Reshaping Extension Education Curricula for 21st Century Agricultural Development in sub-Saharan Africa

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Abstract

A major challenge facing extension systems in sub-Saharan Africa in the 21st century is how to contribute to the process of transforming rural and agricultural systems in sustainable ways. This places a tremendous burden on institutions of higher education that are mandated to develop the human resource capacities to confront these challenges. Education in agricultural extension plays a pivotal role in this process. Revitalization of higher education in agriculture and extension education is imperative, if educators are to be successful in developing the human capacities and competencies needed to address both local and global challenges of economic, social, and ecological sustainability in agricultural and rural development in the region.
Introduction

Public extension systems all over the world are being challenged to improve their relevance and effectiveness in contributing to agricultural and rural livelihood sustainability in an environment of increasing economic, social and ecological risk (Beck, 1992; Funtowitz and Ravetz, 1993). More so than conventional agricultural production, sustainable production requires that the extension practitioner goes beyond the dissemination of technical knowledge and skills to take on critical challenges that pertain to natural resource management and soil health, environmental protection, and market competition in an increasingly global economy, while remaining keenly sensitive to issues of social equity.

In sub-Saharan Africa, perhaps more so than other developing regions of the world, food insecurity, extreme poverty and associated poor nutrition among the vast majority who constitute the rural poor, along with extremely complex ecological environments, further exacerbate the contexts within which extension is supposed to contribute to agriculture, rural development, and improved quality of life. The situation has become even more serious in the last decades as economic crisis forced many African governments to accept stringent conditionalities through structural adjustment loans that insist on elimination of social welfare nets and reduced government spending as mechanisms for stimulating growth. One consequence has been a breakdown in the institutional infrastructure supporting production in many African countries, as governments could no longer afford to hire, retrain and provide the resources necessary to support their extension systems.

These vulnerabilities in the region’s political economy, alongside the social and ecological sustainability challenges at the local level call for strategic changes in the practice of extension to improve their effectiveness in helping rural clienteles and households improve their productivity and livelihoods. Extension practitioners face the challenge of acquiring new knowledge about local and global linkages. They also need new understandings of the implications of restructuring in agricultural and natural resources systems if they are to be able to respond effectively to emerging needs, dilemmas and challenges their clienteles face in increasingly complex and uncertain economic and social environments.

Extension scholar, Niels Röling (1999) reminds us that a knowledge driven, extension system constitutes the most effective means to strengthen and creatively reconstruct the entrepreneurial, social, and ecological capacities of people to successfully engage in production and livelihood activities that demand on the one hand, a strong competitive orientation, and on the other, heightened sensitivity to environmental issues. Practitioners also need new capacities in adult learning that entail a fundamental philosophical shift from traditional normative notions of extension-client relationships to ones that embrace the agency and knowledge abilities of farmers, and what Gruden-Schuck (1999) has referred to as authentic participation of people, households and communities in rural innovation.

Education in agriculture is critical to this change process because of the role it plays in preparing extension educators, researchers and practitioners for professional service in agriculture and rural development. Indeed a critical issue in the 21st century will be the changes and adaptations agricultural and extension education institutions will have to make in order to improve their effectiveness in preparing professionals with the capacities to address local as well as the global level challenges of agriculture, natural resources, and people’s livelihoods in sub-Saharan Africa (van Crowder et al, 1998).
The changes and adaptations that institutions make, and how such adaptations are made need to be strategic rather than reactive so that institutions themselves can become part of the mechanisms that determine change. A strategic response offers a way to improve agriculture and extension educational practice by highlighting what is currently missing, obsolete or inadequate in the province of ideas and pedagogy, thus speeding up attention to address areas that need change. Such a response calls for educators to, 1) thoughtfully re-examine and critically reflect on core underlying values and academic curricula (philosophies, epistemologies, subject matter content, and pedagogical methods) that have traditionally shaped agricultural and extension education in the context of their continuing relevance to the needs of 21st development in sub-Saharan Africa, and, 2) construct alternative frameworks for curricula revitalization that facilitate extension training relevant to the sustainability challenges and interests of rural producers, communities and households in the region.

Revitalization of higher education in agriculture and extension education is imperative, if educators are to be successful in developing the human capacities and competencies needed to address both local and global challenges of sustainability in agricultural and rural development. Examples of programs in the region already responding to the need for curricula revitalization in Africa include the SASAKAWA-Global 2000 Agricultural Program, and a major feasibility study that was undertaken by Makerere University to inform the development of a client-responsive curriculum for agricultural and extension education responsive to challenges rural communities are confronted with on a regular basis. The imperative for taking agricultural and extension education to task however, is not unique to Africa. Other regions have been farther in this process, although there are powerful historical lessons to learn from the uncritical adoption of models developed “at a distance” without attention to contextual uniqueness.

Institutions of higher education in agriculture in North America and Europe have grappled with, and provided insights for reform and revitalization in the face of rapid changes in agriculture and societal values that are leading to new demands on their educational systems. For example, in 1993, Texas A&M University and the University of Alabama were awarded a USDA challenge grant entitled: Theoretical Bases of Systemic Change in Higher Education (Kunkel and Skaggs, 1996). The main objective was to craft a coherent framework for change in the curricula content and context of agricultural education to reflect the diversity of needs of the agricultural graduate of the future.

Similarly, institutions of higher education in Western Europe, recognizing the imperative for change have, through the apparatus of the EU Socrates Thematic network for agriculture, forestry, aquaculture, and the environment (AFANet), developed a conceptual framework for the integration of sustainability in agricultural education and training (Wals and Bawden, 2000). While the latter places more explicit emphasis on sustainability dimensions, which in fact resonate with emerging aspirations for a responsive agricultural and extension education in Africa, the particular historical moment of development in the region demands a prudent and strategic adaptation. Röling (1999) wisely reminds us for example, that while the technological treadmill may have run its course in industrialized societies, in developing countries in which up to 80% of the population is still engaged in primary production, the productivity gains through agricultural science still have to be captured and agricultural and extension education still has a role to play in fuelling the agricultural treadmill with efficiency-enhancing technologies (1999:44).
Purpose

The purpose of this paper is to examine conceptually and assess the relevance of prevailing agricultural and extension education curricula in sub-Saharan Africa in the context of rapid global and local level changes occurring in the economic, political, and social systems. It aims to examine critically and reflect on emerging philosophical discourses arguing for fundamental transformations in epistemologies and pedagogical approaches to teaching and learning, and overall curricula revision as a strategic response to calls for revitalizing the curriculum of agricultural extension education to meet the urgent demand for a new professionalism in Extension. The idea of a new professionalism elevates the term from its traditional meaning of “extending out”, with little recourse to context, to one that embraces contextual complexity (environmental, economic, and social), endogenous knowledge, and authentic participation.

Beyond this, the paper examines emerging initiatives for curricula revitalization in agriculture and extension education in the region, and discursively analyzes underlying philosophies, rationales, subject matter content, and processes framing particular programs. The purpose is to illuminate whether and how such emergent curricula designs and structures respond to and/or reflect emerging educational and programmatic requirements for enhancing extension practice in African production and livelihoods systems. It will draw insights from the Sasakawa Africa Fund for Extension Education (SAFE) programs in Africa as a case example of a revitalization project in the region to ground the discussion empirically. Finally, the paper highlights key concepts, pedagogical strategies, and processes drawn from the comprehensive review to propose a conceptual framework for teaching and learning in agriculture and extension education that addresses the key goal of training extension professionals who can effectively respond to the needs and interests of farmers and rural communities in the current climate of economic vulnerability, resource management challenges, and increased competition.

Theoretical/Philosophical Themes

Roots of the crisis in African extension education:
Extension epistemology and pedagogy

Agricultural and extension education institutions in sub-Saharan Africa are in a state of crisis as traditional notions of agricultural innovation and extension’s role in the process have come under question in the last few decades. Increasingly, the training of extension professionals is being seen less as a process of technical instruction and formal knowledge accumulation than a process involving the development of innovative capacities and competencies of agricultural and extension practitioners. The overriding aim is to develop their abilities to confront the complex economic, ecological and social challenges of production and livelihood security in the region.

The historical roots of this crisis can be traced back to the 1950s and 1960s as newly independent countries attempted to very quickly respond to the demand for cadres of professionals to manage their development efforts. Agricultural and extension education was seen to be one of the more plausible areas in which to quickly train educators and
administrators who would then take on leadership roles in the modernization of their agricultural systems (Yassin and Bruce, 1983; Comptin, 1989).

Along with massive western investments in institution building in Africa evolved the transfer of a techno-scientific extension education and communication infrastructure. The academic field of extension education privileged the discourse of scientism and technological innovation. It dominated the curriculum from secondary school to university and shaped the design of diplomas and degrees (Ebun-Cole, 1992). The epistemological aspiration was to infuse students with the psychological processes and concepts relating to the manipulation of behavioral changes through the direct transfer of scientific knowledge and technology. The diffusion of innovations theory (Rogers, 1994) that we now recognize as not being as straight forward as originally articulated and implemented permeated the curricula design of most colleges of agriculture and extension education in Africa.

Indeed the underlying philosophy embodied in this view of education included, a belief in the rationality of the natural world, and the notion that nature can be controlled, predicted and manipulated to serve productive ends in society as predicated by the normative assumptions of positivist science. Systems thinking, that links agriculture to the natural environment, and to society was not an explicit focus of curricula design in agricultural and extension education programs then (Bawden, 1996). Lecturers expected students to comprehend, memorize, and recall technical agricultural knowledge that in turn can be used to solve agricultural problems of farmers and rural communities. The dominant goal was to contribute to maximization of production on farmers’ fields (Chambers, 1997). Students on their own part assumed that the only legitimate and useful knowledge resided in the heads of extension agents who would disseminate it to a largely ignorant farming population.

More recently, critical scholars are suggesting that although the overarching economic and political problems of African countries, and other contextual challenges have contributed significantly to the erosion of quality education in agriculture and extension education, the current stasis in conventional extension education has stemmed from a historical preoccupation with academic rigor predicated on beliefs that scientific knowledge and its technological artifacts constitute the best possible ways to progress and development (Zinnah et al, 1998; Youngman, 1999). In other regions, scholars (for example, Radhakrishna, 1999) have noted that agricultural extension courses emphasized didactic, top-down methods, and curricula overwhelming based on lectures in separate disciplinary areas (crop science, entomology, economics, psychology, program planning, evaluation, sociology etc). Rather than highlighting important intersections and overlaps, this reductionist orientation tends to deny the holistic and systemic nature of agricultural production systems.

Chambers (1997) and other development scholars have compiled significant empirical evidence to show how techno-scientific education when uncritically deployed in particular contexts can contribute to the training of extension practitioners or agents who are inadequately prepared to respond to the complex social and ecological realities of their production systems. In Africa, rather than promoting agricultural change, the practice of extension itself has become part of the problem in local agricultural systems. Scholars have identified the following as among the limitations of conventional extension education in many developing countries in Africa:

**Unreflective extension practitioners:** The challenges of the present era demand a degree of thoughtfulness and creativity in responding to farmers’ problems that the traditional
A curriculum of extension education with its narrow emphasis on expert knowledge has not prepared professionals to deal with. Rather than problem pose, and reflectively analyze as basis for action, public sector extension agents are more likely to respond to farmer problems by prescription. This has seriously undermined the relevance of extension agents working in diverse and complex rural ecologies where conventional agronomic knowledge and technology offer inadequate responses to the challenges farmers face. In Africa, there is an urgent need for extension agents whose training has enhanced their abilities to think and act in critical and systemic ways in their response to farmers’ problems.

**Inadequate curricular content:** This problem cuts across baccalaureate and graduate programs in extension education in Africa where there seems to be a lack of consensus on the exact goals of agricultural education programs at different levels. This has led to a confusing array of different programs, some leading to degrees for agricultural extension officers that have little or no extension courses built in as requirement. A case in point is the degree in general agriculture offered by the University of Sierra Leone, which has very little content area in extension, but whose graduates overwhelmingly take on positions as regional and district agricultural extension officers. Sulaiman et al (2000) also note this problem in their thoughtful analysis of extension curricula in India.

**Lack of fit between extension education and context:** Most agricultural education programs in Africa lack a problem solving and applied orientation as the overwhelming emphasis in education curricula is on acquiring scientific principles and concepts in agriculture. As a consequence, most courses are designed around particular subject matter areas rather than on holistic integration of courses that mirror the complex integrated farming contexts within which problems need to be solved. While mono-cropping systems exist in African countries, the vast majority of farmers are small-scale producers managing integrated and diversified farming systems of small to medium parcels of land, building on their indigenous knowledge systems that have not been previously valued. Given the recognized complexity of African production systems, practitioners understand that promoting sustainable agriculture requires forging interactions between farmer knowledge derived from farmer experience, with knowledge derived from formal science. Enhancing the responsiveness of extension to the context it is supposed to serve will require a whole new orientation through social learning which embraces authentic participation and partnerships among diverse stakeholders to improve its fit with the complex challenges and realities of African production systems.

In addition to these curricular limitations, van Crowder et al (1998), Zinnah et al (1998), among others, have also documented significant contextual constraints facing agricultural and extension education in developing countries. They include increased unemployment and displacement, budgetary and financial crisis, increase in numbers of urban-based students who lack rural experience, rapid scientific progress and technical change, heightened environmental awareness and calls to integrate them in agricultural education, lack of attention to gender issues, lack of attention to population issues, ill-equipped professionals, low morale and motivation, a disconnect between agricultural education, research and extension, and low status of extension education in the disciplines.

In the specific context of Africa, structural adjustment programs that insist on reduced government spending and liberalization of services through privatized extension have taken a
serious toll on resources for extension training since most institutions are either public or heavily subsidized by government funding. However, it is argued here that the over-emphasis on aligning curricula design to private sector needs, often reflected in some of the discourse on the region does not bode well for the millions of small-scale farmers who in the foreseeable future can only reap the benefits of innovation through public sector extension. The question remains as to whether developing countries have to follow the same agricultural treadmill path of industrialized countries that, despite its tremendous contribution to wealth accumulation, had also led to degradation of ecological services and inequitable distribution of surplus among farmers and industry. Moreover, the public mission of the land grant system of teaching, research, and outreach in the United States for example, continue to be widely valued as a fundamental cornerstone of a democratic, citizenship oriented society.

Continued urban bias in government policies in many African countries pose further challenges to agricultural and extension education programs as rural youths lose out to better prepared urban-based secondary school graduates in gaining entrance to agricultural colleges. In addition, the predominance of women in most aspects of agricultural production and livelihood activities in Africa is an empirically verifiable fact. Yet extension education programs have not done very well in integrating sociological courses that address such important social dimensions into the curriculum. Taken together, these challenges call for thoughtful reflections on the philosophical and curricula reorientations needed to bring about fundamental revitalization in agricultural science and extension education that can meet the needs and requirements of sustainable development.

Revitalizing extension education: Epistemic reorientations and curricula implications

The challenge of revitalizing extension education systems in Africa to meet emergent needs of sustainability in the 21st century is not a trivial one. On one level are increasing demands for extension professionals with capabilities that can serve the needs of a competitive, market-based agriculture. On the other level, are growing calls for graduates with effective cognitive strategies, higher-order learning, critical problem solving, and participatory skills to, i) authentically engage farmers as learners and active participants in technology generation and diffusion ii) adequately respond to the complex problems faced by the agricultural and rural milieu. These approximate to what Richard Bawden (1996), has referred to as praxis, “the art and craft of being a practitioner who is consciously informed by theories, values and beliefs (1996: 1).

In crafting new orientations for agricultural and extension education, these two thrusts are not necessarily perceived as incommensurable. Shivali (1997) for example, draws our attention to the important distinction between changes in educational strategies, and changes in educational curricula. He makes the point that merely changing curricular content is less useful than a fundamental change in philosophy, process and overall orientation that takes into account both the pragmatic demands for a viable agricultural economy, while responding to the need for professionals with the knowledge and skills relevant to systemic praxis.

In advancing arguments for such systemic educational strategies for improving the relevance of extension education in higher educational institutions, scholars have proposed and conceptually articulated alternative epistemological and curricular frameworks for learning and action that recognize the role of experiential learning (Kolb, 1984), farmer knowledge (Richards, 1994), social learning in the development of critical thinking and
problem solving in complex agro-ecological systems (Röling and de Jong, 1998), soft systems theory (Checkland, 1991), participatory learning and communication (Chambers, 1997), transformative learning, and interdisciplinary integration of courses to serve 21st century needs in agricultural development. These scholars in their various discourses identify key concepts and process areas for change that can revitalize and transform agriculture and extension education curricular:

**Pluralistic Knowledge:** Röling and de Jong (1998) have argued that rather than assuming a view of knowledge in the domain of agriculture as only factual knowledge based on scientific explanation, it becomes ultimately more useful to understand knowledge as diverse, including multiple constructions of individual and strategic experiences in the contextual worlds they inhabit. A healthy consequence of such an epistemic shift is the recognition of the value of other types of knowledge, including practical and local knowledge as legitimate anchor points for learning in the curriculum. In the context of sub-Saharan Africa, research has illustrated the complex and adaptive nature of local agro-ecological systems within which farming has co-evolved with people over millennia. Rainfed agriculture, the most common ecological feature of sub-Saharan African farming, as some analysts have noted, demand knowledge intensive management practices that often require competencies outside the strict domains of conventional scientific knowledge.

Scoones and Thompson (1994), and Richards (1994) for example, have suggested that because farmer knowledge is often accumulated under contingent circumstances that warrant adaptation of particular practices, it tends to also lead to progressive learning on the part of the farmer and the farming household. In other words, the everyday ordinary challenges small holders confront and adaptively respond to in the management of their complex productive environment can constitute a rich crucible for learning. It is important therefore that the cognitive aspects of such knowledge be understood, and should constitute a fundamental component of the content area of tertiary and higher agricultural and extension education curricula.

Such a complex understanding of knowledge is more likely to lead to active and reflexive interpretation of what is learned in terms of its application to solving farmers’ problems in context, approximating to what Bruner (1996) has referred to as a “learner as thinker” perspective in teaching and learning. In such a view, learner’s capacities to reflect on their own experiences are understood as part of the process of knowledge generation.

Learning within such a framework is recognized as a social act—a social learning process, in which groups of students become active participants in the co-construction of knowledge through their engagement in critical reflection upon their own knowledge. Such an approach represents a fundamental shift from a didactic, teacher-centered learning environment to a democratic, learner-centered, participatory process of learning that can foster critical thinking and holistic interpretation of complex ecological problems.

**Interdisciplinary integration of knowledge:** The content of traditional agricultural curricula with its overwhelming focus on separate disciplinary courses does not prepare students in dealing with complexity and risk and many scholars in recognizing this limitation have proposed novel ideas in bringing about change in the orientation of curricula content. While the ideas diverge in their particular emphases and strategies for change, they all evolve around the recognition of the need for an interdisciplinary focus. Sulaiman et al (2000) for example, suggest that rather than design courses around specific areas, learning may be better
served by designing courses around specific skills. Other scholars, including Bawden (1996) argue for creative theme-based experiential projects that bridge and integrate various domains of knowledge across disciplines to inform systemic understandings of complex situations.

**Participatory and experiential learning:** The idea of experiential learning seminally espoused by Kolb (1984) and others, including Bawden (1996) and Brookfield (1986), refer to that learning which occurs in the process of problem solving, leading to new understandings based on experience. For these scholars, experiential learning is central to non-linear holistic ways of knowing that intrinsically demand interdisciplinary orientations to the curriculum. Participatory learning represents an important shift from the conventional linear and hierarchical relationships between expert (teacher) and student (tabula rasa) to new patterns of interaction in which the student is also recognized as being both knowledgeable and capable of participation in mutual learning and ideas generation. Here, the role of the instructor is clearly seen as one of facilitator of learning processes, than a directive role that places the responsibility of learning on the “expert,” Communication is ultimately enhanced when students and instructors enter a learning activity with a understanding and willingness to learn from each other (Lieblein et al, 2000).

**The social contexts of extension practice:** Scholars have identified a number of socio-cultural and demographic factors in sub-Saharan Africa that place extensive demands on frontline extension staff who often mediate these complex terrains in the course of their work in rural and agricultural communities (Zinnah et al, 1998; van Crowder et al, 1998). These include gender relations and cultural traditions, demographic factors such as population and its related pressures on ecological environments that are often already fragile. The incidence of HIV AIDS in the region also challenge traditional notions of curricula design for developing human resource capacities that often eschew contextual realities peculiar to African systems. It is clearly evident that any curricula revitalization program in the region must integrate such subject matter content in the overall strategy in order to better prepare frontline workers in adequately responding to emergent challenges in rural communities.

**Curricula revision as political and contested terrain:** Critical adult educators have recognized that program planning and revision occur in highly contested and politically nuanced contexts that call for thoughtful considerations (Cervero and Wilson, 1994). Curricula revitalization, according to these scholars, involves acts of power that require careful negotiation with stakeholders as a necessary part of the process of curricula reform. The degree to which negotiation is necessary is of course dependent on the particular context as Zinnah et al (1998) observed in the case of Ethiopia where the process of a curricula restructuring project was more difficult, and evolved very slowly due to embedded power structures and interests that needed to be negotiated. In contrast to Ethiopia, Zinnah’s study showed that the restructuring process at the University of Cape Coast in Ghana was more straight foreword and transparent.

**From supply-led to demand-driven extension education:** Fiscal challenges confronting many African governments have also meant significant restructuring of public institutions leading to retrenchments, expanded liberalization, and emerging new constituencies and demands on the work force for technological innovations. For graduates, the expectation of automatic absorption into public sector positions is no longer guaranteed.
Rather, as van Crowder et al (1998) have argued, professional training in agriculture and extension education in the future will need to orient itself to the specialized demands in the private sector labor market. Thus in the sub-Saharan African context, the issue may not be so much one of selling or marketing the profession (Sulaiman et al, 1998) than a matter of orienting training to meet what is expected to be growing demands for more specialized expertise among agricultural and extension education professionals.

Taken together, these conceptual ideas and proposed epistemic changes reflect strategic curricula revisions that focus less on technical knowledge that is static and immutable, and more on a process orientation that can reflexively evolve with changing societal needs and interests. Such an approach to curriculum building will need to involve a fundamental shift from standard learning to a social learning process embodied in curriculum with elements such as those reflected in Table 1.

Table 1.  Traditional elements of standard agricultural education vs. elements in a social learning-based curriculum

<table>
<thead>
<tr>
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<th>Standard Learning</th>
<th>Social Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit</strong></td>
<td>Individual student learner</td>
<td>Group/participant</td>
</tr>
<tr>
<td><strong>Premise</strong></td>
<td>“Tabula Rasa”</td>
<td>Knowledgeable</td>
</tr>
<tr>
<td><strong>Assets</strong></td>
<td>Intelligence</td>
<td>Experience</td>
</tr>
<tr>
<td><strong>Activity</strong></td>
<td>Lecture/study</td>
<td>Interaction</td>
</tr>
<tr>
<td><strong>Mode</strong></td>
<td>Competition</td>
<td>Cooperation</td>
</tr>
<tr>
<td><strong>Value</strong></td>
<td>Achievement</td>
<td>Solidarity</td>
</tr>
<tr>
<td><strong>Process</strong></td>
<td>Absorption</td>
<td>Negotiation/adaptation</td>
</tr>
<tr>
<td><strong>Relationship</strong></td>
<td>Vertical</td>
<td>Horizontal</td>
</tr>
<tr>
<td><strong>Validation</strong></td>
<td>Replication/examination</td>
<td>Utility/practice</td>
</tr>
<tr>
<td><strong>Knowledge</strong></td>
<td>Fixed, immutable but mobile</td>
<td>Evolving and complex</td>
</tr>
<tr>
<td><strong>Context</strong></td>
<td>Formal</td>
<td>Informal</td>
</tr>
</tbody>
</table>

Based on Uphoff, 2003, pers. comm.

Reinvigorating curricula in sub-Saharan Africa: The Sasakawa SAFE program as case example

The SASAKAWA –Global 2000 initiative launched SAFE (Sasakawa Africa fund for extension education) in 1986 in selected African countries as a first systematic response to redress the increasingly evident ineffectiveness of traditional agricultural education programs in Africa. According to Deola Nibakelao (2000), the program was geared toward assisting selected agricultural colleges and universities develop responsive programs to train agricultural extension staff who would be working directly with rural communities to support their innovative and livelihood activities.

The SAFE curriculum approach is conceptually framed around six curricular elements, 1) a scoping and situation analysis involving stakeholders, 2) underlying philosophy, visioning, and learning theories linked to pragmatic contexts of practice, 3) thematic subject matter content, 4) experiential/active learning experience based on Kolb’s experiential learning model, 5) enabling environment, and 6) institutional networking.
The SAFE model of curriculum revitalization represents a creative response to many of the epistemological and pedagogical concerns that have been expressed in the last decade relating to the fit between the preparation of extension professionals and the real needs of rural communities. An external evaluation of the curriculum of the University of Cape Coast’s revised SAFE curriculum for the undergraduate degree in Agricultural Extension illuminated a systemic arrangement of course content, pedagogical processes and overarching philosophy and mission closely in resonance with ideas for curricula revitalization articulated in recent discourse on change processes for sustainability (Muchena, Vodouhe and Atengdem, 1999).

The overarching philosophy and mission statements stressed importance of systemic/holistic learning, critical thinking and epistemologies and neo-pragmatist orientations. The content matter areas covered themes bridging interdisciplinary and practical knowledge, while pedagogical approaches reflected an orientation towards participatory, experience based learning. As a model for revitalization of agricultural education curricula in the region, the Sasakawa program can be viewed as a satellite model for other educational institutions to learn from, and reflexively adapt. However, the evaluation revealed areas needing continued enhancement such as in-service workshops for teachers whose own socialization as didactic teachers can be viewed as important barriers to the learning systems approach espoused in the SAFE programs. As Bawden put it “we are more likely to teach the way we ourselves were taught”. Continuous in-service workshops for lecturers can be important vehicles for bringing about transformations in thinking and action, but only if the workshops are themselves designed and implemented with a critical focus on helping lecturers surface deeply embedded assumptions of learning and teaching that have become barriers to their transformation to a social learning approach. Further reflections on curricula revitalization may also need to understand that the knowledge adult learners already possess are assets in the learning process. Finally, the notion of adult learning as negotiation based on past experience, and present knowledge interest should also be recognized as an important dimension of the reflexive curriculum.

Conclusions

Sub-Saharan Africa in the 21st century continue to be the most vulnerable region in the world system with the largest percent of its population food insecure and assailed by widespread poverty. A major challenge for both public and private sector institutions is how to contribute to the process of transforming the rural social, economic and ecological environment in sustainable ways. This places a tremendous burden on institutions of higher education that are mandated to develop the human resource capacities to confront these challenges. Education in agricultural extension plays a pivotal role in this process.

In the context of these complex challenges, a view of agricultural and extension education couched too narrowly as theoretical and scientific knowledge is no longer tenable. There is an urgent need for national agricultural and extension education systems to initiate a process of reflection on “what is,” and responding creatively to needed changes in their curricula in order to bring today’s extension practitioners into the realm of relevance to the contexts in which they are located. The Sasakawa curricula revitalization program provides an important step foreword, but needs to be creatively and reflexively adapted, taking into cognizance the uniqueness of social and cultural contexts of education.
Educational Importance

An important educational contribution of this discursive critique relates to the synthesis of the ideas for change identified by the diversity of exemplary scholars in the discipline of adult and extension education for development. The paper also makes contribution to illuminating ongoing efforts for agricultural and extension education in other developing regions that can guide policy makers, thoughtful practitioners, and researchers in other parts of the developing world. Another significant educational contribution relates to the articulation of critical theories of learning that illuminates the role of the educator as facilitator of learning rather than as knowledge expert. Clearly, the discourse suggesta that if institutions are be successful at training highly motivated and informed extension professionals in the future with new role competencies to contribute to development, these approaches need to form the cornerstone of higher education in agriculture and extension in sub-Saharan Africa.

References


