East Kimberley
Impact Assessment Project

PRELIMINARY REPORT :
ETHNOBOTANY IN THE BUNGLES

Dr Deborah Bird Rose*
27 July 1984

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A Joint Project Of The:

Centre for Resource and Environmental Studies
Australian National University

Australian Institute of Aboriginal Studies

Anthropology Department
University of Western Australia

Academy of the Social Sciences in Australia

The aims of the project are as follows:

1. To compile a comprehensive profile of the contemporary social environment of the East Kimberley region utilising both existing information sources and limited fieldwork.
2. Develop and utilise appropriate methodological approaches to social impact assessment within a multi-disciplinary framework.
3. Assess the social impact of major public and private developments of the East Kimberley region's resources (physical, mineral and environmental) on resident Aboriginal communities. Attempt to identify problems/issues which, while possibly dormant at present, are likely to have implications that will affect communities at some stage in the future.
4. Establish a framework to allow the dissemination of research results to Aboriginal communities so as to enable them to develop their own strategies for dealing with social impact issues.
5. To identify in consultation with Governments and regional interests issues and problems which may be susceptible to further research.

Views expressed in the Project's publications are the views of the authors, and are not necessarily shared by the sponsoring organisations.

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1. INTRODUCTION

From 3.7.84 to 17.7.84 I carried out ethnographic research in the Bungle Bungle region of the Kimberley, WA. My brief was to work with Neville Scarlett on an ethnobotanical survey. As events materialized, our research time overlapped with a visit from the EPA working party and a portion of my research time was spent in meetings and trips which this group organized in conjunction with the local Aboriginal people. As a result of the issues raised in the context of discussions about a proposed park, I began some general ethnographic research into questions of ownership and knowledge of the Bungle Bungle area. I also began inquiries into the history of Aboriginal residence and travel in this area, basic boundary issues, and current management concerns. I attempted to focus my research to complement that of Nancy Williams and Ian Kirkby who have already carried out research in this area. My data are strictly preliminary. Ten of the thirteen days in Bungle Bungle were spent with a very small group of Aboriginal people working primarily on ethnobotanical questions.

This preliminary research documents issues which future research will investigate in greater detail. In particular, research thus far indicates serious damage to the Aboriginal resource base and a skewing of Aboriginal use of land and resources to meet the necessities of European domination. It documents the tenacious efforts of Aboriginal people to live in, and manage, their own country to the fullest extent possible given legal restrictions and a diminishing resource base. In addition, it documents managerial strategies which Aboriginal owners are proposing to deal with the ecological and social problems currently facing them.

The following discussion is based on the understanding that in Aboriginal culture individual and group identity are defined in terms of land and resources. I do not belabour this point, for it is well expressed throughout the anthropological literature (see for example Strehlow 1965, 1970). Likewise, my discussion depends upon an historical perspective which takes note of the pastoral industry and race relations

in the Kimberley, but I have not attempted a thorough historical analysis at this time.

II. METHODOLOGY

Scarlett and I worked with Raymond Wallaby, Musha, Freddie Mack, Left Hand George, Bessie, Ida, and Mary Turner. Raymond's vehicle had been hired for use in this study but Raymond felt that it was not very reliable and was reluctant to take it more than a few kilometres from camp except when accompanied by another vehicle. Our timetable thus became dependent on that of another research party in the area who had the only other vehicle. This was not a satisfactory situation, but it was the only alternative available.

As a first step I elicited lists of plants which are known and used as foods and medicines, as well as some which are used in tool-making. This preliminary list proved quite thorough, primarily because I was able to use Ngaringman language to elicit Kitja terms and because the floral assemblages in Kitja and Ngaringman country are similar (but not identical).

Given travel restrictions, it was impossible to locate specimens of all of the plants discussed. Our research strategy was designed to document plant assemblages in specific use areas, technologies of use, changing patterns of use, and resource management. Scarlett collected plant specimens; we both engaged in extensive formal and informal interviewing. We photographically documented current usages as well as some historic and prehistoric camping areas and technological remains.

III. BOTANICAL RESOURCES - PAST AND PRESENT

Kitja people have an immense and detailed knowledge of plant resources. This knowledge includes types of plants, uses, methods of storing, cooking, and detoxifying foods, locations, seasonality, and interconnections between plants, animals, and seasons. The knowledge is not limited to human use but also includes a detailed understanding of the

resource bases of animals as well. In addition, Kitja knowledge includes documentation and understanding of changes over time.

The list of resources which Scarlett and I elicited and began to document is not exhaustive, but is representative of the breadth and depth of Kitja knowledge of botanical resources. The range can be divided into use-related categories: 1) technological items; 2) medicines; 3) human foods; 4) flowers (used by bees to produce honey); 5) animal foods (where these differ from human foods). Category 3, human foods, can be further subdivided into: a) root foods; b) lilies; c) seeds; d) fruits.

The specimens which we obtained will be documented in detail once they have been fully analyzed. At this time it is important to address two points: 1) current uses; 2) current scarcities.

1. Availability and use. We noted and documented the local prevalence and current use of numerous plants including a species of tree and a species of cane which are used as spear shafts; medicines which are used for fevers, sores, and diarrhoea; a range of tree and bush species which are used in storing, cooking, and eating meat and sugarbag; native tobacco. We obtained specimens of many trees and bushes which bear fruit during the rainy season. At this time of year we could document their prevalence but not their use. We also documented several types of plants used to poison and/or capture fish.

2. Scarcities. In contrast, root foods, seeds, and lilies were notable for their absence. According to people who have known this area for decades, many of the vegetale foods are found in ever diminishing quantities. Formerly seeds were gathered, ground and made into bread. At this time people do not know of the existence of any grass seeds at all and said that they have not been seen for a 'long time'. Many root plants, while thought to be still available, occur in diminishing abundance; our efforts to locate enough to constitute one meal were unsuccessful in spite of hours spent searching. Lilies, too, were unavailable. People discussed an area where they believe quantities of lilies and root vegetables might be found, but we were unable to visit this site because of the transportation difficulties mentioned above. Further research is required in order to make some precise statements

about time and causes of this disappearance of resources. Kaberry (1939: 17-24) describes the presence of species which are now absent or in decline, so it would appear that the degradation of botanical resources has become critical since the mid-thirties.

The informal opinion of botanists and soil conservation experts with whom we discussed this issue is that these resources have been destroyed by the European introduced animals (cattle, donkeys, and camels) which are prolific in the Bungle Bungle area. This contention is borne out by the serious erosion and changing biota which are clearly caused by European land use patterns.

Diminution of vegetable resources has apparently been matched by a loss in native animals. During our time in the area the only native land animals we saw were three emus. Displacement by introduced animals is indubitably a causal factor in the decline of native animals, but social factors must also be considered. Rowley (1973: 193, 195) notes that 'settlers got round the provisions that enabled Aborigines to hunt on the runs by placing stock on all water, by destruction of game, and by killing the Aborigines' hunting dogs'. The intent was to enforce dependence through destruction of the resource base. The net result, on the basis of current evidence is that scarcities in animal protein and fat were accompanied by scarcities in complex carbohydrates which include vegetable protein and oil. The systematic underfeeding which was characteristic of many cattle stations and which resulted in socially-induced starvation (Rowley 1973: 262-263) could only have been exacerbated by the loss of the original resource base. Indeed, Meggitt's (1955) notes on Malngin people at Limbunya Station suggest a population decline precisely related to starvation through resource loss, although this point is not made clear because Meggitt incorrectly interprets Aboriginal peoples' explanation for local population loss.

In sum, while a great deal of research is required to document resource loss in the Bungle Bungle area, it can be stated with certainty that the Aboriginal people with whom we worked possess comprehensive knowledge and skills relative to local resources, both past and present. They continue to use those resources which are available (primarily native honey at this time of year), managing them to assure future productivity insofar as it is possible for them to do so. They expressed grave concern

over resources which are gone or diminished and are suggesting measures to retain and revitalize these species (see p.10).

IV. LIVING AREAS

The general pattern of cattle station management in the tropical north has been that Europeans require labour during the dry season but not during the wet season. Consequently, most Aboriginal people were required to leave the stations and live off the land using traditional resources and technologies during the wet season. Social life beyond a given station was carried on during this period of release from European labour requirements. Further investigation will clearly indicate in specific details what this research indicates in broad outlines: 1. Aboriginal people were used as labour for part of the year and for the other part were expected to support themselves from a resource base that was rapidly diminishing. 2. In spite of social and ecological restrictions, Aboriginal people continue to manage social and ecological relationships with knowledge and skill.

The major living areas which we were told about reflect the life histories of people during this period of extreme pressure from European demands. They can be divided into three main types: 1) those located in and around caves and rock shelters, 2) those located on permanent waterholes, and 3) those located on top of the ranges.

1. Shelters occur in both sandstone and limestone. They contain historic and prehistoric cultural remains. In one location we documented a range of artefacts showing long-term use: a) a number of small points in a variety of stone types; b) worn limestone which was said to have been used for grinding stone axe edges; c) a trouser button and a metal identifier of 'tip top' tobacco. In another site we documented an unground axe and a small grindstone which was said to have been used as the base stone in the process of pounding/grinding native tobacco. Some of the shelters also contained rock art, including red ochre figures, white ochre figures, bi-chromes, hand and foot stencils, and engravings. At least one hand stencil was made by a woman who is now living, when she camped there some years previously.

The shelters which we were shown were all small. Many of them have been used by people now living in the area. They are said to have been used by small groups, primarily family groups. People are said to have scattered themselves through an area, small groups camping separately but at no great distance. The numbers of small shelters makes this a thoroughly feasible strategy. We were told that these shelters were used primarily during the wet season when protection from rain was required. From shelters people foraged onto the plains and up into gorges. Land animals, fruits and vegetables, and native honey were identified as primary resources obtained whilst living in shelters.

2. Permanent water hole sites consist of open areas above the flood level where people camp now, as they did in the past. The particular significance of these sites is that they are areas where large numbers of people from different language groups conjoin for purposes of regional social interaction including exchange, dispute resolution, and ceremony. One site which was used in recent memory is the location of the ceremony ground where Bessie and Ida's brother was made into a young man. He was 'put through business' (first stage of male initiation) by Ngaringman people from Rosewood Station (NT). This particular 'meeting' brought together Kitja, Ngaringman, Malngin, and Jaru people, at minimum (see Rose 1984: 380-417 for a discussion of regional interaction in the context of young men's initiation ceremony). We were shown the areas where the bough shade, kitchens, and camps were located. A surface scatter of stone points indicates some antiquity to the site. At another site we were shown a grindstone of the type used to grind seeds.

Permanent waterholes are said to have yielded a great variety and quantity of foods because people used both water and land resources. These include fish, crocodile and turtle; lilies; land animals such as kangaroo and emu; fruits and vegetables; native honey.

We were told that these sites were used primarily during the wet season. Certainly this has been the case within living memory because that was the only season available to Aboriginal people for the conduct of their own economic, political, and religious life. I think it probable, however, that precontact use patterns have been skewed by European land and labour use. I suggest that prior to contact, these waterholes may have been used for large 'meetings' during the months of the early dry

season when it was easier to travel, to camp without shelter, and to carry out ceremonies. This hypothesis accords well with what Ngaringman and Ngaliwurru people further to the east have told me about their seasonal rounds in precontact times. The question must remain open pending further research. The main point to be noted is that large multi-language assemblies have continued from precontact times to the present and constitute an essential part of Aboriginal economic, political, and religious life.

3. Living areas on top of the ranges are said not to have been used personally by any of the people with whom we worked. We did not visit any of these sites because of access difficulties. They are said to have been used both before European contact and during the early decades of contact. Range tops are described as having been well watered and abundant in land animals. It is possible that they still retain these qualities. These range tops were used as refuge areas during the contact period. According to Shaw (1983: 11), 'conquest and settlement of the East Kimberley by European cattlemen in fact took 50 years', that is, roughly from 1880-1930. We were shown several areas where Aboriginal people used to 'hide' from Europeans, including one area where they were said to have used ladders which they pulled up behind them. The fact that people made dangerous forays into the plains may indicate that resources on top of the range were not sufficient to support the numbers of people taking refuge there. Peoples' need for communication with others would also be a factor in their venturing down from the ranges. Additionally, a detailed oral history will probably show extensive use of guerilla tactics in a slow war of attrition throughout the Kimberley.

V. MANAGERIAL STRATEGIES

Patterns of land use reflect two major adaptive strategies, both of which have been skewed through European domination. The first strategy is that of using and managing food resources in such a way that they continue to remain productive. The second strategy involves regional interaction on a large scale to maintain communication systems, to settle disputes, to maintain diffuse social ties which may be necessary in times of ecological disaster, and to uphold religious life. It is clear from

what Bungle Bungle people told us that since contact they have continued to participate in these ecological/social relationships, although effective ecological management has become more and more difficult.

1. Prior to contact Aboriginal people in Australia had developed strategies for managing the environment in such a way that it was maintained as a system which would produce sufficient resources for all living beings (see Rose 1984: 456-473; Williams and Hunn 1982: 1-16). They recognized the interconnections of species through food chains, understood the actions of the seasons on resources, and intervened in ecological relationships through the use of fire, selective gathering and food taboos, and religious ritual. These techniques are seen to be interrelated such that all are necessary. Religious ritual, for instance, cannot replace burning as a method of promoting the growth of new grass. Aboriginal managerial activities have been largely curtailed through European land use; laws prohibit burning except by Europeans; introduced animals and a European ideology of conquest have contributed to the rapid degradation of the ecosystem.

Women practised, and continue to practise, a selective gathering and hunting which recognizes that plants and other resources are self-regenerating and thus must not be overused. For instance, Bessie and Ida told me that in digging root crops it is important to leave something behind 'for next time' (see also Goodale 1982: 203). Because so few vegetable plants are now available, it is not possible to document managerial strategies in detail.

As the resource base which was largely managed by women - fruits and vegetable - has diminished, women seem to have turned their productive energy to the management and gathering of native honey. They identify a broad range of flowers which bees use in making honey and they recognize a seasonality to the honey resulting from different flowers. They identify different kinds of bees and related differences in honey. When they obtain honey they replace damaged portions of the tree in order to facilitate the regeneration of both bees and honey.

Women and men are well aware of, and deeply concerned by, the loss of food resources. They have stated that if they regain some control over their country they intend to fence off selected areas to exclude

European animals in order to allow for, and to monitor, the regeneration process.

2. Regional interaction among different groups of people has been maintained through travel, ceremoney, and settlement life. Responsibility for country was and remains a regional concern, with local owners responsible to more distant owners in managing and maintaining country. In precontact times communication regarding managerial capabilities and strategies was probably effected through a structure of interlocking cells, as well as through large regional 'meetings'.

The situation is now characterized by diffuse residence, ownership, allocation of knowledge, and communication. Current issues affecting the Bungle Bungle region are, of course, implemented according to a European timetable and require a different type of communication structure if decisions are to be made responsibly.

Bungle Bungle people are currently devising managerial strategies for the future. These will include the reclamation of degraded country and an improved communication network to co-ordinate responsible decisions.

VI. SUMMARY

The Bungle Bungle area, like much of the pastoral country in the tropical north, constitutes a badly declining ecosystem. Aboriginal people in the area have been subjected to severe political constraints in managing ecological, economic, political, and cultural relationships. Originally thought to be a dying race (Meggitt 1955; Shaw 1983: 13-15), Aboriginal people in this area have not only survived but have managed to transmit comprehensive knowledge of ecological, social and cultural resources. This knowledge is, at present, extremely diffuse. In order to meet current European demands on the area, Aboriginal people believe that they must convene large 'meetings' to pool their responsibilities and knowledge. The people with whom we worked at Bungle Bungle see money as the only hinderance to such an organizational strategy. The purpose of such meetings is to make decisions about current and future ecological, economic, political and religious management of the Bungle Bungle region.

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