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**Improving Agricultural Extension Human Resource Capacity in a Decentralized Policy  
Context: A Ghanaian Case Study**

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**Abstract**

*Agricultural extension provision in many developing countries is affected by the quality of the extension staff. To understand the factors that can improve the capacity of extension staff in a decentralized extension context, a single-case study of a successful district level public extension organization in Ghana was studied. To improve the capacity of extension staff, the case study emphasized the importance of combining formal needs-based training and an organizational learning culture. The study suggests that traditional training in technical areas and extension methods is not sufficient in this context. With the shift from a top-down to bottom-up management approach, managerial staff need a new training in participatory management and administration. With a cross-sector pluralistic system, they also need training about the mechanisms that will facilitate coordination, collaboration and lobbying within the extension system. Also, with a broader focus and roles of district extension, the field staff would need a broader knowledge base of technical expertise that takes into consideration indigenous knowledge of farmers, and attitudes of searching for knowledge that they do not have, or for seeking out others to provide the necessary knowledge. The study highlighted the importance of fostering an open environment where extension staff feel comfortable to meet, interact, share information and ideas, and motivated to work.*

**Key Words:** Agricultural Extension, Decentralization, Human Resource Development, Training, Staff Motivation, Organizational Learning

### **Introduction**

Human resource capacity is identified as critical for ensuring the success of extension decentralization reforms in developing countries (Smith, 1997; World Bank, 2000) and there is reasonable agreement that current capacity in this area in developing countries is lacking (United Nations, 2005; Vijayaragavan & Singh, 1997; Zinnah et al., 1998). It is believed that in most developing countries extension services suffer from lack of professional competency and motivation to carry out the decentralized responsibilities, due to poorly defined human resource development and management systems (United Nations, 2005; Vijayaragavan & Singh, 1997; Zinnah et al., 1998).

Ghana's public extension system has adopted the decentralization policy since 1997. Although this policy is believed to be critical to current challenges facing Ghana, recent literature (MoFA, 2002; MoFA, 2003) has suggested that the Ghanaian extension service is having difficulties implementing it. One of the reasons for this has been the lack of human resource capacity (MoFA, 2002; World Bank, 2000). Interestingly, the prescriptive literature (Cristóvão et al., 1997; Oakley & Garforth, 1985) describes the general factors (training and staff motivation) that are critical to extension human resource capacity building, but little - if any - empirical work has been conducted on improving the capacity of extension human resource in a decentralized extension policy environment.

Anecdotal evidence suggests that some district extension organizations in Ghana are performing better than others in the decentralized extension environment. Therefore, if a successful district extension organization could be identified and studied, it would then be possible to identify and understand key factors that can improve the capacity of extension staff to achieve success in the new policy context.

### **Purpose**

Given the background provided in the above section, the purpose of this research, was to use a case study to provide an understanding of the factors that contribute to improve the capacity of extension human resource in a decentralized policy context. The anticipation is that lessons from this case study can inform other decentralized extension organizations that wish to improve their human resource capacity for better extension provision.

### **Methods**

A single-case study method was adopted for the research. This was found suitable for an in-depth study of a complex organizational function. This paper is part of a three-year (2004-2007) scholarly research that investigated factors that determine the success of a district level extension organization in Ghana (Okorley, 2007). To select a case for this study, the determining criteria were that it was seen as: successful in terms of increased stakeholder participation and enhanced contribution to farmer household livelihood security; having staff that could articulate why the organization was successful; having the majority of the staff - particularly senior staff - who had worked for the organization from the date when the organization was decentralized; and having good archival records of its extension activities. The Ministry of Food and Agriculture staff were asked to use these criteria to rank the four most successful district extension organizations within the Central Region that comprised some 13 district extension organizations. Based on a preliminary investigation on their suitability for the study, the Assin District Agricultural Development Unit was selected because it was the most successful and accessible and the staff were receptive.

Multiple sources of data collection were used – interviews (primary source),

documents and observations as means of triangulation. Participants for the study were selected from a broad area – within the case organization and outside - using a stratified sampling technique. The aim in the stratification process was to obtain information from both key informants at different levels of the organization and different stakeholders that are involved in the activities of the organization. In all, a total of 32 key informants were used in the study. The data collected were coded and summarized to provide a logical explanation. The computer program NVivo was used to facilitate the qualitative data analysis process. To ensure a high quality case study, several strategies including data triangulation, establishment of chain of evidence and explanation-building analytic strategy were used to ensure the overall quality of the research.

### **The Context of the Case Study**

To discuss the results of this case study, it is important to set the scene by defining the context of the organization under study. This will help us get a better appreciation of the findings. The economy of Ghana depends largely on agriculture. The agricultural sector contributes about 35% of Ghana's GDP and employs about 60% of its labor force. From the 1970s until now there have been efforts by the Ghanaian government to reform its agricultural extension system. After several unsatisfactory policy attempts, decentralization reforms were introduced in 1997 with the hope that it will encourage grassroots participation of local people, cross-sector extension pluralism and stakeholder collaboration.

The organization under study is part of Ghana's public extension system at a district level. As part of the reforms, the organization has adopted a decentralized extension approach with an expanded livelihood security focus, and as such, has taken on multiple roles to increase food security, reduce poverty and improve the

livelihoods of farmers in the district. With extension decentralization, managerial responsibility is delegated to the district level and the district extension managers are expected to provide leadership for initiating, planning and implementing agricultural extension programs. Similarly, the field staff are now expected to operate in a more holistic way and actively involve farmers and other stakeholders.

The case organization has highly qualified, mature (mostly 30-45 years old), and experienced management and field staff (Okorley, 2007). It has limited physical infrastructure, and funding from government is inadequate and uncertain in most instances. Interestingly, the organization must service a large number of farmers over a large geographical area where the road network is poor. The organization has estimated that there are 123,375 farmers in the Assin District, so each agricultural extension agent (AEA), a field staff is expected to provide extension services to over 5,000 farmers (1AEA: 5,364 farmers) far above the national estimated figure of 1,500 (i.e. 1:1,500). The farmers in the district are generally poor, illiterate, and farm small plots ( $\leq 4.0$  ha), and practice mainly subsistence agriculture that is crop-based. The above circumstances form the context within which the results of this case study are discussed and interpreted.

### **Findings**

The findings provide an in-depth understanding of human resource capacity building as a key factor of success for decentralized public agricultural extension in Ghana as highlighted by Okorley, Gray and Reid (2009). The results demonstrate that the organization under study is an example of an extension organization which is improving its success by strengthening the capacity of its staff through: 1. the provision of needs-based training, 2. fostering workplace informal learning, and 3. ensuring staff motivation and commitments.

These three key strategies are discussed in the following sections.

### *Needs-based training*

Prior to 1997, the training programs undertaken by the staff of the organization under study in the district were developed at the regional or national headquarters with little or no consultation with staff at the district level. Thus, these training programs often failed to take into account the needs of the staff in the district. An important reason for the success of the case organization in the district has been that the district management team is now responsible for organizing the training of its own staff. A key characteristic of its training program is that it is “needs-based”. In other words, each year, the organization allows the managerial and field staff to identify the specific skills and knowledge they require to work effectively for the next twelve months given its organizational goals and current capabilities. This supports reports by Adhikarya (1996) and Pasteur (2002a) which indicated that extension training is more useful to staff when it is based on the needs of the staff, and these have been determined by the staff themselves. Stone and Coppernoll (2004) also argued that the training of extension personnel should be related to the development of staff to meet the organization’s goals. This needs-based training is used by the case organization to improve staff motivation and performance. This is consistent with Pasteur’s (2002b) findings in Bangladesh where he found that staff training (in general) can improve the staff members’ confidence, reflection, stimulation of new ideas and performance.

The case organization provides in-service training to its staff in-house or they are sent on study leave. The organization relies on in-house expertise (supervisors, the subject matter specialists) for training its field staff. However, where it does not have the in-house expertise, it brings in experts from the regional office of the Ministry of Food and Agriculture (MoFA), and other

institutions such as NGOs, research institutes, universities and other government organizations to facilitate the training. The organization operates in the Assin District, which is close to Cape Coast (75 km) and Kumasi (180 km) where there are agricultural research and educational institutions (Crop Research Institute, Kwame Nkrumah University of Science and Technology and University of Cape Coast). This proximity to major research institutions provides it with an advantage in relation to accessing expertise for training. An important aspect of the organization’s needs-based training program is that it uses self-evaluation by its staff members to identify training needs, once the district extension plan has been developed and staff know what activities they will be undertaking over the next twelve months. Field staff then negotiate their training requirements through discussion with their supervisors. This procedure is similar to the competency-based training needs assessment process proposed by Stone and Coppernoll (2004).

Lack of managerial capacity of extension staff has been identified as a major limitation to decentralization reforms in developing countries (Cristóvão et al., 1997; Garforth, 2004; Swanson & Samy, 2004; United Nations, 2005; Vijayaragavan & Singh, 1997; Zinnah et al., 1998) and particularly, in Ghana (Amezah & Hesse, 2002; MoFA, 2002; MoFA, 2003). Once the training needs of the supervisors and the Director are identified, the organization sends them to the office of the national Human Resource Management Directorate (HRMD) of MoFA. The HRMD develops and arranges a number of specialist training programs at the national level each year for these senior extension staff from the districts. In addition to the technical staff, the organization also provides six-monthly in-service refresher training for the support staff in office management skills. The organization believes this is critical - especially when it comes to information

management and correspondence with stakeholders within the district extension and rural development system.

A point highlighted in this study that has not been mentioned in the literature is that the case organization schedules its in-house needs-based training program so that the training occurs shortly before the field staff plan to apply the training in the field. The case organization has identified that because field staff need a much greater knowledge base given their broader livelihood security focus, they have trouble retaining such information over a long period of time. Therefore the scheduling of the training has become an important tool for improving the effectiveness of field work in new areas.

A critical feature of field staff training at the case organization is the involvement of farmers in the training process, a practice they call “joint-training” exercises. This is undertaken to improve the field staff’s knowledge of farmer practices and the reasons behind these practices. The organization believes that by understanding farmers’ practices and indigenous knowledge, it can better meet their needs because it can build on what they already know – a demonstration of major attitudinal change towards farmers’ indigenous knowledge. This explains the expressions given by some key informants:

*we have seen that most indigenous technologies are improved technologies. But in those days (before 1997) we did not know that farmers had much to offer. So now there is the idea of getting information from the farmers to improve on it or adopt it. (District Director of Agriculture, personal communication, May 21, 2004 para. 442).*

*we include farmer representatives (in the training sessions) ...every month we have something to learn from them (farmers) when we attend a training workshop. (AEAI, personal communication, May 10, 2004 para. 627).*

The above finding supports the views in the literature (Smith, 1997; Swanson & Samy, 2004; van den Ban & Hawkins, 1996) that extension staff require both new competencies and change in attitudes to be able to operate effectively in the new decentralized policy environment. Vijayaragavan and Singh (1997) advocated that field staff could benefit from understanding the indigenous knowledge of local farmers. Subject matter specialists (SMSs) are also involved in these training sessions and they encourage the field staff to identify the principles behind the farmers’ practices to foster further learning. The role of the SMSs is to help the field staff understand the practices of farmers and the principles that underlie the farmers’ actions. This three-way (farmer – field staff - supervisor) interaction also helps improve both the farmers’ and the SMSs’ knowledge. The farmers gain an understanding of the scientific principles behind what they do and the supervisors obtain a better understanding of the practices of farmers in the district. The farmers can take this scientific knowledge back to their farming community and the supervisors can use this knowledge when training other field staff in the district. The importance of indigenous knowledge has been highlighted in the literature (Adhikarya, 1996; van Beek & Coutts, 1992; Vijayaragavan & Singh; 1997), but its acquisition by the extension organization has been discussed in relation to extension program planning and implementation rather than through joint-training.

The study revealed that because the organization under study has taken a broader approach to extension, the field staff need a broader base of technical knowledge.

Similarly, because they are playing multiple roles, working in collaboration and trying to improve farmer participation, the staff of the organization need different skills from those they required under the previous extension approach. To improve the technical capacity of its staff, the case organization provides the staff with knowledge and skills in a broad range of areas. For example, in 2003, the staff required training in: extension (computer systems, adult learning, extension communication); agricultural production (e.g. agricultural pest management, soil and water conservation techniques, inland fish farming and livestock nutrition and housing); other areas related to farm household livelihood security (e.g. HIV/AIDS control and child nutrition); group and business management techniques (e.g. small group and cooperatives management techniques and marketing); and agro-processing. These areas of training are similar to those proposed in the extension literature (Garforth, 2004; Sulaiman, 2003; Swanson & Samy, 2004; Tossou & Zinnah, 2005) as key competencies required of extension providers in general. Garforth, 2004 summarized them as technical knowledge and communication and facilitation skills. To conclude this section it can be said that a key factor in the case organization's operation that has contributed to its success has been its commitment to improve the capacity of its managerial and technical staff.

### *Informal learning culture*

Given the changing situation in agriculture and the increasing acceptance that farmers' needs are complex and should be approached from a holistic perspective, it is now acknowledged that continuous learning by extension organizations is needed for them to remain effective (Leeuwis & van den Ban, 2004; Pasteur, 2001; Sulaiman & Hall, 2004). The case organization is an example of a district level public extension organization that has recognised that formal training is only one

means by which its staff can learn on a continuous basis. The organization has taken steps to create a work environment that fosters learning through other, less formal, mechanisms to augment its staff's need for a broader knowledge base. This practice has been advocated by several other authors (Leeuwis & van den Ban, 2004; Pasteur, 2001; Sulaiman & Hall, 2004) including Carney (1998) who stated that apart from providing extension staff training in new skills, it is equally important to improve the working environment to encourage learning among its staff.

To foster this learning culture, the case organization provides a range of mechanisms through which staff can learn informally. First, it fosters an open environment in which staff feel comfortable sharing information. Second, it provides forum whereby the staff can meet, interact, share and reflect upon their knowledge. Third, it provides learning materials that the staff can access for self-directed learning. Finally, it organizes a range of forums where its staff can meet with staff from other organizations to learn about particular issues (e.g. AIDS/HIV and Root and Tuber Crops Improvement) from a range of perspectives. Although the importance of these four factors to organizational learning has been highlighted in the organizational literature (Argyris & Schon, 1996; Johnston & Hawke, 2002; Senge, 1990), few authors (Leeuwis & van den Ban, 2004; Pasteur, 2002b) have mentioned them in the extension literature. The range of mechanisms through which the staff of the case organization learn informally is discussed in the following paragraphs.

The case organization uses three mechanisms to create an open environment in which staff feel comfortable in sharing information. These are: (1) it provides support and involves the field staff in decision-making; (2) it encourages teamwork among the staff; and (3) it ensures that the staff are informed in a timely fashion about policies and other relevant

issues that affect them. The aim of undertaking these measures is to improve contact rate, trust and respect among the staff, conditions critical for promoting information sharing and learning in the organization, a view shared by Leeuwis and van den Ban (2004). The organizational studies literature (Argyris & Schon, 1996; Johnston & Hawke, 2002; Senge, 1990) which provided the basis for organizational learning discourse in extension also highlights the importance of participatory decision-making, teamwork and the provision of feedback to staff in promoting learning in the organization. Although also mentioned by some authors in extension (Leeuwis & van den Ban, 2004; Pasteur, 2002b), few details were provided about how this informal learning can be fostered. However, the importance of team work as a key factor in enhancing learning and work performance is highlighted by both Pasteur (2002b) and Leeuwis and van den Ban (2004). Also, Leeuwis and van den Ban have stressed the need for extension organizations to develop systems that ensure that extension workers benefit from other workers' experiences.

To foster informal learning, the case organization holds monthly staff meetings to provide fora for staff to interact, share and reflect upon their knowledge. All staff attend these meetings and the field staff describe their activities relative to their monthly mini-plans. Field staff are encouraged to highlight problems, opportunities, new initiatives and other information they want to discuss during the meeting. Such discussions may focus on technical information or extension methods. The management of the case organization also used these monthly meetings to provide the staff with information about policies and other relevant issues of interest to them. This supports the views of Pasteur (2002a) and Stone and Coppernoll (2004) that face-to-face reporting provides extension staff with learning opportunities through questions, answers and ideas from peers. Similarly, the

findings highlight the importance of frequent meetings for extension personnel and providing and sharing information with them, all of which motivate them to learn from their experiences, a view also shared by Leeuwis and van den Ban (2004). Also in agreement, Leeuwis and van den Ban (2004) argued that the promotion of interaction and information sharing among extension field staff provides the opportunity for the staff to learn by comparing the amount and quality of their work with those of their peers.

With this broader extension approach (livelihood focused), the staff need access to a broader range of learning materials. The case organization provides its staff with learning material for self-directed learning which includes an electronic-database, books, and training modules. Stone and Coppernoll (2004) and Adhikarya (1996) have also advocated the use of printed materials, the internet, and video and audio self-directed media to promote workplace learning. Moreover, the practices of the case organization are consistent with the recent literature in extension (Leeuwis & van den Ban, 2004; Richardson, 2003; Swanson & Samy, 2004) which prescribes the need for the adoption of computer systems in extension organizations because they are critical for improving the capacity of extension staff to access (e.g. from the internet) and process important information for their work.

The case organization uses workshops and other forums with farmers and other stakeholders to promote informal learning in the organization. The forums provide the extension staff with the opportunity to interact, share ideas and learn from farmers and staff in other organizations. Although little is written in the extension literature on this topic, Leeuwis and van den Ban (2004) highlighted the importance of stakeholder contact and interaction in providing extension staff with the opportunity to gain new experiences and ideas. Moreover, the findings support the view in the



management literature (Johnston & Hawke, 2002; Senge, 1990) that networks and organizational collaboration improve learning in organizations.

The organization fosters a more transparent and open management system where all staff, to some extent, can contribute to management decisions. It also encourages more contact and open communication to build respect and trust among the staff, gives a level of flexibility to field staff to design their location-specific extension activities with farmers, encourages team work amongst the staff, and has opened itself up to increased scrutiny and input from farmers and other stakeholders through greater interaction with them. Finally, the organization encourages the use of learning materials (computer systems and print materials) to facilitate information management and self-directed learning. Given these characteristics, the case organization can be viewed as an extension organization that is moving towards becoming what the organizational studies literature (Argyris & Schon, 1996; Johnston & Hawke, 2002; Senge, 1990) describes as a 'learning organization'. Interestingly, this is not explicitly stated by management, but what is apparent is that the organization is seeking to become more responsive to farmers' needs, finding new ways to deliver relevant services efficiently to as many farmers as possible and working to improve the competence of its staff to meet the challenges they face in their job to enhance the contribution of agriculture to the livelihood security of farm households. Although fostering informal learning is important for improving the capacity of staff, motivation and commitment to work are equally important. In the following section the methods the case organization uses to encourage staff motivation and commitment are discussed.

#### *Staff motivation and commitment*

Given its limited resources, low extension agent to farmer ratio and the wide

geographical area that extension staff must cover in the district, this case is an example of a district level extension organization that has adopted some realistic measures to improve the level of staff motivation and commitment. The case organization uses three mechanisms to ensure staff motivation and commitment in the organization. First, it has adopted a more inclusive approach to management. Second, it rewards high performance among its staff. Finally, it fosters good staff relationships within the organization. These findings are in line with Herzberg's (1996) view that motivation is influenced by a favorable work environment that provides challenging tasks and opportunities for individual achievement, recognition, responsibility, advancement and personal growth.

Prior to decentralization, the management of the case organization was top-down - the district extension Director received and followed instructions from the regional and national offices with limited involvement of subordinate staff. With the inclusive approach to management, all field staff are involved in the development of the case organization's annual extension plan and each staff member is responsible, in consultation with his supervisor, for the development of his own annual work plan and training program. Two field staff representatives are also included in a management team comprising the director and assistant, the supervisors and a support staff representative. This team is responsible for the tactical and operational decisions made by the case organization throughout the year. This allows much greater transparency of decision making because the field staff representatives are involved in the actual decision making and can report these decisions to their fellow staff members. As such, the field staff have a much greater involvement in the decisions related to their work and training throughout the year. Consistently with the literature (Hivner et al., 2003; Mwangi & McCaslin, 1995), the case organization believes that this level of

involvement gives staff a level of ownership, and this enhances their commitment and motivation.

The case organization uses incentives to motivate staff and these incentives are provided in the form of tangible (monetary value associated with them) and intangible (no monetary value associated with them) rewards in line with the view of Leeuwis and van den Ban (2004). The organization presents awards to best performing extension staff at the end of each year. There are awards for specific projects and for the best all-round field staff member. Tangible rewards that staff of the case organization had received in the previous year included cash, field gear (e.g. gumboots, raincoat), and household equipment (e.g. tape recorders and television sets). The intangible rewards included a certificate of recognition and praise at an award-giving ceremony. Several authors (Leeuwis & van den Ban, 2004; Mwangi & McCaslin, 1995; van den Ban & Hawkins, 1996; Vijayaragavan & Singh, 1997) have also stressed the importance of tangible (e.g. financial incentives) and intangible rewards (e.g. praise, recognition) in relation to staff motivation in extension organizations.

The case organization views promotion as an important factor in motivating staff. Lack of staff promotion has been reported by Mwangi and McCaslin (1995) and Vijayaragavan and Singh (1997) as a cause of low staff motivation in extension services in developing countries. Promotion results in better remuneration for staff in the case organization and it also opens up further opportunities for professional development through scholarships and further education. This supports Stone and Coppernoll's (2004) view regarding the importance of professional development in staff motivation. In the public extension system in Ghana, the decision to promote staff is taken at the national level, as such, the case organization has recognized the importance of timely promotion to staff motivation, a

point supported by Stone and Coppernoll (2004) and Leeuwis and van den Ban (2004). The organization has therefore developed an administrative system to ensure accurate staff records are maintained and the promotion of staff is sought promptly when it is due. Such a system was also recommended by Stone and Coppernoll.

The final means by which the case organization motivates staff is by fostering good staff relations and creating an atmosphere of trust and mutual respect. The importance of good staff relations to motivation has long been recognized (Herzberg, 1996). To foster an environment of trust and mutual respect, the organization fosters frequent staff interactions and the sharing of information. It also encourages transparency of decision making by involving staff in the decision-making process. As previously discussed, the staff meet with their supervisors in the field bi-weekly, and also monthly at the district office for general staff meetings. The director encourages field staff to speak their minds and he ensures that they are kept abreast of policy and resourcing issues that are likely to impact on the organization. Field staff are involved in program planning, are given responsibility for developing their own work plans and training programs and have representatives on the management team. This is consistent with Herzberg's (1996) view of motivation which highlighted the importance of trustworthy senior management staff (e.g. supervisors,) valuing inputs from junior staff and providing them with work related support. It is interesting that there is little information in the extension literature that has highlighted the critical role of fostering good staff relationships based on openness, trust and mutual respect in staff motivation and commitment.

### **Conclusions and Implications**

The study highlights the importance of the managerial and technical capacities of staff in ensuring the successful operation of

a decentralized extension organization. To improve staff capacity, the study highlighted the critical role of training, an informal learning culture and staff motivation. In relation to staff training, the importance of needs-based (competency-based) training and the role of farmers' indigenous knowledge in training of field staff were highlighted. The study implies that where extension staff are expected to play multiple roles, there would be the need to provide a wide range of competencies to narrow the gap between the staffs' knowledge and extension skills vis-à-vis the roles they are expected to play at the local level. These competencies should include extension and facilitation skills, technical knowledge and skills in agricultural production, other off/non-farm issues (e.g. health and marketing) that have direct impacts on agriculture and livelihood security, and public administration and management skills for the senior management staff.

The case study demonstrated that *learning organization* principles are critical for improving human resource capacity of extension organizations, a point that has been prescribed by some authors (Leeuwis and van den Ban, 2004). These principles include fostering an open environment in which staff feel comfortable sharing information, the provision of regular and frequent in-house fora whereby the staff can meet, interact, share and reflect upon their knowledge, and other fora where staff can meet with staff from other organizations to share ideas. The study, however, revealed that an extension organization may not necessarily have to set out to become a learning organization, but as it focuses on seeking ways to ensure continuous improvement in its operations, it will naturally develop the characteristics of a learning organization.

The study demonstrated that where an extension organization does not have the power to control staff remuneration, recruitment and promotion - a problem faced by many district extension organizations in developing countries - it would have to use a range of other mechanisms to ensure that it has motivated and committed staff. It can use a more inclusive approach to management that values staff input in management decision making, provides rewards for high staff performance, and fosters good staff relationships based on mutual trust and respect within the organization.

### References

- Adhikarya, R. (1996, March). *Strategic extension campaign: Increasing cost-effectiveness and farmers' participation in applying agricultural technologies*. Retrieved April 8, 2004, from <http://www.fao.org/sd/EXdirect/EXan0003.htm>
- Amezah, K., & Hesse, J. (2002). Reforms in the Ghanaian extension system. In W. Rivera, & G. Alex (Eds.), *Extension reforms for rural development: Decentralised systems* (Vol. 1, pp. 12 -18). Washington D.C.: The World Bank.
- Argyris, C., & Schon, D. A. (1996). *Organizational learning*. Reading: Addison-Wesley Publishing Company.
- Carney, D. (1998). *Changing public and private roles in agricultural service provision*. London: Overseas Development Institute.
- Cristóvão, A., Koehnen, T., & Portela, J. (1997). Developing and delivering extension programmes. In B. Swanson, R. Bentz, & A. Sofranko (Eds.), *Improving agricultural extension. A reference manual* (pp. 57-65). Rome: FAO.

- Garforth, C. (2004). Demand-led approaches. In W. Rivera, & G. Alex (Eds.), *Extension reforms for rural development: Demand-driven approaches to agriculture extension* (Vol. 3, pp. 3 - 6). Washington, D.C.: The World Bank.
- Herzberg, F. (1996). *Work and the nature of man*. Cleveland: World Publishing.
- Hivner, W., Hopkins, A. S., & Hopkins, E. W. (2003). Facilitating, accelerating, and sustaining the innovation diffusion process: An epidemic modelling approach. *European Journal of Innovation Management*, 6(2), 80-89.
- Johnston, R., & Hawke, G. (2002). *Case studies of organizations with established learning cultures*. SA, Australia: National Centre for Vocational Education Research.
- Leeuwis, C., & van den Ban, A. (2004). *Communication for rural innovation: Rethinking agricultural extension*. Oxford: Blackwell Science Ltd.
- MoFA. (2002). *Agricultural extension policy*. Accra: Ministry of Food and Agriculture, DAES.
- MoFA. (2003). *Review and replanning the decentralization process of MoFA*. Agona Swedru: MoFA.
- Mwangi, J. G., & McCaslin N. L. (1995). The motivation of Kenya's Rift Valley extension agents. *Journal of Agricultural Education*, 35(3), 35-43.
- Ocampo, J. N. (2005) *Unlocking the human potential for public sector performance*. New York: United Nations.
- Oakley, P., & Garforth, C. (1985). *Guide to extension training*. Rome: FAO.
- Okorley, E. L., Gray, D., & Reid. J. (2009) Key factors of success for decentralised public agricultural extension: An expanded view from a Ghanaian case study. *Journal of Sustainable Development in Africa* 10 (4), 233 – 249. Retrieved March 24, 2009, from [http://www.jsd-africa.com/Jsda/V10N4\\_Spring2009/article10\\_04.htm](http://www.jsd-africa.com/Jsda/V10N4_Spring2009/article10_04.htm)
- Okorley, E. L. (2007). *An operational framework for improving decentralized agricultural extension: A Ghanaian case study*. Unpublished Doctoral Thesis, Massey University, Palmerston North, New Zealand.
- Pasteur, K. (2001). *Changing organizations for sustainable livelihoods: A map to guide change* (Lessons for change in policy and organizations No. 1). Brighton: Institute of Development Studies.
- Pasteur, K. (2002a). *Changing organizations for watershed management in India: From policy to practice* (Lessons for change in policy and organizations No. 4). Brighton: Institute of Development Studies.
- Pasteur, K. (2002b). *Changing organizations for agricultural extension in Bangladesh: Strategies for change* (Lessons for change in policy and organizations No. 3). Brighton: Institute of Development Studies.
- Richardson, D. (2003, September). *Agricultural extension transforming ICT: Championing universal access*. Paper presented at the ICTs conference on transforming agricultural extension by CTA, Wageningen.

- Senge, P. M. (1990). *The fifth discipline: The act and practice of learning organization*. New York: Doubleday.
- Smith, L. D. (1997). *Decentralization and rural development: The role of the public and private sector in the provision of agriculture support services*. Rome: FAO.
- Stone, B., & Coppennoll, S. (2004, April). You, extension and success: A competency-based professional development system. *Journal of Extension* 42 (2). Retrieved August 18, 2005, from <http://www.joe.org/joe/2004april/iw1.shtml>
- Sulaiman, R. V. (2003, June). *Innovations in agricultural extension in India, Part 1*. Retrieved February 23, 2004 from: [http://www.fao.org/sd/2003/KN0603a\\_en.htm](http://www.fao.org/sd/2003/KN0603a_en.htm)
- Sulaiman, R. V., & Hall, A. (2004). India, the emergence of extension-plus: Future for extension-beyond technology transfer? In W. Rivera, & G. Alex (Eds.), *Decentralized systems: Case studies of international initiatives* (pp. 36-46). Washington, DC: The World Bank.
- Swanson, B. E., & Samy, M. M. (2004). Introduction to decentralization of agricultural extension systems: Key elements for success. In W. Rivera, & G. Alex (Eds.), *Decentralized systems: Case studies of international initiatives* (pp. 1-5). Washington, DC: World Bank.
- Tossou, R. C., & Zinnah, M. M. (2005). Towards the search for better institutional arrangements for agricultural extension services in a decentralized context: The case of the Republic of Benin. *Journal of International Agricultural and Extension Education*, 12(3), 43-52.
- Van Beek, P., & Coutts, J. (1992). *Extension in a knowledge systems framework* (Systems study group discussion notes No. 2). Brisbane: Queensland Department of Primary Industries.
- Van den Ban, A. W., & Hawkins, H. S. (1996). *Agricultural extension* (2nd ed.). Oxford: Blackwell Science.
- Vijayaragavan, K., & Singh, Y. P. (1997). Managing human resources within extension. In B. Swanson, R. Bentz, & A. Sofranko (Eds.), *Improving agricultural extension. A reference manual* (p. 127). Rome: FAO.
- World Bank. (2000). *Decentralising agricultural extension: Lessons and good practice*. Washington, DC: The World Bank.
- Zinnah, M., Steele, R., & Mattocks D. (1998). From margin to mainstream: Revitalization of agricultural extension curricula in universities and colleges in Sub-Saharan Africa. In L. V. Crowder (Ed.), *Training for agricultural and rural development 1997-98* (pp. 16-18). Rome: FAO.