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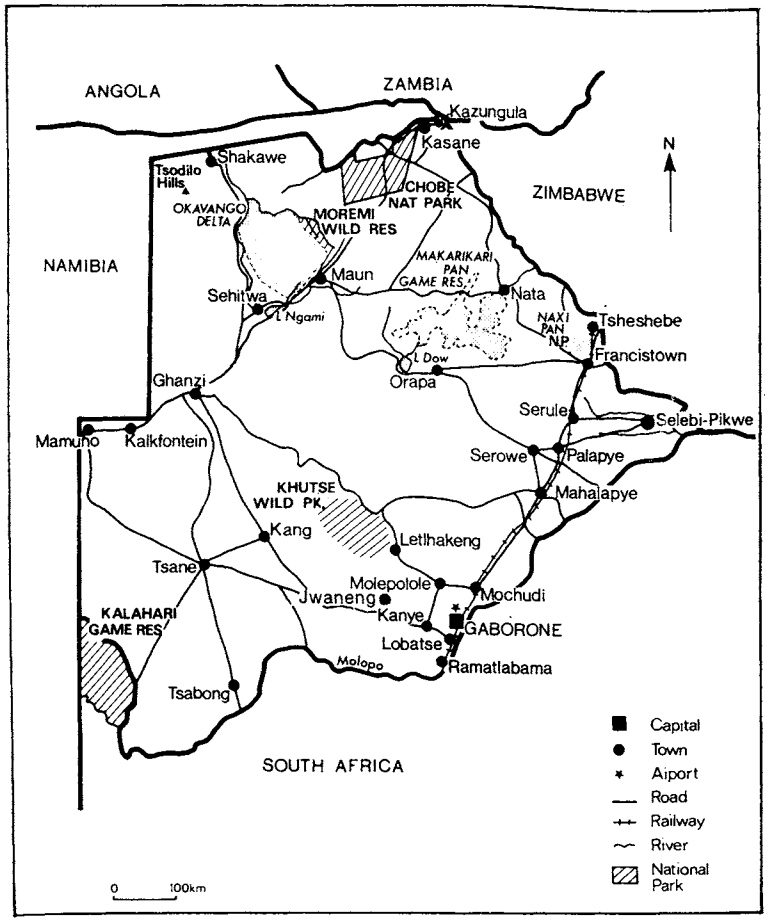
Horticulture in Botswana January 25, 1989

Mr. Peter Bird Martin
Executive Director
Institute of Current World Affairs
4 West Wheelock Street
Hanover, NH 03755 USA

Dear Peter,

For someone who has heard much about the pros and cons of economic sanctions against South Africa, a visit to Botswana was a real eye-opener. Botswana, an independent democratic country, is located just north of the Republic of South Africa. The capital of Botswana, Gaborone, is located very close to the South African border (see map).



Map of Botswana. (From: Traveller's Guide to Central and Southern Africa. 1983. London: IC Magazines Ltd., p. 51.)

Paula J. Williams is a Forest and Society Fellow of the Institute of Current World Affairs, studying human uses of forest resources in sub-Saharan Africa.

When I arrived at the small international airport in Gaborone, no taxis were available. Most passengers arriving on the Air Botswana flight from Nairobi and Harare were being met. Finally mini-vans arrived to take the remaining passengers to one of the two major hotels in town.

After driving across the dry scrubby landscape, we arrived at the Gaborone Sun Hotel. A large sprawling single-story complex, the hotel boasted two restaurants, a nightclub and casino, a swimming pool, a gift shop, and a travel agency. It reminded me of no place that I had previously seen in Africa -- rather it seemed like a bit of Las Vegas, transplanted. Evidently many of the hotel guests are South Africans, who come across the border to gamble. (Gambling is prohibited in the Republic of South Africa.)

As the hotel was a twenty-five minute walk from the center of town, it was winter and too cold to swim in the hotel pool, and mingling with gamblers on holiday is not my idea of a good time, I only spent one night at the Sun Hotel. The next day I moved to the President Hotel, in the center of town. Because of its location, the President appeals more to business customers. Both hotels, I was to learn, belong to South African business interests.

I was initially told that the President Hotel was full. But when the staff learned that I would pay my bill in hard currency (U. S. dollars) rather than Pula, the local currency, they quickly offered me a choice of rooms. Many of the hotel guests appeared to be long-term residents, who had been unable to find other suitable accommodations in town. For example, several Pakistani military advisors, their wives, and children were living there.

The President Hotel sits on the edge of the Mall. The Mall is an open pedestrian area, lined by shops and office buildings, one-block wide and several blocks long. The Mall is the focal point of downtown Gaborone. It is perhaps more reminiscent of a New England village green than a suburban pedestrian shopping mall, because it is an area where many residents see their friends and colleagues, enroute to the post office, one of the banks, the bookstore, or other shops and offices.

Adjacent to the President Hotel were two grocery stores. As I often do when traveling, I wandered in, to look at the shelves and see what kinds of food are available. A wide selection of canned goods, fresh and frozen meat, dairy products, and produce were on the shelves. Most items had been imported from South Africa, including canned fruits, vegetables, and meat, and a large selection of South African wines. Even outside, on the sidewalk, many vendors had South African apples, pears, and bananas for sale.

This predominance of imported food is due to a combination of factors. From an environmental standpoint, the climate of Botswana is extremely arid. The country's landscapes encompass the extremely dry Kalahari desert, dry rangelands, some more humid regions along the South African border, and the wetter Okavango Delta and Chobe river basins in the north, near Zimbabwe and Zambia. Much of the landscape is unsuitable for agriculture.

As the country has over 58 million hectares of land, the average population density -- of 20 people per hectare -- is one of the lowest in Africa. Most of Botswana's population, estimated to be 1.2 million people in 1987 (and increasing at a rate of 3.7 percent per year), live in the relatively more humid regions in the eastern part of the country.

The majority of the citizens of Botswana, the Batswana, raise cattle and farm. Many families have land at the "cattle posts", where they spend two-thirds of the year, and farms in villages, where they spend the rest of the year. Many people hunt wild game as a source of meat for their own consumption, whereas cattle are raised to accumulate wealth and to sell as cash is needed. Beef constitutes one of the major sources of foreign exchange earnings for Botswana: much is sold to the European Economic Community under preferential trade agreements. In addition, over the last century, many men have seasonally migrated to South Africa for work.

One ethnic group, the San (Bushmen), is well-known for their hunting and gathering activities in the Kalahari. Few San still practice this lifestyle. While they are free to do so, the government has encouraged the San to settle in villages, where they can have access to government services, such as education and medical care.

Botswana imports 80 percent of its produce from South Africa. As a consequence, it is expensive. Outside of Gaborone, the produce often suffers from long-distance shipping over poor roads -- and thus is often neither fresh nor the best quality.

Why has the production of vegetables and fruits in Botswana been so low? Historically, the Batswana have lived off of wild game, beef, maize and other cultivated crops, and wild plants. Many fruits and vegetables have been introduced into the diet relatively recently. Few people, thus, have much experience in cultivating them. The major reason is the lack of adequate water for their cultivation. Presumably the political and economic domination of the Republic of South Africa has also influenced patterns of horticultural development. (Botswana is a member of the South African Customs Union.)

Many groups in Botswana are taking steps to change this situation, by developing horticultural co-operatives. These co-operatives raise fruits, vegetables, fruit trees, and sometimes other trees, to produce wood products, such as poles. (In the southeastern part of Botswana, much of the construction wood, including poles, is also imported from South Africa.) These projects are important in several ways. First, they increase self-sufficiency for the country in these horticultural products. Second, by increasing the availability of good quality local produce, they enhance local diets and nutrition. Third, these horticultural projects also provide sources of income for their employees or co-op members.

While I was in Botswana, I was able to visit a few of these projects and talk to people about other projects. These projects range enormously in scale and diversity.

On the outskirts of Gaborone is located an ambitious project, SANITAS, which has been funded by the Swedes for the past 17 years. Project staff members have been experimenting with ways of cultivating fruits and vegetables using minimal amounts of water. They have developed a system of using raised cultivation beds, with concrete side walls and bottoms, to conserve water. The concrete beds are filled with a soil mixture of river sand and manure. Depending upon the particular crops, fertilizer and pesticides, such as sulfur dust and pyrethrum, are used as needed.

Intercropping of vegetables with fruit trees maximizes the use of available water. Where trees are to be planted, holes are left in the concrete beds, so that the roots can grow into the soil underneath the beds. Crops grown include oranges, mangoes, papayas, swiss chard, tomatoes, lettuce, onions. Tall fruit trees are trained to grow sideways, tied down, to facilitate picking of the fruit. Mulberry trees have proved to be a multi-purpose species: they produce lots of fruit, can be cut every 3 years for firewood, and will coppice (resprout) well. (Mulberry trees can also be used to feed silk worms, but SANITAS has not yet worked with silk worms.)

This intensive method of raised bed gardening, also known as bench horticultural production, is used by many gardeners in both tropical and temperate zones. In recent years, proponents of organic gardening methods have also been advocating such intensive methods. Raised beds are easier to cultivate, as the gardener can more easily mix and prepare the soil. In tropical areas with high rainfall, raised garden beds facilitate water drainage. The lined beds, in contrast, conserve water. By controlling the soil mixture carefully, one can also reduce the incidence of insect pests and disease organisms.

Even in Botswana's winter, which occurs in June and July, the SANITAS farm has a luxuriant atmosphere. The abundance of green vegetation provides a pleasant contrast to the surrounding landscape of sand and shrub. The farm is a major producer of produce for Gaborone, and employs 55 nursery workers, most of whom are women. Many people drive out to the farm on weekends, when produce is sold on the premises. SANITAS was preparing, however, to open a stall on the Mall, to increase their sales.

Gus Nilsson gave myself and a friend a tour of the farm. The farm has been developing a model Production Homestead. This model, Nilsson believes, could increase food production, employment, and housing stock in Botswana and elsewhere. With investments of 12,000 Pula (US $6522), a 1000 square foot plot of land could produce 15-18 tons of tomatoes.

For an investment of 20,000 Pula (US $10,870), a homestead consisting of a simple house and well could be built of concrete block. If this was arranged through a 20-year loan, annual repayments would be only 2,000 Pula. The walls around the well and adjacent to the house have an intriguing construction. By staggering the placement of the bricks, small pockets can be created in the walls, which are used to grow plants, such as strawberries. Sheltered from the wind by the walls, produce could be grown even in the winter. A 500 square-meter homestead plot would need approximately 2 cubic meters of water per day, which could be obtained using hand pumps, or pumps driven by solar energy or windmills. To be self-sufficient in wood, a family might also need a 5-10 hectare "forest estate".

Nilsson believes that SANITAS has demonstrated the viability of this approach. Many other groups have become interested in similar activities. Nilsson thinks that, after 17 years, what is needed are not more pilot projects, but a large-scale diffusion of this approach. He would like to see 200 training centers established in Botswana. SANITAS staff have already been discussing the possibility with the Ministry of Finance. This project would cost an estimated 5 million Pula.

Other horticultural efforts are already underway in Botswana. The Ministry of Agriculture has a program called "A10 grants", which provides food-for-work payments for development activities. This program was launched as part of a drought relief effort during the bad drought years from 1980 to 1987. Funding is targeted towards the poorer members of rural communities. This program is funded by the government itself. Many horticultural co-operatives have been launched with the assistance of A10 grants. These grants provide a food-for-work stipend to co-op members, to tide them over until their plots beginning producing and they receive revenues from produce sales.

One day I met with Scott Stewart, a Peace Corps volunteer working as a Drought Relief Officer in Kanye, about 120 kilometers (75 miles) southwest of Gaborone. The district has an annual drought relief budget of 1.85 million Pula, for a region encompassing 115 villages. Workers earn 2.75 Pula per day.

We visited a co-operative in the nearby village of Mmathethe. The co-op of nine women and one man had been formed in 1986. Workers were paid to grow vegetables such as onions, carrots, and spinach. They also had some fruit trees: their orange trees had been killed by the frost, but two apple trees were still alive. In talking with the co-op members, we learned that they had just had been obtaining water from a nearby office, running it through a long hose. Recently, however, they were hooked up to the town's water system and had a faucet installed in their garden plot.

The members expressed concern over the future of their project, in terms of whether or not it could continue after the drought relief payments end. We got the impression that some co-op members have been eating their vegetables, instead of selling them on the local market and putting the profits in the co-op's bank account. It was unclear how much of their produce has been sold, and whether the group could make a profit from their efforts.

Next to the plot of vegetables and fruit trees was a village woodlot. This woodlot had been planted with Eucalyptus spp. and Callitris sp. on National Tree-Planting Days in 1986 and 1987. The co-op members, as part of their food-for-work efforts, were supposed to be watering the trees. When we visited, it was obvious that the trees had not been watered in some time. The group members had no idea how the woodlot would be eventually used by the village, or who would get access to the wood.

The Women's Affairs Unit of the Ministry of Labour and Home Affairs has launched a two-year pilot horticultural project. The project, funded by the Swedish International Development Agency (SIDA), aims to set up women's co-operatives. The project has recruited, interviewed, and chosen participants for their training program. The project plans to train three groups of women per year. Participants are poor women, often unmarried household heads with children. Ninety percent are illiterate. The government has provided land on the edges of Gaborone for the project.

Joyce Anderson, who serves as the government's Coordinator for Women's Affairs, and Dr. Laketch Dirasse, the expatriate project advisor, explained how the pilot program has gotten started. We visited the site where the first group was beginning their activities. The women had just completed a three-month training period, during which they had received no money. They had received training from SANITAS in techniques for the raised bed horticulture, as well as training in small business management skills.

The women from this first group have been organized into a co-operative, and have chosen a President, Treasurer, and Secretary. The group consists of 19 women, who are 26 to 53 years old. They have received a grant from a revolving fund to get started, and land from the government.

With their funds, they have put up a fence around the project site and installed a well. The day we visited, the women were beginning their work of constructing the concrete benches. A concrete slab had already been laid on the site. The women were busy mixing sand and cement, and filling a mold to make the walls for the benches. Their first few walls were perfect. Then they started having some trouble: the concrete mixture was too dry, so the walls crumbled when they were removed from the mold. The women were not discouraged, however: they knew how to remix the concrete with more water.

The women are currently working 7-1/2 hours a day, five days a week: when they begin produce production, they will be working every day. The women had decided to begin by paying themselves 20 Pula per month. The group seemed to work well together, and a good spirit of camaraderie was evident. This co-operative seems destined for success, as the members have the technical training, management skills, and commitment to make their endeavor work.

Keitirele P. Walker, the Extension Officer for the Forestry Association of Botswana (FAB), discussed similar efforts that FAB and the Young Women's Christian Association (YWCA) are supporting. FAB has been providing some agroforestry technical assistance to horticultural groups, such as the Itsoseng co-operative in Tlhareselee, south of Gaborone. These groups typically are comprised of poor, landless members of a village -- mostly, but not entirely, women. The YWCA, in contrast, is working exclusively with women's groups.

Horticultural research on local, or indigenous, as well as exotic species is being undertaken by another organization, Thusano Lefatseng. Thusano Lefatseng is researching methods for propagating species that have potential commercial value, such as for food or medicinal uses. They hope to establish small rural businesses, whereby people can grow and process these products.

To date, their most marketable food product has been hibiscus tea, which is made from an exotic species, which appeals to the resident expatriate community. Their efforts to market indigenous fruits have not yet been very successful, as most Batswana still regard these fruits as available "for free" in the bush -- despite their declining natural occurrence.

These horticultural experiences seem to be a promising start. As the pilot efforts of various groups are examined, it will become clear how best to promote this co-operative-based approach. It is already obvious that groups that have good technical assistance and training are much more successful than those that do not. Simply providing a group with land, water, and seeds or seedlings is not enough.

It is not yet unclear how the efforts of women's groups will compare with those of both women and men. In Botswana, although women have most of the same political rights as men, they remain economically disadvantaged. The number of women-headed households is increasing, as many men migrate in search of employment. Also, some young women are deciding not to bother to get

married, as they can better control their earnings without a husband. (By Botswana law, a husband is entitled to control the money earned by the couple.) In general, men have tended to dominate both public and private (household) decision-making. Given this situation, it seems obvious that some women will prefer to work apart from men, in all women's groups.

Given the number of horticultural efforts currently underway, it seems timely to begin to assess the progress to date. Currently a case study on Batswana women's participation in a few horticultural co-operatives is being prepared, as part of a larger series on women's participation in forestry activities in Africa (see PJW-30). Among other issues, this study will examine whether group composition (all women versus both women and men) seems to influence women's participation patterns.

With time, it should also become clear how these efforts are fitting into Botswana's larger development objectives. The country is striving to manage its resources well and maintain a balanced budget. Quite recently the government was to adopt a National Environmental Strategy. Although these horticultural co-operatives may be small in scale, they seem to have an important role to play in promoting national self-sufficiency in food, and in providing alternative sources of employment for Botswana's rapidly growing population.

Sincerely,

Paula J. Williams

Paula J. Williams
Forest and Society Fellow

Received in Hanover 2/1/89