

## RIVERS AND SEA RESOURCES EXPLOITATION ON AN ARID CONTINENT (AUSTRALIA) IN PREHISTORY

*Hans Bandler, B.E., M.Sc., Civil and Environment Engineer,  
Hon. Research Associate, Macquarie University, Sydney,  
Australia, Private Address: 45 Kissing Point Road,  
Turrumurra, N.S.W., Australia, 2074*

Aridity of the Australian continent is very pronounced by comparison with other continents (Table 1). Low precipitation rates and run-off are recorded throughout the continent, along the coast but more so inland, to the most arid, immense dry desert areas.

Table 1 Rainfall and Run-off of Continents

Continent	Area km <sup>2</sup>	Rainfall mm	Run-off mm	Run-off km <sup>3</sup>	Run-off %
Africa	30,300,000	690	260	7,900	38
Asia	45,000,000	600	290	13,000	48
Australia	7,700,000	465	57	440	12
Europe	9,800,000	640	250	2,500	39
North America	20,700,000	660	340	6,900	52
South America	17,800,000	1,630	930	16,700	57
Antarctica & Greenland	17,100,000	150-200?	160?	2,800	uncertain (Brown, 1983)

Australian Aborigines have been living on this continent since at least 40,000 years ago. May be even some thousands of years before, established by dating of artefacts. Most recent archaeological discoveries have extended this period by several thousands of years.

Many significant environmental changes in climate, flora and fauna have occurred during that period of human occupation, though aridity was always significant. Satisfying water demands in this environment has, of necessity, been a constant concern. Aboriginal life style was governed by the whereabouts of water. They were aware of the sites within their territory where water could be found, above ground, but also below ground. Their stopping places were governed by possible shelter, proximity to food resources and importantly availability of water.

An important source of water, particularly in the more arid inland were so called native wells. Numerous such wells exist throughout the vast continent. To the white explorers in the 1840ies to 1880ies, finding such wells, in the then unknown Australian inland, was necessary to sustain them. To locate them was only possible with the assistance of the local indigenous people.

In the Simpson Desert a number of native wells, formerly also Aboriginal occupation sites, have been traced.

The wells were visited and recorded by a surveyor in 1886. An academic expedition was able to visit all the wells which had been recorded about a century later.

Water retention in naturally occurring rock pools was extensively exploited. Numerous such rock pools still exist. Some of them even in the area of metropolitan Sydney. In other parts of the continent, in different rock formations many rock pools can be found. They have been recorded and illustrations can be presented.

The location of dams for water retention has been recorded.

The examples of obtaining food resources from fresh water are significant. Though rivers are not extensive, in view of the climatic conditions outlined above, a number of fish and eel trap systems in various locations have been retained and have been registered.

Exploiting water resources in the marine environment of the Australian sea coast was regularly practiced from earliest times. Coastal fish traps exist along most of the suitable seaboard locations from the lengthy east coast to the considerable west coast. But ocean fish and other animals were hunted from special canoes.

Fishing with line and hooks was observed when White man came to Australia. It was noticed along the main rivers as well as along the shore lines. Native canoes were developed using bark from suitable trees, to engage in fishing as well as transport of people and goods in and across rivers, as well as from the ocean shores.

In summary, establishment of water retention situations and means of harvesting food from fresh water and the marine environment was carried out with skill, using simple tools and limited materials. The implements used and the structures built to satisfy water and food requirements of the people in Australia can be reasonably favourably compared with the impressive water facilities of Ancient Africa, Asia and Europe.