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The traditional methods which were used in the past by different ethnic groups to manage the veldt fires in their respective areas.

RESEARCH REPORT ADDRESSING ‘ TRADITIONAL FIRE KNOWLEDGE IN THE TSODILO HILLS ENCLAVE’

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**Interviewees**:

***Tsodilo Village—***

Mothaba Divongi, Mokate Samochao,

Xontae Xhao, Xenga Komtsae,

Kao Boo

***Xabasha Village*—**

Tswaa Xhao, Kunxaa Beesa, Xesae

Beesa, Mopalo Tsheko, Xwee Xhao, Boo

Kao, Nxishae Komtsae, Kavenguhuwa

Kareru, Xashee Xhao, Xoma Kgao,

Moshete Mothaba, Phoraki Katonda,

Shoroka Xhao, Nxisae Thogotona,

Nangero Diyende

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 Sub-District, Botswana.

Dated: 26 July 2020

**Research topic: ‘Traditional fire knowledge in the Tsodilo Hills Enclave’**

Research Aims:

* To find out how fire managed in the past by different ethnic groups differs from fire practices of today?
* How veldt fires should be managed.

**Report findings**

People from different ethnic groups used fire for a range of purposes:

* We found out that people from different ethnic groups used different fire management practices e.g. the Basarwa used green leaves to control or to manage fire and then relocate to other places, while the Hambukushu were using prescribed burning in order to protect their grazing areas for their livestock.
* We found out that traditional practices differ from what is done today because in the olden days people were using materials which were available at that time while the modern practices people use different equipment to control bush fires which is more useful and saves time. The people who were interviewed emphasized that the fires are better managed today as compared to traditional ways.

**INTERVIEW METHOD**

Undertaken as a conversation between the Interviewer/Researcher and the interviewee or the respondent.

Set interview questions were asked based on the aims of the research

An example of questions each and every elder was asked:

1. When you were young or growing up, what practices did you use to manage veldt fires in your areas?
2. At different times of the year what activities were undertaken?
3. What was the purpose of undertaking the fire management activities for example prescribed burning?
4. How big were the fires people lit?
5. Were there any local laws or customs associated with fire?
6. Did people recognize the difference between fires in the early dry season and the late dry season?
7. Were late dry season veldt fires a problem and if so how did people dealt with veldt fires particularly late in the dry season?
8. How do you think fire management should be best undertaken today?
9. What do you think the main challenges would be to implement this type of fire management?

**Interviews undertaken in Tsodilo**

Community elders with recognized fire management skills who were interviewed are as follow;

1. Mr Mothaba Divongi
2. Mr Mokate Samochao
3. Mr Xontae Xhao
4. Mr Kao Boo
5. Ms Xenga Komtsae

**Mr. Mothaba Divongi’s response to traditional knowledge on fire management**

‘’ We used tree branches which are green to manage the veldt fires and this was done by a group of people living within a certain piece of the land either for farming or for rearing livestock to protect the land for grazing purpose of livestock.’’ He further explained that during raining season people would go to their ploughing fields to cultivate the land for ploughing and when the plants are ready for harvest to harvested food that would take them to the next season of ploughing while others herded the livestock because during those times watered their livestock at open wells. He also said most of the people were illiterate because people did see the importance of education, with regards to fire management the community would burning fires which are about a hectare or less and there were laws on when to burning dead wood in the fields and the got the permission from the Chief of that area but for instance the fire gets out of control then the community come and help. Fires in the early dry season were manageable as compared to those in late dry season which were a bit problematic because during that time of the year there are so many dead wood and dry grass and it burns very fast during the day unlike during the night so people were controlling the fire preferable in the evening when the winds are very low.

**Mr. Mokate Samochao**

‘’ Depending on the direction of the wind we would mark a piece of land ahead of the oncoming veldt fire and burning that land so as to prevent the fire to go further and when the fire reaches that place then it goes off because it has been already burned and the chances of fire crossing over are limited to pass to our fields or grazing areas of the livestock’’ He further explained that they grew crops such as maize and millet to feed their families and they were also herders.’’ Prescribed burning really helped to control veldt fires in their areas, Mr. Mokate also added that there were no laws in the past of how to manage veldt fires as it is today. He said the people differentiated the fire in the early dry season with fires in late dry season were a concern because there were difficult to control while during the early dry which was when the grass is about to dry that was when people burned the fires because the grass had the moistures and those fires are easy to manage and the people were only controlling fires during night when it’s cool, he also added that the prescribed burning which the practiced in the past was the best method because it not expensive as the equipment which are used today which are very expensive and not easy to access.

**Mr. Xontae Xhao**

‘’ Despite the fact that we were living a nomadic life ( moving from one place to the other in search of wild berries and wildlife because we did not rear livestock or farming as the Bantu people did), we were using the veldt fires as to keep wildlife in one place because when then the veldt is burned fresh grass, tubers and plants grow and that is very easy for us for collecting tubers and hunting because the wildlife will be feeding on that and it could not take us a day to kill an animal to feed our families and also we targeted male animals and those which are very old as part of culling as is done in the modern style. As the San we were conservers not poachers as we are called today by Bantu who were not living with wildlife in the past’’. Mr. Xhao also emphasized that in the past they did prescribed burning to protect their camps from veldt fires and when they move from one place to the other they did make sure that the fire in the camping is put off and they did that by using sand to put it off and there were not outbreak of veldt fires in the camps they moved from always before they make fire they cleared the area set as the camping by removing the grass and the dead locks of wood. There were no laws on fire management as it is today and the San had the leaders within their different groups who were respected by their communities and these people were people who have more traditional knowledge on gathering and hunting skills and who also were traditional healers. He concluded by saying in the past there were fires which were burned in the early dry season when the grass still has moisture and this types of fire were the late dry season which were very difficult to manage as people did not have equipment which are used today which normally used within seconds to put off fire of 500metres.He also said they used to burn areas they are within the camps so as to prevent fires to reach their camps and that really helped, today the government engage more people to control veldt fires and this is also very expensive as compared to how it was managed in the past.

**Xenga Komtsae**

She is 57 years old also expressed herself that in the past as the San or Ju/’hoansi the lived a nomadic life and they had territories where they lived or where they practiced their culture of hunting and gathering and when the animals or the food they lived on is finished in their area leader will then ask other groups within Ju/’hoansi language to allow them to hunter and gather in their area and people followed the customs of that particular group because there are beliefs associated within each group, so there was consultations, The fires were controlled by prescribed burning to protect their land for be destroyed by veldt fires and in today’s case when there is outbreak of fires people wait for the government to take control while in the past people did manage the fires and this has resulted that there is too much dependence on the government to do everything for the people. As Ju/’hoansi in the past we used the tree branches to control the fires which some of us still practice even today. She further said it could be better if people use the technology used to today which much quicker.

**Kao Boo**

He responded by saying they used traditional knowledge to manage bush fires e.g. tree branches to control the burning fires in their areas and this was done to protect the land from fires and the wildlife as well as the plants the depended on food. Mr. Boo explained that as the Ju/hoansi there were hunter and gatherers, they did not grow crops like Bantu speaking people do also they did not rear livestock. Like others have commented he further said they did prescribed burning which sometimes will get out of their control because they lived in small groups and if the fires burns a big portion of the area it was very difficult for them to control it and the fires end up burning other people territories. In the past there were no laws as of today whereby if someone burns the land government takes action against that particular individual. The fires in the early dry season are manageable whereas fires in the late dry season are very difficult to manage. His last words is that we should now use modern ways of controlling bush fires as it works easily although it is expensive but when there is bush fires in the area the modern technology used control the fires within an hour as compared to the traditional practices which took days.

The findings from all the interviews seem all the ethnic groups practiced the same mode of controlling bush fires because they all did prescribed burning even though they did it differently but the fact remain they used tree branches to control bush fires and they all came up with the say that technology used today is more useful than the traditional knowledge so the support that the government should continue using equipment used today to manage bush fires.

**Interviews done in Xabacha**

1. **Tswaa Xhao**
2. **Kunxaa Beesa**
3. **Xesae Beesa**
4. **Mopalo Tsheko**
5. **Xwee Xhao**
6. **Boo Kao**
7. **Nxishae Komtsae**
8. **Kavenguhuwa Kareru**
9. **Xashee Xao**
10. **Xoma Kgao**
11. **Moshete Mothaba**
12. **Phoraki Katonda**
13. **Shoroka Xhao**
14. **Nxisae Thogotona**
15. **Nangero Diyende**

**Tswaa Xhao** was born in Tshaqo D’um and grew up with her parents in different valleys and they lived a nomadic life of moving from one place to the other searching for wild berries and hunting wildlife which they lived on as they did not rear livestock or ploughing crops for a living like the Bantu speaking ethnic groups.

* She expressed herself that burning of bush fires was good and as well bad to the environment, it is good in such a way that when people do the prescribed burning afterwards they try to control the fires not to reach other areas in other way it was also bad especially when it burned a very large area whereby people end up failing to manage it and it caused so much damage to the environment and to people’s property e.g. homes and the wildlife which the San lived on.
* There were no control measures put in place in the past because the people only burned a certain portion of the area they want to gather tubers and to hunt from because they believed that when the area is burned during the time when rains are near so that wildlife will feed on the new growing grass and some plants then they would not go a long distance for gathering and hunting, they burned areas which were good for gathering and hunting not any place.
* Fires were normally burned during the winter season when the grass is still has moistures and it there is less fuel.
* Sometimes in the summer time the fires were problematic as the crossed the borders to other countries because then the grass and the wood is very dry, this resulted in more fuel.
* In the past the fires were burned by men who went for hunting because sometime they left the areas they camped without making sure the fires are covered with sand or unattended to not to burn the area.
* She concluded that sometimes people burned the area and moved to other areas because there were no laws associated with management of veldt fires, which is why there were so many bush fires in the past unlike at the moment.

**Kunxaa Beesa** was born in 1935 in the village called Gani at the western part of Shakawe village and that is where she grew up, the home was along the valley. She has never been to school, from her experience she got from her forefathers how they used to manage bush fires is that fires in the past were easily managed unlike nowadays where people burn fires unnecessary, in the past fires were burnt while the grass still has moisture and it done for a reason for gathering tubers and for grazing of wildlife to be easily accessed.

* She said as Ju/’hoansi they have three seasons in a year particularly accompanied by different activities.
* She said her parents taught her methods of dealing with bush fires, that it is more useful when burning the veldt especially during winter time when the grass still has moisture because it does not burn in more volumes whereas in dry season it is more difficult to control. Areas which were burnt had potential for the wildlife and for gathering, so certain portions of the land were burnt.
* Nowadays is difficult to them as Ju/’hoansi because they do not own land but it belongs to the Government of Botswana hence in the past they had control over their land.
* She said in the past people respected the elders who were given the authority by the community to look after their people and the land, there were places selected for the prescribed burning and at which season.

**Xesae Beesa is** a Ju/’hoansi ladywho was born in 1958 in a place called Gani and she grew up in different places where they moved from one place to other for gathering and hunting as they are known as hunters and gatherer who live a nomadic live and they did burn the land for reasons of gathering and hunting but it was not large piece of land which was burnt because it will be difficult o manage the fires since people at those days lived in small groups within a certain territory. She also expressed that some of the fires were difficult to be managed because of winds and also when the area is covered by lot of grass and dead wood logs which have been pilled for years. People sometimes ended up leaving the areas which are burned and moved to unburned areas and bush fires damaged a huge area which was not good as those fires could cross over to the neighboring countries like Namibia although fires were burned like that there were no laws on how veldt fires should be managed so people at those days did whatever was good to them there were no restrictions. Some bush fires were not burned by the people but were burned by the lightning and such fires the San people did not bother themselves to control such fires because they said there burnt by God. Ju/’hoansi tree branches for the management of veldt fires because they don’t burn easily like dry branches. She concluded by saying the Governments have adopted some of the practices which were used before in the past to control bush fires for example prescribed burning during the early dry season.

**Mopalo Tsheko** aged 66 was born in Tamacha a certain place Sepopa village, he said life in the past was very simply because they collected food from the bush for example mongongo nuts which Hambukushu people lived on despite that the Hambukushu tribe follow under the Bantu speaking people and they were farmers and also herded livestock like cattle goats and donkeys. Mr Tsheko continue to say in the past there were more bush fires as compared to the present because there were laws which were given by the traditional leaders but there were not strict rules like today, people control the fires which were burned by the community while those from lightning strikes were not controlled, he further said the land was very important in those days because cattle grazing and for the wildlife. Each season had its own activities for example during the raining season people ploughed, spring they harvested their crops while winter they prepared the land for ploughing. He said prescribed burning is very important tool to preserve the land from dry season bush fires and it is good when done while grass is still fresh so that the fires do not stretch to other areas, he was also concerned that nowadays there are more bush fires as compared in the past. So he concluded that the government should join hands with the communities for the fight against veldt fires the damage grazing areas including people’s property.

**Xwee Xhao** is man whowas born ina place called Nxwebaxoh Dum along Nxaunxau valley, he said when he was a young boy life was so good at those days as compared to today because people lived on hunting and gathering whereas today people depend on Government handouts. His response to traditional ways used to manage veldt fires is that how fires are managed today is more useful than in the old days looking at the rate veldt fires are burning at the moment and also equipment used is more powerful and good for the management of the fires unlike before where only few places experienced fires. In the past there were activities associated with veldt fires. He also emphasized that prescribed burning is a good method of preventing fires to reach places of good importance to us as communities. In the past there were no laws which governed people not to burn the land and people were not hold responsible for the fires the burn unnecessary but nowadays there are laws which govern the people not to burn the environment. In the past they used prescribed burning when the grass is semi dry because it does not produce more fuel and they used tree branches and the reason why they did prescribed burning was that they wanted to prepare the environment so that fresh grass can grow for the wildlife and to keep near so hunters could not go a long distance for hunting and the other reason for fresh vegetation. Education is very important but also the children need to be taught about how San people lived in the past, he expressed himself that there are very important places which need to be mapped for future reference and those were his last words.

**Boo Kao** isman who was born and raised in Xabacha, he has never moved to any other place apart from Xabacha, he explained that life in the past was good compared to the present where they depended on the wildlife and plants, they are hunters and gatherers and that cannot be replaced by anything that is the fact, he further expressed himself that life was not expensive as of today where people buy everything, you need money for you to life because without money there is no life. He said in the past they did prescribed burning while the grass and the plants still have moisture in winter and when it burns it could not burn much or there was less fuel as compared to the dry season when everything is very dry and that is when the fires is very difficult to manage, they also did prescribed burning before the raining season and these were activities undertaken by elders only because they had the knowledge. He said every season had its own activities for example season for gathering tubers and other berries, hunting etc. The old further said prescribed burning is very important and should be encouraged by our Government that is his recommendation that the organizations responsible for that should exchange skills with different ethnic groups on how best fires could be managed and also the traditional practices to be incorporated and this could reduce veldt fires in the environment. Prescribed burning was done by elderly people those with knowledge of fire management not everyone and there were leaders who authorized people to do the burning, who knew when, where and how to do the burning also at what time, people had territories so there were consultations with the owners of that territory, he concluded by saying the Government need to work with the people, empower them and also distribute fire management tools even to the remote areas because those are the most affected by veldt fires.

**Nxishae Komtsae** is a woman who was born in 1947 and raised in Xabacha, she said during their times life was very easy and simple because they did not buy what they lived on, so they diet came from the bush and she commented that there were no much veldt fires as compared to the present, most of the veldt fires were conducted at certain areas by experienced people. She said prescribed burning or early burning could save the environment from veldt fires because this fires damage the environment and lead to dissertation and some species are being destroyed by this fires which now burn annually. Sometimes fires are determined by how often the area is been affected by fires or direction of the winds in each place so prescribed burning could then be good practiced to avoid fires to pass to other areas. She added that early burning is more important than late dry burning because there is more fuel in the late dry season due to the reason that everything is dry and those fires are very difficult to manage and it is very hot and the fires could only managed during the night. In the past people used the tree branches while now different equipment is used and machinery which has been tested to be good for that. Lastly she made a recommendation that the modern techniques should incorporate the traditional knowledge for us to manage the veldt fires in a viable manner.

**Kavenguhuwa Kareru** is a Herero man who was born in 1959 in a place called Ngaruka valley (Marunga area) and he grew up in Jobo valley close to Xabacha, the traditional knowledge on fire management which was used by Herero people, they elders looked for important places which needed to be conserved especially for grazing of the livestock as those people are known as herders are then prescribed burning was done there and this was particularly done during the winter season while the grass and other plants still has moisture to reduce the fuel and also prescribed burning was done before the raining season and the main reason why the fires were not done during late dry season was because there are lot of dead wood and dry grass and mostly such kind of fires were difficult to control because that season it is very hot and they community preferred to control the fires during the night not day light. During the raining season there was lot of food for the people as the Hereroes staple food is milk, as well as livestock find good grazing during the raining season. Despite the fact that Herero’s are herders they used to move from place to the other looking for good grazing places for their livestock and the land which lived on is left to recover, Mr Kareru explained that good fire management practices contribute to good conservation to the environment.

* Fires which burnt in the past were not as big as fires of today and there were easy to be controlled because people burned a certain portion looking at their numbers so that fires could not get out of their control.
* There were laws, good communication channels within the communities because they had leaders or Chiefs who took control of their people and the land.
* They have realized that bush fires impact to the environment is bad because the fires damage people’s property and the land.
* They managed the fires during the night because there are no winds and also it is not hot during the day.

His conclusion is that the government to empower the community in the rural places about the dangers of bush fires and the impact the make to the environment and different villages to be provided with fire management tools or equipment to fight these fires.

 **Xashee Xao** is a Ju/’hoansi man who was born in 1954 in Xabacha, he has never been to school, he said in the past there were no good fire management tools like how fires are being managed today, as Ju/’hoansi in their days they did prescribed burning to conserve the vegetation. In the past all the seasons had different activities which people undertook. As the San people they lived a nomadic lifestyle which is not the case now because of the laws of today. They did prescribed burning while the plants or the grass still has moisture during the winter season reason being that the vegetation will grow and people will be able to collect or gather tubers because they are easily identified when there are fresh rather than when they are dry and also the wildlife will find good graze so hunters could not go long distances for hunting.

There were no rules or laws that governed the people but indeed there were leaders within each group of those people who were consulted or who instructed people to do the burning and this was done by men only. The Ju/’hoansi are people who belief in ancestral spirits whatever they did was asked from the ancestors by the traditional healers.

Mr Xao concluded that the Government should control the bush fires together with the communities and these could only work effectively if the communities in the rural areas which are mostly affected by bush fires are trained on control measures on fires and negative impact made by these fires to our environment.

**Xoma Kgao** is a Ju/’hoansi man who was born in 1962 in Xaudum valley and during his childhood they moved from one place to the other with his parents , they moved Namibia and back to Botswana, as the San people they live a nomadic lifestyle as they live on hunting and gathering and “as of today our Governments discourage people to live like that and that is very difficult for us as San communities “ Said Mr Kgao He further explained that in the old days they practiced prescribed burning and this was done while the grass and the plants still have the moisture to avoid the fire to burning in large volumes, these fires bush fires were done during the early season of the year in winter and before raining season, people choose the place which were burnt looking at the abundance of the wildlife and where gathering is mostly carried. This activity of burning was done by elderly people and before they do that they spoke to the ancestors so that whatever the ask for could be given to them. He concluded that the communities out there need to by trained on the management of veldt fires and the remote areas are mostly affected by these fires therefore there should be provision of fires management equipment or tools be put somewhere the could be accessed whenever there is outbreak of bush fires.

All the people who have been interviewed seem to have the same information of traditional knowledge on fire management, the information collected from different ethnic groups is the same may this is because this people live in the same geographical area that is why they used the same method of dealing with bush fires, the only difference is their way of living because others are herders while others hunter and gatherers.

**Moshete Mothaba** born in Maun ion the year 1945 and his ethnic group is the Hambukushu, he is a farmer, he grew up in Maun from the year 1950-1970, and he then relocated to Tsodilo in 1970, he noted that when he was still young when there was outbreak of bush fires their elders called meetings whereby people could talk about how they should manage the bush fires in their respective areas mostly this was reported to the chief of each settlement, each settlement selected some men who would respond to bush fires once the erupted.

He also noted that during those years it was very difficult to control bush fires because the equipment they used was not of good standard because they used tree branches to manage the fires as compared to the equipment used as of today but they did manage those fires. In the past people burned the bush for the grass and other plants to germinate because the livestock like fresh grass moreover they did burn to prevent bush fires to cross over to their fields and the grassing areas for their livestock. There were laws made by Chief and the village elders about the management of the whole area including fires.

**Phoraki Katonda** was born in a place called Tamacha in the year 1962, he is from the Hambukushu ethnic group and he resettled in Tsodilo from the year 1970 until now, what is his experienced in traditional knowledge in fire management is that when there were outbreak of veldt fires in the area, people were called to attend to those fires and this was done by the community elders, they did prescribed burning in the early dry season while the grass still has the moisture since the fires is easy to handle and this was done to prevent the oncoming veldt fires to cross to other areas . He noted that the fires sometimes affect people especially when they inhale the smoke and this is not good to their health, he also noted that there were no laws as of today whereby if you burn the bush without the permission you are finned for that irresponsibility, lastly he noted that in the past experience in fire management they encountered so many challenges as of the present whereby everything is there for the fire management government trainings and the equipment to the fire fighters unlike in the past.

**Shoroka Xhao** who is 50 years old has been born and raised in Tsodilo, his ethnic group is Ju/hoansi (San) as a San person they depend on the veldt to provide food for them because they are hunter and gatherers, much of their time they lived in the bush moving from one place to the other in search of food and wildlife. He noted that they practiced prescribed burning in the early dry season because wildlife could be easily be found especially when the bush has been burned because the animals will feed fresh grass and plants and track of animals will be easier than when the grass is all over in addition to that the tubers will be found easily. They did prescribed burning to prevent fires from late dry season to burn their camps .When fires came in the late dry season there were easily managed because prescribed burning has been done in the early dry season. His last words is that prescribed burning should be practiced even today because it is a very useful method of managing veldt fires

**Nxisae Thogotona** from the Ju/hoansi ethnic group, she was born in the year 1956 in Tsodilo and she still lives in Tsodilo, when there were bush fires the elders grouped themselves to control the bush fires, in the case the person the respected was the traditional doctor who had powers to communicate with the ancestors as of the Hambukushu who had the chiefs. Before people did prescribed burning the traditional healer will speak to the ancestors and ask them about what they are intending to do, it was done that were and then people are called that they should do the burning and at which areas and there was a reason why places were selected due to their importance to that particular group of people. Prescribed burning was done in the early dry season before the grass gets dry, they did burning to make fire breaks preventing fires to cross to other areas, and there were no laws associated with fires regulating how people should burn the areas.

**Nangero Diyende** is from the Hambukushu ethnic group, she was born in Tamacha and grew up there until the year 1970 when she resettled in Tsodilo, and she noted that when she was young the fires were managed very easily and the equipment was cheap because people used tree branches to control bush fires. Bush fires were a threat to human lives, livestock and their crops. The prescribed burning was very much important in their tradition as they did that to prevent fires to cross over to their homes, and the tree branches were used to manage the bush fires, there were no laws or customs associated with bush fires and this was done by elderly people, she noted that in the late dry season the bush fires were problematic because there were difficult to control because there is too much fuel. She said the traditional method of controlling bush fires is no good as compared to the modern one so she encourages people to use modern technology practices.