human nature to cheat when it

comes to answering a quiz or a test.

To address this issue, an online proctoring provider, ProctorU, has been made part of the process and entrusted with the task of monitoring each person as they take a test or quiz. They fulfil the role of what in an university environment would be the person who invigilates exams by using the technology on the test taker's computer (camera, microphone etc.) to observe the person, the room they are taking the test in and their computer screen.

Online proctoring was a novelty, a reaction implemented once the tendency towards cheating was detected, and to make sure it was a suitable solution, it was thoroughly tested by CapDev in the mNutrition course developed for CABI and partners in 2014. The final results showed that ProctorU's monitoring was effective and efficient, making online proctoring a standard practice. ProctorU also turned out to be a very reliable partner, one that is aware that the needs of Humidtropics are limited in number and reacts quickly in setting up everything needed to perform the proctoring whenever necessary.

3 Capacitating the innovation platforms facilitators

When using the term ‘innovation platforms’, what is being referred to are spaces for learning and change, a group of individuals (many of which usually represent organizations) with different interests and backgrounds who come together to diagnose issues, detect opportunities and search for the best ways to achieve their goals. They are especially useful in agriculture as the challenges in this sector can be particularly challenging and require the active participation and collaboration of many different stakeholders, such as farmers, governments, non-governmental organisations (NGOs), researchers, producers etc., to reach the desired goals. These goals can be anything from boosting productivity, managing natural resources more effectively and efficiently, to improving value chains and adapting to climate changes. Moreover, while some innovation platforms deal with one specific issue, others might tackle multiple problems at the same time. When set up properly, they can truly mark a difference and improve whatever situation is being dealt with.

However, many times an innovation platform can be a challenge to handle on its own as well. With so many different parts, people and organizations involved, those in charge of coordinating activities, communication and monitoring whatever activities are put into place, need to have a very good grasp of how to approach creating a new innovation platform, deal with all possible internal tensions and unforeseen obstacles without losing sight of the end goal. A difficult, yet doable, task.



Therefore, it is no surprise that innovation platforms are being put into practice throughout CGIAR research programs, Humidtropics included. To give the facilitators the information and tools required to help them obtain the best results, the CapDev team worked on a blended learning course titled Understanding, Facilitating and Monitoring Agricultural Innovation Platforms. This was the first course that was created with the newly developed learning technologies in mind from the very beginning and it was chosen for the pilot study to test both the effectiveness and efficiency of the

blended learning approach, as well as the usability of all of the materials and technology developed for the purposes of capacity development.

The course, which is still in use to this day, covers setting up, facilitating and monitoring innovation platforms and includes units on using participatory tools to agree on platform agendas, dealing with power and conflict and communicating to affect scaling out and scaling up. Today, it consists of 13 modules, all available on- and offline, followed by a face to face workshop where all the facilitators taking the course take the knowledge obtained from the eLearning and build on it by exchanging ideas, experiences and clarifying whatever doubts they might have after taking the course with the assistance of the course instructors.

3.1 The pilot

The course first took place in the form of a pilot during September, October and November of 2015. Six out of 13 courses were made available online for the 14 platform facilitators from the Central Mekong Area Flagship that were participating in the pilot, representing the World Agroforestry Centre (ICRAF), Bioversity International, International Center for Tropical Agriculture (CIAT), the



World Vegetable Center (AVRDC) and other CGIAR partner organizations. Different approaches were adopted in presenting each of the modules based on currently recognized best practices, including gamification and multi-branching scenarios. Furthermore, different types of media were used in order to gauge participant reaction.

After the three months the participants had to work on the online courses, those who had performed satisfactorily were invited to join a workshop conducted at the ICRAF Vietnam country office in Hanoi from 9 to 11 November 2015. Participation in the workshop provided them with an opportunity to apply their newly acquired knowledge to their own professional contexts in the presence of colleagues and under the guidance of facilitators from ILRI, Wageningen University and Research (WUR) and the International Institute of Tropical Agriculture (IITA). This workshop, besides being the second step in the blended learning approach, was also the perfect opportunity to obtain feedback from all who participated. Therefore, focus group discussions were organized and led by ILRI, WUR/IITA and ICRAF representatives at the end of the workshop to enquire about the experience the participants had during their first encounter with the blended learning approach.

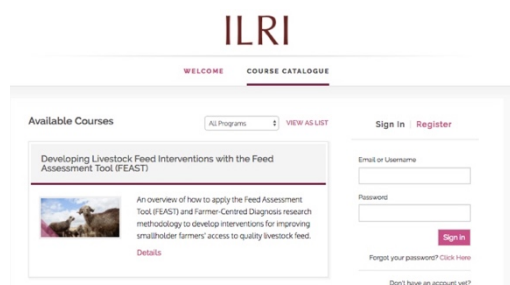
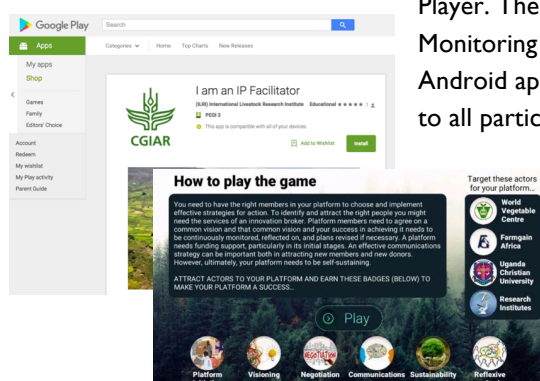
What has quickly become clear during these discussions was that despite there being some challenges, the participants enjoyed the new approach and appreciated the breadth of new knowledge to which they had been exposed throughout the course. On the one hand, the participants defined the main challenge as finding the time necessary for online learning to prepare for the workshop and, on the other, they provided the CapDev team a number of useful suggestions to improve the course modules accessibility to learners for whom English is a second language. Most participants appreciated the blended structure of the course since it gave them an opportunity to approach the theory from a different perspective and to practice skills in a collegiate environment. Taking into account the mainly positive feedback from the participants, the pilot was considered to be a success in terms of introducing the new approach to learning and capacity development.

3.2 2016 – the year of improvements

After completing the pilot study and collecting the feedback from the participants, all of the information was reviewed in order to make a set of decisions regarding how to improve the course. The main focus was the eLearning since it was the biggest novelty of the blended learning approach and, as soon as the action plan was defined, it became clear that 2016 was to be a year of many improvements.

Alongside applying several changes to the existing courses, seven new ones were made available online, making for a total of 13 modules, which can be accessed on <http://learning.ilri.org/>. In addition, they have been made available offline as well to make sure that all innovation platforms facilitators across the Humidtropics flagships have access to the learning materials, even if they do not have the luxury of a stable and constant Internet connection.

Yet the plans go beyond just making the course available to the innovation platform facilitators via the LMS and Offline Player. The blended learning course on Understanding, Facilitating and Monitoring Agricultural Innovation Platforms was the first to be available on the Android app, thus offering all of the additional benefits mentioned in Chapter 2.3 to all participants who use an Android mobile device.

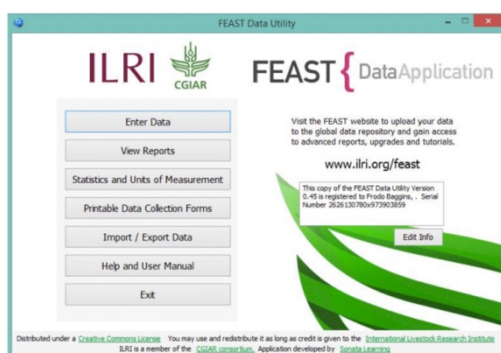


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4 Overcoming poverty and hunger with the Feed Assessment Tool and methodology

The Feed Assessment Tool (FEAST) was first developed by ILRI in 2009, but the methodology behind it goes as back as 1989. It is a systematic method to assess local feed resource availability and use, and it helps in the design of intervention strategies that optimize feed utilization and animal production. Prior to being put into practice as a part of the Humidtropics program, it was successfully implemented in various sites in countries across Africa and Asia to help combat poverty and hunger by studying each specific context and helping in reaching a decisions on the best way to address the issues the local farmers were dealing with. Humidtropics Capacity Development team's role in improving the way facilitators learn about FEAST and how to use it, was one of the first tasks it took on after being officially formed in 2014 and the outcomes presented here are considered among the team's greatest achievements.

4.1 Implementing innovative learning technologies to scale up the FEAST learning process



Initially, when training the staff or partner organizations interested in using the tool, a traditional, on-site, classroom-based training was used. This did not assure the desired results as it was noticed on several occasions that some users were still struggling when using the tool even after completing the workshop. Therefore, when the Humidtropics CapDev team was entrusted with scaling up the FEAST training in 2014, the learning material had already existed and served as the base to build on. After considering the limitations of the current method of sharing knowledge and capacitating in face to face workshops, as well as the options available to make the tool available

to even more facilitators and potential partners, a blended learning course was designed to capacitate facilitators and partner organizations without the need for ILRI scientists to be physically present, thus relieving them from the travel and logistical burden involved in presenting the FEAST tool in different countries.

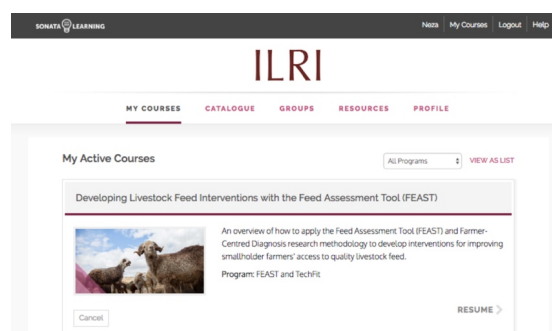
For the eLearning part of the blended approach, 15 video-based online learning modules, interactive activities and quizzes, including pre- and post-assessment exercises were officially launched on 22 May 2015, at the ILRI Ethiopia campus, in conjunction with a presentation of the FEAST materials at the eLearning Africa conference. All of the materials and development were based on several years of experience ILRI scientists gathered while capacitating participants in Africa and South Asia and are now available on <http://learning.ilri.org/>.



Based on observation of scientist-led workshops, lessons were resequenced to improve comprehension and retention, as well as restructured to consistently begin with objectives and key terminology and conclude with review questions to check for understanding. By developing the modules following this structure, they would potentially enable the staff of partner organizations, which are interested in adopting FEAST, to learn about the methodology and the tool online. Nevertheless, a blended approach is still recommended as basic skills can be mastered online, while more challenging exercises should still be undertaken in the presence and with the assistance of an instructor. There is

also an additional advantage to the modules developed, as they can also be used in a classroom-training environment to support a less experienced facilitator.

After completing the development and successfully launching the blended course on FEAST in 2015, great plans were agreed on for 2016 to help make the tool even more accessible across the Humidtropics geographical regions, as well as prove its worth to other CGIAR partner organizations that might consider using the tool as a part of their own activities and research programs.



4.2 Introducing the Intervention Ranking Analysis Report to help facilitators choose the best solutions

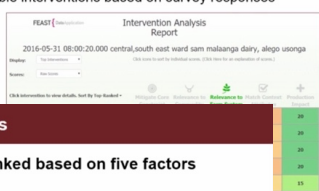
Lesson Objectives

By the end of this lesson, you should be able to:

- Locate and open the Intervention Ranking Analysis Report within the FEAST Data Application
- Interpret the results of the report and compare them to the data collected during your farmer-centred diagnosis to decide whether or not an intervention is appropriate for a specific local context
- Summarize the benefits and limitations of the Intervention Ranking Analysis Report for livestock feed interventions

The Intervention Ranking Analysis Report

The Intervention Ranking Analysis Report suggests possible interventions based on survey responses



Ranking Factors

Interventions ranked based on five factors

Mitigate Core Constraint	Relevance to Commodity	Relevance to Farm System	Match Context Attributes	Production Impact
20	20	15	15	20
20	20	10	13	20
12	20	15	13	20
14	20	10	15	20
12	20	15	17	15

In 2016, one of the main upgrades when it comes to the FEAST data app came in the form of integrating a new report, the so-called Intervention Ranking Analysis Report (previously referred to as Techfit). This report works wonderfully with the FEAST data app in the sense that while the app helps

organize and analyse the data collected during a Farmer-Centred Diagnosis (part of the FEAST methodology), as well as provide insights about local conditions, the standard FEAST reports do not suggest any specific livestock feed interventions, assuming that the facilitators are well aware of the available and appropriate interventions for the local context. Which is where the Intervention Ranking Analysis Report comes in.

The report uses a series of brief survey questions completed by local farmers and then compares their answers to a database with information about dozens of potential livestock feed interventions, making a set of suggestions regarding which would be the most appropriate ones. It is important to point out that it is not a shortcut to decision-making due to the fact that the survey questions used to obtain

the basic information from the farmers are not enough to make actual bulletproof recommendations for each specific local context. In fact, ILRI, as the brain behind the operation, strongly encourages facilitators to conduct their own research as well and compare the results with the Report's suggestions prior to making any decisions. This will help avoid making any interventions unworkable due to specific circumstances that might not be included in the survey but are essential to understanding the local context.

To capacitate facilitators on how to create and interpret the report, an additional module was added in the FEAST eLearning materials, which includes how to generate the report within the FEAST data app, what the logics behind the recommendation is, as well as the limitations of the report. Once the facilitators complete the eLearning and learn

4.4 Assessing the impact of the enhanced FEAST training materials

Since the blended learning approach has been implemented, the revised FEAST materials have been tested in field settings with promising results in terms of learning outcomes and user feedback. However, field conditions mean that setting up a rigorous experimental study design (e.g. RCT) was not possible within the project parameters. Therefore, it was decided to conduct a study in a more controlled environment, such as a university setting, to test the impact of the enhanced FEAST materials on learning outcomes such as knowledge of and attitudes towards participatory feed assessment approaches. The research is being conducted by Dr Iddo Dror as the principal investigator, and Kevin Kidimu and Ben Lukyu as co-investigators.

The main purpose of the study is to compare the old learning material to the new blended FEAST material, which was designed to overcome the challenges posed by the previous learning material in order to be able to educate and facilitate a growing community of FEAST users worldwide and promises to deliver the course to more people at a lower cost. To do so, the University of Nairobi was chosen as the setting of the study. Approximately 200-220 first-year students from the Faculty of Agriculture, undertaking either BSc in Agribusiness Management or BSc in



Agricultural Education and Extension, form the cohort, which was divided into four treatment and one control group for the purposes of the study.

There are several reasons behind choosing first-year students, but mainly it has to do with the fact that they are the largest single class in the faculty and the study design requires a certain sample size that would be difficult to obtain from a different class. Also, by being in their first year of college education, they are relatively homogenous in terms

of age, economic background and academic interests.

The data was collected with an individual paper based pre-test with questions on knowledge and attitude towards participatory livestock feeds and the FEAST tools, with a similar test administered after going through the course as well. The data collected includes the individual's knowledge of agriculture and livestock feed, facilitation and interview skills, research methods, data analysis, report writing skills and the individual's knowledge on implementing livestock feed interventions. The results of both tests will be compared among all the groups to draw based-on-facts conclusions regarding the impact of the new materials.

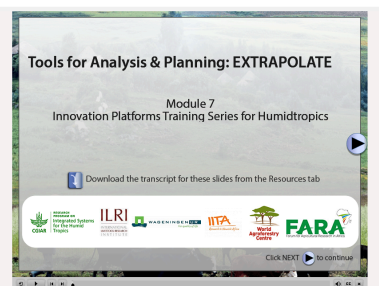
All of the research outcomes are planned to be made available to the public in a journal, ILRI policy briefs and other media in early 2017.

5 Support for the revision of the Ex Ante Tool for Ranking Policy Alternatives (EXTRAPOLATE)

The Ex Ante Tool for Ranking Policy Alternatives, or EXTRAPOLATE, helps identify a set of potential entry points for promoting sustainable intensification of mixed farming systems and can truly mark a difference for the farmers around the world when it comes to overcoming poverty and hunger. Seeing the vast positive outcomes using this tool can have, it was decided to implement it as a part of the Humidtropics research program as well, as it was expected for the entry points to have positive impacts on one or more of the project's Intermediate Development Outcomes (IDOs).

However, in order to be able to translate the tool and deploy it across all Humidtropics area Flagships with fewer difficulties, the methodology needed to be redesigned and the software upgraded. In 2014, the CapDev team worked on the redesign and upgrade, and thus made EXTRAPOLATE much more accessible and easier to use. At the same time, due to the continuously increasing demand and interest in using the tool, the ILRI scientists started working on a blended learning approach to train alternative trainers to be able to facilitate EXTRAPOLATE workshops.

Much like in the FEAST situation, the eLearning material was developed based on a review of existing training materials, including the EXTRAPOLATE software user manual and discussions with the developers who first worked on the tool. These revisions and discussions were necessary in order to assure that all of the developed materials would help reach the final goal, which was to train potential facilitators in the use of the software, as well as the



approaches to be adopted at each of the steps in the EXTRAPOLATE process. Once the participants successfully complete the eLearning, the next step for the now-trained facilitators is to gain practical experience by leading workshops on the subject.

During the development of the blended learning approach it was decided to include the materials as an additional module in the course on Understanding, Facilitating and Monitoring Agricultural Innovation Platforms by the end of 2016, as having the skills to use EXTRAPOLATE

is considered as a great advantage when building an innovation platform. As a part of the course, both the methodology and the tool will also be discussed and addressed in the step face to face workshops, the second step of the approach, to make sure the participants have a good grasp of how to use the tool in practice and how to help teach those who wish to learn more about it.

6 Learning from example: studying mature innovation platforms

Whenever a big step forward is taken, for example, the implementation of innovation platforms, it is essential to share the best practices and lessons learned. There might be other regions and/or situations where having an innovation platform could make a huge positive difference, but those involved are not quite sure where and how to begin. Or, perhaps they have already taken the first steps and got stuck after coming across the first unforeseeable obstacles.

A million things can happen and having access to ideas and practices that are used in other innovation platforms can, make a big difference, which is why Humidtropics decided to invest in an activity which eventually led to the creation of a book on the subject, as well as development of learning materials to showcase the process of building successful innovation platforms and the positive impact they can have for all the parties involved.

6.1 Selecting the best Humidtropics innovation platform case studies

The first part of the project related to the case studies was a competition which continued the quest to decipher the DNA of innovation platforms and aimed to bring together multiple stakeholders and actors in the agriculture sector to produce case studies featuring the most innovative ideas, best practices, actionable knowledge and strategies emerging from mature innovation platforms in the agricultural systems research landscape.

The Innovation Platforms Case Studies Competition was launched at the FARA@15 event in November 2014 and by 9 January 2015, the first positive outcomes of the initiative were manifested in the 27 received applications. Out of these, 12 were chosen to participate in a writeshop that took place between 23 and 27 February 2015 on the ILRI Campus in Nairobi. The focus of this writeshop was on how to write stronger, more reflective and cohesive cases, taking the writers through the process of storyboarding their article, writing and critically reviewing it with the input of their fellow authors.

Provided this was a competition, a winner had to be chosen, which turned out to be an anything but easy task. All of the competitors exhibited great knowledge and understanding, as well as excellent writing skills and motivation. The editors looked at the maturity of the platforms in relation to the themes of the competition, systems trade-offs, platforms focusing on multiple commodities, scaling up agriculture and learning from failure, and assessed the studies based on the content strength, quality of writing and usefulness of the case study. These conditions were announced in the competition notice, therefore all of the competitors knew from the very beginning why they should focus on and why.



On 30 November 2015, an event took place in Kampala, Uganda, during which the book (see Chapter 6.2.) was presented and the three best case studies announced. Among those who attended the event were the Humidtropics director, Kwesi Atta-Krah, the winners of the competition, the editors and authors of the book and Hon Ruth Nankabirwa, the Government Chief Whip of the Republic of Uganda. During the awards ceremony the authors were honoured and awarded cash prizes of respectively \$2,000, \$1,500 and \$1,000 USD:



Winner: Rebecca Kalibwani, Bishop Stuart University, Uganda. Can an Innovation Platform Succeed as a Cooperative Society? The story of Bubaare Innovation Platform Multipurpose Cooperative Society Ltd.

The winning case study stood out, among other reasons, because of the legal precedent of creating a cooperative out of an innovation platform, making it an excellent example to take into consideration in other country contexts with common law settings. It also illustrated a true multipurpose innovation platform, with the capacity to innovate and scale up its innovation to the benefit of the platform members. The platform, which the case study focused on, came up with technological, market and policy innovations and told a compelling story about

sustainability and platform impact.

2nd place: Thanammal Ravichandran, ILRI, India. MilkIT Innovation Platform: Changing Women's Lives – One Cow and One Litre of Milk at a Time – Deep in the Foothills of India's Himalayan Mountains.

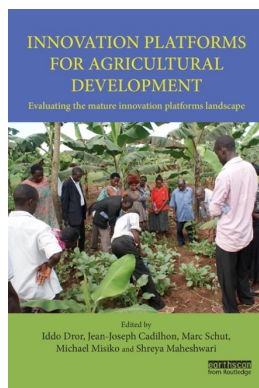
This case study demonstrates a clear pathway to addressing constraints of dairy farmers in India, with development and policy impact, as well as other powerful and relevant lessons to learn from.



3rd place: Perez Muchunguzi, IITA, Central Africa. Overcoming Challenges for Crops, People and Policies in Central Africa – the Story of CIALCA Stakeholder Engagement.

Focused on an emerging platform process, the author of the case study identified several success elements and thus provided a great set of experiences to take into consideration for platforms around the world.

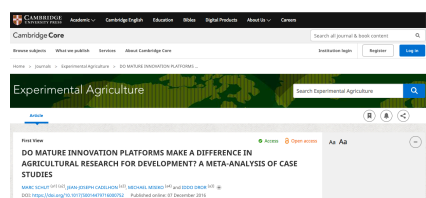
6.2 The best case studies published as a book



Out of the 12 submissions that were selected for the writeshop, 8 case studies were chosen to be featured in a book published by Routledge, Taylor & Francis Group in January 2016, which was first presented at the same time the competition winners were announced at the event in Kampala, Uganda, in November 2015.

The 190-page book, titled *Innovation Platforms for Agricultural Development: Evaluating the Mature Innovation Platforms Landscape*, is the result of a collaboration between many CGIAR organizations and editors, namely Iddo Dror and Jean-Joseph Cadilhon (ILRI), Marc Schut (IITA/WUR), Michael Misiko (International Maize and Wheat Improvement Center, CIMMYT) and Shreya Maheshwari (ILRI consultant) and it features case studies from Central Africa, Ethiopia, India, Kenya, Nicaragua and Uganda. A great deal of thought was put into selecting case studies that highlight system trade-offs, scaling up agriculture, handling multiple commodities and learning from failure, as well as include the authors' critical reflection on the impact of the

6.4 Academic article



In early December 2016, another legacy product related to the case studies was published. Marc Schut (IITA, WUR), Jean-Joseph Cadilhon (ILRI), Michael Misiko (International Maize and Wheat Improvement Center) and Iddo Dror (ILRI) wrote an academic article titled *Do Mature Innovation Platforms Make a Difference in Agricultural Research for Development? A Meta-Analysis of Case Studies*, for which they analysed the success factors of the eight case studies to try and answer the question presented in the title of the article. The article is available on the Cambridge University Press website.

The article is one of the few that goes beyond how innovation platforms work and the positive attitudes they're usually greeted with, and focuses on mature innovation platforms and whether these have any impact on a higher scale, especially when it comes to addressing trade-offs, focusing on integration of different commodities, reaching a vast number of beneficiaries and learning from their failures. The results indicate that while innovation platforms fulfill a very important role in AR4D, the success of the innovation platforms is rarely achieved at scale, leading the authors of the article to question the use of innovation platforms as a technology dissemination and scaling mechanism in these programs when it comes to benefiting the livelihoods of farmers in developing countries.

However, as mentioned, on a local level they still have a very important impact, if the processes related to innovation platforms are demand-driven, participatory and based on collective investment and action. When these conditions are met, the innovation platforms can bring together different stakeholders, all committed to working towards the same goal and, as a result, technically sound, adapted to the local context, economically feasible for the farmers and culturally, socially and politically acceptable innovations take place to help improve the quality of life of everybody involved.

Therefore, while the book presented the eight different cases as interesting lessons and stories, this particular academic article goes a step beyond and uses the lessons learned and observed in the case studies to provide actual conclusions on the subject of mature innovation platforms and the impact they have on AR4D.

6.5 Using the case studies as part of the learning materials on innovation platforms

When capacitating facilitators and delivering the learning material, theory is necessary to establish a base on which practical skills can be developed. However, merely stating facts and definitions is often not enough to paint a clear picture on how the theoretical concepts should work when applied. In order to illustrate the practical part as a part of the learning process, case studies are an invaluable source of learning materials as they put an actual situation and how it was handled in the classroom for everybody to study and prepare for when they might find themselves in similar circumstances.

The case studies published in the book are all worth showcasing as examples of effective innovation platforms. They provide all the material necessary to develop an understanding of what to do and what to avoid, what should be taken into consideration at different stages of building the platform and how to bring together the stakeholders to make a fully rounded platform that



works smoothly towards a common goal of improving the situation for everybody involved.

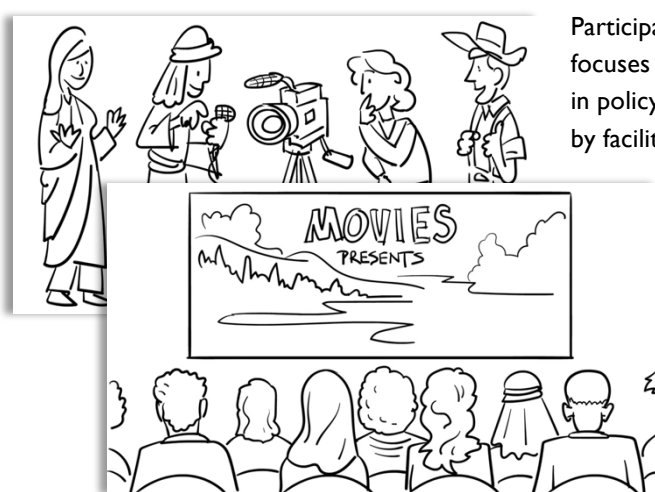
In order to make the case studies usable in the classroom setting, they needed to be made available as education materials and teaching notes. The winning case study was already included in the blended course on Understanding, Facilitating and Monitoring Agricultural Innovation Platforms, while the remaining seven are planned on being included before the end of 2016.

What better way to learn and where better to get ideas and best practices from than innovation platforms that were built as a part of the Humidtropics program? By having these eight case studies adapted as education materials and teaching notes, all of the facilitators will be able to go beyond abstract ideas by learning from actual situations that took place in a similar setting than they might find themselves in, as well as being able to use the notes to further spread the valuable lessons described in each of the studies.

7 Capacity development projects in the Central American and Caribbean flagship

The Central American and Caribbean (CAC) action site are was the setting of three CapDev projects with cross cutting linkages to gender, youth, communication and organization. All three were launched in 2014 and while each approached the subject in its own way, they all share the common ground of working towards improving overall conditions for the rural population of the CAC flagship.

7.1 Training in a Participatory Video project to empower rural women and youth



Participatory Video (PV) is a participatory research tool that focuses on enabling the empowerment of rural women and youth in policy-making debates that affect rural populations. They do so by facilitating them to use video technology to tell their own story while considering elements of their livelihoods and the necessary approaches to bring about desired changes. Engaging all the participating groups in positive learning and encouraging them to voice their stories and opinions empowers them, while at the same time gives them the possibility to gain confidence in their abilities to acquire new skills and think creatively in regards to innovative problem-solving. It is a promising cross cutting initiative to explore the potential of inclusive youth and gender components, as well as the

transformation processes stemming from learning experiences at the community level.

Out of the three projects in the CAC flagship, this was the most successful one. It took place in the Humidtropics Nicanorte Action Site where the tool was used to collect indigenous knowledge on how sustainable development strategies impact local communities, particularly women and youth. After seeing the success of the pilot workshop conducted in 2014 by Humidtropics, CCAFS and CIAT with a group of young rural women and men from La Danta (Somotillo, Nicaragua), PV was implemented as a Capacity Development project in 2015. The experience generated an adaptable PV methodology and training tools that can be used in other action sites of the flagship and beyond.

Since the project was taken over by the Humidtropics CapDev unit, many different outputs were launched to communicate its potential. For example, in March 2015 a production of a Participatory Video Methodology Facilitator's Manual in Spanish and English was released, followed by a workshop for 12 young women from the site in May of the same year to validate the manual in collaboration with a local partner.

During 2015 a consultant was also hired to adapt the PV Methodology Facilitator's Manual into an interactive eLearning course. The course is available on the ILRI LMS and comprises of 11 modules corresponding to the days of the workshop. Each module includes the content and a short quiz to provide immediate feedback to learners. Since the course is a part of



ILRI's LMS, course facilitators can track participant progress and answers to the quiz questions to help ensure the learning process is as effective as possible.

In September 2015, a guide to the development themes emerging from the workshop was created to focus on the PV dissemination strategies and the following month a set of monitoring and evaluations tools were developed to measure workshop effectiveness, determine the project's value proposition, provide guidelines for external facilitation and define a clear impact pathway. To top all of the outcome materials of the project, a whiteboard animation video, a promotional 2-pager and a blog article were produced to inform other flagships and actors about the PV project. Promotional materials were disseminated on World Science Day for Peace and Development (10 November 2015).

There was a slight change in the 2016 activities in the sense that the work on the PV project was continued under the Gender Mainstreaming Research Area of the Humidtropics and focused mainly on promoting the work done during 2015. The main goal was to spread the word and show that the tool can be adjusted and adapted to whatever specific research for development context an organization might find itself in. This was done with a social media campaign, an online course open for any interested party to take and the creation and publishing of a booklet that systematizes Humidtropics' PV experience in Nicaragua to provide an in-depth learning tool for partners to replicate the PV methodology in their own project frameworks. Or, in other words, a PV detailed how-to.

It was during the gathering of all relevant information when the team responsible for the project realized that the PV methodology had been adapted and used by CIAT in Africa, making for an excellent addition to the Nicanorte experience and speaking to the clear value of PV as a tool to enhance the Agricultural Research for Development project implementation and follow up. Therefore, it only made sense to get the information about the CIAT experience as well and include it in the booklet, which further enriched the content of the booklet.

After the booklet was completed in English and translated to Spanish, and as a final activity for 2016, it was shared with a local implementation partner, Fundación Entre Mujeres (FEM, Foundation Among Women), to obtain their opinion and feedback about their experience through the PV workshop and areas of interest for future work.

7.2 Developing capacity of Policy Analysis with a Gender Lens



The Humidtropics Capacity Development unit offered support and funding for the development and validation of the practical toolkit for public policy analysis with a gender lens. The development was led by the International Center for Tropical Agriculture (CIAT) organization in 2014, and piloted and refined during the following year (2015).

The pilot program included six local organizations being trained in carrying out policy analyses. Based on the outcomes of the program, the final version of the toolkit based on the lessons learned was released in Spanish in October 2015. As implied by the name, it includes a set of tools that should not be omitted from any kind of public policy with a gender lens analysis. To accompany the toolkit with a clear example of how the analysis looks in practice, the analysis of 'Programa Productivo Alimentario o Hambre Cero' (Productive Feed Program or Hunger Zero) was provided to all researchers who were considering conducting their own public policy analysis. Both the toolkit and the example help all who intend to perform a public policy analysis from a gender perspective by giving them conceptual and methodological tools, steps and examples to follow to make the entire process as easy as possible, without sacrificing the transparency, validity and quality of the final results of their analysis.



7.3 Developing capacity for Effective Organizational Analysis in the action sites of Humidtropics

In 2013, a Situation Analysis was carried out in the northern Nicaragua Action Site, Nicanorte. A key component of this analysis was an Organizational Analysis, which involved the collection and analysis of primary data about organizational actors active in the action site. The purpose of the Organizational Analysis was twofold – on the one hand to gain a deeper understanding of the current status of different activities, innovations and future directions of organizations working in Nicanorte to assist in the process of making strategic and collective decisions about the direction of the Humidtropics in the action site, and on the other to generate the baseline data set to monitor and evaluate learning and innovation among organizations at the national level through Humidtropics' Research for Development Platform.

After conducting semi-structured interviews with key organizations active in the action site, a more extensive Organizational Analysis was carried out using ten principle indicators. Additionally, 11 thematic areas were used to map the convergence between organizational initiatives and Humidtropics' IDOs. The final analysis and report provided good quality information about the organizational landscape of the action site and its territories, so much so that other flagship projects expressed their interest in implementing the method in the action sites located in Africa and Asia.

A program-wide initiative, called 'Developing capacity for effective organizational analysis in the action sites of Humidtropics', was approved and developed by the CapDev team to provide the necessary instructions and knowledge to all sites interested in performing the same analysis. As a part of the materials created was a toolkit for organizational analysis and guides as to how to use it, including an interview protocol together with instructions on how to carry out the interviews, to make the entire process as simple as smooth as possible.



8 Tools and training materials to help mainstream gender in Humidtropics activities

The Humidtropics Gender Strategy commits to the empowerment of women and, after careful consideration of the subject, it was established that there are four key dimensions to achieving it: access to material assets, access to knowledge and know-how, improved capacity (including the ability to make decisions) and the ability and self-confidence to make choices.



To help on the path to reaching the empowerment of women, the Humidtropics CapDev team developed four classroom-training modules to be used by facilitators of innovation platforms. These introduce the topic and cover gender diagnostic tools related to roles and responsibilities, as well as control of assets: Control of Assets (CoA), Power & Decision-Making (PDM), Needs, Priorities and Perceptions (NPP) and Barriers to Participation (BtP). Each of the modules goes into more detail on important concepts regarding gender relations and equality that contribute to any community development endeavours. They are considered important due to the positive impact they have the potential of having on the community where they are put into practice, impacting its economic, social and political development.

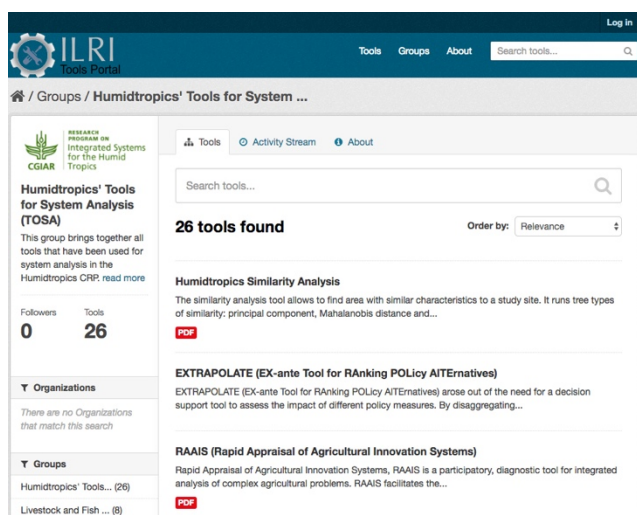
Also, a series of posters was developed to decorate the innovation platform meeting rooms. Armed with these tools, members of innovation platforms will be able to conduct an informed gender analysis of their proposed activities and design gender sensitive monitoring and evaluation tools.

The source for the training materials to mainstream gender in the work of the Humidtropics was the IITA's Training Manual for Gender Mainstreaming and Analysis: Building Capacity for Agricultural Research for Development and Innovation, as well as PRA's tools for gender analysis adapted by the Food and Agriculture Organization of the United Nations, the International Fund for Agricultural Development and the Institute of Development Studies (United Kingdom). These materials are meant to be 'mini-modules' that can be completed after regular ongoing meetings of platform members, to reduce time and cost involved.

9 Support for an enhanced Tools for System Analysis (TOSA) portal

In 2013, as an outcome of the Participatory Agriculture Research: Approaches, Design and Evaluation (PARADE) workshop, over 40 researchers compiled experience and shared methodologies in the areas of livestock, fish and crops. The various tools and methodologies these researchers developed were uploaded to a database called the Tools for Systems Analysis (TOSA) portal, as a joint initiative of the Humidtropics and Livestock and Fish Research Programs of the CGIAR. The main objective was to increase transparency and accessibility to the tools that are used within these programs.

The database of tools and methodologies allows researchers to find appropriate tools and methodologies to more effectively and efficiently perform livelihood research related to agriculture, livestock and fish. Now, nearly four years later, the database is being renovated and renewed for better user accessibility and, therefore, a broader impact. This is being achieved through an improved website interface, the development of online video guides that will be available on YouTube and an integrated search tool.



The TOSA toolkit includes a range of relevant and substantial products representing significant research inputs from various CG partners. Dissemination of these tools to scale out uptake is a CGIAR imperative and documenting these tools and their collection into an online portal is considered as an important step in the right direction. The proposed inputs are expected to substantially improve the accessibility of the toolkit supporting its use by partner development and research organizations.

The toolkit is to be used by partner research and development organizations. Therefore, the development of online user modules will not only promote the tool but also made it easily used by the partners. The new

user face and search methods will ensure that potential users can more easily determine whether a particular tool is relevant to their needs and context. The interface to the toolkit will allow three search methods and integrate a decision support tool enabling selection of appropriate tools to assist the researchers in making quick decisions regarding which methodology applies best to their specific issue or context, as well as present them with options they might not have considered prior to using the TOSA portal.

I0 Capacity development in Agri-Food Systems briefs

The three years of investing in and working on different capacity development projects and activities did not only give place to a number of beyond admirable legacy products, but also helped the Humidtropics CapDev team get a range of experiences and understanding of new technologies and innovations related to this specific area. So much so, that it only made sense to collect all of the information in a single place and offer it to other researchers, organizations and CGIAR partners interested in increasing their capacity development efforts, but in need of ideas on how to go about it.



Therefore, ILRI, IITA, CIAT, the Royal Tropical Institute (KIT), WUR and the CGIAR System Management Office worked together on preparing a series of eight briefs to be used as a point of reference to help CGIAR Research Programs integrate key 'capacity development in systems' concepts into their work.

These briefs cover a variety of subjects on capacity development on the individual, community, organizational and system levels. Their main purpose is to support researchers and organizations dedicated to development in identifying entry points for investment in capacity development. They include a range of tools, product and approaches that can be used in not only agricultural research, but also development projects and programs.

The eight briefs are available on the CG Space in a PDF format:

1. Capacity Development in Agri-Food systems

2. Can Our Research Benefit from 'Tech, Fun and Games'? Leveraging Alternative Learning Approaches and Technologies to Enhance R4D Outcomes
3. Coaching: Guided Action Learning on Agricultural Innovation Systems, Integrating Gender and Youth and Nutrition in AR4D
4. Integrated Analysis of Complex Agricultural Problems and Identification of Entry Points for Innovation in Agri-Food Systems
5. Measuring the Effectiveness of Multi-Stakeholder Processes and Partnerships for Innovation and Scaling
6. Effective Targeting of Interventions Based on Capacity Needs Assessments and Intervention Strategies
7. Leveraging Instructional Design and Experimental Research Design to Increase the Effectiveness of Capacity Development
8. Developing and Sustaining Capacity in National Systems Through Coordinated, Aligned and Collaborative CapDev Interventions