ICT/ICM Human Resource Capacities in Agricultural Research for Development in Eastern and Central Africa

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Abstract. Human capacities are lagging behind the quickly evolving information and communication technologies and management (ICT/ICM). Therefore, the Regional Agricultural Information Network (RAIN), one of the networks of the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA), commissioned an assessment of ICT/ICM human resource capacities and related training needs in the context of agricultural research for development. The assessment included visits and interviews, questionnaire surveys, and desk studies at national agricultural research systems in the ASARECA subregion. We found a general lack of ICT/ICM policies which has serious consequences, and leads to a wide variety of training needs. Fortunately, most training needs can be satisfied with resources available locally, in-house, in the country, or in the ASARECA subregion.

Communicating with farmers in Kenya

Background.   In sub-Saharan Africa, agriculture accounts for 70 % of employment and is vital for the livelihood of the rural poor. Modern information and communication technologies (ICT) and appropriate information and communication management (ICM) are necessary to support agricultural research for development. Information technologies are evolving quickly, and many small and large initiatives are in progress. The "digital divide" is closing rapidly, however human capacities are lagging behind. Therefore, RAIN, one of the networks of ASARECA, commissioned a team of consultants to undertake an assessment of ICT/ICM human resource capacities and related training needs in the context of agricultural research for development, funded through a grant provided by the Technical Centre for Agricultural and Rural Cooperation (CTA).

Study methodology.   The assessment began end of June 2004 with an inception meeting of the consultants, RAIN and ASARECA staff, and continued over seven months (a total of ten month were planned, including editing, translating and distributing the report). Through three activities - visits and interviews, questionnaire surveys, and desk studies - the consultants - "we" - examined institutional ICT/ICM policies, human resources, and training needs at national agricultural research systems and related institutions within the ASARECA subregion: national agricultural research institutes, training institutions, government departments related to agriculture, policy and regulatory organizations, ICT/ICM service providers, rural service providers, regional networks and initiatives, and international agricultural research centres.

We collected data for assessing institutional ICT/ICM capacities and for identifying skills gaps on the following aspects: strategic policy environment, information management, technology management, communication management, and service provision and partnerships. The analysis and interpretation of data, both qualitative and quantitative, include the experiences from the three activities.

Findings.   Our findings combine data from both the personal interviews and the questionnaire surveys. The findings include data from all ten ASARECA countries except Eritrea. We interviewed about 250 people from Kenya (84 people), Tanzania (45), Uganda (43), Madagascar (24), Burundi (21), Rwanda (18), and Ethiopia (12). Fifty-nine of the interviewees were women, of whom 22 held high positions, and 17 held ICT/ICM-related posts. We received questionnaires from 66 respondents.

We found a general lack of institutional ICT/ICM policies which, in turn, affect human resource policies, commitment to ICT/ICM by managers, initiation and execution of ICT/ICM activities, establishment and management of ICT/ICM units, and status of ICT/ICM staffing. We found deficiencies in skills for accessing scientific and technical information; managing content, data, and information; disseminating and communicating information; and managing technologies.

These deficiencies lead to a wide diversity of training needs throughout all staff categories and occupations, from technical and administrative support up to senior management. Training is needed at various competency levels, especially at short-term, but also at diploma, graduate, and postgraduate levels. Fortunately, during our country visits, we noticed that most training needs can be satisfied with resources available locally, in-house, in the country, or in the ASARECA subregion. The questionnaire survey confirmed the availability of local training resources with respect to content and logistics.

We found high expectations on how RAIN could intervene with regard to constraints and solutions.

Recommendations. The conclusions from our findings lead to ten recommendations in the following areas: continuous and proactive follow-up by RAIN on ICT/ICM developments, awareness-building on the relevance of ICT/ICM in agricultural research for development, ICT/ICM partnership among individuals and institutions, creation and use of regional ICT/ICM databases, maintenance of a database on development partners, exploration of open and distance learning for training on ICT/ICM, enhancement of Internet connectivity, specification of training needs, identification of training resources, and follow-up and feedback by RAIN on expectations.

In summary, our conclusions and recommendations stress the need for RAIN to continuously follow up and participate proactively on the global evolution of ICT/ICM. For solving infrastructural and skills deficiencies, starting point is awareness-building at institutional, national, and regional levels.

We suggest specific action plans. We give profiles of resource institutions for training within and outside the ASARECA subregion. An assessment report is available on hardcopy (partially), CD-ROM, and www.asareca.org/rain.

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