A brief overview of cross-cutting capacity development at ILRI

Presented by Iddo Dror, Head of Capacity Development, ILRI

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In addition to any named organizations, we thank all donors who supported this work through their contributions to the CGIAR Fund.
ILRI’s Vision and mission

ILRI envisions a world where all people have access to enough food and livelihood options to fulfill their potential.

ILRI’s mission is to improve food and nutritional security and to reduce poverty in developing countries through research for efficient, safe and sustainable use of livestock: “Ensuring better lives through livestock”.

- Get the science right
- Secure sustainable and appropriate funding
- Influence decision-makers
- Ensure ILRI is fit for purpose

Grow capacity
Fellowships - a snapshot (2015 recruitment)

<table>
<thead>
<tr>
<th>Unit</th>
<th>Graduate Fellows</th>
<th>Research Fellows</th>
<th>Interns</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal science for sustainable Productivity (ASSP)</td>
<td>70</td>
<td>3</td>
<td>1</td>
<td>74</td>
</tr>
<tr>
<td>BecA-ILRI Hub</td>
<td>1</td>
<td>43</td>
<td>3</td>
<td>47</td>
</tr>
<tr>
<td>Institutional support units</td>
<td>1</td>
<td>0</td>
<td>34</td>
<td>35</td>
</tr>
<tr>
<td>Livestock Systems and Environment</td>
<td>18</td>
<td>0</td>
<td>1</td>
<td>19</td>
</tr>
<tr>
<td>Livelihoods, Gender &amp; Impact</td>
<td>8</td>
<td>0</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Animal Biosciences</td>
<td>8</td>
<td>0</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Food, Safety and Zoonosis</td>
<td>5</td>
<td>0</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Policy, Trade and Value Chains</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Vaccines Biosciences</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>111</strong></td>
<td><strong>46</strong></td>
<td><strong>49</strong></td>
<td><strong>206</strong></td>
</tr>
</tbody>
</table>

206 fellows and interns recruited in 2015

Female 39%

28 Nationalities
## Short term training, by ILRI program

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ASSP</td>
<td>27</td>
<td>6,150</td>
</tr>
<tr>
<td>Livestock, Systems and Environment</td>
<td>22</td>
<td>1,142</td>
</tr>
<tr>
<td>Food Safety &amp; Zoonosis</td>
<td>36</td>
<td>679</td>
</tr>
<tr>
<td>Capacity Development Unit</td>
<td>23</td>
<td>247</td>
</tr>
<tr>
<td>Policy Trade and Value Chains</td>
<td>6</td>
<td>106</td>
</tr>
<tr>
<td>BecA-ILRI Hub</td>
<td>6</td>
<td>75</td>
</tr>
<tr>
<td>Livelihoods Gender and Impact</td>
<td>12</td>
<td>70</td>
</tr>
<tr>
<td>Animal Biosciences</td>
<td>6</td>
<td>64</td>
</tr>
<tr>
<td>Feeds and Forage Biosciences</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>140</strong></td>
<td><strong>8,536</strong></td>
</tr>
</tbody>
</table>

### # of short term trainees (2015)

- ASSP
- Livestock, Systems and Environment
- Food Safety & Zoonosis
- Capacity Development Unit
- Policy Trade and Value Chains
- Livelihoods Gender and Impact
- Animal Biosciences
- Feeds and Forage Biosciences

### # of short-term trainings Conducted (2015)

- ASSP
- Livestock, Systems and Environment
- Food Safety & Zoonosis
- Capacity Development Unit
- Policy Trade and Value Chains
- Livelihoods Gender and Impact
- Animal Biosciences
- Feeds and Forage Biosciences
- BecA-ILRI Hub
ABCF Program objective and components

• Strengthen capacity of NARS individuals and institutions to drive agricultural innovation by harnessing the latest bioscience technologies
  • Visiting scientist / fellowship program
  • Skill enhancement courses
  • Institutional support – research infrastructure / technologies
  • Mobilizing, existing capacities for joint action – Communities of Practice (e.g. chicken genetics; MLN; Taro; goat genetics)
What the BecA-ILRI Hub Capacity Development Program is responding to

- Low critical mass of NARS scientists in biosciences research
- Weak / ineffective links and partnerships
- Weak research infrastructure
- NARS opportunities to effectively leverage advances in biosciences for AR4D

CAADP AGENDA
S3A
Where the ABCF research fellows come from:

- National Research Institutes and Ministries (46%)
- Universities (51%)
- Others (private sector, CG....) (3%)
Contribution of ABCF projects to livestock development (and related themes)

- Livestock Research / Improvement (32%)
- Crops Research / Improvement (44%)
- Food Safety and Nutrition (11%)
- Under-utilized Species (6%)
- Climate Change (4%)

Animal health (e.g. PPR, ASF); Genetics (e.g. goats, chicken, Fish); Feed and forage (e.g. Brachiaria)
Institutional capacity building: key aspects

• **Technical assistance** (lab design and management, equipment installation and commissioning, training of equipment engineers)

• **Transfer of technologies following training of scientists from the BecA-ILRI Hub to the NARS** (e.g. diagnostic assays and techniques)

• **Resource mobilization for capacity building and research infrastructural development**

• **Connections to networks and key influencers** (e.g. suppliers of reagents and lab equipment).
Stakeholder feedback (2014 external evaluation)

Very strong endorsement by stakeholders of the ABCF

Figure 13: Performance of the BecA-ILRI Hub against its mission

- **94%**
  - of all stakeholders believe that BecA-ILRI promotes access to world-class research and training facilities

- **96%**
  - of all stakeholders believe that BecA-ILRI builds capacity of individuals and institutions to harness the latest biosciences technologies to improve Agriculture in Africa

- **91%**
  - of all stakeholders believe that BecA-ILRI promotes the development of cutting edge research into applicable solutions for addressing food security and quality issues in Africa

“The BecA-ILRI Hub facilities are like a laboratory in Europe but put in Africa” – ABCF Alumni

“The technical platform [provided by the BecA-ILRI Hub] was very useful; I was going to do research in France but it wasn’t affordable. The ABCF provided both financial and technical support like lab materials and mentorship. I was doing things I would never have been able to do in Cameroon.” – ABCF Alumni
Instructional Design

An instructional designer works with subject matter experts, trainers and e-Learning developers to create:

- Logically sequenced curriculum that introduce skills and concepts in an accessible, step-by-step manner
- Activities that offer relevant practice
- Assessments that truly gauge learners’ mastery of subject
- Insightful, memorable anecdotes and case studies
- An engaging experience for learners delivered through the most appropriate methods / channels
What is this based on?
Mumbo-jumbo, pseudoscience piece of fluff... or?

As a field, instructional design is historically and traditionally rooted in **cognitive** and **behavioral psychology**, though recently **Constructivism (learning theory)** has influenced thinking in the field.

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### 50+ Theories of Learning

[www.instructionaldesign.org/theories/](http://www.instructionaldesign.org/theories/)

- ACT (Anderson)
- Adult Learning Theory (Cross)
- Algo-Heuristic Theory (Landa)
- Andragogy (Knowles)
- Anchored Instruction (Bransford-CTGV)
- Aptitude-Treatment Interaction (Cronbach & Snow)
- Attribution Theory (Weiner)
- Cognitive Dissonance (Festinger)
- Cognitive Flexibility (Spiro)
- Cognitive Load Theory (Sweller)
- Component Display (Merrill)
- Conditions of Learning (Gagne)
- Connectionism (Thorndike)
- Constructivist Theory (Bruner)
- Contiguity Theory (Guthrie)
- Conversation Theory (Pask)
- Criterion Referenced Instruction (Mager)
- Double Loop Learning (Argyris)
- Drive Reduction Theory (Hull)
- Dual Coding Theory (Paivio)
- Elaboration Theory (Reigeluth)
- Experiential Learning (Rogers)
- Functional Context (Sticht)
- Genetic Epistemology (Piaget)
- Gestalt Theory (Wertheimer)
- GOMS (Card, Moran & Newell)
- GPS (Newell & Simon)
Why should we care?

How is this relevant to “Keeping science relevant and future--focused”

- To ‘walk the R4D talk’ we need our science to entice and fulfill diverse audiences.
- A pathway “from research to impact” needs a focus on behavioral change - instructional design can play a big part in making this happen.
- Many researchers will need to learn (at least the basics) of this field to remain relevant in a future of ‘on demand’ learning environments.
- More investments are needed in ‘experts / facilitators’ at the organizational levels.
Learning Management System (LMS) overview & main features

- Detailed & frustrating review of a fragmented LMS market – ended (happily) with a partnership with Sonata Learning.

- All ‘core LMS’ functionalities - plus:
  - Simple, clean, intuitive user interface
  - “Blended first” approach to delivery
  - Integration of social learning
  - Branding and sub-portals
  - Ability to scale with the growth of ILRI programs
  - A unique approach to grading
  - Reporting features

Check it out on [http://learning.ilri.org/](http://learning.ilri.org/) - first wave of courses is live!
LMS on a stick – the Sonata offline player
A ‘game-changer’ for poor connectivity environments

- Portable e-Learning and Data Collection Apps
  - Data collection utility
  - Full e-Learning course
- Run from USB drive on any Microsoft Windows computer (XP or later), no installation required
- Every record (data collected, training results) stamped with a unique ID for upload to central website
Why We’re Excited about the Prospects of mLearning

• Short bite-sized micro-lessons: Fits the environment where we aim to intervene!
• Transcends the formal learning space and brings structured learning into an informal learning space (Flexible, Self-paced, Self-directed)
• A Form of Performance Support (Just-in-time / On-demand learning)

Source: http://elearningindustry.com/mlearning-the-way-of-learning-tomorrow
ICT4Ag is part of the solution.

- Gamified m-learning for Livestock Insurance
- Mobile phone-based diagnostics
- mNutrition / mPig
- Mobile Data Systems for Sustainable Livestock Genetics
- Leveraging Mobile Technology to Match Research Priorities to Farmer Needs
Index-Based Livestock Insurance (IBLI) project at a glance

• It is an insurance product that is designed to protect against prolonged forage scarcity in ASALs

• Insured pastoralists receive a pay-out based on a forage availability index, estimated according to the amount of forage available over a season as indicated by satellite imagery.

• IBLI is currently being implemented in parts of Northern Kenya and Southern Ethiopia

• Over 4000 livestock herders in Kenya have bought IBLI since 2010. The Kenya Govt./World Bank have rolled out IBLI on a larger scale to targeted pastoralists in N. Kenya.

• Benefits since inception;
  • 36% drop in ‘distress’ sales of livestock
  • 25% reduced likelihood of having to eat significantly smaller meals
  • 33% reduction in dependence on food aid.

• For more visit: ibli.ilri.org

CAPACITY DEVELOPMENT, EXTENSION, MARKETING, SALES

Implementation of IBLI is a joint effort between ILRI (with support of its technical and development partners), commercial underwriters and implementing partners on the ground (government, NGOs, CBOs etc).
better lives through livestock

ilri.org