

## SUMMARY

*Phragmites australis* (Cav.) Trin. ex Steud., or the common reed, has been harvested in the Muzi Swamp in Maputaland for generations. Local rural communities on the eastern border of the Tembe Elephant Park have limited access to this resource within its boundaries. These same neighbouring communities have all but depleted the reed resource outside the Tembe Elephant Park's boundaries due to overutilisation of this communal resource. Over the last 10 years a flourishing trade in the reeds harvested within the Tembe Elephant Park has developed, thereby adding to the demand for the resource. Ezemvelo KwaZulu-Natal Wildlife are concerned that the current rate and intensity of harvesting is unsustainable and is depleting the reed resource. The neighbouring rural communities, especially the Sibonisweni community, would like access to a greater proportion of this resource. This study examined the effects of reed harvesting on the Muzi Swamp, and specifically, the level of degradation of the reed beds both spatially and temporally. The reliance of neighbouring communities on the reeds for survival, and alternative uses for reeds that will alleviate the current cause of the reed bed degradation were also examined.

The hypothesis was put forward that a degradation gradient exists in a south to north direction in the Muzi Swamp that lies within the Tembe Elephant Park, with the most severe degradation occurring the closest to where community members enter the park in the south, and the least degradation further north of this point. The results of this study, however, show no distinct degradation gradient. Yet, the overall condition of the reeds in the harvesting area is poorer than in the non-utilised area. Expansion of the current harvesting area, coupled with active and adaptive harvesting systems and yearly monitoring will improve the quality of the reeds within the harvesting area without affecting the harvesting quotas.

The long-term effect of burning and utilisation of *Phragmites australis* was investigated in the Muzi Swamp over a two-year period from 2000 to 2002. Four different treatments, these being the combinations of utilisation and/or burning, had varying effects on the density and size structure of the reeds in the Muzi Swamp. Continual harvesting combined with burning markedly reduced reed production in terms of reed density. Uncontrolled utilisation resulted in the overall decrease of reed quality with regard to reed height and diameter. The implications of the results are integral to the further management of the reed beds to provide good quality reeds for neighbouring communities, and to secure the ecological integrity of the ecosystem for conservation.

Increasing rural population growth in Africa has led to an increasing reliance on natural resources for survival. Gross per capita income is supplemented by the utilisation of common pool resources within various communities in rural South Africa. The depletion of common pool resources in rural areas results in a greater demand for access to natural resources that flourish in areas designated for conservation. This places reserve managers and conservation authorities under pressure to resolve the resultant issue of demands on such natural resource utilisation within these protected areas. Management strategies for the sustainable use of natural resources within conservation areas need to be designed and implemented by the reserve management and also by the members of the local rural communities. Acceptance and implementation of suggested management strategies are more likely to succeed if decisions are made that recognise the need for, and incorporate the use of indigenous knowledge. An examination of the trends in reed use in the Sibonisweni community indicated that the livelihood strategies of these community members are centred on reed utilisation in the Tembe Elephant Park. There is also a strong indication that members of the Sibonisweni Reed Cutters Association are aware of correct management practises that enhance reed production. However, the reasons for not implementing these strategies are unknown.

The harvesting of *Phragmites australis* reeds in the Tembe Elephant Park has to be managed pro-actively and solutions to potential problems should be sought before they arise. The potential for manufacturing finished products, these being prefabricated huts, from sustainably harvested reeds and forest timber was examined. This offers a potential solution to the problem of instating a winter-only reed harvest in the Muzi Swamp. The manufacturing of finished products from the harvested material will add secondary value to the resource and also offer alternative employment to harvesting reeds in the summer. The higher prices obtained for a processed article will also hopefully reduce the demand for the resource in its raw form, thereby increasing the perceived value of the resource and reducing wastage from raw materials that are not sold.

The reed harvesting problem in the Tembe Elephant Park can be resolved by implementing the suggested management recommendations, that are based on the results of the study. The question will undoubtedly remain: is there enough political will and the potential for amicable collaboration among the interested parties to ensure the future of the Muzi Swamp, not only as an ecologically sound entity, but also as a vehicle for rural development amongst the Tembe people?

## OKUFINGQIWE

*Phragmites australis* (Cav.) Trin. ex Steud., noma umhlanga ususikwe iminyakanyaka exhaphozi elibizwa nge*Muzi Swamp* eMaputaland. Imiphakathi yasemakhaya eseduzane nale ndawo engasemnceleni osempumalanga weTembe Elephant Park ayingeni ngokuthanda kule ngcebo. Yona kanye le miphakathi eyakhele le paki yehlise ingcebo yomhlanga ngaphandle nasemaphethelweni eTembe Elephant Park ngenxa yokuyisebenzisa ngokweqile le ngcebo yomphakathi. Kule minyaka eyishumi edlule uhwebo oluthembisayo lomhlanga osikwe ngaphakathi kweTembe Elephant Park lwaqala, ngaleyo ndlela lwenyuswa ukudingeka kwayo le ngcebo. Umnyango owaziwa nge-Ezemvelo KwaZulu-Natal Wildlife ukhathazekile ukuthi izinga nokuqina komkhankaso wokusikwa komhlanga awusekelekile futhi unciphisa le ngcebo. Imiphakathi yasemakhaya engomakhelwane, ikakhulukazi owaseSibonisweni, ungathanda ukuvunyelwa ungene uthole ingxenye enkulu yale ngcebo. Lo msebenzi uhlole imiphumela yokusikwa komhlanga exhaphozini elaziwa ngeMuzi Swamp, futhi ikakhulukazi, izinga lokwehla kwezindima zomhlanga ngokwendawo nasekuqhubekeni kwesikhathi. Ukuthembela kwemiphakathi engomakhelwane emhlangeni ukuze iphile, nokusetshenziswa ngendlela ehluke komhlanga okungaqeda imbangela ekhona yokwehla kwezindima zomhlanga kwacutshungulwa.

Kwabekwa ukuhlawumbisela kokuthi kukhona ukwehliswa komhlanga uma usuka eningizimu uya enyakatho yexhaphozi laseMuzi elingaphakathi kweTembe Elephant Park. Kube nokwehla okubi kakhulu okutholakala maduzane nalapho amalunga omphakathi engena khona ipaki eningizimu, nokwehla okuncane uma uqhubekela ngasenyakatho yale ndawo. Nokho, imiphumela yalo msebenzi ayikhombisi kwehla okusobala. Yize kunjalo, isimo sonke somhlanga endaweni yokuwusika sibinyana kunalapho ungathintiwe khona. Ukunwetshwa kwale ndawo yokusika, nesimo sokusika esikhona manje, nezindlela ezikhona zokuhleleka kokusika, kanye nokuqapha kulowo nalowo nyaka, kuyosiza ukuthuthukisa ubuhle bomhlanga endaweni lapho usikwa khona ngaphandle kokuthi ukhubaze inani elilindelekile lesivuno.

Imiphumela yesikhathi eside yokushiswa nokusetshenziswa kwe*Phragmites australis* exhaphozini laseMuzi kwaphenywa iminyaka emibili kusukela ngo-2000 kuya ku-2002. Ukukhuhlumeza noma ukuhlola okune, okungokuhlanganisa ukusebenzisa nokushisa, kwaba nemiphumela ehlukeni ekuminyaneni nasesilinganisweni sesimo somhlanga exhaphozini iMuzi. Ukusika okuqhubekayo kuhlanganiswa nokushiswa kwehlisa ngendlela eggamile umkhiqizo womhlanga lapho kubhekwa ukuminyana kwawo.

Ukusetshenziswa okungalawuliwe kwabangela ukwehla jikelele kobuhle bomhlanga okuthintene nobude nobubanzi. Okuvezwa imiphumela kubaluleke kakhulu ekuqhubekeni kokuphathwa kahle kwezindima zomhlanga ukunikezela izinga eliphezulu lomhlanga emiphakathini, kanye nokuvikela ukuphelela kwemvelo nohlelo lokuyigcina.

Ukukhula kwenani labantu basemakhaya e-Afrika kuholele ekuthembeleni okukhulayo engcebeni yemvelo ukuziphilisa. Imali engenayo ngosebenzayo (Gross per capita income) yelekelelwa ukusetshenziswa kwenhlanganyela yengcebo efanayo emiphakathini ehlukeneyaseNingizimu Afrika esemakhaya. Ukwehla kwale nhlanganyela yengcebo ezindaweni zasemakhaya kuholele esidingweni esikhulu sokungenela ingcebo yemvelo ethembisayo ezindaweni eziqokelwe ukugcinwa. Lokhu kubeka abaphathi beziqwi nezikhulu zokugcinwa kwemvelo ngaphansi kwengcindezi ukuxazulula isikhalazo esivelayo sokudinga ukusebenzisa le ngcebo yemvelo kulezi zindawo ezivikelwe. Izindlela zokuphatha ukusetshenziswa ngokusekelekile ingcebo yemvelo ezindaweni zokuyigcina kumele ziqanjwe futhi ziqale zisetshenziswe abaphathi bayo namalunga omphakathi oseduze wasemakhaya. Ukwamukeleka nokuqala kokusetshenziswa kwezindlela zokuphatha eziphakanyisiwe zingaphumelela kakhulu uma izinqumo zenziwa zibhekelela, futhi zifaka ukusetshenziswa kolwazi lwendabuko. Ukuhlolwa kwezinkambiso ekusetshenzisweni kwemihlanga emiphakathini waseSibonisweni kwaveza ukuthi izindlela zokuzondla zamalunga alo mphakathi zigxile ekusetshenzisweni komhlanga eTembe Elephant Park. Futhi kunezinkomba eziqinile zokuthi amalunga enhlangano yabasiki bomhlanga eyaziwa ngeleSibonisweni Reed Cutters Association ayazi ngezinkambiso ezilungile ezingakhuphula umkhiqizo womhlanga. Kepha, izizathu zokungaqali ukusebenzisa lezi zinkambiso azaziwa.

Ukusikwa komhlanga *iPhragmites australis* eTembe Elephant Park kumele kuphathwe ngendlela enokukhuthala kungakaveli izinkinga, futhi izixazululo ezinkingeni ezingaba khona kumele zitholakale ngaphambi kokuvela kwezinkinga. Amandla okwenza imikhiqizo eseyiphelele, lokho kungaba izindlu zotshani noma amaqhugwana okwaxhiwe kuqala, ngomhlanga osikwe ngokwesekelwa nangezingodo zasehlathini kwabhekisiswa. Lokhu kunikeza isixazululo esingayiso enkingeni yokuqalisa uhlelo lokusikwa komhlanga exhaphozini laseMuzi ebusika kuphela. Ukukhiqizwa kwezimpahla eseziphelele ngomhlanga nangezingodo kuzoletha ingcebo ethe xaxa kuphinde kunikezele ngamathuba ahlukeneyasebenzi ekusikweni komhlanga ehlobo. Amanani aphezulu atholakele ezintweni esezenziwe kunethemba lokuthi anganciphisa ukudingeka kwale ngcebo esimweni sayo semvelo, ngaleyo ndlela kukhuphule intengo yayo kwehlise nokumosakala komhlanga ongadayiswanga.

Inkinga yokusikwa komhlanga eTembe Elephant Park ingaxazululwa ngokuqala kusetshenziswe izincomo zokuphatha eziphakanyisiwe, ezibhekiswe emiphumeleni yalo msebenzi. Umbuzo okungangabazeki ukuthi uzosala owokuthi: ingabe sikhona yini isifiso esanele sabezopolitiki nethemba lokubambisana okunobungani kulezo nhlangothi ukuqinisekisa ikusasa lexhaphozi laseMuzi, hhayi kuphela njengendawo yezemvelo ezimele, kodwa futhi njengendlela yentuthukiso ebantwini baseTembe?