

A framework for revitalisation of rural education and training systems in sub-Saharan Africa: Strengthening the human resource base for food security and sustainable livelihoods[☆]

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Abstract

Recent studies of the current state of rural education and training (RET) systems in sub-Saharan Africa have assessed their ability to provide for the learning needs essential for more knowledgeable and productive small-scale rural households. These are most necessary if the endemic causes of rural poverty (poor nutrition, lack of sustainable livelihoods, etc.) are to be overcome. A brief historical background and analysis of the major current constraints to improvement in the sector are discussed. Paramount among those factors leading to its present ‘malaise’ is the lack of a whole-systems perspective and the absence of any coherent policy framework in most countries. There is evidence of some recent innovations, both in the public sector and through the work of non-governmental organisations (NGOs), civil society organisations (CSOs) and other private bodies. These provide hope of a new sense of direction that could lead towards meaningful ‘revitalisation’ of the sector. A suggested framework offers 10 key steps which, it is argued, could largely be achieved with modest internal resources and very little external support, provided that the necessary leadership and managerial capacities are in place.

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Introduction

“The strengthening of human capital, and the production of knowledge for a framework of action

to promote sustainable agriculture and food security for the poor, are perhaps the most important elements in agricultural development strategies” (Haug, 1999, p. 271).

[☆]The article is mainly based upon a study done by the author, in collaboration with Kate Green, as part of a wider review commissioned by FAO and UNESCO and recently published as: Atchoarena, D., Gasperini, L. (Eds.) (2003) *Education for Rural Development: Towards New Policy Responses*. Rome, Food and Agriculture Organisation of the United Nations/Paris, UNESCO Publishing/International Institute for Educational Planning, 406pp.

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“What matters most for economic development is the capability of rural people to be efficient producers given their natural resource base. There is little doubt that economic and social development, and the benefits that accrue, such as improved nutrition and health, requires an educated populace. No country can develop without well-educated people and a strong

agricultural base ... To achieve food security for all, requires a critical mass of dedicated, well-trained men and women" (FAO N.D., p. 2).

The above quotations provide a foundation for the key theme of this paper that human learning is essential for raising the productivity, sustainability and food security of the many millions of small-scale rural households in sub-Saharan Africa (SSA). The enhancement of human capital is in large part dependent upon agricultural/rural education and training (RET).¹ High proportions of the region's population still live in the rural areas, and many of these are among the truly poor. Many are reliant on some form of primary production for their livelihoods, while others live by servicing these producers in many different ways, such as marketing, the provision of micro-credit, small-scale food-processing and craft-based enterprises. Others are engaged in primary healthcare, teaching, extension work, or as community/group facilitators and leaders, either for government or parastatal agencies or with civil society organisations (CSOs), local non-governmental organisations (NGOs) or other private-sector providers. Many of these people also have to supplement their incomes through small-scale farming or other forms of land-based activity.

Whilst the long-term prospects for SSA indicate a need for greater commercialisation and specialisation in primary production, the sheer scale of population dynamics ensures that small-scale production will remain the dominant system in most countries of the region for many years to come. Although the rural areas provide the base for much of the wealth-generating capacity of SSA (about 35% of total GDP and 40% of foreign exchange earnings), they remain undercapitalised and largely underdeveloped. Despite rapid population growth, combined in many places with serious degradation of the natural environment, there is clear evidence that better management of the resource base could lead to dramatic improvements in productivity and sustainability. The primary objective in much of the region remains that of achieving optimum food

security² at national, local and household levels, combined with that of increasing saleable surpluses of both raw and processed food products, for both local and export markets (Wallace and Green, 2002, pp. 9–15).

In addition to lack of food security, accompanied by malnutrition and its associated health problems, SSA is particularly hard-hit by the HIV/AIDS epidemic. By the end of 1999 this had claimed the lives of approximately 18.8 million people worldwide, 80% of whom were Africans (Dombo et al., 2001). In 16 African countries, more than 10% of the population between 15 and 49 years of age are infected with HIV; in seven—all in Southern Africa—at least one adult in five is living with HIV (Topouzis, 2000). Inevitably HIV/AIDS has had a huge impact on the rural development environment. The conclusion of an Overseas Development Institute (ODI) meeting on HIV/AIDS, poverty and development (ODI, 2000) was that AIDS posed the greatest challenge for development, for it has caused dramatic changes in family composition, with consequent effects on household agricultural activities and health status. It has also created a huge number of orphans. In addition, families with AIDS victims have to pay for medical and funeral costs, and caring for the sick seriously reduces the availability of productive household labour. Agricultural knowledge and skills are lost (Haslwimmer, 1996) and HIV/AIDS also impacts upon the provision of education and extension services. In Malawi and Zambia, more than 30% of teachers are infected and children are forced to leave school to take care of sick relatives and assume productive responsibilities in the home (World Bank, 1999, quoted in Dombo et al. (2001).

Historical note on RET provision in SSA

Wallace et al. (1996) outlined some common trends in the development of the RET sector throughout much of the SSA region. On the supply side, both the late colonial and post-independence periods saw considerable efforts at 'institution building' and educational development at all levels of RET provision. This included university faculties

¹In this paper the term: 'Rural Education and Training' (RET) is used rather than the more narrowly focussed and conventional 'Agricultural Education and Training' (AET), thus denoting the broader perspectives of an educational system that aims to meet the diversity of learning needs of all those involved in rural production.

²Ayalew, in a recent paper on the concepts of food security and hunger (Ayalew, 2006) has provided various definitions, including a classical statement from the World Bank (1986): 'The access of all people at all times to enough food for an active and healthy life'. Food security is normally considered at three levels—national, local and household.

and colleges of agriculture (or of other natural resources-based disciplines such as forestry, fisheries, land management and wildlife); agricultural/rural science programmes in primary and secondary schools; farmers' training centres; extension services and many other non-formal approaches. By the late 1970s, disillusionment had set in, with the realisation that very long-term processes would be needed before the desired results could be achieved. It was also engendered by the progressive failure of most of the governments to provide adequate funding for maintenance of institutions and services and for adequate career development to retain and upgrade appropriately skilled and motivated personnel. Progress towards a better educated and, consequently more productive, rural sector, was greatly hampered by the lack of clear policies for RET, as well as poor co-ordination among the various donor agencies in almost all the countries studied. On the demand side, common perceptions about the low status of agriculture and of rural life frequently led to the recruitment of academically weak entrants into sub-standard programmes, from which they emerged, "*poorly motivated towards rural life and work, with harmful knock-on effects on the quality and commitment of agricultural graduates*" (Wallace et al., 1996—annex: 2–3). More recently, these weaknesses have begun to be recognised and addressed by the donor agencies, national governments and various types of RET providers, including the NGOs. Wallace and Green (2003, p. 273) have identified and described various types of promising intervention, but in the end conclude that they are, "*...often restricted to isolated case studies at the micro-level...frequently donor-led initiatives, and hence neither replicable nor internally sustainable*".

The challenges facing RET in the region

The challenges now facing the whole RET system are enormous, and require major adjustments in every aspect of its structure and functioning. There is widespread recognition of the key role that RET should play towards poverty reduction. Van Crowder et al. (1998, p. 1) included among the most current critical issues, "*the changes and adaptations required in agricultural education in order for it to more effectively contribute to improved food security, sustainable agricultural production and rural development*". In addition, education and training are expected to lead to fuller participation in commu-

nity, national and global development (USAID (N.D.)). Van Crowder et al. lamented the fact that improving the training of agricultural professionals has not been seen as a priority in the past. They also pointed out that in many developing countries changes were needed in the sector to reflect both recent technological advances and increasing economic pressures (USAID (N.D.)). Maguire (2000b) argued that training institutions needed to recognise that, in order to remain relevant, they must play an active, relevant developmental role in their own localities, as well as a wider educational one.

Despite repeated calls for change and 'revitalisation', the RET sector has remained largely unresponsive and beset by a range of constraints. For instance, Wallace et al. (1996) identified the following as major problems facing RET throughout the SSA region in the mid-1990s:

- lack of a coherent policy framework for agricultural education;
- lack of dialogue on policy issues, either between donors and beneficiaries, or among the donors themselves;
- weak or non-existent linkages among the various training institutions involved; both across the divide between formal and non-formal modes of education and between the various stakeholders in a rural knowledge system, including training, research and extension providers, as well as end-users at household and community levels.
- lack of labour market studies either for professional and vocational training, or of training needs assessment among rural households. (The identification of new target audiences, and the training needs of women in particular were also generally overlooked);
- the management of training organisations often lacked capacity, especially for strategic planning, pre-appraisal, monitoring/evaluation and for entrepreneurial thrust;
- training organisations faced difficulties in recruiting staff with the skills, aptitudes and commitment for all the activities required for effective rural training (including teaching, research, outreach and networking);
- institutions often lacked a sufficient 'critical mass' of change-oriented staff to ensure successful innovation;
- teaching curricula were frequently rigid and failed to adapt to changing priorities in the external

environment (e.g., sustainability, conservation, gender issues), or to deliver job-related and transferable skills.

More recent studies identified other constraints facing the sector, including:

- lack of financial resources;
- the insensitivity of major donors to the real needs of the beneficiaries;
- lack of any systematic progression in agricultural education from primary level through to higher education;
- poor staff morale and motivation;
- negative attitudes towards agricultural education among policy makers, rural communities, teaching staff and the potential trainees;
- the isolation of agricultural universities and colleges from the main tertiary education system (Kwarteng et al., 1997; Mongbo and Hakutangwi, 1997; Fremy, 2000; Maguire, 2000a).

In the recent study for FAO & IIEP-UNESCO, Wallace and Green (2002, p. 40) concluded that the lack of a clear ‘systems’ concept of RET urgently needed to be addressed, and that mechanisms were required to enable the sector to become sensitive to the emerging challenges and opportunities facing rural households throughout SSA. These included:

- the effects of privatisation and market liberalisation;
- the enhanced role of civil society in decentralised governance;
- the increasingly critical impact of HIV/AIDs on rural households.

Other steps necessary for ‘revitalisation’ of RET included:

- the lessening of barriers of academic elitism and specialisation;
- enhancing interactions between different service providers;
- creating synergy through mutual learning between educational institutions, local community organisations and rural households.

Dynamic curriculum reform processes, based on labour market studies and training needs assessment and responsive to changes: (a) in the local/national

rural economy and (b) in the global arena, were also needed. These reforms also needed to support the development of new capacities for handling upcoming innovations in both natural resources management and in the application of information and communication technologies (ICTs). In addition to developing these new technical skills, educational processes were required that would lead to growth in self-confidence, optimism and entrepreneurial attitudes at all levels in the sector. Above all, RET institutions needed mature leadership with great capacity to mobilise and manage internal resources and programmes, and also to respond effectively to demand-led pressures and opportunities emerging in the external environment (Wallace and Green, 2002, pp. 73–74).

Some promising trends and innovations

The FAO & IIEP-UNESCO study did identify some notable examples of recent, positive innovations in the SSA region (which continue to multiply). Attempts were being made in some of the countries to reform RET policies, structures and funding mechanisms. Examples cited by Wallace and Green (2002, pp. 42–43) included a World Bank mission to Zambia in 2001, which was specifically mandated to review the whole ‘AET system’, including the University of Zambia School of Agriculture, Colleges that train at the diploma and certificate levels, and Farmer Training Centres. Another was the FAO-funded review of AET in South Africa which, according to the terms of reference, was system-wide in scope, with the specific aim of developing a ‘National Agricultural Education and Training Strategy’ for the whole nation.

In a few cases there were clear trends towards establishing better co-ordination between the various external donor agencies. The training activities of some public providers were also being diversified in imaginative ways, achieving synergy between formal and non-formal vocational education. In some cases research and extension services and rural communities were being linked, thus creating new ‘rural knowledge systems’. Examples of active co-operation between training institutions, rural communities and households were also identified. One was the formation of the School of Rural Community Development, at the University of Natal, established in order to address national needs for the training of rural development professionals

at a range of different levels (certificate, diploma, degree) with strong emphasis on experiential learning, with students undertaking community internships as part of their training (Wallace and Green, 2002, p. 45). In Uganda, Makerere University established the Continuing Agricultural Education Centre (CAEC) as a national training facility, which sought to be “*The leading centre providing client-responsive training and services for development of agriculture and agro-industry...*” and its mission was: “*To enhance the capacity of professionals and practitioners; disseminate knowledge and technologies for sustainable development of agricultural and agro-industrial sectors*” (Kibwika, N.D., p. 2).

An innovative example from the NGO sector was that of the sustainable agriculture training programme (SATP) in Uganda by the Kulika Charitable Trust, which aimed to produce 40 new ‘Key Farmer Trainers’ (KFTs) each year (of whom ideally 50% were to be women).

The key objectives of the SATP were to:

- establish a network of KFTs equipped with knowledge and skills in sustainable agriculture and farmer-to-farmer extension;
- develop a pilot training programme in the first instance in two districts;
- spread the training programme to other districts in Uganda;
- promote the development of active networking between NGOs, relevant government agencies, parastatals and leading training institutions in Uganda.

This programme is now in its seventh year in Uganda and is generally achieving very positive results. Many of the KFTs are successful farmers, who participate actively in a wide range of CSOs and local government bodies. Some are providing important training inputs to other NGOs, universities and government programmes (Wallace and Green, 2002, pp. 56–57).

Other positive innovations included participatory curriculum reform. One example from Ghana was the imaginative programme in tertiary agricultural education, funded by the Sasakawa Africa Fund for Extension Education, which aimed to develop highly responsive university training for mid-career extension staff, first tried at Cape Coast University. It was based on experiential learning, with much emphasis being placed on off-campus, farmer-focused, experience, developing enterprising real-

life projects as an integral part of the assessed undergraduate programme (Wallace and Green, 2002, pp. 49–50).

Several examples of the ‘Genderisation’ of RET; the use of non-traditional delivery systems; improved approaches in certification and quality assessment of skills learning and the formation of leadership cadres, equipped for change management in RET institutions, were also included in the FAO & IIEP-UNESCO study (Wallace and Green, 2003, p. 276).

A less encouraging conclusion of the study was that almost all of the innovations and ‘success stories’ recorded were ‘one-off’ cases, invariably supported either by international donor agencies or by international NGOs, or both. Promising new concepts and impressive short-term results were not leading on to sustainable, long-term changes in the sector. Most failed to achieve wider dissemination or ‘cascading’ of innovations, either within countries or across the SSA region. The failures to replicate successes were often perceived locally as being due to inadequate ongoing support from donors. Importantly, they also seemed to reflect an internal lack of self-belief and confidence about the sector’s potential to achieve an internally generated revitalisation, with limited dependency upon external support (Wallace and Green, 2002, pp. 42–69).

As part of the FAO & IIEP-UNESCO study “*a framework of analysis, built upon a set of factors that will characterise an integrated and effective delivery training system ... (that) ... can guide this much needed revitalisation*” of national RET ‘systems’ has been developed, as an “agenda for renewal” (Wallace and Green, 2003, pp. 274–276).³ The central ‘thesis’ of this framework is that, other than for major capital projects (e.g., new buildings and transport systems), most of the key requirements for ‘revitalisation’ of RET systems that play a truly significant role in providing for multi-level human learning needs, can almost certainly be met largely from local resources. External support, where required, could almost always be restricted to modest provision of carefully targeted inputs of specialist skills and human resource development through training and mentoring.

³An adapted form of the framework is presented in the table below.

Framework for developing revitalized national level RET systems

Key requirements	Main aims	Local resources	External resources
A clearly developed policy framework for RET is established	<ul style="list-style-type: none"> ● a coherent set of aims and targets for every component in the system, including both the formal and non-formal domains ● co-ordination of the different enabling bodies (ministries, parastatals, commercial firms, NGOs/CSOs) ● strong liaison between natural resources ministries and other relevant ministries: including education, health, social services (youth, women's interests, etc.) 	***	*
Dialogue between policy bodies and funding agencies that support RET	<ul style="list-style-type: none"> ● formal mechanisms, to ensure clarity and co-ordination of all activities within the parameters set by the policy framework. 	*	*
Strong linkages exist between formal providers and the range of non-formal programmes relating to RET	<ul style="list-style-type: none"> ● both formal relationships, and informal networks for information exchange and mutual learning; ● Training institutions have meaningful links with rural communities and households; ● some of these links are facilitated through the intermediary role of local NGOs and CSOs. 	*	0
Support services restructured to ensure a close working partnership between research organisations and extension/training services that promote sustainable livelihoods	<ul style="list-style-type: none"> ● delivering co-ordinated solutions and messages ● becoming learning organisations through dialogue with rural clients and by promoting farmer-led technology development 	**	*

	<ul style="list-style-type: none"> ● establishing working relationships between extension services, training organisations and rural primary and secondary schools (especially in their agriculture/rural science programmes). 	<p>Curriculum processes and curriculum contents reformed at national and local levels</p>	<p>***</p> <ul style="list-style-type: none"> ● the processes are strongly participatory in the identification and analysis of training needs (including emerging areas of knowledge, skills and competencies); design of training programmes (including opportunities for experiential learning in 'real world' situations); and in monitoring, evaluation and impact assessments ● curriculum renewal is viewed as a regular activity with curriculum processes and contents being adjusted according to changing demands and opportunities. 	<p>*</p>
<p>Provision of access to and appropriate training for deprived groups in rural society at large, aiming towards poverty eradication</p>	<ul style="list-style-type: none"> ● these may include rural youth, women, the poor, ethnic minorities, the disabled, internally displaced people and refugees, those with nomadic or semi-nomadic lifestyles, etc. 	<p>*</p>		
<p>Selection of content balances theoretical underpinning with context-specific material</p>	<p>***</p> <ul style="list-style-type: none"> ● based on broadly informed inventories of training needs, arising both from local labour market studies and targeted needs assessments, as well as responding to emerging global issues; ● teaching/training is supported as appropriate through accessing opportunities provided by newer methodologies, including use of ICTs, experiential learning in off-campus situations, etc. 	<p>*</p>		

Key requirements	Main aims	Local resources	External resources
Improvements in teaching of practical skills are supported by national schemes for assessment of competency-based learning.	<ul style="list-style-type: none"> ● Schemes sufficiently flexible and locally appropriate to cater for the wide range of educational levels, sets of aims and types of competencies that are to be found in a comprehensive RET system that addresses the whole range of learning needs for sustainable rural livelihoods. 	***	*
Policy support for human resource development at all levels within RET institutions and organisations	<ul style="list-style-type: none"> ● ensuring a growing base of specific knowledge and skills, as well as development of corporate vision and realisation of the possibilities for change and movement in the sector ● appreciation of the value of mutual learning leads to the emergence of 'new professionalism' and of 'learning organisations' in the sector (Chambers, 1993). 	***	**
Leadership of both enabling and training organisations is visionary, entrepreneurial and effective	<ul style="list-style-type: none"> ● skilled in managing change ● confident enough to advocate actively on behalf of the institution and to develop new alliances and supportive networks in the external environment ● involved in the shaping of a conducive policy framework for RET at national or regional level ● appreciative of the learning needs of the broad rural constituency. 	**	*

Note: Levels of local and external resource requirements are estimated on a scale where 0 indicates that no additional resources should normally be needed; one star (*) where only a low level of additional investment may be necessary up to five stars (*****) where major new investment is likely to be needed. (The levels of investment suggested are: (a) hypothetical, (b) not quantifiable in the general case and (c) subjective, though based on much qualitative evidence from case studies, literature sources and the Author's own experience both as a practitioner in the field and more recently as a consultant and researcher.)

Summary

RET is seen to be the key to more knowledgeable and productive human capital, which is essential for the increasing productivity, diversification and sustainability of the many millions of small-scale households in the rural areas of SSA. After briefly tracing the historical development of RET in the region, the various constraints and challenges in the sector have been presented. Paramount among those that have led to the present ‘malaise’ are the lack of whole-systems perspectives, leading to administrative fragmentation of RET, and the absence of any clear policy framework for the sector in most countries of the region. Weak concepts, inadequate resources and lack of visionary and entrepreneurial leadership have combined to produce inappropriate and uncoordinated programmes and curricula.

The priorities of major donors are now beginning to move towards the support of more integrated systems and coherent policies. There is clear evidence of some recent innovations, both in the public sector and through the work of NGOs, CSOs and other private bodies that are arising because of the new kinds of relationships and networks that are being formed. They provide both hope and a new sense of direction, which could lead towards meaningful ‘revitalisation’ of the sector. Through the above framework a series of key steps are presented, which could largely be achieved with minimal external support, provided that the key internal resources of leadership and managerial capacities are in place.

Finally though, it must be acknowledged that, while a revitalised RET is an important key to improving productivity and sustainability in rural areas of SSA, it is only one of the critical factors that must be present if food security and sustainable livelihoods are to be achieved on a wide scale in SSA, and has to be accompanied by other supportive conditions at the macro-economic level. These include favourable terms of trade; access by poor households to land and other elements of the natural resource base, with improved security of use and tenure; provision of basic infrastructure; freedom from civil strife and improved levels of justice, equity and inclusion for all groups of rural dwellers. The revitalisation of RET is achievable, but must form part of a wider environment of changes which, when taken together, will create the conditions for rural households throughout SSA to

experience rising and sustainable levels of wealth and well-being.

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