Farmer Participation in Agricultural Research and Extension Service in Namibia

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Abstract
In this study a review of documented material on Namibian agriculture produced during 1999-2001 was undertaken and levels of farmers’ participation in the original empirical activities identified. The results were evaluated against Pretty and Vodouhe’s seven categories describing participation in development projects. It was found that 2/3 of the published material was derived from work in which farmers had apparently played no role at all. Where it was enlisted, the participation by communal farmers in agricultural programs was mostly at the lower levels, while participation by commercial farmers was usually at the higher levels. Dialogue workshops with communal farmers conducted in three major communal farming regions confirmed this finding. The opposite result was obtained when a questionnaire was used to gather information from agricultural professionals on their perception of farmers’ participation in agricultural programs. However, the study found sufficient evidence to conclude that the extent and levels of participation by communal farmers in the work of agricultural professionals was far too low and that this situation was probably a contributing factor to persistent crisis in communal agriculture. The implication of these findings for Namibia’s resource-poor farmers is discussed.

Keywords: Participation, Communal Farmers, Extension, FSR/E, Development, Food Security

Introduction
Indigenous farmers in Namibia’s communal agricultural regions are resource-poor and food-insecure (National Agricultural Policy, 1995). This is partly the result of poor agricultural practices in the communal farming regions that result in low output and substandard farm produce. The situation persists though state-controlled agricultural research and extension service in Namibia underwent considerable reform in recent years with the aim of catering for farmers’ participation in agricultural development programs and ensuring that farm level constraints are adequately addressed. The question that arises is, why is it still difficult to mitigate persistent crisis within the communal farming sector and enhance food production by the resource-poor communities in the country.

Role of the Extension Service
In the field of agriculture, extension service promulgates development because it provides opportunities for agricultural professionals to make expert contribution in identifying, adopting and sharing technology in a way suited to diverse ecological and socio-economic conditions (London Lane & Powell, 1996). According to Campbell (1999), in most poor countries, the extension service is mainly managed by the public sector or state. Toness (2001) emphasizes the important role of public extension in countries where most of the population is resource-poor and largely dependent on agro-based industries.

The traditional approach in public extension is the top-bottom approach where extension agents package ideas developed and tested by researchers into messages and farmers
are told what to do. According to Chambers (1993), Kibwana (2000) and many other workers, the top-bottom approach does not bring about sustainable development because it neither builds on local farming experiences nor does it promote farmer empowerment.

The first development paradigm to recognize the complexity of farm level constraints and the important role of the farmer in finding solutions to these constraints developed during the 1980s and is known as the Farming Systems Research and Extension (FSRE) (Chambers, 1983; London Lane & Powell, 1996). As a result of a deeper and clearer understanding of the crucial role of the farmer in the development equation brought about by the FSRE approach, the participatory learning development paradigm emerged in the last few years (London Lane & Powell, 1996; Pretty & Vodouhe, 1997). The participatory approach to agricultural development entails that the roles of agricultural professionals shift from that of teaching and ordering farmers to farm properly to that of assisting farmers to make better farming decisions. In brief, both FSRE and the participatory learning approaches recognize that farmers’ involvement in identifying farming problems and the needed solutions is an essential strategy for sustainable development. However, as reported by certain authors (Roling & Pretty, 1997; Toness, 2001), in many developing countries, extension methodology still remains fixed in the context where professionals regard themselves as the only experts who have all the answers.

**Extension Service in Namibia**

In Namibia, as in most developing countries, beside the public sector, few NGOs and agricultural training institutions are also engaged in providing extension service to farmers. The role of non-state agents is however extremely limited in scope and the bulk of extension service is provided by the public sector. Namibia’s Ministry of Agriculture, Water and Rural Development (MAWRD) officially adopted the FSRE approach as its development strategy in 1997 (Fleissner, 2000) although FSRE teams were operational in many parts of the country since the early 1990s (Matsaert, 1999). FSRE teams have since been established in all 13 regions of the country. Each regional FSRE unit in Namibia consists of all the local agricultural research and extension technicians in the region and is headed by the chief extension officer for that region. Depending on the types of agricultural activities in a particular region and the peculiar problems to be tackled, other professionals become incorporated into the regional FSRE teams (Matanyaire, 2000). The aim is to form state-controlled multidisciplinary teams to enable a more holistic approach to agro-based development in the country.

**Impact of FSRE in Namibia and Rationale of this Study**

Since the adoption of the FSRE approach in Namibia, no study has ever been undertaken to determine the extent and degree of farmer participation in agricultural activities under the new system. Hence it remains unclear whether resource-poor farmers in the communal farming regions have been effectively incorporated into the planning, designing, financing, implementing and evaluating processes of state-controlled agricultural development programs that have come under the supervision of regional FSRE teams. However, one thing that is well known is that food shortages and even famine have continued unabated in most of Namibia’s communal farming regions. Nearly 350 000 Namibians or 1/5 of the population are often in dire need of food aid. The adoption of the FSRE approach was supposed to prevent this kind of occurrence by strengthening local capacity to produce more food and ensure food security for all in the country. The inability of the communal farmers to ensure food security, several years after the establishment of the FSRE teams, clearly indicates that the new approach to extension has not succeeded to achieve its desired objectives in Namibia. The question is, why?

Fleissner (2000) showed that farmer participation on an equal footing with professionals in the activities of FSRE teams is still extremely limited and that many Namibian agricultural professionals have virtually abandoned the FSRE approach. On the other hand, Matanyaire (2000) observed that certain agricultural professionals in Namibia even developed antagonistic attitudes to the FSRE approach and are regarding it as a threat to their profession. The aim of the present work is to provide further insight into Namibia’s extension service and to highlight any defects in the new approach to extension that curtail progress and might be responsible for the failure of communal...
farmers to mitigate farm level constraints and increase agricultural output.

Methodology
The first approach to this study was a review of available documented information on Namibian agriculture for the period 1999-2001. Journal articles and other project documents produced by role players in the agricultural sector were thus examined for evidence of farmer participation in the original work described. For this, evidence of farmers’ roles in the following areas was researched: needs assessment, planning, design, finance, implementation, monitoring and evaluation of project work. Levels of farmer participation deduced from agricultural documentations was evaluated against Pretty and Vodouhe’s (1997) seven categories for farmer participation in development projects, from least to most participatory, namely: (1) passive participation; (2) information giving; (3) consultation; (4) material incentives; (5) functional participation; (6) interactive participation; (7) self-mobilization. An eighth category added to the above seven in the evaluation was that depicting the absence of farmer participation in programs.

The main sources of literature on Namibian agriculture were the four English agricultural periodicals of the MAWRD: Agricola (AGR), Agri-Info (AGR/I), Agri-Views (AGR/V), and Spotlight on Agriculture (SPO/A) (Table 1). Other important sources of information were the proceedings of the biennial congress of the Agricultural Scientific Society of Namibia (AGR/C) and, above all, the proceedings of the Annual Research Reporting and FSRE Implementation Conference (ARR/F) of the MAWRD. Participants in the ARR/F conference normally include representatives of all institutions engaged in agricultural programs: agricultural research centres for crops, livestock, and game; the Department of Veterinary Services; range/forestry research centres; breeding stations; FSRE units; national agricultural unions; agricultural parastatals; the Faculty of Agriculture; the Agricultural Colleges; the National Botanical Institute; and the Meteorological Department. Hence, the sources of documented literature on Namibia’s agriculture examined in this study are fairly comprehensive and likely to provide credible information on Namibian agriculture including the levels of farmers’ participation in agricultural programs in the country.

Secondly, a questionnaire distributed among a randomly selected group of professionals in the fields of agricultural research, training and extension was intended to collect and assess their views on the respective levels of interaction they have with farmers. The questionnaire required that professionals identify agricultural programs in which they are currently involved in their respective regions, and then rank farmers’ involvement in these programs according to Pretty and Vodouhe’s (1997) categories. Copies of the questionnaire were dispatched to 46 agricultural professionals in the field.

Finally one dialogue workshop (Mariner & Van’t Klooster, 1994) was held with members of the communal farming communities in each of three major communal agricultural regions of the country, namely: Okakarara district in the east, Ondangwa district in the extreme north, and Katima Mulilo district in the extreme northeast (the Caprivi region). In the dialogue workshops the views of communal farmers were sought on the performance of key role-players in the public agricultural sectors, namely: extension agents, researchers and veterinarians.

The eastern communal area is located within the Foot-and-Mouth Disease free zone, south of the country’s main veterinary cordon fence. Caprivi region is the only Foot-and-Mouth Disease infected zone in Namibia, while the rest of the northern communal area is a buffer zone. In Caprivi, the public veterinary service undertakes two free annual vaccination campaigns against Foot-and-Mouth Disease in all bovines. Besides, a free vaccination of bovines is also undertaken against Contagious Bovine Pleuropneumonia (CBPP). In the buffer zone, a single free annual vaccination is carried out against Foot-and-Mouth Disease as well as against CBPP. The vaccination campaigns ensure constant interaction between veterinary personnel and farmers. In addition, trained Community Animal Health Workers (CAHWs) operate throughout the northern communal farming areas. Vaccinations against Foot-and-Mouth Disease and CBPP are not permitted in the non-infected zones south of the veterinary cordon fence. In case of the outbreaks of other epizootics, the government makes available to interested farmers livestock vaccines on payment.
Results

Information on farmers’ participation in agricultural programs found in documented material for 1999-2001 is summarized in Table 1 and Figure 1. Table 1 shows that a large amount of information on Namibian agriculture is made available annually. For the period of study, this included material on: livestock/game farming (35.9%); crop agriculture (23.5%); range/forestry management (14.8%); soils/ecology/plant genetics (15.18%); veterinary problems (2.5%); irrigation (0.6%); weather (3.9%); others (3.6%). These results indicate that livestock and crop agriculture, together, accounted for nearly 60% of all material published during the period under study. About $\frac{2}{3}$ (65.7%) of all agricultural literature produced during this period was based on work in which farmers appeared to have played no role at all (Figure 1). This seems to indicate that farmer participation was lacking in the bulk of agricultural programs undertaken in Namibia during 1999-2001.

The study found that in work where farmers’ participation appeared enlisted, the levels of participation seemed to differ depending on the category of farmers. Where the more prosperous commercial farmers had been involved in agricultural programs, the literature revealed that farmers’ participation in such activities ranked high against Pretty and Vodouhe’s categories. In these cases, publication was either based on work initiated by the commercial farmers and totally carried out by them (self-mobilization) or it was based on work where evidence of both interactive as well as functional participation between farmers and professionals was involved. In the later cases, agricultural literature showed sufficient evidence indicating that farmers participated in joint work alongside professionals, took control of decisions, and were prepared to continue the practice developed as the result of the work, or formed functional groups that participated in project activities. On the contrary, the study showed that farmer involvement tended to shift towards the lower levels of participation where evidence of participation by communal farmers existed. The following are the main levels at which communal farmers’ involvement in agricultural programs were enlisted: passive participation where farmers participate only because they are being told what is happening; information giving where farmers’ involvement is limited to information giving but they do not influence the formulation of questions and interpretation of answers; and consultation where farmers are consulted but they do not share in decision making.

Table 1

<table>
<thead>
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<tbody>
<tr>
<td>AGR</td>
<td>3</td>
<td>58</td>
</tr>
<tr>
<td>AGR/I</td>
<td>12</td>
<td>52</td>
</tr>
<tr>
<td>AGR/V</td>
<td>12</td>
<td>19</td>
</tr>
<tr>
<td>SPO/A</td>
<td>36</td>
<td>18</td>
</tr>
<tr>
<td>AGR/C</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>ARR/F*</td>
<td>3</td>
<td>236</td>
</tr>
<tr>
<td>Total</td>
<td>68</td>
<td>405</td>
</tr>
</tbody>
</table>

*Note.* *The proceedings of the ARR/F constitute the bulk of published information on Namibian agriculture.*
It is interesting to note that articles published in the scientifically more serious periodical, the Agricola, showed much less involvement on the part of farmers in the empirical work. Levels of farmer participation in work published in the less scientific agricultural periodicals appeared much higher, indicating that experienced researchers are much less inclined to engage farmers in scientific studies.

Of the 46 agricultural professionals to whom copies of the questionnaire were distributed, only 19 of them (41%) returned 33 completed forms. Figure 2 represents the ranking of farmers’ participation in current agricultural programs in Namibia as assessed by professionals in public extension and agricultural research. This shows that most agricultural professionals in Namibia believe that farmers’ participation in agricultural development programs is well catered for.

Information gathered in the dialogue workshop on communal farmers’ perception of the performance of professionals is found in Table 2. This shows that, with the exception of the activities of veterinarians in Caprivi and Ondangwa, communal farmers are generally unhappy with the performance of other agricultural professionals.
Figure 2. Levels of farmer participation in agricultural programs in Namibia as perceived by agricultural professionals (2003).

Table 2

<table>
<thead>
<tr>
<th>District</th>
<th>Extensionists</th>
<th>Researcher</th>
<th>Veterinarians</th>
</tr>
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<tr>
<td>Okakarara</td>
<td>Dissatisfied</td>
<td>Dissatisfied</td>
<td>Dissatisfied</td>
</tr>
<tr>
<td>Ondangwa</td>
<td>Dissatisfied</td>
<td>Dissatisfied</td>
<td>Partially satisfied</td>
</tr>
<tr>
<td>Katima Mulilo</td>
<td>Dissatisfied</td>
<td>Dissatisfied</td>
<td>Satisfied</td>
</tr>
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</table>

Discussion and Conclusion

The FSRE approach was adopted in Namibia in an effort to bring to the fore farm level concerns of priority to farmers and to empower farmers through their effective involvement in efforts to mitigate these concerns. The aim was to enhance sustainable agricultural development in the country, increase agricultural output and strengthen food security and the rural economy, specifically in the economically disadvantaged communal farming regions. Five years on, communal farmers in the country have failed to achieve self-reliance in the production of basic food commodities. Food aid provided by the Namibian government is still needed to sustain whole communities during certain seasons of the year.

Often, external factors such as adverse weather conditions and lack of access to credit by communal farmers are blamed as the main factors responsible for the above scenario. However, persistent adverse weather and other negative local factors are an important component of the farming problems the FSRE approach was intended to identify and assist farmers to solve. The fact that the new approach to extension service has not propelled agricultural development forward in the communal farming areas and brought forth the much anticipated benefits it was intended to achieve, indicates that something is wrong somewhere.

The review of available Namibia agricultural literature, undertaken in this study, showed that farmers’ participation lacked in the bulk (2/3) of agricultural activities undertaken in the period under study. This observation is reinforced by the high levels of dissatisfaction.
that prevails in communal farming circles with the services provided by certain key-role professional players in the agricultural sector. Although the views expressed by professionals contradicted the above observations, previous reports indicate that most Namibian agricultural professionals are still unwilling to deviate from traditional norms that dwell on the teaching approach to extension work (Fleissner, 2000; Matanyaire, 2000). Further more, Dolberg (2000) showed that there existed a general absence of farmer representation in FSRE teams operating in the communal farming regions of Namibia. Dorberg attributed this to lack of strong farmer organizations at the local levels to press for farmers’ viewpoints. Observations made by these authors reinforce the findings by this study in agricultural documentation indicating low levels of farmers’ participation in agricultural programs in Namibia.

The study showed that indigenous farmers in the resource-poor communal farming regions of Namibia are much less involved in the decision-making processes in most programs intended to benefit them than are their commercial counterparts. The levels of dissatisfaction with professionals’ performance expressed by communal farmers reinforce this assumption. Certain statements reflecting the attitudes of some extension agents in the country also support the assumption. For example, according to Smit (1999) the successful farmer, in the Namibian context, is one who has adopted commercial agricultural practices, possesses lots of livestock and owns large tracts of farmland. This view does not seem to see any positive aspect in communal farming. It also depicts the kind of attitude some Namibian agricultural professionals have towards the effective participation of communal farmers in the FSRE-based agricultural development in the country. Obviously the stage where resource-poor farmers have control on agricultural programs and are fully part of the problem analysis and solution generation has only been partially achieved in Namibia, despite the establishment of FSRE teams allover the country. Hence adoption of the FSRE strategies at the policy level does not necessarily mean that effective farmers’ participation in programs is ensured. The same applies to mere claims made by professionals about farmers’ participation in programs they control. For effective farmer participation in programs to occur, it is important that professionals adopt fundamental changes in values, attitudes and behavior so that significant learning becomes a continuous process among all actors (farmers and professionals) in the agricultural field (Roling and Pretty, 1997).

Farm level constraints differ in space and time and require that farmers be innovative and, up-to a certain level, self-reliant (Critchley & Nyagah, 2000). This is why farmers should be helped to think for themselves and be able to adapt new techniques in a way suitable to peculiar circumstances on their farms. To achieve this, farmers’ effective participation along side professionals in agricultural programs is important. In fact, according to Treurnicht (2000), in order that local participation in development efforts is rendered effective, local people should have access to decentralized institutions at the local level that will honor their knowledge and their priorities. Treurnicht also emphasizes that local priorities should be addressed as soon as possible to ensure that locals do not lose faith in the capacity of local institutions. In the Namibian context, cases where communal farmers refused to cooperate with extension agents because they have lost faith in them have started to surface (Flower & Rooyen, 2001).

It is doubtful if most Namibian agricultural professionals are prepared for the interactive involvement of farmers at all levels of agricultural programs. According to Dolberg (2000), many extension agents who operate at the grass-root levels in Namibia are non-professionals with little knowledge about extension work, leave alone participatory approaches. Dolberg also recognizes the need for changes in agricultural curricula in Namibia’s tertiary agricultural institutions of learning in order to put more emphasis on participatory techniques. A practical fieldwork component in the curricula of all agricultural training institutions in Namibia has been put in place for this purpose. This consists of a yearly attachment or internship where students have hands-on experience in field activities during their training. However, students’ attachment programs are normally done in large agro-based industries, agricultural institutions and commercial farms and very rarely on farms belonging to resource-poor farmers in the communal farming regions. Further more, tutors in tertiary institutions do not seem motivated to
impart participatory attitudes to students partly because promotion criteria in tertiary institutions, like the university, reward authors much less for co-authored work and more for work carried out by the individual (Mshigeni, du Pisani, Beker, Abate & Muteka, undated).

In conclusion, the absence of strong roles for resource-poor farmers in agricultural programs in Namibia probably contributes to the stagnation of agricultural development in the communal farming regions. This is why there is need to emphasize effective farmers’ participation along side professionals in the work of established FSRE units in the country. The present study has pointed out that, in the north and northeastern communal areas of Namibia, levels of farmer involvement in programs are extremely high in the veterinary fields. In these regions, veterinarians have not only established constant interaction with all farmers during the vaccination campaigns, they have also recruited and trained CAHWs who render essential veterinary services on a daily basis at the village levels. CAHWs are recruited from among local communities, so they not only make essential veterinary services available at the communal farm levels, but they also provide the needed link for farmers’ participation in veterinary service delivery. This is probably why communal farmers appear more comfortable with the level of performance of veterinarians. It might be necessary that Namibian’s extension agents and researchers scrutinize the modes of operation of the CAHWs’ system in order to see if aspects of this could be adapted to agricultural extension and research. This could ensure that the views and priorities of all categories of farmers are incorporated into agricultural programs and that existing traditional agricultural technologies are reinforced. Unless resource-poor farmers are strengthened and empowered through their active participation in the programs intended to benefit them, the nature of existing constraints in communal agriculture will remain elusive hence will not be properly addressed. As a result, economic and food crisis in the communal farming regions are bound to persist. It is further recommended that tailored training programs, intended to continuously update the skills of agricultural professionals and strengthen their faith in and levels of appreciation for interactive participation with communal farmers in agricultural programs, be put in place. Resource allocation is also needed for regular evaluation of public agricultural services so that mistakes can be detected and addressed early.

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