

# 4.2 KUTA THE GIANT OF FRESHWATER HABITATS

MIEKE KAPA (TE WHARE WĀNANGA  
O WAIKATO)

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Ngā mihi

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The tall and short of it

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Spreading the word

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Where has kuta gone?

---

Using kuta

---

Harvesting and preparation

---

How do we grow kuta plants used for restoration?

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Building a monitoring and restoration framework

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Want to learn more?

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## THE TALL AND SHORT OF IT

Kuta (also known as paopao or ngāwhā; giant spike sedge, *Eleocharis sphacelata*) is one of the giants of Aotearoa New Zealand's freshwater flora when it comes to length. In suitable deep water habitats kuta can grow longer than 4.0 m from its rhizome, providing most of the culm (stem) is underwater. Stems are fatter and of higher quality in deep water; in shallow water they are wiry and lack the strength of their longer counterparts. Growth occurs from compressed shoot sections on the rhizome; and fertile stems have a single flower arrangement at the tip of the stem. Kuta grows in a range of freshwater habitats throughout Aotearoa, from North Cape to Stewart Island. Small plants can also be present in warm geothermal water.

Previous page: Golden hues of kuta in a finished product.  
Photo: Mieke Kapa

Below: Kuta growing in deeper pools of water in a wetland complex.  
Photo: Mieke Kapa

All information in this chapter has come through interviewees with specific information from their rohe (mostly from Te Rarawa and Ngāti Pikiao) and my own personal research and experiences. As a researcher, I acknowledge that I am not the author nor the owner of information and communications I have received regarding kuta, merely the recorder. I acknowledge the significant amount of cultural information that exists, which is not covered within this chapter.

Support, encouragement, help, and guidance for this research came from a huge number of people who should all be acknowledged. Specifically, there are those who have passed on since sharing their valuable knowledge and experiences of kuta with me, for that I am deeply indebted – this chapter would have little substance without them. Nō reira e ngā Rangatira, koutou kua whetūrangī haere, haere, haere atu ra. To those who are still with us, my many thanks for your time, knowledge, and experience which have contributed significantly to the writing of this paper. Again, thank you, thank you, thank you.

– Ngā mihi Mieke



## SPREADING THE WORD

Cultural harvest, used by tangata whenua (indigenous people) universally, requires all those collecting material to understand and actively care for the environment in which they are harvesting. Traditional sites, or local pā kuta, that consistently produce good quality weaving material are nurtured by tangata whenua. People gathering without local knowledge or guidance should use the same kaitiaki (guardians) principles used when collecting other resources such as harakeke.

Working and building partnerships with tangata whenua can reveal a wealth of information on the nurture, cultivation, and utilisation of their valued wetland plants. Within indigenous cultures, environmental knowledge is based on observations that are memorised and passed down through many generations and adapted by ongoing experience. The intergenerational information transfer had to be accurate and reliable for communities that depended on the land, sea, and freshwater for food, clothing, and shelter. While the everyday use of kuta has declined, a living repository of traditional ecological knowledge relating to this plant still continues to be passed down from older generations.

Information on the cultural harvest, preparation, and use of kuta presented in this section has been sourced from experts from Ngāti Pikiao (Te Arawa waka, Bay of Plenty) and Te Rarawa (Te Tai Tokerau, Northland). Interviewees were expert weavers, distinguished researchers, and collectors of items made from kuta. Participants in the study learnt their craft from others around them who held the knowledge, more specifically kaumātua (elders) from their hapū (subtribes) or weaving peers. Kaumātua, kuia (elder women), and tohunga (experts), who hold the weaving knowledge, provide guidance for the timing, location, and methods to harvesting stems, preparation of the fibre, and use of readied material.



## WHERE HAS KUTA GONE?

The strongest message received from research contributors was the overwhelming sadness and loss felt with the reduced ability to harvest kuta from traditional sites. These good quality harvesting sites are suffering from vegetation clearance, increased pollution, drainage, and limited access. Land-use changes and site degradation are often a result of differences in perceived land, water, and resource values between the owners and resource users.

Consequently, some kuta harvesters, whose traditional harvesting sites have been lost, need to travel further afield to access plant material and may intrude on sites traditionally harvested by others. This is a significant issue for hapū with limited traditional harvesting sites. To ensure the mana (authority) and knowledge of kuta use continues, it is important to nurture existing pā kuta, preserve the connection with harvesting sites, and celebrate the mana and wairua (spirit) of finished articles.

## USING KUTA

The soft, spongy, and hollow stems of kuta are easily damaged and do not have the same fibre strength for which harakeke (NZ flax) and wharariki (mountain flax) are renowned. However, kuta is highly valued as a weaving resource in areas where good quality material can be found. The section of the stem that extends above the water before harvesting is not used for weaving as it is weaker. Woven gently, the kuta stem holds air, which provides warmth and softness in the finished article. Woven products such as tāpau (kuta mats) can be used on either side, as there is no right or wrong side.

Tāpau in marae (meeting house) are prized in Te Rarawa and Ngāti Pikiao, who used them as sleeping mats or general floor covering, providing comfort and warmth. Often they were made large enough for a single mat to fit a whole room. Carpets and mattresses have mostly replaced tāpau, which were once thought of as a luxury and often saved for manuhiri (guests) or hapū members of higher rank. During the restoration of Pukepoto Marae (Te Rarawa) in the 1970s, new tāpau replicated patterns from worn mats were placed on the walls as a dedication to the skill of past weavers. Published information describes and photographs various items made from kuta, including maro kuta (small loincloth), pāke (cape), pōtae taua (mourning cap or wreath), kete (bags), sun pōtae (sun hats), and tuwhara and tāpau (both floor mats). Kuta has also been used as wall insulation of kāuta (shed or lean-to) and whare (house).

A small (width of 9.5 cm) kete made with split kuta remnants by Toi Te Rito Maihi. Photo: Mieke Kapa

## HARVESTING AND PREPARATION

Te Rarawa and Ngāti Pikiao rohe (regions) both have kuta (paopao in Te Arawa, Ngāti Pikiao) growing on the edge of deep freshwater lakes. These sites could be likened to pā kuta that hapū members have accessed for many generations. Traditional pā kuta used for collecting resource material are always in deep water and are held in high regard and treated with mana by weavers. The length of kuta stems is important to consider as shallow water levels produce wiry and distorted stems and the finished woven product would be compromised if weak stems were used.

The best time to harvest kuta for raranga (weaving) use is when growth is dormant, between April and August, before the water has become too cold and stem quality reduced. Some hapū time their harvest for early autumn, while others harvest around Matariki (the first appearance of the star cluster, Pleiades or 'the seven sisters') in winter.

Interviewees believed that pā kuta were effectively self-managed through natural means and sustainable cultural harvest, which includes:

- taking only what is needed
- not harvesting an entire site, and
- not harvesting from the same area in consecutive years

Colours of the 'old' stems at the end of a winter represents the variety of hues that can be captured in a finished product. Photo: Mieke Kapa

Harvesting is an organised group activity, with the jobs divided between divers and sorters. Divers cut mature stems at the rhizome base deep under water to capture the strongest part for weaving. Mature stems are cut regardless of age and condition.

Live stems float to the lake surface and are guided towards the edge. Any damaged stems among them are put to one side and the remaining good quality stems are carefully bundled together with those of a similar length.

Dead, damaged or rotting stems are returned to the harvested area. Back at the marae (or wherever the material is to be dried and stored) the stems are re-checked and re-sorted.

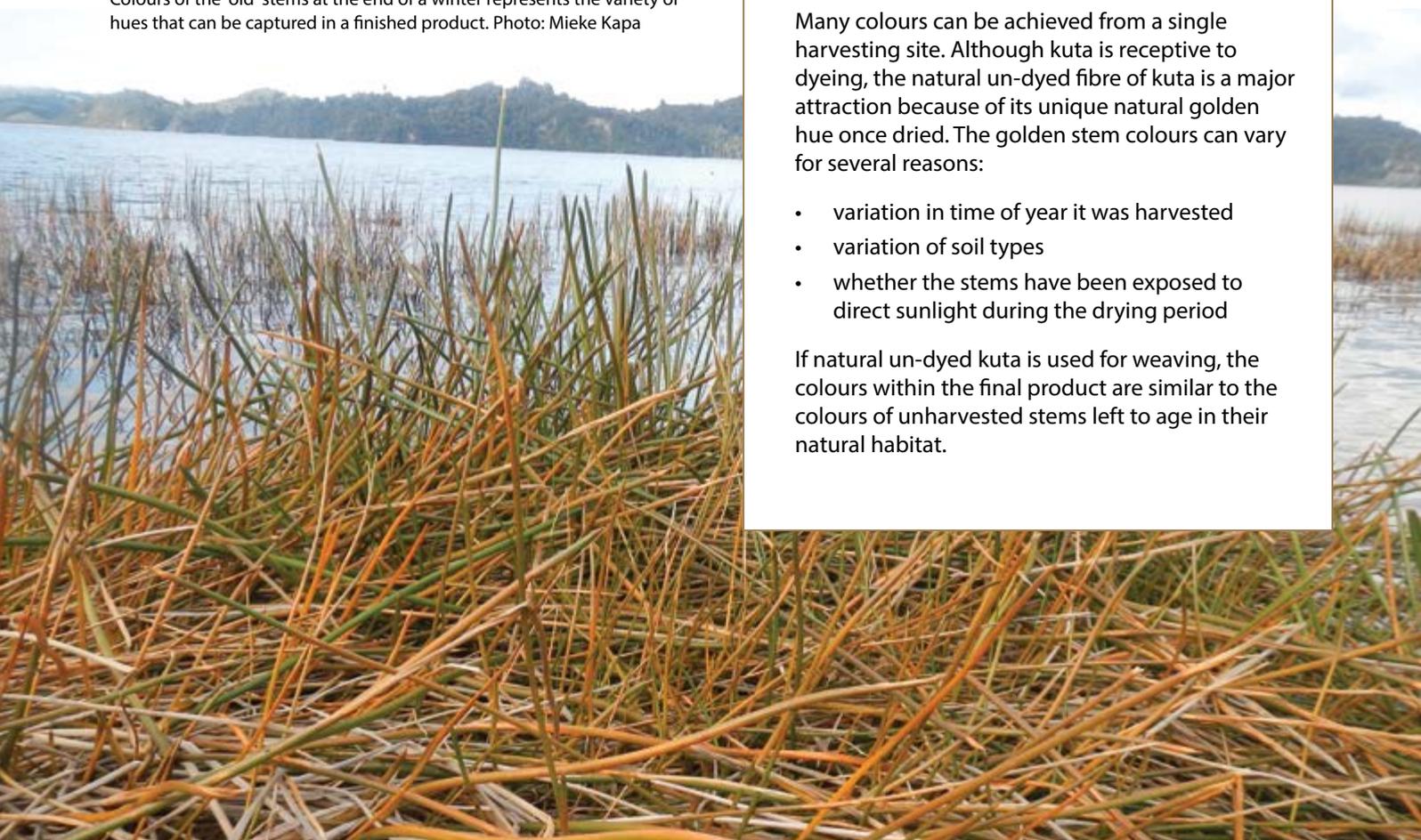
Unlike harakeke and wharariki, which need extensive stripping and boiling before use, once kuta is harvested the only preparation needed before weaving is to ensure it is dry. Once stems are dry, which may take only a few days, they are ready for use. A natural golden colour remains in kuta stems if a light covering is placed over drying stems to exclude all sunlight. Kuta can also be dried hanging from trees in the shade, although these stems will have a lighter colour than those dried in the dark. During the drying process any rotten stems are removed. The stored stems can last for years if they are kept dry and looked after in a well-ventilated space.

### Colour

Many colours can be achieved from a single harvesting site. Although kuta is receptive to dyeing, the natural un-dyed fibre of kuta is a major attraction because of its unique natural golden hue once dried. The golden stem colours can vary for several reasons:

- variation in time of year it was harvested
- variation of soil types
- whether the stems have been exposed to direct sunlight during the drying period

If natural un-dyed kuta is used for weaving, the colours within the final product are similar to the colours of unharvested stems left to age in their natural habitat.



## HOW DO WE GROW KUTA PLANTS USED FOR RESTORATION?

### Growing kuta seed

Specific conditions are required for the germination of kuta seed in plant nurseries. First, collect your seed and soak them in bleach overnight. Seed should be sown just under the soil surface in a container that will hold water and keep the soil wet. Slowly increase water levels over time as the seedlings grow so that by early spring the water depth is at least 15 cm deep.

### Planting out

Seedlings should be approximately 30 cm tall before they are planted into water at least 15 cm deep on the edge of a freshwater lake or deep pond. Rhizomes sourced from an established mature population can also be used. To improve the chances of successful establishment, it is recommended that each of these harvested rhizomes should have four or five 15 cm-long stems. To decrease the likelihood of contamination between discrete gene pools, seed and rhizome cuttings should be sourced from the same ecological district (nearby locality) in which they are to be planted.

Transferring seedlings or rhizome material outside the rohe where kuta is traditionally harvested to create a new site is not common – weavers would prefer to nurture their own pā kuta. One weaver interviewed gathered seed at the time of harvest and distributed it in the same general area to help regeneration of the pā kuta.



Kuta seeds. Photo: Barry O'Brien



New fertile stems emerging in Spring. Photo: Mieke Kapa

## BUILDING A MONITORING AND RESTORATION FRAMEWORK

Key actions we can take to build our understanding of kuta based on our collective mātauranga (knowledge):

- Kōrero (speak) with local kaumātua (elders) and other whānau (family) members about their memories and current interactions with their kuta:**

  - What did their local kuta look like, smell like, and sound like?** Recording our sensory changes is as important as collecting scientific information about population densities, plant sizes, and water quality.
  - What are the local practices associated with harvest and preparation of kuta, and have these changed?** Also consider whether they have any thoughts about the reasons why harvest practices may have changed (if they have). Include the calendars of harvest for the areas.
  - What are the local names (if any) for the kuta, and what other species are they connected to (whakapapa)?** This is key to building a bigger, more holistic picture of connections and associated health and wellbeing of the whole system. For example, the presence of wīwī (other weaving rush-type plants), kahikatea, harakeke, insects, fish, and birds – especially the very rare, matuku (Australasian bittern).
- Identify your own monitoring areas based on what you have learnt from your people. Think about:**

  - where the populations of kuta were in the past compared with the present
  - monitoring your aspirations for kuta, including relevant knowledge for future use. Note that some whānau may not wish to share the exact location of their harvesting areas, so consider instead asking if the populations have decreased and disappeared; and if there are any changes to the habitat, or adjacent land use that they feel may be affecting the plants.
- Who to talk to?** Talk to scientists and other communities with experience in kuta ecology and restoration, and work with them to help build a restoration framework that best meets the needs of your local community and the plant.

## WANT TO LEARN MORE?

Note: If you are having problems with the hyperlinks below, try copying and pasting the web address into your browser search bar.

### References

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### Useful websites

New Zealand Plant Conservation Network:  
[www.nzpcn.org.nz/flora\\_details](http://www.nzpcn.org.nz/flora_details).

Manaaki Whenua – Landcare Research

- Weaving Plants Database: [www.landcareresearch.co.nz/science/plants-animals-fungi/plants/ethnobotany/weaving-plants](http://www.landcareresearch.co.nz/science/plants-animals-fungi/plants/ethnobotany/weaving-plants)
- Information Sheet: [www.landcareresearch.co.nz/science/plants-animals-fungi/plants/ethnobotany/weaving-plants/information-sheets/kuta-and-kapungawha](http://www.landcareresearch.co.nz/science/plants-animals-fungi/plants/ethnobotany/weaving-plants/information-sheets/kuta-and-kapungawha)

Te Māra Reo – The Language Garden:  
[www.temarareo.org/TMR-Kuta.html](http://www.temarareo.org/TMR-Kuta.html)

### Author research

Mieke's Masters research thesis:

Kapa MM 2009. *Ethnobotany, germination and growth of Eleocharis sphacelata*. Unpublished MSc thesis, University of Waikato, Hamilton.  
<http://researchcommons.waikato.ac.nz/handle/10289/3268>

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