

Assessing the Shifting Trends in NTFP Extraction and Consumption in the Eastern Cape Province, South Africa

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ABSTRACT This study seeks to find out, through empirical evidence, the prevailing use of NTFP in rural Eastern Cape, available opportunities for income generation and suitability of commercialising NTFP in the province. The findings showed that there is very little use of NTFP in the area under study. The only significant use was that of firewood and a rather insignificant percentage of the respondents reported using it for medicinal purposes. Further interviews with other key informants and a review of the literature shows that there is a shift in the way NTFP are produced and consumed, with the production being done in a conventional agricultural environment rather than harvesting the products in the wild. Looking at forestry in general, the study also found that timber still plays an important part in people's livelihoods in the target area, far more than NTFP.

INTRODUCTION

NTFP continue to play a significant role in world food production and South Africa is no exception (Mugido and Shackleton 2017). Considering the existing high levels of poverty in some areas in South Africa, NTFP have been suggested as a potential solution (Thomas and Ham 2017). However, some contrasting studies in South Africa has showed the limitations of NTFP as either alternative food sources or sources of household income (Paumgarten et al. 2018). It is the primary objective of this study to assess which of these studies is more closer to reality. Secondly, the study sought to establish the extent to which NTFP are contributing to households in the case study area.

Primarily, this study sought to document and profile the usage of NTFP in the Eastern Cape. This would determine the possibility of commercializing these products so that the communities could realise some more income from them. Additionally, understanding the use and extraction of NTFP would also help in determining

how related livelihood options like agriculture can complement NTFP. Bekele et al. (2017) note the limitations of governments when it comes to NTFP and called for their capacitation in planning and infrastructure and develop effective partnerships with the private sector. The lack of capacity was prevalent in the Eastern Cape at the time of data collection because there was no easily accessible data prior to the research on NTFP usage in the Eastern Cape. The authors go on to argue that the ignorance of local NTFP has caused governments and international agencies to refer to these products as 'minor forest products' often with the result being forest policies that are detrimental to both the resources and the people who depend on them.

The Eastern Cape Province in South Africa has seen a number of development initiatives meant to uplift the lives of its communities. Most of these initiatives involve the use of exotic crops which the provincial government promote and tout as solutions to rural poverty. Some of these include the Magwa Tea project in Lusikisiki, the citrus project in Nkonkobe and the pineapples project in Peddie (Chiguware 2017). The limited success of these projects has led policymakers to look for alternative sources of livelihoods that are more sustainable and cost effective. It is out of the need to seek alternative development initiatives that this study was commissioned.

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As mentioned above, there has been considerable debate over the capacity of NTFP to contribute towards poverty reduction and improve livelihoods. Some authors have outlined how forests are both catalysts for economic growth and employment creation for rural communities through timber exploitation (Wahlén 2017; Cheng et al. 2017). Besides timber exploitation, forests have also been claimed to be able to sustain the livelihoods of communities living adjacent to the forests (Awono and Levang 2018). Kranal (2017) using evidence from the Nepal outlines the importance of NTFP to poor communities and how they so much rely on the forests. While the authors above present compelling cases on the usefulness of NTFP, Paumgarten et al. (2018) using some empirical evidence show the limitations of NTFP both as a food and income source. This is further confirmed by Saifullah et al. (2018) also documents the importance of NTFP for indigenous poor people although their empirical evidence shows a preference for agriculture when it comes to household income because of poor sustainable forestry management and limited to non-existent forestry property rights.

NTFP includes several forestry species except timber that can be harvested without having to cut down trees (Mukherjee 2017). Some of these include resins, gums, medicines, various foods, dried florist materials, insects, essential oils, horn products, leather and rawhide. In the context of this study, NTFP are defined as biological material (other than sawn timber, industrial round wood wood based panels and pulps and wood chips) that can be extracted from managed plantations and natural ecosystems and be utilised within the homestead, be marketable and have socio-cultural or religious significance. Besides those broadly mentioned above, other NTFP include forage and animals for food, feathers, honey and fur (Mukherjee 2017; Mugido and Shackleton 2017).

In the present context, non-timber forest products are defined as all the biological material (other than industrial round wood and derived sawn timber, wood chips, wood-based panels and pulp) that may be extracted from natural ecosystems, managed plantations, etc., and be utilized within the household, be marketed, or have social, cultural or religious significance. Thus, non-timber forest products include plants used for food, forage, fuel, medicine, fibres, bio-

chemicals, etc.; as well as animals, birds, reptiles, fish, insects, etc. for food, fur, feathers, etc. The use of the ecosystems for recreation, nature reserves, catchment management, etc., is regarded as forest services (Baptiste et al. 2018).

From a 'development' perspective, NTFP are attractive for planning and policy development because of their divergence which provides a natural safety net in case one of the options fail. As observed by Singh et al. (2017), NTFP is made up of several categories like food, medicines, dyes, furs and and fodder. The authors further describe how NTFPs comprise multitude species, with varying ecological, social, cultural and economic functions and this can both be an advantage and a disadvantage. Multi-species dependency increases diverse economic opportunities, simultaneously reducing harvest pressures and also act as "safety nets" from unexpected setbacks. However, designing management plans to cater for the diversity of species can be difficult (Singh et al. 2018).

METHODOLOGY

This study was conducted over sixty-four households over two district municipalities in the Eastern Cape province of South Africa. These are the Joe Gqabi District Municipality and the Alfred Nzo District Municipalities. These two municipalities were specifically picked because in addition to having significant woodlots and plantations of timber, they also have extensive forest areas relative to the other districts in the province like Amathole and OR Tambo which have been severely deforested largely to make space for human settlement (Stickler and Shackleton 2015; Ighodaro et al. 2013).

The sample group consisted of community members who lived adjacent to both natural forests and next to woodlots/plantations managed by large logging companies. This decision was taken to see the way they benefited from the woodlots, which are primarily for timber and more controlled, but also comprising significant NTFP as well as forests which fall under common ownership with their own specific subset of NTFP.

A coded questionnaire was administered to the selected sample group to elicit first, the general benefits they were getting from forestry products and more specifically, the NTFP they were making use of. Interviews were also conducted with key informants who included mu-

municipal officials, personnel from the Department of Agriculture, Forestry and Fisheries as well as private timber companies.

RESULTS

NTFP in rural South Africa is unique and unusual in two main respects. First, there is an almost lack of NTFP consumption at household level in the traditional sense of gathering products like fruits and medicinal plants and integrating them in the daily livelihood pattern. Secondly, the commercialization of NTFP has progressed to an extent where most of the NTFP are produced on farms and homesteads instead of in the wild. At a first glance, looking at the table below one gets the impression that NTFP plays no significant role in rural households. Rather, the issue is that they still play a strong important part of the family diet, fuel needs and building material requirements but the communities rather prefer procuring from providers rather than gathering them themselves.

Table 1: Current benefits of NTFP to communities

<i>NTFP</i>	<i>Respondents benefiting (%)</i>
Income	46
Social services	1.6
Jobs	9
Energy	93.8
Infrastructure/Building material	26.6
Timber	1.6

As seen from the responses in Table 1, firewood remains by far the most used NTFP. Although almost all the respondents admitted to having paraffin and electric stoves, these require costly energy sources. As a result, wood is the most preferred energy source with paraffin and electricity only used when it rains which is frequent given the temperate climate of the two districts. Besides gathering wood for cooking purposes, firewood is also used by most households for income generation purposes. There is also limited use of timber primarily for building purposes. The dominance of firewood (and energy in general) in NTFP is consistent with some studies that have been done before. For example, Karanth et al. (2006) using a number of ecological indicators show evidence that the need for firewood constitute the single biggest human-induced disturbance of the forests. This is

further supported by Kar and Jacobson (2012) who come to the conclusion that when it comes to forests exploitation, firewood is much more preferred than timber which has more commercial value.

A significant number of the respondents reported that they earn an income from NTFP. This mostly included procuring firewood for roadside sales especially to passing motorists. It is important to note that while most respondents indicated that they received income from the forests around them, the amount is rather meagre and irregular as this is something that is only done part time or when a household situation necessitates the sale of firewood. While arguing that NTFP income is very important for rural households, Mugido and Shackleton (2017) also acknowledge the low amounts realized and they set to examine the complicated pricing mechanism for NTFP. This percentage (of people getting an income from forests around them) also includes those community members employed in clearing the foliage in woodlots which are located in several of the villages where the fieldwork took place. A small number of the respondents were formally employed by the logging companies working in the area.

The temperate climate in the target area is also partly responsible for the dearth of fruits in the area which form the bulk of NTFP in most parts of the world (Paumgarten et al. 2018). A rather general observation in the areas where the questionnaires were administered did not reveal any immediately recognisable fruit trees. The respondents in the Joe Gqabi District, however, mentioned that there were extensive peach trees in the Senqu Local Municipality area growing naturally which were harvested by local communities. Officials from the local municipalities confirmed the prevalence of the trees and admitted to receiving a business plan to process the peaches which were growing in the wild.

DISCUSSION

Despite the relatively low usage of NTFP, it is interesting to note that there is significant conflict over the management of forestry resources and the attendant decision making on how they should be exploited. A total of 21.9 percent of the respondents reported being in conflict with another community member over forestry resources. 4.7 percent of the respondents re-

ported being in a current conflict with government over the management and extraction of forestry resources. Interestingly, there was only one reported conflict with the logging companies who are responsible for managing woodlots in the area and extracting timber from them. It is likely that the limited conflicts with logging companies can be explained by the fact that some of the community members are employed by the logging companies and therefore have direct benefits from the forestry products.

The relative conflict between communities and the government when it comes to the utilisation of forestry resources is prevalent in other studies. For example Fisher et al. (2017) note that conflicts frequently occur when government interests conflict with those of people living on the edges of forest reserves due to different priorities. Sarangi (2017) confirms the conflict between communities and governments and presents the argument that this is usually caused by governments advocating for conservation and controlled sustainable use while communities will be preferring optimal usage so improve their livelihoods. The author notes the challenges faced in trying to implement India's Forestry Rights Act and how challenging it was to balance between conservation and optimum usage. Tuan et al. (2017) extend the conservation – usage dichotomy by highlighting the source of conflict is usually the setting up of protected forests or nature reserves where communities are forbidden to enter and harvest NTFP. In the case of the South African case, further interaction with the respondents showed that the source of conflict was the perceived limited consultation by local authorities before partnerships were secured with private timber companies.

One of the findings from the study is that while there is limited usage of NTFP in the area, the communities have found other ways to benefit from the forests in their area. Despite the low usage of NTFP, most of the communities in the target area have entered into partnerships with timber companies where they put aside some piece of land for development as a woodlot (Ofoegbu and Speranza 2017). The timber companies develop the woodlot and the community takes care and ownership of the woodlots and they share revenue when the timber is harvested in the end. This arrangement is an addition to existing timber plantations in the area. This has resulted in direct benefits to community mem-

bers largely in the form of employment and other monetary benefits after selling timber. In a way this is consistent with the trend in the forestry sector in the province where there is a move towards managed forestry products (timber included) rather than relying on the natural growth of forestry products. This is consistent with other form of products like honey where community members benefit from NTFP without having to do the actual harvesting and extraction themselves. This is in line with the argument by Hebinck et al. (2018) who posit that the deagrarianisation now transcends agriculture and applies to the entire rural landscape including forests and this is changing how communities interact with rural resources like forests leading to lower NTFP extraction and consumption.

Several observations can be drawn from the study. The first observation is that there is very limited usage and reliance on NTFP in the study area and although there is significant poverty in the area, community members rarely travel to the forests to gather products for either domestic or commercial exploitation. Rather, they opt to buy alternatives from the shops which can serve the same purpose. For example, the prevalence of fruits in shops, packaged nuts and berries, refined oils and medicines from chemists and pharmacies negate the need to go to the forests and gather these products. Mugido and Shackleton (2017) offer the explanation that the availability of other livelihood options may explain the limited usage of NTFP by communities. Consequently, due to increased de-agrarianisation, NTFP are used as a coping strategy to augment primary livelihood like farming, wages and remittances rather than being the main or major source of rural livelihoods (Hebinck et al. 2018).

Building from the argument by Hebinck et al. (2018), it can be further suggested that the reason why there is limited NTFP usage is because most of the products have found themselves in mainstream commercial use where there are available in an affordable and processed form negating the need to go to the forests to extract them. Some of the products which are traditionally classified as NTFP have been domesticated and are produced commercially in a controlled agricultural environment rather than relying on the wild products (Paumgarten et al. 2018). Besides honey which Peter (2015) analyses, another prominent example in the South African context is that

of Rooibos tea which used to be harvested as a non-timber forest product but is now a multimillion Rand product widely available in the South Africa and beyond (Ives 2017; Thomas and Ham 2017). This partly explains why the use of NTFP has been declining in some areas. For example, the Department of Social Development funds several apiculture projects resulting in most people buying their honey from beekeepers rather than getting it from wild bees (Peter 2015). Secondly, most supermarket chains like Spar stock game meat which is significantly cheaper than conventional meats like beef, pork and chicken making it unnecessary to hunt for wild animals. Taking an example outside the study area, there is also an industrial plant in Keiskammahoek which distill rose geranium which is grown by the factory as well as nearby villages to make essential oils. In a way, this can be taken as an indication that more enterprising organisations and individuals rather opt to control the product environment rather than relying on nature and letting the NTFP grow naturally in the wild.

Third, even though findings from this research show that there is little usage of NTFP, this does not apply to the whole province though. There are isolated but significant examples where NTFP are harvested and in some cases processed on industrial scale. Melin et al. (2017) using a case study of aloe vera show that there is some pockets of NTFP usage in the province. A second example is the rose geranium example mentioned above in the Keiskammahoek area where the communities are benefiting from an essential oils distillation plant to exploit the resource. Additionally, there is evidence of wide use of various natural medicinal plants in ethno veterinary medicines (Maroi 2017). The wide publicity in the media of such products like Aloe Vera has also led to its widespread use especially in treating animals as an alternative to conventional veterinary medicines. It is important to stress that despite the examples given above where local communities are making use of NTFP, sometimes commercially as in the case of rose geranium, these instances are rather an exception rather than the norm and NTFP harvest, use and commercialization informally still remains significantly limited.

It is interesting to note that due to the different nature of NTFP in rural Eastern Cape, most of the issues which hamper NTFP commercial-

ization are not applicable in the present sense. Sarap (2017) supports this by noting how NTFP, which usually supports the poorest and most vulnerable community members, are poverty traps because of the declining forestry resources necessitating the need for community members to seek alternative livelihoods. Declining returns from NTFP sales are noted by Paumgarten et al. (2018) while Mugido and Shackleton in their empirical study show the vulnerability and uncertainty of the income from NTFP. Little participation by the respondents in NTFP theoretically prevents them from falling into the poverty trap described above. Other authors also noted challenges such as privatization, encroachment by outsiders and dependence on outside institutions (Wahlén 2017). In the area under study, communities almost without exception pointed to the good relations they enjoyed with timber companies. This is rather an exception since most communities clash with timber companies encroaching into their areas. Another challenge which has been documented is that of over-exploitation of NTFP when they are harvested on a commercial scale (Lowore et al. 2018; Ingram 2017). The almost exclusive exploitation of NTFP through firewood gathering in the area under review does not pose a significant threat as noted in other parts of the world. The above examples show how the uniqueness of the South African NTFP situation shields it from some of the challenges affecting the sector elsewhere in the world.

CONCLUSION

This study sought to ascertain the importance of NTFP in rural Eastern Cape as a viable and alternative livelihood option. Empirical evidence from the study shows that while there is indeed use of NTFP especially firewood, the usage is limited. A number of reasons have been given to partly account for this. These include the availability of optional livelihood sources and the general availability of NTFP on the mainstream markets at affordable prices. Lastly, the findings from this study show that NTFP usage in South Africa is evolving from the traditional model of forestry extraction to one where forestry products are adapted and grown in a controlled and managed environment. This makes the conventional gathering of NTFP redundant as communities can access those products elsewhere.

RECOMMENDATIONS

There are two key recommendations that can be made from this study. First, seeing that community consumption patterns are moving away from rural resources to commercially produced products, the study recommends that community-private sector partnerships be set up with private companies to harvest and extract the NTFP. While the communities may not be currently harvesting or benefiting from the NTFP because of several reasons, the fact that they live close to the forests means they should be benefitting. A partnership with a private company may ensure that the community stands to benefit from the resources even if they do not harvest the resources. This can be achieved through a royalty arrangement or profit-sharing structure. There has been some precedence and successful implementation of such arrangements and cite the example of the Rooibos tea partnerships which were relatively of mutual benefit to both community members and the investors.

Secondly, there is need to have a NTFP policy in place which can be used as the platform to implement the partnership mentioned above. At the time of writing, there is no formal or standalone NTFP policy. Rather, what is available is a number of statutory instruments like the National Environmental Management, Biodiversity Act of 1998, the National Forestry Act of 1998 and the National Environmental Management, Protected Areas Act of 2004. Even though the laws provides a comprehensive coverage of natural resources, they do not have specific provisions for NTFP largely because most of the information on the products and the ecosystem in specific locales remain unknown. For example, a NTFP would regulate the amount and frequency at which a resource can be harvested as well as the measures to be put in place to ensure that there is no overexploitation of the resource. With the policy in place, it then becomes possible to have partnerships where the NTFP products like honey, aloe and Rooibos can commercially harvested with provisions for local communities to benefit.

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