

Ostrich Eggshell Jewelry Manufacturing and Use of Ostrich Products among San and Bakgalagadi in the Kalahari

Robert K Hitchcock*

Abstract

Ostrich eggshell bead production has received considerable attention in the anthropological, archaeological, and, to a lesser extent, the development literature. This is in part because beads are seen as significant: 1) symbolically (indicating ornamentation and signalling of identity and self-awareness), 2) socially (bead exchange is a way of tying individuals together and facilitating access to resources in other areas), 3) medically (ostrich eggshell and other ostrich products are used in healing), and 4) economically (ostrich eggshell products, when sold, generate income, especially for poor San and Bakgalagadi women in the Kalahari many of whom have relatively few other reliable ways of making money). After a brief assessment of the ways in which ostriches and ostrich eggs are obtained and utilised, the production of ostrich eggshell beads is examined. Next, the exchange and sale of ostrich eggshell bead products is evaluated, with particular attention paid to gift-giving, and the customary practice of *hxaro* exchange among Ju/'hoan San. Reciprocal exchange systems serve to even out distributions of valued goods, and they facilitate the dispersal of access rights to critical land and water resources over extensive areas. Finally, contemporary constraints on the obtaining, manufacture, and use of ostrich eggshell products by San and Bakgalagadi women are cited, including the limitations imposed by a 1994 Botswana government policy on ostriches and ostrich products.

Introduction

The egg of the ostrich (*Struthio camelus*), the largest bird in the world, is an important resource that the San, Bakgalagadi, and other groups were known to exploit intensively both in the past and recently in the Kalahari desert region of Botswana. This paper considers the use of ostriches and ostrich products by Kalahari residents, paying particular attention to the social, economic, and environmental value of ostriches.

Ostriches and ostrich eggs are considered to be extremely valuable by the people of the Kalahari and surrounding areas. (The term for ostrich in Naro is *dcaro*, for a broken ostrich egg the term is *qhabi toso*, and for a whole egg used for water, it is *qhabi*). As I will discuss here, value is calculated in a number of different ways: social, economic, and ideological.

It is interesting to note that ostrich eggshell pieces with abstract markings were found in a rock shelter, Diepkloof in South Africa, dating 60,000 years ago (Texier *et al* 2008), and a number of archaeologists have suggested that ostrich eggshell marking and bead-making provide evidence of abstract thought, symbolic communication, and expression of individual and group identity (Ambrose 1998; Henshilwood and Marean 2003).

Robbins *et al* (2000a) reported the presence of ostrich eggshell beads and worked eggshell at White Paintings Shelter in the Tsodilo Hills dated at 26,400 BP +/- 300 years. White Paintings Shelter also contains one of the longest sequences of ostrich eggshell use and bead manufacturing in the world (Robbins, Murphy, and Campbell 2010:56). Also at Tsodilo, unworked ostrich eggshell fragments have been found in early Late Stone Age (LSA) deposits dated by OSL (Optically Stimulated Luminescence) and radiocarbon to ca. 35 ka. Further evidence of the antiquity of the use of ostrich eggs in the Kalahari is evident at Gcwihaba (Drotsky's) Cave where 197 unworked fragments of eggshell and 2 finished beads were found in an LSA charcoal layer dated to between 11,240 ±60 BP (cal 68%=13,036-13,020 BP) and 12,450±80BP (cal 68%= 14,734-15,050 BP) (Robbins *et al* 1996). Underlying deposits estimated to date to between 22-24 ka also yielded a finished bead. More recently,

* Robert K Hitchcock, Professor of Geography, Michigan State University, Email: hitchc16@msu.edu

at Mogapelwa near Lake Ngami, an OES bead associated with a cluster of beads stained with red ochre was directly dated by AMS to 4,568±43 BP (cal to BC 3380-3090 or BC 3500-3450) (Robbins et al 2009).

Some of the oldest ostrich eggshell beads known currently in Africa date between 37,000-39,000 years ago and were found at Enkapune Ya Muto rock shelter in the Rift Valley of Kenya (Ambrose 1998). Beads made of tick shell (*Nassarius kraussianus*) have been reported from Blombos Cave in the Cape region of South Africa dating around 75.6 ± 3.4 years ago, and there were also 290 ostrich eggshell beads in the upper layers of Blombos Cave dating as far back as 20,000 years (Henshilwood *et al* 2004:404; and Vibe 2007:14). The presence of ostrich eggshell beads is sometimes considered as evidence of symbolic communication. Ostrich eggshell beads also convey information, indicate group identity, serve as a means of circulating goods, and enable individuals to beautify themselves with jewelry and to earn income (Wingfield 2009). In addition, ostriches are key birds in the mythology and medicine of 'KhoeSan' peoples (Low 2009:71).

Ostrich Hunting and Egg Procurement

San and Bakgalagadi men and women sometimes come across ostrich eggs in the field when they are foraging or traveling between places. The location of an ostrich nest is considered good luck. Getting the eggs from ostrich nests, however, is another matter. Because of the vigilance of the adult birds, foragers have to either wait for the adult to leave the nest so that they can go in and take some eggs, or alternatively, they may try to scare the ostrich off the nest, a high-risk activity.

There were stories told around the fire in the Kalahari about the interactions between San and Bakgalagadi and ostriches that indicated that there was a complicated relationship between humans and birds. Some people said that when they saw ostriches in the field they sometimes followed them back to their nests. They would wait for the adults to leave the nest and then would move in cautiously to take some (but reportedly not all) of the eggs.

Sometimes several adult ostrich females will use the same nest in which to lay their eggs. The result is that there can be a fairly large number of eggs in any one nest. Some nests contain between 10 and 20 eggs. Some ostriches have been known to lay as many as 40 eggs. Both male and female ostriches sit on the eggs; males tend to be the ones that sit on the eggs at night. Sometimes individuals interested in getting some eggs would throw a stone some distance away from the ostrich nest in order to attract the bird's attention and get it to leave the nest. They would then move in and take some of the eggs from the nest, making sure that they left one or more eggs behind. The idea was that an adult female ostrich would return to the nest, see that there were missing eggs, and lay additional ones. In this sense, the exploitation of ostriches was seen as being sustainable. However, it is unlikely that the San were so overtly 'conservation-conscious' although there are numerous discussions in the literature to the effect that the San, as Campbell and others have noted, were 'conservationists par excellence'. For a discussion of the debates revolving around conservation strategies among indigenous peoples, see Hames (2007).

Elizabeth Marshall Thomas (2006:93-94) describes an encounter between a Ju/'hoan hunter and an ostrich. She described how the hunter, who was in the field looking for ostrich eggs, was attacked by a male ostrich. According to Thomas 'This might not sound particularly dangerous, because an ostrich, after all, is just a bird, yet an ostrich is eight or nine feet tall, weighs two hundred to three hundred pounds, and can run at forty miles an hour. A single kick from its well-armed foot can eviscerate a person' (Thomas 2006: 93). As the ostrich charged the hunter dropped down on one knee and shot the bird in the heart with an arrow; the ostrich fell dead in front of him, and he dragged it back to camp (Thomas 2006:93-94). Ju/'hoan, G/ui, Kua, and other San all told stories about encounters with adult ostriches that underscored both their respect and fear of these large birds.

In speaking to people in the Kalahari about ostriches, one of the points that they often raise is the utility of the ostrich egg. An ostrich egg is a prized commodity in part because of its nutritional

value; a single ostrich egg contains the equivalent food of about two dozen or slightly more chicken eggs (in other words, about a litre to a litre and a half of liquid high in protein). Ostrich eggs, once collected, are sometimes roasted on the fire. People then consume the hot egg yolk liquid which they pour out of a hole in the end of the egg that is about a centimetre to a centimetre and a half in size.

An important function of an ostrich eggshell is as a canteen (*/kabi* in G/ui) in which people can store water. These canteens, which are portable and are curated and maintained carefully by individuals, are considered extremely useful. People will sometimes transport ostrich eggshells in a carrying bag (*n/au* in G/ui) or net when they move from one place to another. Water is prevented from splashing out of the ostrich eggshell canteens with the aid of a plug made of tightly wrapped grass or acacia gum. On occasion, ostrich eggs have two holes in them, one on each end, but this is uncommon.

Once they obtain the eggs in the bush, people usually bring them back to their homes. To prepare a meal, they drill a small hole in the top of the egg and empty the contents out into a container. They then cook the egg in a kind of omelette. Some people drink the egg contents straight after using a stick to mix the materials inside the eggshell. Old camps and residential localities often contain broken eggshell pieces and sometimes whole stored eggs that have been used as containers. !Xoo, G//ana, and other San using sip-wells (*mamuno*) would sometimes put the water that they drew out of the sand with their mouths using straws into ostrich eggshells (Livingstone 1857:59; Smith 1957:67; and Chapman 1971:157).

San decorate whole ostrich eggs by carving designs in them with pointed tools. They rub charcoal or ash on the eggs and it fills the scratched designs, making the designs appear dark. The eggshells are tough so it takes energy and skill to etch designs into the shells. The making of ostrich eggshell beads and canteens are done at !Khwa ttu, a San Cultural and Education Centre and tourist facility 70 km north of Cape Town, South Africa (www.khwattu.org) (see Figure 1). When asked about ostrich eggshell bead production, San at !Khwa ttu say that this is a traditional San activity which they are proud of and which they see as a respectable and dignified occupation.

Figure 1: Demonstration of ostrich eggshell bead-making activities at !Khwa ttu, the San Cultural and Education Centre.



Source: Ryan Klataske

Ostrich Eggshell Bead Manufacture

San and Bakgalagadi women and some men manufacture beads from broken pieces of ostrich eggshell that they find at nesting sites or that are broken in the course of domestic use. In some cases, eggs are broken specifically to create broken shell parts that can be made into beads. The bead-manufacturing process is complex and time-consuming; it sometimes takes as long as two-three days to make an ostrich eggshell bead necklace. Many groups in Botswana manufacture and use ostrich eggshell beads including the Ju/'hoansi of north western Botswana and north eastern Namibia (Marshall 1976:77, 126-128, 304-308; Yellen 1977:95; Lee 1979:120-122, 232, 425; Shostak 1981:12, 41-42, 96-97, 106, 364; Wilmsen 1989:74, 116-117, 199; and Thomas 2006: 61, 69, 85, 103, 220-221); the G/ui and G//ana of the central Kalahari (Silberbauer 1981:70-71, 227-228; Tanaka 1980:31, 40-4); the Naro of the Ghanzi District in western Botswana and Gobabis in eastern Namibia (Bleek 1928:9; and Dekker 2002:166-167), the !Xoo of the south western Kalahari (Heinz 1994), and the Bakgalagadi of southern Ngamiland, the northern Kgalagadi District, southern Ghanzi District, and the Central Kalahari Game Reserve.

The process of bead manufacture is roughly as follows: first, the eggshell is broken into small pieces. These pieces are fashioned into small, square shapes, sometimes by using a rock as a hammer. The bead manufacturing work is done on a piece of leather such as a kaross or a plastic sheet or blanket. A hole is drilled in the middle of the square shell piece using a piece of sharpened wire inserted into a wooden handle in the form of an awl, a sharp piece of stone or bone that serves as a drill, or the tip of a pocket knife (see Figure 2).

Figure 2: Beads and bead-making implements in a metal bowl (knife, pliers, needles, string, wire) (Kaudwane, Kweneng District)



Source: Robert Hitchcock

After a number of bead performs are made, they are strung together on a piece of sinew, wire, or string. A grinding stone held in the hand is used to grind down the edges and to smooth the string of beads. In some cases, a second, small, finer grinding stone is used to polish the beads. Sometimes this is done on a long (ca. one meter) board where the beads are arrayed and ground. A good, well-produced string of beads is one that is highly polished with beads that are relatively even in size.

Ostrich eggshell beads are made into a number of different kinds of items that serve as jewelry: necklaces, waist bead strings (belts), bracelets, headbands, aprons, anklets, and ear-rings. The beads are also sewn on skin bags or, in some cases, on clothing items, mainly by women. In the case of headbands, patterns are formed with different coloured ostrich eggshell beads, or a mixture of different kinds of beads and other products are used, such as pieces of porcupine quills, small wooden beads, and seeds. Sometimes, broken pieces of eggshell are used inside cocoons that serve as dance rattles.

Women, children, and some men wear ostrich eggshell bead jewelry. In some cases, very long strings of beads are wrapped several times around the neck. In other cases, people may wear several strings of beads (see Figure 3). Necklace lengths vary considerably, as do the quality of the beads used in the necklace. Sometimes people have loops of beads hanging from their hair.

Figure 3: G//ana woman from Molapo in the Central Kalahari Game Reserve wearing bead necklaces



Source: Robin Weeks

Beads in necklaces may be thick or thin; they may be roughly the same size or they may vary in diameter and thickness. In general, older, higher-value beads tend to be small and well-rounded and very carefully manufactured. Some modern beads collected among San and Bakgalagadi have been found to be stained with red ochre, and some ochre-stained beads have been found in archaeological deposits, for example at Mogapelwa near Toteng (Robbins, Campbell, and Hitchcock 2006; Robbins *et al* 2009). The beads themselves are very durable, but in some cases the material used to string them breaks and people lose some of the beads in the sand. Items made of beads that get broken are recycled and the beads are incorporated into other items that people produce.

Ju/'hoan, G/ui, Naro, and !Xoo San and Bakgalagadi have been known to soak eggshell pieces in water in order to make them more malleable and easier to carve without breaking them. Ju/'hoansi in the Tsodilo Hills have heated the eggshell jewelry in cooking oil in order to darken the beads to a gray-black or black colour. Naro, G/ui, and G//ana San and Baboalongwe Bakgalagadi also heat the eggshells in oil or water, sometimes adding charcoal or ash, in order to darken the beads.

While some San say that white ostrich eggshell beads are the most characteristic pieces of San jewelry and that they prefer strings of white beads, some tourists say that they like both, white and dark eggshell jewelry. Interviews of sales personnel in Gantsi Craft in Ghanzi and Botswanacraft in Gaborone conducted in March and July-August 2011 suggested that visitors who purchased ostrich eggshell products fell into two different categories: those who preferred necklaces and bracelets or other items made of white ostrich eggshell, and those who preferred ostrich eggshell items made of a mixture of white and darkened ostrich eggshell. According to Marshall (1976:304) the measurement of a good necklace is based on reaching to the navel of the wearer.

Exchange of Ostrich Eggshell Bead Products

In the north western and western Kalahari the exchange of ostrich eggshell items links people together in a complex system of mutual reciprocity. As detailed research by Polly Wiessner (1977, 1981, 1982, 1986, 2002) has shown, the Ju/'hoan San exchange necklaces and other jewelry across wide distances in the Kalahari in a system known as *hxaro* (*xaro*, *haro*). These exchanges serve to reinforce social alliances and represent trade partnerships and play important integrative roles for Kalahari societies.

The exchange system can be seen in both spatial and temporal terms: it covers a large area and takes place over a number of years, often over several generations. This delayed and reciprocal exchange system was characterized by Ju/'hoansi passing along non-food items, particularly ostrich eggshell ornaments, which make up the bulk of *hxaro* exchange goods, but also sometimes arrows, wooden bowls, iron or copper tools, clothing, blankets, tobacco, or cowrie shells to other people. Much of this exchange was done with consanguineous kin (those related through blood). The advantage of such a system was that it allowed for people to create social ties with other people whose services or resources could then be called upon in times of stress. They functioned in such a way as to allow extended visits to the *hxaro* partners' *n!oresi* (territories) (Wiessner 1982:74-77). What these exchange relationships served to do was to allow people to pool their risk. The Ju/'hoansi essentially bank their relationships, often working quite hard to make sure that their relationships are kept intact.

In the *hxaro* system, a recipient of a *hxaro* present usually did not keep it for very long, but instead passed it to another relative who may have admired it. Steadily, the present was given on from one relative to another. These presents created delayed, reciprocal obligations, binding families together, even if members lived in different band clusters. This custom ensured a) good relations between different bands with members in each connected by the exchange system, b) regular inter-band visiting and c) most importantly, co-operation during times of stress, particularly during droughts. It is also important to note that after an individual's death, *hxaro* partnerships were passed on to his or her children in an effort to maintain continuity in social relationships.

In ethnographic work conducted in July-August 2011, Maria Sapignoli (personal communication September 2011) found that some //Au//eisi San at Kuke on the Ghanzi-Ngamiland border had *hxaro* partners at /Xai/Xai (CgaeCgae) on the Botswana-Namibia border, one of the places where Wiessner did her research. The //Au//eisi, like the Ju/'hoansi, said that the exchange of *hxaro* gifts was done carefully and discreetly in order not to attract the attention or envy of other people. The *hxaro* exchange system among the Ju/'hoansi and the //Au//eisi San has undergone changes over time, and it appears that some of the links created by the exchange of ostrich eggshell beads and other items are not as viable as they once were. When //Au//eisi in northern Ghanzi District were asked in 2011 about their *hxaro* partners, they could only name a few individuals, and they said that they had not given them any ostrich eggshell bead products in many years.

Some of the ostrich eggshell bead items produced by the San and Bakgalagadi took a great deal of time to make. Silberbauer, in a useful description of the making of ostrich eggshell beads, made the following observation:

The shell is broken into pieces about 1 x 1 cm and a hole is drilled through each piece by means of an awl twirled between the palms. This takes about 30 seconds. Between 120 and 150 such pieces are then strung together on a sinew thread. The assembled string is placed against a firm surface, such as the side of a mortar, and rubbed with a piece of gastropod calcrete (a soft stone). In about 20 minutes the string is ground to an even cylinder, that is, each piece is rounded off into a disc (Silberbauer 1981:227).

He goes on to say that an apron measuring 22 by 28cm and containing 4000 beads represented nearly 200 hours of work, while a harness for a child requires 60 hours of work (Silberbauer 1981:227). Beadwork, which the G/ui term *!xamdzi*, is considered to be very important socially and economically and good bead-makers are regarded highly. One G/ui male informant in the Central Kalahari said in 2000 that he would like to marry a bead-maker because she 'would provide me with beads that we could use as gifts, and her beads would also bring us a lot of money'.

The manufacture and sale of ostrich eggshell items is an important source of income for a sizable number of San and Bakgalagadi households in Botswana. This is particularly true in Ghanzi District and in the past in the Central Kalahari Game Reserve. Gantsi Craft was started in 1983. By 1986-87, when Kazunobu Ikeya was collecting data on craft sales at *!Xade* in the Central Kalahari, people were generating substantial amounts of money through the sale of necklaces and bracelets, even though these were some of the cheaper craft items available (Ikeya 1996:75-80). The purchasing of crafts in the Central Kalahari had largely ceased by the mid-1990s, in part because of the uncertainty of what was going to happen to the people who were living in the reserve. According to informants who lived in the CKGR at the time, the stopping of craft purchasing visits was one of the ways that the government could put pressure on the people in the CKGR to leave the area for resettlement at New Xade.

In 1999, there were 76 craft producers in Ghanzi District who were associated with the Kuru Family of Organizations, and craft production was the most important source of income for women and some men in the Ghanzi settlements and the resettlement site of New Xade (Bollig *et al* 2000). As some of the craft producers interviewed in 1999 in Ghanzi pointed out, in the absence of secure tenure rights, crafts production seemed to be the only income generation strategy that was largely independent of land and capital.

In Ghanzi District, it was estimated in 2011 that there were some 800 craft producers, many of them involved with the manufacture and sale of ostrich eggshell beads made into necklaces, headbands, bracelets, and earrings (Information from the Kuru Family of Organizations, July 2011). Interviews of a sample of bead-makers from D'Kar and some of the northern Ghanzi Farms in July-August 2011 revealed that individuals made between 50 and 700 Pula per year through ostrich eggshell product sales, mostly bead items such as necklaces, bracelets, headbands, and earrings. In a survey of the San economic activities in western Botswana, 80% of men and women considered the production of traditional jewelry and crafts as an important means of maintaining their culture and identity (Dekker 2002:166). Some of the issues raised by craft producers were 1) the difficulty in finding ostrich eggshell products, 2) the variability in prices paid for crafts, 3) the infrequency of visits paid to producers' homes made by craft buyers, and 4) the lack of information and predictability regarding the types and numbers of crafts that craft buyers prefer.

Ostrich Eggshell Jewelry and Botswana Government Policy

In the Kalahari Desert it is mainly poor women who manufacture, use, and sell ostrich eggshell bead items. Craft production is also seen as a useful and respectable occupation. Women expend enormous amounts of time refining the beads that they work on, smoothing them and polishing them in preparation for wearing, exchange, or sale (see Figure 4). Some of the strings of beads can sell in the Kalahari for around P100-P200. Some of these same strings can be found in stores in places as far afield as Los Angeles and New York selling for as much as US\$700-US\$1,500. Women often express their consternation about what they consider to be low prices paid to them, while they have heard that their beads sell for such high prices in other countries.

Figure 4: !Xoo woman in Nwatele, Kgalagadi District, doing the final smoothing and polishing of ostrich eggshell bead necklaces that she produced (Robert Hitchcock).



A significant problem facing women and other people who manufacture and utilize ostrich eggshell products extensively is restrictions imposed by a government of Botswana *Ostrich Management Plan Policy* (Republic of Botswana 1994). This policy stipulates that people must obtain licenses from the Department of Wildlife and National Parks (DWNP) before they can procure and sell ostrich-related products. Fees must be paid in order to obtain the permit. Another stipulation of the policy is that ostrich eggshells are to be collected only in the period from April to August, thus limiting the time when they can be exploited. In addition, organizations involved in ostrich egg collection must establish a facility where the shells are kept, and the premises will be inspected on a regular basis by the Department of Wildlife and National Parks (DWNP file WP UTI, Vol. VI, 2. Game Farming, 3. Ostrich). What this means, in essence, is that a product of nature that used to be available freely to anyone who wished to utilize it has been transformed into a commodity controlled by the state.

Women in rural Botswana are worried that the Ostrich Policy could result in their being arrested for possessing ostrich eggshell beads and other ostrich-related products. (In interviews of DWNP officials, there were no claims made of anyone having been arrested on an ostrich-related charge other than individuals being suspected of killing ostriches without a license). Some women, such as those in West Hanahai in Ghanzi District, have attempted to establish ostrich user groups, but it took years to get the license necessary to exploit and sell ostrich products. DWNP argued that women's groups have to be organized and recognized officially before they will grant them an ostrich egg collecting quota. The East Hanahai Women Ostrich Eggshell Collecting Group was formed in 1993 and made a formal request for a quota in November, 1993 but this request was not acted upon for another two years, and even then it was uncertain what people in the group were allowed to do.

In September, 1994, Maiteko Tshwaragano Development Trust (MTDT) sent a letter to the DWNP in which they asked about the policy concerning ostrich eggshell collection. Subsequently, on 31 March 1995, they made a formal request for a Directors Permit to Collect Hatched Ostrich Eggshells. DWNP granted them this permit on 5 May 1995 (DWNP file WP UTI 2/3, Vol. VI, 2). What this meant, in effect, was that MTDT could potentially serve as a repository for ostrich eggs which could then be allocated to individuals for craft production purposes. This, however, did not work out, according to interviews of trust members.

There is still considerable uncertainty over the timing of egg collection, general reporting procedures, and the rights of people to collect eggs in the field in Botswana. One of the regional wildlife officers I interviewed during a survey of hunting issues in 1995 said that the manufacture of ostrich eggshell products by NGOs was illegal because it would contravene Section 65 of the *Wildlife Conservation and National Parks Act* of 1992 (Hitchcock and Masilo 1995). This section states that 'No person other than the holder of a trophy dealer's license shall employ or engage any other person to manufacture any article from any trophy' (Republic of Botswana 1992:A.155). If hatched egg pieces are considered to be trophies, which the *Wildlife Conservation and National Parks Act* appears to suggest, then this would mean that women in craft groups in western Botswana are potentially breaking the law. Ironically, the *Ostrich Management Plan Policy* maintains that wild ostrich eggs can be harvested for food and as the raw material for traditional craft items. The conflict between the *Wildlife Conservation and National Parks Act* and the *Ostrich Management Plan Policy* leaves ostrich eggshell collectors and craft producers in a position where they could be viewed as violating the law on the one hand or complying with it on the other. This policy conflict must be resolved in order to safeguard the rights of people in remote and rural areas in Botswana.

Nearly all of the people whom I interviewed in the Kalahari over the past 18 years since the Ostrich Policy was passed stressed that they wished to be able to continue to sell ostrich eggshell products and other handicrafts because it was such an important means of earning income and it provided them with items that were significant to them socially. They pointed out, however, that they faced some major constraints in making, wearing, and marketing items made from ostrich eggshells. One issue that they all had was the lack of clarity about government policies on the collection, sale, and export of ostrich products.

One well-known and highly skilled ostrich eggshell jewelry producer from D'Kar was told by the regional wildlife office in Ghanzi in 2010 that she would have to apply for permits to have ostrich eggshell in her possession as well as ones for marketing of the jewelry. In addition, she was told that she was not allowed to make ostrich eggshell jewelry in her home but instead had to apply for a business site with the Ghanzi Land Board and develop a shop where she would have to make and sell the jewelry. The time that this would take, according to the wildlife office, was at least one to two years, and there was no guarantee that she would be able to get the licenses required. Realizing the complexities of what she was facing, the jewelry-maker opted not to seek a license. She pointed out that it was just too difficult to attempt to make a living through ostrich eggshell jewelry sales, given all the restrictions.

An elderly (then 104 year old) Shaga-Mokgalagadi woman from Mogapelwa near Toteng in Ngamiland who was interviewed in 2005 said that she used to make ostrich eggshell beads, but stopped when the colonial Bechuanaland Protectorate government passed legislation protecting ostriches and other animals in the early 1960s. She said that some of the beads she had were made by Ruswa and Kabekwe San who lived in the Mogapelwa area, and that some of them were ones she herself had manufactured. She emphasized that the beads were valuable heirlooms which she had hoped to pass on to her children and grandchildren. She expressed serious concern that she could be arrested for having ostrich eggshell beads in her possession and was considering disposing of them. (See Robbins *et al* [2009] for further discussions of the oral traditions of the Bakgalagadi and the San at Mogapelwa).

Conclusion and Recommendations

Further research and development work on ostrich eggshell jewelry manufacture and the use of ostrich products is needed, especially on 1) craft types and quality, 2) diversity of items made, 3) labour time and cost, 4) craft pricing, 5) training needs, 6) potential new craft types, 7) ostrich biology, health, and management, 8) the importance of ostriches and ostrich products in promoting physical and psychological health and well-being of people and 9) the impacts of government policies on people whose livelihoods are dependent in part on ostriches and ostrich-related products. In the latter case, this would include both farmers who breed, raise, and sell ostriches and people who use ostrich eggshell products for craft manufacture and sales, some of them very poor. It would be useful if the Department of Wildlife and National Parks undertook a review of the *Ostrich Management Plan Policy* and revised it in such a way as to allow for a more flexible approach to the sustainable use and management of ostrich products.

It would also be useful to gain a greater understanding of the various impacts of commercialization of ostrich eggshell products. It appears, for example, that while many of the ostrich eggshell items are produced by women, men have become increasingly significant in the marketing process. Given that ostrich eggshell products are an important source of rural people's income, the *Ostrich Management Plan Policy* has the potential for harming not only poor people, some of whom are farm labourers, but rural women as well. It is crucial, therefore, to incorporate women and the poor more directly into the planning and implementation of wildlife management policy-making and natural resource development projects. This will ensure that these initiatives do not favour the rich over the poor and males over females and that equitable development and broad-based community participation are achieved.

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