Promoting Medicinal Plant Gardens: The Challenges to Successful Extension of New Practices to Traditional Healers in South Africa

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Abstract
Concerns about the unknown rate at which medicinal plants from communal land are disappearing and the consequent environmental implication thereof, has led to calls for cultivation of these plants in gardens by various agencies. Traditional healers, as the main users, are adopting the medicinal gardens concept at a very slow pace.

The purpose of the research was to analyze the pattern of use of medicinal plants and identify constraints that affect the rate of adoption of growing medicinal plants in gardens. The results are expected to provide extension agencies with appropriate guidelines for promoting medicinal gardens more effectively in South Africa.

The research took the form of a case study approach focusing on a specific area, with participatory and qualitative phases providing the basis for a semi-structured interview schedule, designed to assess the healers’ acceptability of medicinal gardens, their comparative perception of grown plants and collected plants, and constraints in the establishment of medicinal plant gardens.

The results give an insight into the use and preferences of medicinal plants from various sources and, through an analysis of the comparative acceptability of grown and collected plants, identify constraints in the adoption of medicinal gardens. However, the secrecy surrounding the world of the traditional healers and the taboos associated with cultural customs and beliefs makes the access to the indigenous knowledge extremely difficult. It questions the validity of some of the traditional healers’ responses, and emphasizes the need for much more in-depth research.
Introduction: What Is The Issue?

Thousands of medicinal plants are harvested from communal areas in South Africa putting severe pressure on the species collected. While there is little known about the rate at which the declining stock is disappearing, most available literature indicates that there is indeed a scarcity of various popular species (Manders 1996; 1998 and Cocks & Dold, 2000).

Concerns about the environmental implications of the depletion of medicinal plants, has brought conservationists and resource users together to identify and investigate possible solutions. Amongst the solutions is the cultivation of medicinal plants. Manders (1998) observed that there has been very little response to Cunningham (1988)' recommendation to cultivate medicinal plants for the supplementation of declining stock. There has been no clear explanation for this slow pace of adoption. Düvel (1990) attributes the non-adoption of any innovation to the fact that the individual is either incapable or unwilling to adopt. The latter is directly or indirectly linked to lacking a need and the related aspects of perception

Purpose of the Paper

There is a need to capture and build on the ways in which different specialized interest groups respond to the problem they face and the opportunities they perceive, if extension is to be successful in promoting the cultivation of medicinal plants. This paper investigates the various ways in which the different types of traditional healers utilize medicinal plant resources and how they have responded to the promotion of medicinal plant gardens by forestry agencies in South Africa. The purpose of this is to identify whether the traditional taboos and cultures associated with the healer community, affect the rate of adoption of medicinal gardens, i.e. the cultivation of medicinal plants in domestic gardens. The results are expected to provide extension agencies with appropriate guidelines for promoting medicinal plant gardens in South Africa amongst the traditional healer community.

Research Procedure

The research took the form of a case or pilot study, focused on a specific area, which met the condition of having a project aimed at the promotion of medicinal gardens and being sustainable in terms of its funding and the commitment of community members to it.

The initial phase of the survey consisted of a participatory consultation with the healer community, followed by qualitative investigations, the results of which formed the basis of a semi-structured interview schedule. A stratified sample consisting of 147 out of a total of 384 traditional healers and based on 60 percent project members (i.e. healers participating in a project promoting medicinal gardens) and 40 percent non-members was used for the study. The initial fieldwork was done by the first author, but was then taken over by a well-qualified and experienced member of the healer community who understood the culture of traditional healers and could solicit quality responses from the respondents.

BACKGROUND OF TRADITIONAL HEALERS

There are two main types of traditional healers in South Africa, Sangoma and the Ngaka. Credo Mutwa (2000, personal communication) gives the following explanation:

• A Ngaka is a person who undergoes training by a parent or grandparent. Ngaka use divine bones to diagnose a person, but historically they were not allowed to diagnose clients or to charge a fee for their services.
Sangoma is defined ‘as of the living drum’. In the past Sangoma were not allowed to heal people, but they were expected to diagnose a person and refer him/her to an Ngaka for medicine. In this context, a Sangoma is defined as a diviner. The influx of western cultures has resulted in traditional healing becoming more and more commercialized and in cultural confusion. For example both Sangoma and Ngaka now diagnose and dispense medicinal plants.

Central to the culture of traditional healers is the whole ancestral belief system. This forms the basis on which healers operate. They operate under the guidance of ancestors through visions and dreams. Each type of healer is usually governed by rules and regulations, which were initiated many years ago and have been transferred from generation to generation. This ancestral belief system forms an integral part of traditional healing and is also part of the belief system of many black people, both rural and urban. Hewson (1998) presents the three main elements of traditional healing as follows:

1. Prevention of and protection from problems, this entails warding off the negative force of witchcraft and maintaining equilibrium with other people, the spirit and the ancestors;
2. Determination of the causes of these problems: Hewson (1998) indicates that traditional healers consult the spiritual realm by involving and conferring with ancestors;
3. The eventual elimination of these problems: Through lengthy apprenticeship with an experienced healer, trainees learn the appropriate use of herbs and animal products for different types of patients.

Results

Source and Use of Medicinal Plants

Medicinal plants or plant species, when classified according to source, can be broadly categorized into those that are collected, grown and purchased. An inventory of medicinal plants in healer’s houses was obtained by the actual counting of all the number of different species stored per healer and categorizing them according to the source from which they were obtained. Table 1 gives an indication of the average number of grown species.
It appears that, in general, healers do not yet keep many grown species. For example, 50 percent of the respondents grew less than 15 species, while only 11 percent had more than 25. However, there is a significant difference between Sangoma and Ngaka, in that Ngakas had significantly more grown species (Chi-square = 21.09; d.f.=2; p=0.0003). This is shown by the fact that 36 percent Ngaka kept more than 25 grown species, as opposed to only 3 in the case of Sangoma. This does suggest that the concept of medicinal gardens appears to appeal much more to Ngaka than to Sangoma.

The collected species still far outnumber the grown or purchased plants. 64 percent have more than 100 species, while 26 percent have more than 200 collected species. Again there is a highly significant difference between the types of healers (chi-square = 20.2, d.f.=3, p =.00015). The relatively greater interest of Ngaka in grown species, is confirmed by their relatively smaller use of collected species. 61 percent of Ngaka fall into the relatively low frequency category of less than 100 collected species, while this percentage is 26 in the case of Sangoma.

Healers will presumably purchase medicinal plants from traders when they are out of stock. With the relatively smaller numbers of grown compared to collected species, one would expect that the purchased species are most likely to be of the collected type. In such a case the same tendencies as with collected species could be expected. This is in fact the case, since Sangoma tend to purchase more plants than Ngaka. For example 56 percent of the Sangoma purchased more than 15 species, while this percentage is only 36 in the case of Ngaka.

The finding that Sangoma have a stronger preference for collected species than Ngaka may be attributed to the rules and regulations that govern each type of healer. Females are usually prohibited from coming into contact with certain species during certain periods, because it is perceived that they may render them powerless. This also sometimes applies to their female clients. Because of this taboo, they cannot grow or keep certain grown species. A greater prevalence of females among Sangoma than Ngaka, could provide an explanation for the difference in collecting or growing pattern. Table 2 shows the relationship between gender and type of healer, which, according to the Chi-square value (8.2), is highly significant (p=0.004). 71% of Sangoma are women, while the percentage among the Ngaka is only 44 percent.
TABLE 2 DISTRIBUTION OF HEALERS ACCORDING TO GENDER

| Type of Healer | Female | | Male | | Total | |
|---------------|--------|--------|------|--------|------|
|               | n  | %  | n  | %  | N   | %  |
| Sangoma       | 77 | 71 | 32 | 29 | 109 | 74.1 |
| Ngaka         | 17 | 44 | 21 | 55 | 38  | 25.9 |
| Total         | 94 | 64 | 53 | 36 | 147 | 100 |

Chi-square = 8.2 d.f. = 1 P = 0.004

Demand for treatment is probably one of the main determinants of harvesting patterns. Most users, except traders, still utilize plants for healing and protective purpose and not for commercial purpose. It can be expected that the type of healer who is experiencing an increasing number of clients, will correspondingly use more species.

Most healers went into the profession as a result of a calling. Clients are referred to them through vision or referral or by word of mouth. The more successful a healer is in solving problems, the more the number of referrals. Table 3 shows the distribution of clients according to type of healers.

TABLE 3 DISTRIBUTION OF THE TYPES OF HEALERS ACCORDING THEIR NUMBER OF CLIENTS FIVE AND ONE YEAR AGO

| Number of clients treated per month | Sangoma | | Ngaka | | Total | |
|------------------------------------|--------|--------|------|--------|------|
|                                   | n  | %  | n  | %  | N   | %  |
| 1-20                               | 51 | 47 | 11 | 30 | 62  | 43 |
| 20-40                              | 21 | 19 | 13 | 35 | 34  | 23 |
| >40                                | >40 | 34 | 13 | 35 | 50  | 34 |
| Total                              | 107 | 100 | 37 | 100 | 145 | 100 |

According to Table 3, 57 percent treated more than 20 clients per month. The patients or clients treated are slightly more in the case of Ngaka (Chi-square = 4.8, d.f. = 2, p = 0.8), but the difference is not significant. A comparison of these findings with those of 1999, does suggest that the importance of Sangoma has dwindled. This may be attributed to a number of factors, one of which being the more modern phenomenon that Sangoma, who traditionally only diagnosed clients, now also treat them. Their treatment is likely to be less effective and since healers rely on word of mouth to market themselves, they may have obtained negative appraisals from their own clients.

The degree to which the average number of clients has changed over the years is graphically illustrated in Figure 1. Over the recent six years there has been a steady decline in the average number of clients treated per month, which may be attributed to an increase in the number of healers, and thus a general decrease of clients per healer.
The demand or potential demand for grown species will depend on the variety or number of species used. When preparing *muti* (medicine) plants are usually mixed. Table 4 shows the number of grown species used by the two types of healers for healing and protection purposes.

**TABLE 4 THE DISTRIBUTION OF SANGOMA AND NGAKA ACCORDING TO THE NUMBER OF GROWN SPECIES USED FOR HEALING AND PROTECTION**

<table>
<thead>
<tr>
<th>No. of Species Used</th>
<th>A. For Healing</th>
<th></th>
<th>B. For Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>0-8</td>
<td>36</td>
<td>47</td>
<td>10</td>
</tr>
<tr>
<td>8-15</td>
<td>17</td>
<td>22</td>
<td>2</td>
</tr>
<tr>
<td>&gt;15</td>
<td>23</td>
<td>30</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>76</td>
<td>100</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>A. For Healing</td>
<td>B. For Protection</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 Chi-square = 7.6, d.f. = 2, p = .02</td>
<td>2 Chi-square = 15.5, d.f. = 2, p = .0004</td>
<td></td>
</tr>
</tbody>
</table>

According to Table 4, there is little difference between healing and protection (usually against lightning, possible afflictions, etc.) as far as the number of species used in *muti* mixtures is concerned. Conspicuous differences occur between the types of healers. Significantly more species are used by Ngaka in *muti* mixtures for both healing (chi-square = 7.6, d.f. = 2, p = .02) and protection (chi-square = 15.5, d.f. = 2, p = .0004). For example the number of Sangoma and Ngaka, using more than 15 species in their *muti* mixtures, is respectively 30 and 57 percent for healing and 11 and 48 percent in the case of protection. These findings, and particularly the chi-square values, indicate that the bigger variety of species used by Ngaka applies especially in the case of protection, which is generally accepted to be more difficult to treat. This suggests that the rules and regulations governing
Sangoma are more limiting than those of Ngaka, or that Ngaka are more specialized and gifted in the field of treatment.

**Perceived power of medicinal plants**  
According to Simon (2000), there are various misconceptions about the effectiveness of plants from medicinal gardens, but he concedes that there can be differences in the biological action of medicinal plants depending on the environmental and genetic differences. He also argues that the way plants are harvested and when they are harvested can make a difference in their quality. It, therefore, requires a good understanding of the plants and the environment to assess whether a plant is of high quality. Traditional healers often have this good understanding. In Figure 2 healers’ perception regarding the relative efficacy of grown species versus collected species is analyzed. Only in the case of Ngaka and males does a fair percentage attribute more healing power to grown than to collected medicinal plants, whilst the overall comparison falls out very clearly in favour of collected species. Noteworthy is the significantly better perception of project members compared to healers that are not involved in the project promoting medicinal gardens. Only 28 percent of the project members rate collected plants as more powerful compared to 59 percent of non-project members. This seems to indicate – if the opinions are honest – that the project to promote medicinal gardens has already had some impact.

A question about what it is that makes collected species more powerful or effective than grown plants, result in responses as summarized in Table 5.

**TABLE 5 HEALERS' OPINIONS REGARDING THE MOST CRITICAL ASPECT DETERMINING THE EFFECTIVENESS OF MEDICINE FROM PLANTS**

<table>
<thead>
<tr>
<th>Methods</th>
<th>Percentage responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>The way they are harvested</td>
<td>35</td>
</tr>
<tr>
<td>Where harvested</td>
<td>7</td>
</tr>
<tr>
<td>Preparation</td>
<td>81</td>
</tr>
<tr>
<td>Rituals</td>
<td>7</td>
</tr>
</tbody>
</table>

According to Table 5, most healers indicated that it was the preparation, followed by the way a species is harvested that makes species effective. It is surprising that very few healers indicated
“muti” is given power by rituals and where the plant was harvested. This is contrary to the belief of both clients and healers that the power of species depends on where that specie is harvested and how it was harvested. This represents further evidence of the secrecy surrounding the topic of traditional healers and questions the reliability of some of the findings of this study.

**Extension Implications**

Interview responses, although useful, cannot always be taken at face value. This is particularly the case where there is little understanding of the culture and underlying belief system. If, in addition, there is a traditional secrecy surrounding the topic or area of research, as is the case with traditional healers and their gifts and powers, this applies all the more. Initially at least, it seems appropriate to try accessing the indigenous knowledge through an enumerator acquainted with the culture, but ultimately trust is critical. It can be promoted by an initial open discussion on the motives and purposes of the research and how the research can benefit the community. This should also imply that an undertaking be given to provide feedback as far as results are concerned and, of course, that such an undertaking be honored.

This study calls for follow-up research in order to arrive at more reliable information and a better understanding of the underlying motives of behavior. For example, all respondents expressed that they were in favour of medicinal plant gardens. Was the motive a conservation concern, or the interest in an income generating option through selling cultivated medicinal plants.

The underlying problem of slow or non-adoption (under-adoption) of growing medicinal plants, is actually one of over-adoption (over-exploitation) of naturally growing plants. This type of behavior is, especially from a behavior-theoretical point of view, is insufficiently understood and needs more research.

With the acknowledgement of policy makers that there is a need for community based resource management, a new partnership approach appropriate to the needs of healers is needed in order to ensure sustained conservation and management of medicinal plants. The strategy to cope with shortage must consider more than simply cultivation of species in nurseries for healers. In the context of rural development, cultivation and management of biodiversity may no longer be seen as only supplementing shortages of plants, but as an economic and social issue, which is one of the many productive activities that are incorporated into the economic system in rural areas.

**References**


