An Analysis of Privatized Forestry Extension Services in Uganda

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Abstract: The World Bank’s structural adjustment program to developing countries brought about privatization of formerly government services to private sector administration. Uganda is one such country in sub-Saharan Africa that has been affected by these policy shifts. Whereas some countries have shown positive results under privately funded extension services, others have not. The analysis shows that in Uganda, the major limitations that the privatization of forestry extension services faces includes farmers’ scale of production, insufficient human and physical resources, limited institutional linkages and to some extent, land ownership. These findings suggest a combination of both public and private funding for extension services (partial privatization), consideration for long-term plans for the benefits to be realized and investment in farmer education to enhance their capacity to demand appropriate services, contract, manage and evaluate private service providers.

Key words: Privatization, extension, forestry, appropriate, investment, Uganda

INTRODUCTION

Although, extension had earlier been perceived as the transfer of knowledge from the know-all researchers to the know-nothing farmers, it is now regarded as a process of integrating indigenous and derived knowledge, attitudes and skills to determine what is needed, how it can be done, what local resources can be mobilized and what additional assistance is available and can be necessary to overcome particular obstacles (Sim and Hilm, 1987; McDowell, 2004). Increased emphasis in agriculture in changing and complex market, social and environmental demands of rural development systems are changing the global perspective on extension from unified public sector service to a multi-institutional network of knowledge and information support (Rivera and Gary, 2004).

Privatization of extension services essentially means that farmers should pay for extension advice. Private companies, individual extension specialists, contracted agencies (through contracting-out and outsourcing modalities) and farmers associations are main service providers. Total privatization of extension services has already occurred in England and Wales, New Zealand and Netherlands. Partial privatization has been done in Estonia, Chile, Hungary, Venezuela and Nicaragua. Cost-recovery or fee-based extension systems have been adopted in OECD countries. As reported by Rivera and Gary (2004), the Government of Costa Rica gives extension vouchers to farmers which they can use for obtaining extension advice from private practitioners. In Israel, the extension service is provided by the government but at the same time, privatization is encouraged for extension specialist through meeting special extension needs of farmers and growers’ associations.

Privatization of agricultural extension services in Uganda came into being in mid 2001 when the government launched the National Agricultural Advisory Services (NAADS) program. The program is premised on the strategic objectives of empowering farmers to demand agricultural advisory services (Nahdy, 2004). Implementation of activities is under the National Agricultural Advisory Services (NAADS), a new statutory semi-autonomous body under the Ministry of Agriculture Animal Industry and Fisheries (MAAIF). Agricultural advisory services are provided predominantly through contracts issued to private providers and not government extension workers. Although, NAADS recognizes the need to enhance broader natural resource productivity in sustainable ways, little attention has been paid to forestry.

Two distinct schools of thought have emerged regarding the privatization trend. One justifies privatization in the name of allegedly inefficient public extension services, dwindling government resources and development of private sector, cost recovery and eventual
commercialization of agriculture. The other school draws attention towards millions of small producers in developing countries which are unable to pay for extension advice, justifying either no privatization or selective privatization geared to commercial agricultural operations. The debate has also raged along the lines of extension advice being public or private knowledge.

As Uganda’s forestry resources get degraded and depleted, coupled with increasing recognition of the role of forestry in improving the livelihoods of people especially rural poor, the provision of extension services becomes more relevant. Under the Poverty Eradication Action Plan (PEAP), the government of Uganda has taken privatization as an institutional approach to improve efficiency and effectiveness of government services.

Under this structural adjustment policy, institutions such as the National Agricultural Advisory Services (NAADS), National Agricultural Research Organization (NARO) and district services (Health, Agricultural, Forestry and Environment) are being adopted. However, the fundamental question is to what extent will these reforms help to overcome the recurring constraints?

To be able to make meaningful suggestions to improve policy action, there is need to understand the critical differences among countries which make privatized extension services work or fail. In this light, the objectives of this study are to identify recurrent constraints of forestry extension services in Uganda identify factors that could explain the failure or success of this approach in countries that practice it make recommendations for policy action for developing countries in general and Uganda in particular.

Challenges of extension services in Uganda

Farmers’ scale of operation: Majority of farmers in Uganda have land sizes ranging between 0.5 and 2 ha on which they practice subsistence farming activities in spatial mixtures or temporal sequences. Bleine (2005) argues that because a large percentage of extension research has always been at the local level and because extension educators typically research to provide information to local officials, it seems clear that the trends in devolution are favorable to an expanded role for locally focused applied extension research.

For such small scale farmers such as those in Uganda, to invite private extension services is not economically beneficial, except under contract or out-grower schemes. Apparently, the few examples in Uganda include British American Tobacco (BAT), Sugar cane (Kakira, Lugazi and Kinyara) and tea companies. We argue that growth in demand for these services will come only with growth in the number of such firms. Apparently, public support for extension is still important to the small-scale farming communities. In Bavaria, for example, Margheceu and Anderson showed that with the average forest size for private owners at about 2.7 ha, government extension services concentrated on the small forest owner since larger corporate owners usually have their own staff. Similarly in the UK, clients of private service providers include businesses at all stages of the food supply chain from farmers to caterers and retailers, including major supermarket chains (Garforth, 2004). In Uganda, however most clients are peasants.

One possible way to increase the scale of farmers operation is to reinstate farmer unions and cooperatives. In the 1970s and early 1980s, farmers were producing various cash crops and selling to cooperative unions that had collection points at village level in different parts of the country.

Examples of such unions include Coffee Marketing Board, Lint Marketing Board, Produce Marketing Board and Uganda Cooperative Transport Union. These encouraged farmers to make investments in farming because there was a surer market and the transport problem was solved by placing collection points at village level. With farmers sure of the market and not bothered about the transport they may be more willing to pay for private extension services.

Today, individual farmers have to transport their produce themselves in addition to looking for the market. The suggestion is that government should start by reinstating these unions and gradually privatizing them once the farmers and the unions are making substantial profits and the agricultural sector has grown. We base this from the way Agricultural Development and Advisory Service (ADAS), a private company that emerged from the successful 1997 privatization of the U.K. government’s agricultural advisory service for England and Wales. According to Needham (1998), before its privatization in 1986, it went through a process of progressive commercialization that began 40 years earlier as a free, national advisory service for farmers.

Another concern that arises is one of how demand for privatized extension services will be driven. Apparently, farmers in Uganda practice farming for subsistence. There is need for a market or legal elicit that will encourage them to produce high value crops or at larger scales while targeting certain markets or be required to meet legislative standards in the farming system.

To be able to do this, they will require advice from specialized people. According to Garforth (2004), important drivers of demand for privatized extension in the UK were two: first, the food safety and animal health
Table 1: Existing and proposed human resources by organization to manage decentralized forest resources in Uganda (Turyahabwe et al., 2006)

<table>
<thead>
<tr>
<th>Staff qualification</th>
<th>Nature of organization</th>
<th>DGs</th>
<th>SCGs</th>
<th>NGOs</th>
<th>CBOs</th>
<th>RI</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degrees</td>
<td>Positions occupied (%)</td>
<td>72</td>
<td>3</td>
<td>58</td>
<td>17</td>
<td>62</td>
<td>-</td>
</tr>
<tr>
<td>Mean of occupys positions in each organization</td>
<td>2.1±1.0</td>
<td>0.03±0.2</td>
<td>1.8±3</td>
<td>0.14±0.4</td>
<td>8±5.8</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Diplomas</td>
<td>Positions occupied (%)</td>
<td>47</td>
<td>24</td>
<td>14</td>
<td>0</td>
<td>23</td>
<td>20</td>
</tr>
<tr>
<td>Mean of occupys positions in each organization</td>
<td>2.3±1.8</td>
<td>0.33±0.6</td>
<td>1.0±1.6</td>
<td>0.30±0.27</td>
<td>2.0±2.1</td>
<td>0.5±0.7</td>
<td></td>
</tr>
<tr>
<td>Certificates</td>
<td>Positions occupied (%)</td>
<td>31</td>
<td>22</td>
<td>43</td>
<td>3</td>
<td>44</td>
<td>14</td>
</tr>
<tr>
<td>Mean of occupys positions in each organization</td>
<td>4.8±2.8</td>
<td>0.5±0.9</td>
<td>3.1±3.9</td>
<td>0.2±2.1</td>
<td>0.5±0.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casual workers</td>
<td>Mean of occupys positions in each organization</td>
<td>74</td>
<td>22</td>
<td>55</td>
<td>33</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Positions occupied (%)</td>
<td>13.3±9.3</td>
<td>0.6±1.1</td>
<td>0</td>
<td>0.8±1.9</td>
<td>4.0±5.6</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Overall staffing</td>
<td>Positions occupied (%)</td>
<td>54</td>
<td>20</td>
<td>31</td>
<td>18</td>
<td>41</td>
<td>13</td>
</tr>
<tr>
<td>Mean of occupys positions in each organization</td>
<td>22.6±13</td>
<td>1.5±1.7</td>
<td>8±6.8</td>
<td>1.0±1.9</td>
<td>6.5±19</td>
<td>1.0±1.4</td>
<td></td>
</tr>
</tbody>
</table>

DG = District Governments, SCG = Sub-county Governments, NGO = Non-Governmental Organizations, CBO = Community Based Organizations, RI = Research Institutes, CR = Cultural and Religious institutions

Table 2: Existing and proposed number of physical facilities and equipment in local organizations for implementing decentralized forest management in Uganda (Turyahabwe et al., 2006)

<table>
<thead>
<tr>
<th>Asset categories</th>
<th>Nature of organization</th>
<th>DGs</th>
<th>SCGs</th>
<th>NGOs</th>
<th>CBOs</th>
<th>RI</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicles</td>
<td>Number available (%)</td>
<td>64</td>
<td>10</td>
<td>39</td>
<td>11</td>
<td>75</td>
<td>33</td>
</tr>
<tr>
<td>Mean number available per organization</td>
<td>6.3±3.9</td>
<td>0.13±0.34</td>
<td>0.8±1.2</td>
<td>0.14±0.34</td>
<td>7.5±10.6</td>
<td>2±1.4</td>
<td></td>
</tr>
<tr>
<td>Motorcycles</td>
<td>Number available (%)</td>
<td>74</td>
<td>49</td>
<td>69</td>
<td>49</td>
<td>68</td>
<td>36</td>
</tr>
<tr>
<td>Mean number available per organization</td>
<td>46.5±20.9</td>
<td>2.3±2.6</td>
<td>3.6±1.4</td>
<td>2.4±2.0</td>
<td>8.8±12</td>
<td>2±2.6</td>
<td></td>
</tr>
<tr>
<td>Telephone lines</td>
<td>Number available (%)</td>
<td>28</td>
<td>19</td>
<td>40</td>
<td>78</td>
<td>50</td>
<td>27</td>
</tr>
<tr>
<td>Mean number available per organization</td>
<td>1.8±0.8</td>
<td>0.3±0.7</td>
<td>1.0±1.1</td>
<td>1.0±0.6</td>
<td>1.0±0.9</td>
<td>1±0.7</td>
<td></td>
</tr>
<tr>
<td>Computers</td>
<td>Number available (%)</td>
<td>33</td>
<td>20</td>
<td>40</td>
<td>38</td>
<td>68</td>
<td>22</td>
</tr>
<tr>
<td>Mean number available per organization</td>
<td>2.3±1.2</td>
<td>0.1±0.3</td>
<td>1.6±1.5</td>
<td>0.8±0.4</td>
<td>6.5±7.8</td>
<td>1±1.4</td>
<td></td>
</tr>
</tbody>
</table>

DG = District Governments, SCG = Sub-county Governments, NGO = Non-Governmental Organizations, CBO = Community Based Organizations, RI = Research Institutes, CR = Cultural and Religious institutions

Table 3: Percentage of mean budget allocated to forestry amongst local organizations in Uganda in the financial year 2002/2003 (Turyahabwe et al., 2006)

<table>
<thead>
<tr>
<th>Statistic</th>
<th>DGs</th>
<th>SCGs</th>
<th>NGOs</th>
<th>CBOs</th>
<th>RI</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0</td>
<td>0</td>
<td>0.5</td>
<td>0.6</td>
<td>0.4</td>
<td>0.2</td>
</tr>
<tr>
<td>Minimum</td>
<td>0</td>
<td>0</td>
<td>0.2</td>
<td>0.1</td>
<td>0.2</td>
<td>-0.1</td>
</tr>
<tr>
<td>Maximum</td>
<td>0</td>
<td>0</td>
<td>0.8</td>
<td>1.3</td>
<td>0.7</td>
<td>0.4</td>
</tr>
<tr>
<td>1st quartile</td>
<td>0</td>
<td>0</td>
<td>0.4</td>
<td>0.4</td>
<td>0.3</td>
<td>0.0</td>
</tr>
<tr>
<td>3rd quartile</td>
<td>0</td>
<td>0.7</td>
<td>0.9</td>
<td>0.5</td>
<td>0.3</td>
<td></td>
</tr>
</tbody>
</table>

DG = District Governments, SCG = Sub-county Governments, NGO = Non-Governmental Organizations, CBO = Community Based Organizations, RI = Research Institutes, CR = Cultural and Religious institutions

crises of BSE (bovine spongiform encephalopathy) and more recently Foot and Mouth Disease in 2001; second, the growing number and complexity of schemes for regulation (e.g., Nitrates Vulnerable Zones) and support which farmers need to comply with these regulations. There is recurrent limitation of transport infrastructure on the access to extension services.

The issue of quality of services is another important component being questioned. It is important to note that NAADS is a publicly sponsored extension program but private farms/individuals provide the service. It is the responsibility of sub-county chiefs to award tenders to contractors based out of a competitive bidding process. Having been part of the contracting companies, the experience is that sub-county chiefs converge and award contracts through political arrangements rather than basing on experience and technical capacity of the service providers. Additionally, there seems to be limited monitoring during the implementation process. Ultimately, there is limited emphasis on quality assurance.

**Resource limitations:** An important problem of forestry extension in Uganda is resource limitations both financial and personnel. Trained staff and facilities are few or absent in most rural areas. Findings of Turyahabwe et al. (2006) reveal that none of the organizations has sufficient human and physical resource to govern forest resources unilaterally due to inadequate devotion of decision making powers and inadequate fiscal support from central government (Table 1-3). The government recruits university graduate extension staff only at district level. Concentration of effort in forestry extension in Uganda is in the hands of Civil Society Organization that are dependent on donor funding. The way of operation of such institutions is project approach which tends to phase out when funding ceases.

Many of them use the contact farmer approach in which a few normally progressive farmers in an area are selected and target technologies applied on their farms expecting that neighboring farmers will learn and later adopt them. Organizations that have used this approach in Uganda include ICRISAT, Environmental Conservation Trust of Uganda (EcoTrust), Prime West, Environmental Alert, Nature Uganda and CARE. Harrison and Goldman reported that one of the challenges of forest extension in Uganda is limited capacity of extension personnel.
Poor motivation for extension education: Previously, forestry extension in Uganda has been done alongside agricultural extension services with extension agents who, although have general knowledge of agricultural systems are not trained to provide specific forestry services. Gombya-Sembajwe (1985) argued that this is probably because it was falsely perceived that forestry is a simple task that any agriculturalist can do. It is only recent that forestry has gained popularity as a science and art requiring trained multidisciplinary, able and competent personnel. For this reason, the technical capacity for forestry extension services is still lacking.

In Uganda generally, there has been poorly organized formal training in the area of forestry extension (Gombya-Sembajwe, 1985; Hakiza et al., 2004). Accordingly, the target groups for training in forestry and forest extension have been limited to schools and college students, leaving out a large segment of stakeholders in forestry and forestry extension. Such marginalized stakeholders include private tree farmers, saw millers, furniture makers or other individuals who have not been able to access extension services specific to their needs and to take action to acquire such training. Consequently, information on forestry extension is scanty and most information on extension was always linked to agricultural services.

Organizational structures for extension and conceptual basis are very weak. This makes delivery of government forestry extension services minimal and ineffective. Little attention is given to forest extension services compared to other related services like health, education, agriculture and industry. It is important to note at this point that the trend away from central government funding of extension (devolution) is by no means limited to forestry extension. It includes government funding priorities across the board, involving a host of publicly provided goods especially concerning environmental programs like protection of conservation areas. Analysis on relationship of technical competence with job performance of extension staff unveiled the influence of organizational climate, technical competence and motivational factors on job performance of village extension officers, agricultural officers and subject matter specialists.

Poor institutional linkages: Linkages, both horizontal and vertical, especially with extension services of other sectors that have a stake in land use are either weak or absent. An analysis of stakeholder in the agricultural sector in Kabale and Kisoro western Uganda under the sub-Saharan Africa Challenge program showed that although several stakeholders are working in the area, about 90% interact with no >1 stakeholder. The institutions that would potentially involve in forestry activities are demoralized and not willing to devote their resources to promote forestry activities. More importantly Butterworth et al. (2004) show that in Uganda, the link between researchers engaged in technology development and the farmers to whom the technology directed is wanting. However, recent recognition of the importance of these links led to the initiation of on-farm research especially in areas of improved varieties and pest and disease control sectors this led to the establishment of Agricultural Research and Development Centers (ARDCs). For example, improved fruit trees and cassava for disease resistance and yield developed by National Agricultural Research Organization (NARO) are being tried on-farm in western Uganda and other parts of the country.

Existence of poor linkages is illuminated by the controversial roles that the National Forestry Authority (NFA) plays. NFA is responsible for protecting forest reserves from encroachment as well as to promote forestry extension services. The former role depicts NFA as unfriendly to the population while the later is a friendly one. These controversial roles limit extension of forestry services intended to be promoted by the government through NFA.

Land tenure: Insecurity of land tenure causes people to think that engaging in forestry activities such as establishment of woodlots may result in their land being taken away through gazettement as forest reserves. Furthermore, the length of time over which forestry investments take to yield returns, coupled with high labour requirements are a disincentive to the local population who would prefer shorter-term agricultural investments. For example, an indigenous timber species would take at least 30 years to yield its benefits compared to an agricultural crop that takes only a 4 month’s season. This intern reduces the general morale of extension agents when promoting activities in which farmers have little or no interest at all. In this way, attempts by extension agents to promote forestry extension have received a deaf ear from local communities.

Merits of decentralized and privatized forestry extension services in Uganda: Decentralized units (districts, sub-counties) are given authority for managerial, technical and fiscal decisions. Therefore, decentralization of forestry extension services allows local development needs and priorities and allocation of resources to be achieved with in the context of the participating community. This means that people are able to identify local problems specific to
the site as opposed to centralized governance where central government may assume similar needs for all Ugandans. Added to this, the implementation of plans that people have taken initiative in developing is easier because there is more commitment in the implementation process.

Under the demand-driven NAADS program, farmers will be able to identify the most pressing needs and these are the ones to which attention will be paid first. Collaboration between service providers and local governments is easier because the levels through which one goes to promote extension services are done locally thereby quickening the decision making process.

Because of being physically close, extension workers in decentralized governance work together with their clientele thereby addressing not only forestry issues but also help them identify their clientela’s educational needs and priorities through participatory processes. Participatory extension services provide information that residents and officials find useful and also provide a way of demonstrating that extension takes the community seriously enough to bring resources to bear in conducting rigorous analyses of topics that are locally important or even vital (Elaine, 2005).

This holistic approach incorporates several socio-economic drivers which are responsible for arresting the success of many extension programs. According to Richardson (2001), to promote effective and efficient learning, a delivery system should include methods wherever possible that provide desired experiential opportunities for the learner, reinforce the learning and provide opportunity for the learner to integrate new information with existing knowledge and skills. This commitment to initiatives by local community is probably more important in an era of devolution than in previous times.

As the public funding for extension services shrinks and the effectiveness and efficiency of public extension system is questioned, more and more extension service providers are entering the field. In Uganda, these actors include non-government organizations such as World Agroforestry Center, Environmental Conservation Trust, Nature Uganda, Prime West) farmer associations and semi-government (National Agricultural Advisory Services, National Forestry Authority) and private sector institutions. These service providers have motives ranging from profit making to humanitarian assistance. Some of them have their own funding and direct operations while some get contracts from the government or some other organizations to execute their programs.

Both reduced funding and manpower of public agricultural extension departments and to some extent their questionable efficiency and supply-driven approach have created a push for privatisation of extension services. Partial or full privatisation of extension services will bring a number of private advisers in touch with the local population. These advisers may possess knowledge and skills needed for supporting rural development programs. Useful institutional linkages may be created that may lead to financing and technical support for both agricultural, forestry and rural development activities. This is possible through associations in which different extension agents have different goals and this may help to distribute responsibility within the organizations. The fact that farmers are to pay for the services, they make sure that what they pay for is actually what they need.

According to Rivera and Gary (2004), demand-driven extension is a relatively recent label for a notion that has been around since people began to write about extension as an academic discipline and educational practice. It captures the idea that the information, advice and other services offered by extension professionals should be tailored to the expressed demands of the clients or recipients of the service not just to their needs as identified by various stakeholders (government, corporations, scientists, extension professionals) but the things they say they want.

Efficiency of private forest extension services is likely to be improved because the clientele that pay for the services will always demand results and this will stimulate service providers to fulfil their obligations if they are to remain in the market. In later stages of development, emergence of several service providers will bring competition among them thereby forcing them to improve their services. In addition, they will be able to reach more remote areas in order to get clients. According to De Janvry et al. (1997), early adopters create important external effects in extension through demonstration. This can help neighbouring communities to adopt and demand similar services.

Despite the above merits, privatization of forestry extension services means that farmers have to identify and demand the services they need. However, their capacity to identify their own needs and demand services in the local context is very low.

The implication, therefore is that what farmers can request for is probably what they know or have heard about. What about what they have never seen or heard but may be a good solution to their local problems? More still, farmers’ decision making horizon is influenced by many factors and most of them are site specific. The most pressing needs have to be identified first before attempts are made to provide services to farmers. Issues of land tenure for example are not well articulated in the
decentralization program yet they remain salient issues in interventions to achieve successful natural resource management.

Profit-oriented service providers will only execute work when financial resources are available to do so and with a significant profit margin. This means that with the limited financial resources available to small-scale farmers, no work will be done at all. Consequently, even the quality of services tends to be compromised in attempt to make a surplus budget. A private extension approach focuses mainly on medium-scale and larger-scale farmers thereby making private extension services a nightmare for small-scale farmers who comprise most of Uganda’s farming community.

Private firms may find it unprofitable to provide extension services in remote areas. Another related rationale for avoiding private extension services is the infant industry argument (De Janvry et al., 1997), high start-up costs and high risks discourage or prevent private investment in forestry extension services. Again, small-scale farmers will be left out as most private extension agents will go in for commercial farmers. It may also be preferable for government to operate in situations where economies of scale would lead to a natural monopoly.

Although, England has privatized extension services, so many farmers are either unable or unwilling to pay. Bulgaria had privatized a number of state farms to be used as demonstration farms with an aim to establish a private extension service. However, the results were not encouraging and the government has decided to create a national extension service with donors’ assistance. Estonia has a mixed pattern: free extension advice for poor farmers and a private service for economically better-off farmers (Qamar, 2000; Scott and Furtan, 2004; Kreen and Loolaid, 2004). Bangladesh restructured its agricultural extension policy in 1996 to include collaboration between public and private sector including NGOs. In Honduras, a large number of NGOs is serving thousands of small farmers as they are unable to benefit from privatized extension services.

In Mali, many NGOs, private companies and semi-autonomous bodies are delivering extension advice to farming communities. Zimbabwe is another example where a host of public departments, semi-government institutions, commercial companies, large farmers associations and NGOs are engaged in extension work.

**IMPLICATIONS**

There seems to be no better option that to have a plural systems where there is partial private and partial public funded forest extension services in order to cater for the various scales of farmers in the country. The small-scale of operation of most farming communities make private extension services less successful. Therefore, a combination of approaches (partial decentralization and partial privatization) is optimum.

Group extension model which promotes partnership of public and private extension services is considered an ideal which can be tried by development agencies, irrespective of whether it is public or private. Shifting from receiving free extension services to paying for them requires that farmers incomes from the production process increases correspondingly, their attitudes and those of extension agents changed.

Being a process that requires time, policy makers should considered considerably long-term plans for the benefits to be realized. Investment in farmer education will be inevitably important in improving the farmers capacity to demand appropriate services, contract, manage and evaluate private service providers.

**REFERENCES**


