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Authors LAND 321 students and staff

TECHNICAL DOSSIER

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| Title of the project | Building from the bottom: Pa Harakeke at Paekakariki school |
| Authors | LAND 321 students and staff |
| Title of the course | LAND 321 Landscape Architecture Construction |
| Academic year | 2019-2020 |
| Teaching Staff | Carles Martinez-Almoyna |
| Department / Section / Program of belonging | Landscape Architecture |
| University / School | Victoria University of Wellington / School of Architecture |



Written statement:

The new Pa Harakeke (Harakeke garden) at Paekakariki School is part of an ongoing participatory project between VUW/landscape architecture and Paekakariki School community. The project started in 2019 with a participatory design process between LAND 321 and the school community to collectively design different areas of the school. Different workshops with children, teachers, parents and school community groups were organised. Eleven teams of students developed concept designs that were presented and exhibited. The school community voted for their favourite designs and decided to develop the Pa Harakeke in first place given its cultural and educational significance. The winning proposal was developed by a team of students and teaching staff in 2020 and collectively implemented in 2021. The Pa Harakeke project was selected to be developed in first place due to its strategic location in the school, and the potential to expand Māori knowledge in the education of primary school students in aspects such as the Māori Rongoa (medicinal), Tikanga (traditions, values), Kawa (protocol) and art (weaving). Once it will reach its mature stage, the garden will be used by the local marae, the local weavers collective, and the school community. The garden holds some of the best harakeke across Aotearoa New Zealand (Rene Orchiston Collection), and is complemented by clusters of coastal plants. Intermingled with the garden, different structures will facilitate informal play, socialization, rest, outdoor classroom space and school events. These will be implemented in 2024 as a following construction phase.

For further information

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12th International Biennial Landscape Barcelona

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SCHOOL PRIZE



Events; workshops with parents; teachers and school community groups; students interacting



Workshops and presentations with children (classes from 5 to 12 years old)



Some panels from eleven different designs done by teams of three students



Final presentations, exhibition and voting (children and adults for best Master Plan, Pa Harakeke, Fence line, Outdoor Learning Space, Junior Playground, and Senior Playground)

Harakeke, a fabulous plant

Phormium Tenax is endemic to Aotearoa New Zealand. It contains vertical trigonous seed capsules that are essentially bird pollinated, producing colourful flowers with plentiful nectar. The blades are arranged alternately in two opposite vertical rows which grow from 1.5-3 m in length and 50-120 mm in width depending on the cultivar. There is a rich variation in colour and strength of the blades. These are marked by longitudinal striations (ridges) strengthened by bast fibers that provide different qualities to the plant. The center and edges of the blades vary in colour depending on the type of cultivar: black, browns, reds, oranges and yellows. Harakeke cultivars also vary in height (1.5 to 3 meters) and shape (half spheric or elliptical).

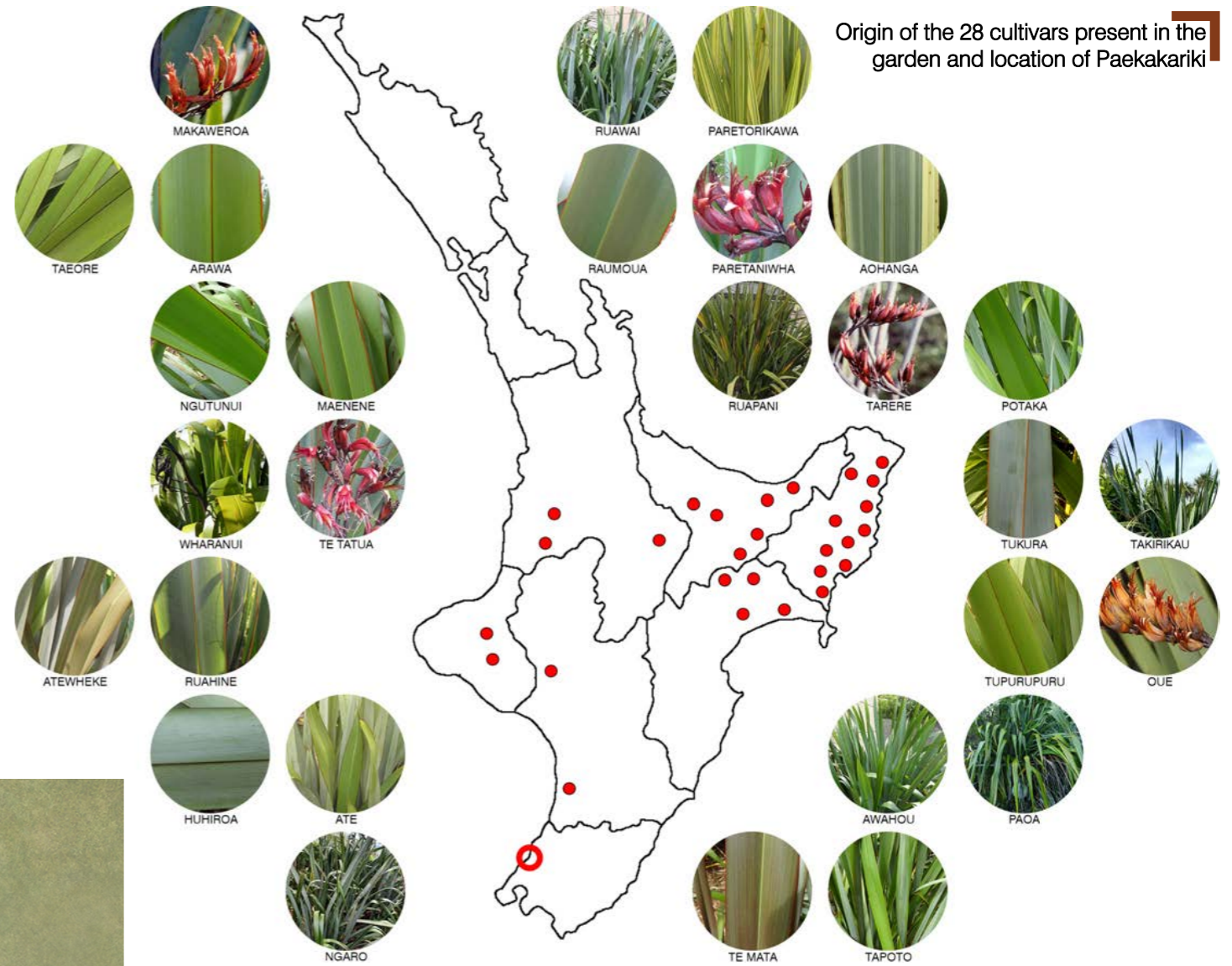


Exceptional cultivars in the Pa Harakeke

A pa harakeke is a planting of selected varieties of harakeke chosen for their muka (fibre) or raranga (weaving/plaiting) qualities. It is conceived as a selection of varieties that best suit the weaving purposes. Plants are spaced considering the different dimensions to facilitate growth, harvesting and pruning. The Pa Harakeke at Paekakariki school holds 28 different cultivars of the Rene Orchiston collection. Cultivar cuttings were donated by two national institutions such as Manaaki Whenua (the guardianship of the collection) and Te Papa National Museum. This garden is a magnificent resource for local weavers. It will also be used to propagate its valuable plants to other gardens.

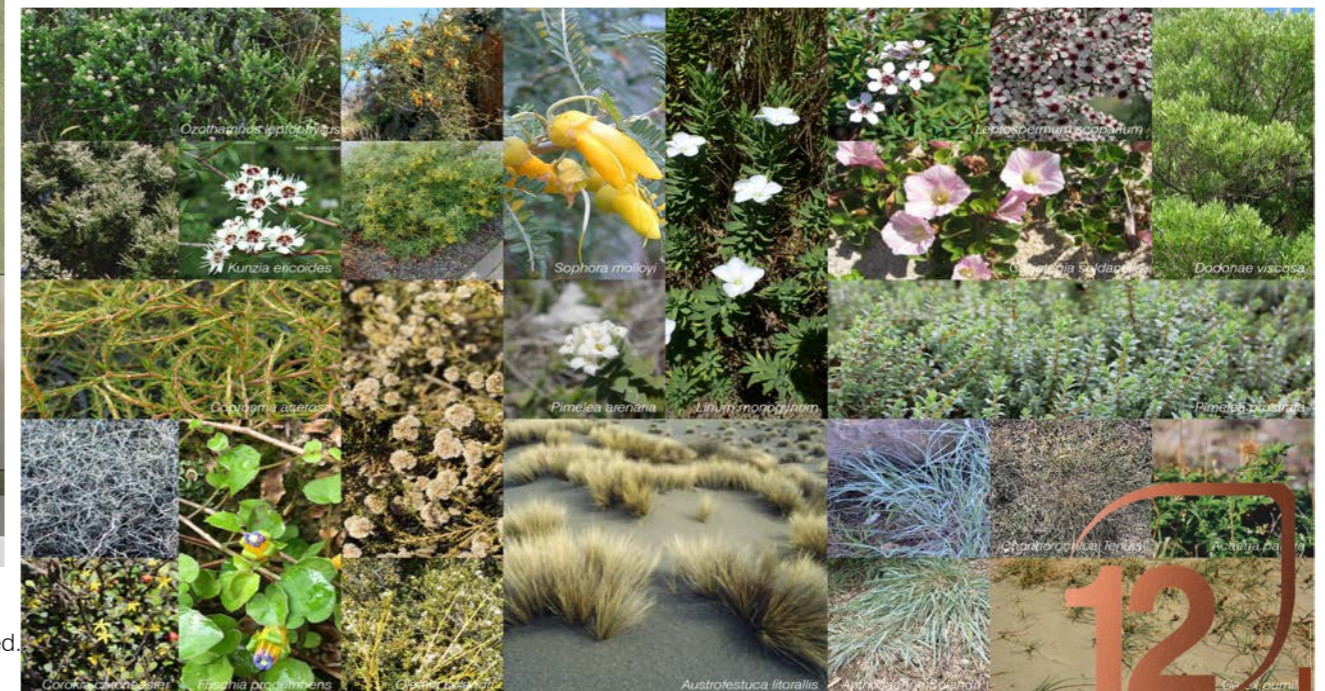


- 1 - Harakeke plants. Cultivars arranged considering dimensions and origin. Slightly depressed areas to support stormwater management. Implemented.
- 2 - Coastal plants. Species adapted to coastal sandy habitats as the original landscape of Paekakariki. With minimum maintenance needs. Implemented.
- 3 - Outdoor classroom and flexible event space. Deck type construction system with 3 different levels: 45, 70, 95 cms high. Detailed design done. To be implemented.
- 4 - Seating and informal play structures. Deck type construction system with 3 different levels: 45, 70, 95 cms high. Detailed design done. To be implemented.
- 5 - Timber poles play structures. Timber frame type construction systems. To be carved and painted. Detailed design done. To be implemented.



The Rene Orchiston collection

The cultivars of the Rene Orchiston collection are the best harakeke plants in Aotearoa New Zealand. They were selected by Rene Orchiston from different maraes along the country with the aim to reveal, preserve and propagate cultural heritage. A marae is a fenced-in complex of buildings and grounds that belong to a particular iwi (tribe), hapū (sub-tribe) or whānau (family). The collection holds 47 different type of cultivars with exceptional leaf and fibre properties. There are varieties specially suited for making kete, whariki, piupiu and cloaks.

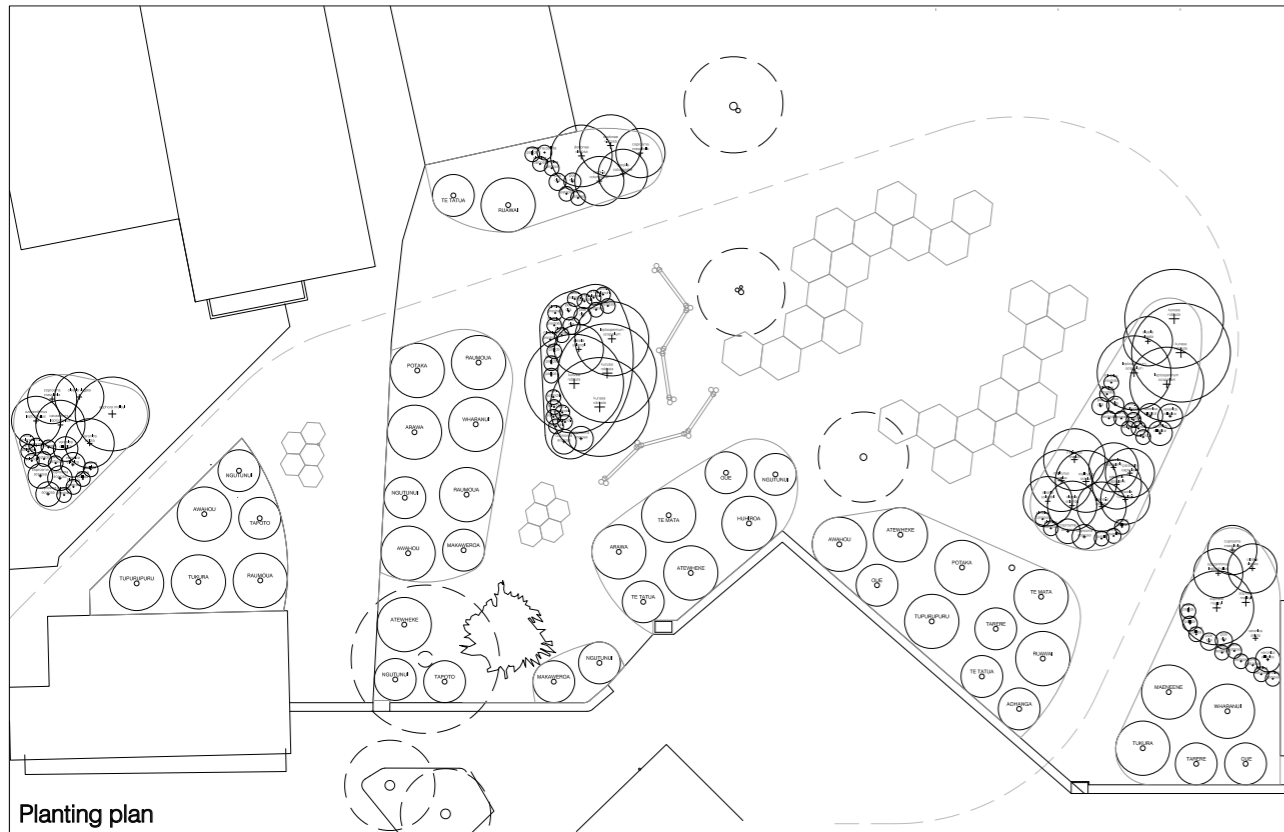


Collage of coastal species used in the Pa Harakeke



Recovering cultural heritage

Harakeke has a relevant importance in Māori culture. Harakeke blades were used for just about everything required for day-to-day life: for clothing, cloaks, sandals, fishing lines, nets, mats, kete (baskets), fans, fly swats, belts, house panels, sails or rope. It was also used for medicinal purposes. A rich cultural knowledge has been generated over time. Raranga (weaving) is taught by trained tōhunga (expert weavers). The traditional use of harakeke is being recovered along the country, educating new generations of New Zealanders about the cultural value of the plant and the potentials of its recovery. Paekakariki school contributes to this recovery by introducing the use of harakeke in the school curriculum. The garden will also facilitate the creation and expansion of local weaving groups.



Planting plan

| PA HARAKEKE CULTIVARS - PROPERTIES AND USES | | | | | | | | | | | |
|---|-----------|-----------|---------------|--------------|------------|--------------|--------------|-----------|------------|------------|-------------|
| Name | Size | H x W | Origin | Kete-Baskets | Muka-Fibre | Whariki-Mats | Piupiu-Skirt | Begginner | Ornamental | Dries Gold | Dries White |
| AOHANGA | Medium | 2 x 2 | Gisborne | | | | | | | | |
| ARAWA | Tall | 2.5 x 2 | Bay of Plenty | | | | | | | | |
| ATE | Tall | 2.5 x 2 | Manawatu | | | | | | | | |
| ATEWHEKE | Tall | 2.5 x 2.5 | Tairāpiti | | | | | | | | |
| AWAHOU | Short | 1.5 x 1.5 | Bay of Plenty | | | | | | | | |
| HUHIROA | Very Tall | 3 x 3 | Tairāpiti | | | | | | | | |
| MAENEENE | Tall | 2.5 x 2.5 | Bay of Plenty | | | | | | | | |
| MAKAWEROA | Medium | 2 x 1.5 | Bay of Plenty | | | | | | | | |
| NGARO | Very Tall | 3 x 2.5 | Manawatu | | | | | | | | |
| NGUTUNUI | Short | 1.5 x 2 | Waikato | | | | | | | | |
| OUE | Short | 1.5 x 1.5 | Gisborne | | | | | | | | |
| PACA | Medium | 2 x 2 | Gisborne | | | | | | | | |
| PAREKORITAWA | Medium | 2 x 1.5 | Gisborne | | | | | | | | |
| PARETANIHUA | Very Tall | 3 x 2.5 | Bay of Plenty | | | | | | | | |
| POTAKA | Tall | 2.5 x 2.5 | Gisborne | | | | | | | | |
| RAUMOUA | Tall | 2.5 x 2.5 | Waikato | | | | | | | | |
| RUAHINE | Tall | 2.5 x 2 | Hawkes Bay | | | | | | | | |
| RUAPANI | Tall | 2.5 x 2 | Bay of Plenty | | | | | | | | |
| RUJAWAI | Tall | 2.5 x 2.5 | Gisborne | | | | | | | | |
| TAEORE | Tall | 2.5 x 2.5 | Waikato | | | | | | | | |
| TAKIRIKAU | Tall | 3 x 2.5 | Gisborne | | | | | | | | |
| TAPOTO | Medium | 2 x 2 | Hawkes Bay | | | | | | | | |
| TARERE | Short | 1.5 x 2 | Gisborne | | | | | | | | |
| TE MATA | Very Tall | 3 x 3 | Hawkes Bay | | | | | | | | |
| TE TATUA | Short | 1.5 x 1.5 | Gisborne | | | | | | | | |
| TUKURA | Tall | 2.5 x 2.5 | Gisborne | | | | | | | | |
| TUPURUPURU | Medium | 2 x 2 | Gisborne | | | | | | | | |
| WHARANUI | Very Tall | 3 x 3 | Hawkes Bay | | | | | | | | |



The garden as a facilitator of synergies

Children and teachers are already managing the garden as part of the School curriculum. The project is growing and expanding over time, with a second planted area next to the north fence of the School. Harakeke will be ready to be harvested from 2024, when plants will reach their mature stage. At that moment, the garden will be harvested and used by children and teachers as part of the School curriculum. The local marae and local weaving groups will also get involved. The outdoor learning space and the informal play structures will be implemented in 2024.



Harakeke community planting day with tōhunga (expert weavers) showing Māori planting practices; children managing the garden & planting new harakeke at the north fence