

## Research and innovation: Partnerships for agricultural transformation and food security

The development of research and innovation in the agricultural sector is one of the three priority areas in the Strategic Plan for Agricultural Transformation (2018-2024). Education institutions are in prime position to lead a research and innovation culture that responds to critical labour market needs, strengthens feedback loops and, through dissemination, leads to more widespread adoption of improved agricultural practices. To help cultivate this, SEAD has been working with inter-disciplinary teams of junior researchers from across different education institutions to strengthen their capacity in applied research. However, further commitments and action from the wider agricultural sector are needed over the next three years – the time left under the current strategic plan – if the gap between research and agricultural sector needs and action is to be narrowed, and agriculture is to fulfil its potential in meeting Rwanda’s food security and economic needs.

*This briefing paper highlights findings from SEAD’s support for education institutions to participate in applied research and innovation since 2018. It is aimed at decision makers in the education, private sector and public institutions who are seeking to push applied research and innovation up the agenda. The brief draws on programme documentation and research, as well as discussions with the implementing team and key stakeholders.*

### Key findings

#### **The RICD approach is strengthening capacity for applied research across the agricultural education sector**

Collaborative agricultural research happens in Rwanda, but not on this scale, not with private sector partners – and therefore, not necessarily focused on finding solutions that have immediate, practical application. To date, 105 individuals have been involved in the four cycles of funding SEAD has allocated to research and innovation. However, beyond those involved in this work, buy-in remains relatively low.

#### **Collaborative research promotes joined-up approaches that avoid duplication**

Working together more closely with researchers from other education institutions, across disciplines and with the private sector ensures everyone has a greater awareness of what others are doing. This leads to less duplication, less fatigue felt by communities who are often the subject of research and more possibility of new breakthroughs and impact because researchers are building on each other’s work.

#### **Results from RICD are being sustained**

The first four cycles have produced findings that highlight good practices farmers can adopt, such as the development of a low-cost charcoal cooler of raw milk to improve preservation; storing of vegetables in evaporative cool chambers to reduce post-harvest losses; adaptation of locally available materials for incubation and hatching of indigenous chicken eggs. Researchers reported ongoing relationships for joint delivery of teaching, outreach activities and work placements and the publication of joint research papers will be used to improve the curriculum. In addition, farmers who visited research plots left with better understanding of the good practices the research partnerships are promoting. In total 28 research partnerships have been formed between education institutions and the public sector, including between RAB (Rwanda Agriculture and Animal Resources Board) and the private sector and an international partnership with an education institution in California, USA.

**28** research partnerships formed

### **Inter-disciplinary research draws on a range of expertise and resources**

While researchers from education institutions bring academic knowledge and understanding, practitioners from private sector organisations or other public institutions bring expertise from their everyday practice. In addition, as commercial entities, private companies can also draw on capital and/or materials that education institutions are not always able to access.

### **Funding processes hinder the dynamism needed for rapid, responsive applied research**

Existing funding policies leave little room for the practical flexibility applied research often needs. Funds are usually requested from the education institution and any shifts in scope requires those involved to go back and re-submit a budget for approval. There is an administrative burden to this, but more importantly, it is time-consuming – reducing researchers' responsiveness to the changing context.

## **Recommendations**

Enthusiasm for this way of working to continue should be capitalised on so that RICD principles and approaches become common practice.

### **Streamline administration and policies for research**

**collaboration between different types of organisations:** This is a necessary step in helping to embed the RICD into regular ways of working within the sector and within education institutions.

### **Share learning and good practice from the cycles of RICD:**

Education institutions and others involved in applied research and innovation cycles should, in collaboration with SEAD, share lessons learned for the wider agricultural sector – and others – to inform and inspire wider adoption and adaptation of similar practices.

### **Develop a framework that outlines research collaboration**

**with industry:** The National Commission for Science and Technology (NCST) and the National Industry Research Agency should develop and articulate a clear framework for industry collaboration on research that education institutions can draw upon, articulating roles and responsibilities and outlining key purposes.

**Define national priority areas for agricultural research:** RAB, in alignment with the National Council for Science and Technology, should help define national priority areas for agricultural research over the next few years alongside continuing to encourage research collaboration with industry. This will help to give an overview of existing research and collaborations, to avoid duplication and focus applied research where it is needed most.

**Encourage labour market engagement:** The private sector and education institutions should work more closely together, proactively collaborating on relevant and sector-specific research to foster relationships and bridge gaps between education and labour market needs.