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A Qualitative Look at the Barriers to Interdisciplinary Collaboration in Agriculture and Nutrition Research in Nepal

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Background

Nepal's burden of malnutrition[1] and the dominance of agricultural livelihoods[2] highlight the importance of understanding the pathways from agricultural production to nutritional outcomes and employing interventions that incorporate food production and consumption. A need for improved understanding of such pathways and the impacts of nutrition-sensitive interventions has encouraged related research initiatives in Nepal. Agriculture research has often been conducted separately from nutrition research, despite the inherent relationship between agriculture and nutrition in rural Nepal's food-producing households and increasing recognition that agricultural production directly influences food availability and consumption. Interdisciplinary research between the fields of agriculture and nutrition may clarify and measure the ways that different agricultural practices alleviate or contribute to malnutrition and could eventually inform programs and policies that address malnutrition in the context of Nepal's predominant agricultural systems. To encourage collaborative research and increase the effectiveness of nutrition- and agriculture-related interventions and policy initiatives, we must understand the institutional factors inhibiting interdisciplinary collaboration in research.

Objective

This study identified 1) past and current activities of agriculture and nutrition research institutes and organizations in Nepal 2) commonly perceived barriers to interdisciplinary research and activities between the fields of agriculture and nutrition 3) recommendations for addressing these barriers and improving interdisciplinary collaboration in research in Nepal. Identifying and understanding the institutional barriers to interdisciplinary collaboration in agriculture and nutrition research may allow stakeholders to address these barriers and foster collaboration in the future.

Methods

This qualitative study comprised semi-structured, in-depth interviews with key informants from sixteen research academies, governmental agencies, or non-governmental organizations working on agriculture and/or nutrition issues in Nepal. One to two informants from each institution were selected for interviews based on their knowledge or oversight of institutional research activities. Responses were grouped by sector and type of institution, and common themes were identified regarding 1) barriers or constraints to collaborative research with other sectors and 2) suggestions for improving interdisciplinary collaboration in agriculture and nutrition research. Interviews were conducted in Kathmandu, Nepal in July and August 2014, and responses were analyzed using Atlas.ti and Microsoft Excel software.

Findings: Barriers

Five themes were identified as the most common barriers to interdisciplinary collaboration in agriculture and nutrition research.

- **Implementation of Multi-Sector Research**: Many informants discussed the difficulty of implementing research that involves stakeholders across different disciplines. Reasons listed for this difficulty included a perceived lack of coordination among sectors, different organizational structures and research systems, and a lack of communication and sharing of ideas between scientists. Furthermore, informants cited a lack of time and funding to be able to support and carry out interdisciplinary research efforts.

- **Differing Priorities Between Sectors:** A common perception was that there are differing priorities between the agriculture and nutrition sectors, with the agriculture sector prioritizing increased agricultural productivity and the nutrition sector prioritizing micronutrient sufficiency. The complexity and multi-faceted nature of malnutrition was also listed as a barrier to coordinating multi-sector efforts to effectively address malnutrition and integrate agriculture and nutrition research initiatives; informants questioned who should be involved and who is responsible for different aspects of nutrition-related problems.
- **Limited Research Activities:** Many organizations represented in this study did not have current research projects or agendas. This was particularly prevalent in the universities, many of which were focused more on teaching and less on research activities. Informants cited a lack of technical expertise, limited funding for research, and time constraints as reasons for the lack of robust research programs.
- **Donor Requests Dividing Sectors:** Three informants hypothesized that donor agencies may constrict the planning or design of interdisciplinary research by requesting and funding proposals that align with a single disciplinary approach. There is a sense that "money comes with ideas," and that many of the research and programs funded in Nepal are initially designed by external agencies to be carried out by a single discipline or research body.
- **No perceived barriers:** Four informants did not perceive any barriers or constraints to interdisciplinary collaboration in agriculture and nutrition research, due in part to the perception that agricultural research indirectly, yet sufficiently, contributes to improvements in human nutrition. Many informants in the health/nutrition sector see this perception as a barrier to collaboration between the two sectors.

Findings: Recommendations

Informants suggested the following recommendations for fostering collaborative research between the fields of agriculture and nutrition.

- **Communication:** Establish a platform for regular communication among scientists of different sectors.
- **Capacity building:** Continue to focus on capacity building among Nepali research institutes, universities, and organizations, and develop and fully fund robust research programs within these institutions.
- **Research protocol:** Incorporate nutritional assessments and indicators into household-level agricultural interventions to build a body of evidence on the associations between agricultural practices and nutritional outcomes.
- **Human Resources:** Share human resources between the two sectors (agriculture and health/nutrition sciences) to build technical expertise within research institutions.
- **Develop the field:** Develop an agriculture-nutrition academic program with research capacities within Nepali universities.

Conclusion

The interviews conducted for this study reveal the historical lack of collaboration between the fields of agriculture and nutrition, but also indicate a rising awareness of the links between the two sectors and the pathways through which agricultural practices affect nutritional outcomes. Following the recommendations of multiple key informants, the establishment of a platform for regular communication between scientists of different disciplines may enhance communication and increase awareness of current research and gaps. Universities, government agencies, and non-governmental organizations ought to continue to support capacity building activities and should hire or consult with professionals of other disciplines to inform their interdisciplinary activities. The Government of Nepal needs to prioritize and fund collaborative research to combat malnutrition, and external funding agencies should partner with local organizations to incorporate national priorities and collaborative techniques in research and program development. Recognizing local organizations' perceived barriers and incorporating their suggestions for improved collaboration might enhance the quality of agriculture and nutrition research and increase the effectiveness of interventions and policies geared toward improving nutrition through agriculture in Nepal.

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