



An Effective Environment Programme for Waikino School

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This sabbatical project investigates primary schools that have developed an effective environmental education program. Recommendations are made that will facilitate the setting up and implementing of a quality eco-school model for Waikino School.

Waikino School
Abbot Road, RD2, Waihi

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I thank the Ministry of Education for making sabbatical leave available to principals. The opportunity I have had to be able to just take time out, to refresh, reflect, meet people and explore in more depth a development opportunity for our school has been invaluable.

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Table of Contents

Acknowledgements.....	Error! Bookmark not defined.
Executive Summary	4
Purpose.....	5
Background Information	5
Where are we now?.....	6
Parent Survey	6
Waikino School Board of Trustee Survey	7
Student Survey	8
Staff Survey.....	8
Visits made.....	10
Findings	11
Effective environmental education programme characteristics.....	11
Maori Perspectives.....	14
Community Garden Findings.....	16
School Findings	19
Implications for Waikino School.....	22
Learning for Sustainability	22
Sustainable Communities.....	23
Incorporate Maori Perspectives	24
Student Empowerment	24
Respect for the Diversity of People and Cultures.....	24
Steps for the next 5 years.....	25
Conclusion.....	26
Bibliography.....	27
Appendix 1: Significant Waihi / Hauraki Plants	28

Executive Summary

The purpose of my sabbatical was to:

- Investigate community garden projects and primary schools that have developed effective environmental education programs, which are authentic and engage students in learning.
- Looking towards the development of a quality eco-school model for Waikino School, which integrates the local Maori perspective and enhances the well being of individuals, and our community.

As a result of my findings, I believe that the direction Waikino School is heading, in terms of our environmental programmes is valuable learning for our students. However in order to improve on what we are already doing, the following areas need to be further developed:

1. A clear vision from the Board of Trustees. Documented evidence of the priority and direction of environmental education in Board of Trustees strategies and plans. Employment strategies and job descriptions must support the direction of the school.
2. Establishment of resourcing, appropriate to the schools' direction.
3. All staff in the school need to be fully involved in the programme. Existing staff need to take part in appropriate professional development, particularly the use of inquiry learning, action competencies and education "for" the environment.
4. The connection of environmental education to the New Zealand Curriculum needs to be embedded within the Waikino School curriculum. The Enviroschool programme needs to be at the foundation of our practices.

Purpose

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- Investigate community garden projects and primary schools that have developed effective environmental education programs, which are authentic and engage students in learning.
- Looking towards the development of a quality eco-school model for Waikino School, which integrates the local Maori perspective and enhances the well being of individuals, and our community.

Background Information

Waikino School has been part of the Enviroschools programme since 2008, when a vision map and action plan was developed by students, staff and parents. The Enviroschool Bronze Award was awarded in 2010. Outside environmental agencies such as HELP (Habitat Enhancement Land Programme, Waihi), Wild about Waihi (supported by Newmont Gold), and Paper for Trees, along with Project Energise, have supported and complemented the environmental vision and actions of Waikino School. In 2009, the “Artists in Residence” project (a MoE and BOT funded project) was a major contributor, to the environmental vision and living landscape at Waikino School. School wide environmental events such as Harvest Festivals, Planting Days, Keep Waikino Beautiful and more recently, Packet Free Days are held.

From 2010, local Waihi schools began working together on Te Pumaomao initiatives - these involved sending participants (staff, BOT and parents) to Te Pumaomao workshops, sharing Maori achievement data and initiatives within our own schools, and the annual running of a Waihi wide Matariki event. Important networks have been established during this time with the Hauraki Maori Trust Board, the Waikato Health Board, and tutors from the Te Wananga Aotearoa. This has had a real effect in increasing the knowledge and use of Tikanga Maori and Te Reo within our school and an increasing involvement by Maori parents and community members.

Staff in 2009 – 2011, were involved in professional development about inquiry learning as part of the Information & Communication (ICT) contract. As a result, the Waikino School Inquiry model was created and established. The first school-wide environmental inquiry unit, “Why should we look after our Native Area?” was taken in 2010.

Where are we now?

Surveys were taken with students, teachers and support staff, parents and the Waikino School Board of Trustees to create a full picture of where we are at now in 2013.

Parent Survey

In the Waikino School vision, the environment is identified as one of our key learning areas. The aim is to develop a caring and environmentally aware school community that understands the importance of creating and sustaining a healthy environment for future generations. The 17 families (out of 26 families currently at the school) that responded to the survey agreed with these statements.

Although two respondents commented that it was difficult to rank the environmental issues / initiatives that parents thought should be included, in order of priority, within our learning programmes were:

1. Water – including quality, conservation and usage
2. Growing food eg: school garden, orchard
3. Native Area – including knowledge of native trees and birds, predator monitoring and control.
4. Waste Disposal – including litter Recycling, re-using and reducing
5. Energy Use

All parents are familiar with the Enviroschools programme or have heard the name and have some idea of what the programme is about. The majority of parents are very supportive of Waikino School being a part of the Enviroschools programme and the environment programmes the Waikino School has been involved with – a new parent commented: *“I am impressed with the initiatives in place already.”*

Children do talk to their parents about the environmental things they have been learning about – particularly about recycling and reducing waste, and native trees and plants. The significance and positive effect of the programmes was acknowledged-

“The environment programs increase our awareness and keeps the topic of environment in our minds. It is also helping instill great skills in our children, through learning about it at school. “

“I think this is very important for future generations to be learning about - from an early age and continuing on through our lives.”

A positive comment was made about the external field trips to the Twin Kauri and Waitewheta Tramway, the Waitete Stream monitoring and class camp at Maungatautari Ecological Island – *“... trips were very successful and well*

received by children and parents.” In addition, “ the litter collection in our community was great for the children.”

Waikino School families do things that help them live in a more sustainable way – fifteen of our family’s have a vegetable garden and/ or fruit trees and have made small changes to reduce their energy use. All reduce, reuse and recycle when and where they can. For seven of the family’s, their waste minimization efforts have started as a direct result from their family’s experiences at school.

Waikino School Board of Trustee Survey

The four Board of Trustees members, who responded to the survey, are familiar with or have some idea of the Waikino School environment vision, policy and the direction it is taking. All agree that Waikino School’s image and point of difference should be based on environmental education –

“ a school needs a point of difference to attract new kids. Just being a rural school is not enough anymore – but working with the environment gives us real issues to work on.” BOT Member

In order to reinforce the vision and policy, respondents agreed that measurable targets should be set for reducing waste, water and energy use and in developing employee training and teaching programmes. Environmental management systems should also be put into place for personnel (eg: employment criteria, job descriptions etc), property and curriculum.

From the Boards perspective, the main benefits in sustaining and developing the environment programme at Waikino School are for the students and the environment:

“...children are taught how to live in a sustainable way. This will enhance their education, save them and their families money and help maintain our fragile environment.” BOT Member

“... educating the children and making them more aware..... who in turn, will pass their knowledge to their families.” BOT Member

The main problems in sustaining and developing the environment programmes were identified as time and resources. Being a small school, means there are only a small number of children, teachers and parents to achieve goals. Many parents only have a limited amount of time they can give to volunteering, and this time does not necessarily ‘fit in’ with the school day. Another barrier identified was changing teachers’ practices –

*.... need to be “able to change the everyday practices at school - in kids habits and teaching habits. First the teachers need to ‘walk the talk’ and live this way before it is seriously taken on by the kids.”
BOT Member*

The Board were mainly positive about the involvement of the wider community in the running of environmental programmes at Waikino School, both in terms of guest speakers and visits –

“Specialists within the community should be drawn upon to assist the teaching of environmental programmes and talk to the teachers, kids and parents, about what is happening and what is needed.” BOT Member

Another BOT member suggested involving the community in a community garden run at the school. However one member remained cautious about community involvement – *“fantastic in theory, but the onus is still on the teachers to organize this. Do we have enough community interest to actually do this, or is this mostly lip service from parents and community?”*

In conclusion, a comment made from a BOT member, reflects on the depth of change that is needed –

“If the environmental programme becomes a ‘tick the box’ exercise, it will never sustain to changing kids and parents habits. It needs to become just ‘how’ the school operates.”

Student Survey

94% of students from Year 0 – 6 students participated in the survey. Most students have a positive attitude and involvement with environmental care: litter, recycling, planting and the growing, cooking and eating of both fruit and vegetables.

All students feel that the Native Area at Waikino School is important. A number of reasons were given – ranging from the historical viewpoint – *“it has always been there”* and *“we have been planting in there for years”* to recognizing the importance of the birds, creatures and trees that grow and live in the native area. Students recognize why trees are planted in that area – *“it gives us oxygen”* and *“it attracts native birds and creatures”*. Students feel a connection to this area of the school – *“it is special to me”* and *“it is a neat thing for the little children to learn”*. Students of all ages are willing to help teach other children more about the native area.

The majority of students would like to be actively involved in looking after different areas of the school. In doing so they feel they will be helping make the school a better place to be. Most students feel they are doing some things now to help look after the Environment. Examples given were mostly those which were organized class or school activities – for example, Planting Day which involved planting native trees, weeding and mulching, making bird feeders and building and looking after the butterfly house were the most popular examples. However, three students spoke of ways that were self-initiated - *“I look out to see that no College kids have busted anything”, “I release the butterflies which get trapped in the net”, and “I asked my Grandma to donate some swan plants”*.

Staff Survey

Teaching staff feel that they have some knowledge and skills to teach environmental education and together with the support staff, are positive about environmental education, seeing it as an *“integral part of the school’s vision”* and giving *“good principles for life”*.

The things teachers thought learners needed to know about their environment ranged from the practical (eg: recycling, compost, and growing vegetables), to raising students awareness of different aspects of the environment and how they may affect the future. Both felt that there has been an adequate coverage of environmental education at Waikino School – *“ a very strong focus that has clearly been developed over a number of years.”*

The teaching of environmental education content is taught differently in the two levels of the school. The Junior class is involved in a school directed term long inquiry focus. The Middle / Senior class is also involved in the school directed inquiry process, however links environmental content into all curriculum areas, including reading, maths and writing throughout the year. Both teachers acknowledge that the school environment – particularly the native area as an excellent resource to use.

The way in which Environmental Education has been taught is causing some concern-

“ We go at it with a hiss and a roar with a topic or focus for the term, but its’ not kept up through the year... Back in the day we would all just go out and weed the gardens or mulch or pick up rubbish, probably once a week. But now there doesn’t seem time for this as the day is packed with so much ‘learning time’. I think the inquiry process has contributed to this – everything is expected to be related to the inquiry and be a planned learning experience. Does this have to be an inquiry unit? Or can the children just be taken out to mulch or garden?”

Other barriers identified:

- Small staff; *“always having duty means there is no time to take a few children gardening for example”*
- Involving and managing a whole class on a project, including the very wide age band of children within one class
- Difficulties in an area eg: gorse in Native Area, OSH requirements, adequate supervision and help
- Physical work eg: digging the garden – activities for an adult rather than children.
- Teacher Stress – *“enviro-education seems to mean a lot of work on my part eg: researching on the internet, the expectation or suggestion that they (the students) report on their findings – this is a lot of work for me to coach them on this, so puts more pressure on me, so it becomes not much fun.”*

Regarding future Environmental Education teaching:

- the suggestion was made to establish a 10 Year plan, without the emphasis on inquiry teaching.
- To *“continue with the focus and positive attitude already established.”*
- Support staff are keen to be involved more in environmental initiatives and be *“given more opportunity to learn new ways of doing things.”*

Visits made

Attending a 2 day Waikato Enviroschools Teachers Retreat at Solscape, Raglan.

School Visits: Te Miro School, Cambridge
 Moanatairi School, Thames
 St Francis School, Thames
 Opoutere School, Whangamata
 Whangamata Kindergarten, Whangamata
 Netherton School, Paeroa

Community Garden Visits: Cambridge Community Garden, Cambridge
 Grandview Community Garden, Hamilton
 Bright Smiles Community Garden, Thames

Findings

Effective environmental education programme characteristics

- Developing Action Competence

The concept of “action competence” is a crucial one in an environmental education programme. *“There is a need for a form of teaching from which pupils acquire the courage, commitment and desire to get involved in the social interests concerning these subjects..... they have to learn to be active citizens in a democratic society”* (B.B. Jensen & K. Schnack)

If our teaching of environmental education is limited to simply providing co-curricular environmental activities or experiences– for example, participating in Planting Day, taking children out to weed a garden, holding Packet-free lunch days, students’ learning will be restricted to education “in” the environment. In these cases, *“it is the teacher who is the actor (acting upon the pupils)’... such behavior modifying teaching will presumably not even contribute to the development of the pupils’ environmental action competence.”* (B.B. Jensen & K. Schnack). Further action competencies of reflection, knowledge, vision of a sustainable future, action taking for sustainability and connectedness are essential to engage students in authentic and effective environmental education “for” the environment.

The following table, used by Jensen & Schnack, 1994 clearly demonstrates the criteria for an action:

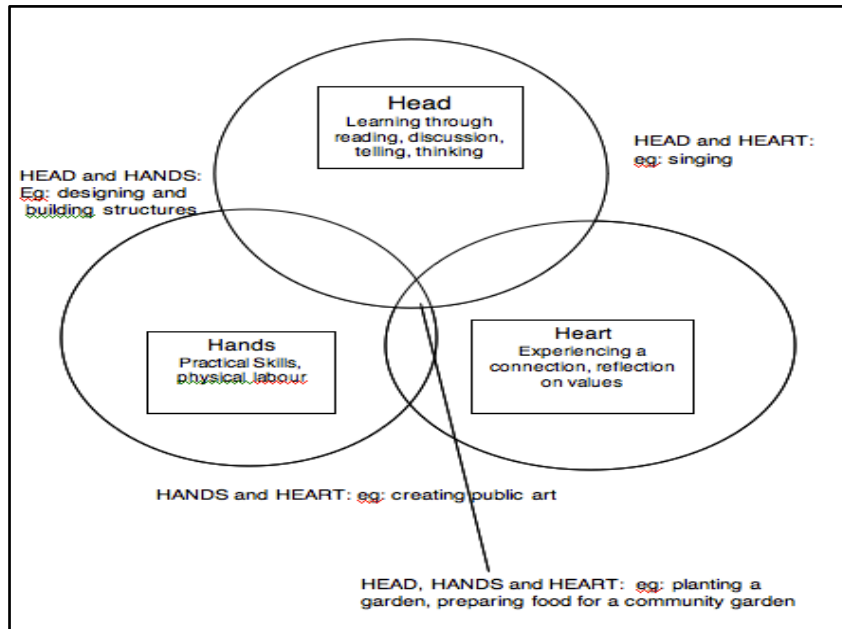
	Students pushed to do something	Students involved in deciding what to do
Activity focussed on the symptom of an environmental issue		
Activity targeted at solving an environmental issue		ACTION

Waikino School will not become green by simply sorting waste, and conserving energy, or carrying out other such “green” activities. The crucial factor is what the students learn from participating in activities, or from deciding something else.

- Involving Head, Hearts and Hands

Transformative Sustainability Learning involves engaging the participants' head, hands and heart in their personal learning experiences. This type of learning will result in “*profound changes in knowledge, skills and attitude.*”

(Sipos, Battisi and Grimm, 2006). The ultimate goal of transformative learning is to empower individuals to change their frames of reference or worldviews. Sipos, Battisi and Grimm, used the diagram below to show how the principle of head, hands and heart engage and enable participants to enact sustainability.



According to Gruenewald, 2003 “*students localized places of study, work and recreation are the center of their experiences, that help teach them how the world works and how they fit into that world.*” To a Waikino School student, this means having our school, our community and area at the core of our learning experiences.

- An Authentic and Effective Programme

The Enviroschools Programme embody action competence and transformative sustainability learning in their kaupapa, through their guiding principles, concepts and values:

Enviroschools Guiding Principles	Values	New Zealand Curriculum Key Competencies
<ul style="list-style-type: none"> • Empowered Students • Sustained Communities • Learning for Sustainability 	<ul style="list-style-type: none"> • Ecological Sustainability • Innovation • Inquiry & Curiosity • Community & Participation 	<ul style="list-style-type: none"> • Thinking • Using Language, Symbols & Texts • Managing Self • Relating to Others • Participating & Contributing

<ul style="list-style-type: none"> • Maori Perspectives • Respect for the Diversity of People and Cultures 	<ul style="list-style-type: none"> • Integrity • Respect • Equity 	
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In the Enviroschools programme, using the kaupapa – guiding principles and values, schools, together with their students and communities, can choose the direction in which they want to head – there are no definite pathways and / or manual to follow. Facilitators bring their own expertise and knowledge and are able to share and expand networks, ask questions and help brainstorm. They give us opportunities to see and talk about “best practice.

Other external programmes Waikino School have been involved in, have been ones in which our students have been involved in education “ about “ (eg: Planting Day – an outside initiated activity, where students were not involved in the decision making process) or “in” the environment (eg: litter pick ups – addressing the symptoms rather than the cause of the issue). In order for this kind of programme, to be effective, it is means more than just undertaking an activity. Students need to be involved with the decision making process and the resolution of environmental issues needs to be the focus.

Maori Perspectives

“Naku te rourou nau te rourou ka ora ai te iwi.”
With your basket and my basket the people will live. Maori Proverb

Traditional ecological knowledge, that is, knowledge bases built by local or traditional users, are seen as *“increasingly relevant in the world today, where new perspectives and ideas need to be integrated to find solutions to global problems”* Harmsworth et al, 2002. There is an increasing acknowledgement today of more diverse forms of knowledge, as opposed to simply relying on expert western science. The Maori perspective for assessing and using the environment needs to be acknowledged, encouraged and incorporated within our own environmental initiatives and programmes.

Our local Hauraki Maori perspective is outlined in the Hauraki Iwi Environmental plan; a strategic plan of action designed to sustain the mauri of the natural environment and cultural heritage of the Hauraki rohe over the next 50 years. This document notes:

“Many native plants and animals in addition to their intrinsic value have uses of special significance to Hauraki Whānau. The old people brought some plants and animals such as the karaka and kumara and kiore to Aotearoa and thus are imbued with spiritual as well as physical value. Other native plants and animals are valued for their medicinal, material and food values.

Protecting the biological diversity of our native plants and animals along with our right to use and derive benefit from them goes as unrecognized as a valuable foundation for part of the traditional and modern Hauraki economy.”

Today however, these plants and the places where they grow, along with associated tikanga, knowledge and practices are increasingly under threat. The Hauraki Iwi Environmental Plan states:

“The important places for the gathering of food, collection and preparation of rongoa and weaving materials by Hauraki Whānui have been significantly reduced through drainage, conflicting land use and habitat degradation...Traditional and contemporary environmental management practice of Hauraki Whānau is based on Tikanga and the accumulated knowledge, experience and practice of successive generations. This Tikanga, knowledge and practice survived the social and economic upheaval experienced by the old people in the 19th and 20th centuries albeit in a diminished state. At present, traditional knowledge and practice of Hauraki Whānau is being incrementally lost as each generation passes. There is a common concern amongst Hauraki Whānau that traditional knowledge, its practice and application to contemporary environmental management will continue to be lost if current approaches to preserving and restoring mātauaranga Māori are maintained. A key challenge for Hauraki Whānui is to do this in a way that ensures our mātauaranga and the holders of that information are fully protected.” pg. 26 Hauraki Iwi Environmental Plan

Actions have been outlined in the Hauraki Iwi Environmental Plan that are targeted towards the management, protection and restoration of forest and their habitats, ecosystems and species and their use by Hauraki whānau. They are:

- Restoring native plants and forests
- Traditional resource use – specific actions include:
 - * Increasing skills amongst Hauraki whānau in the collection and conservation of locally sourced seed stock, establishing and running local nurseries, raising plants, pest management activities and planting native trees.
 - * Supported by opportunities to wānanga on the tikanga and activities associated to this work
 - * Providing a toolbox for other interested groups in Hauraki Whānui to use when developing their own restoration programme.
 - * Establish a Hauraki seed bank and Plant Source Register.
 - * Establish nurseries where seed banks would be maintained and plants would be raised.

Central and at the heart of this strategic direction are Maori values, the strong sense of cultural identity and purpose. The core traditional Maori values most planning is based on include:

- Manaakitanga: reciprocal and unqualified acts of giving, caring and hospitality
- Aroha: care, love and respect
- Whanaungatanga: the bonds of kinship that exist within and between whānau, hapū and iwi, belonging, togetherness, relatedness
- Tau utuutu: acts of always giving back or replacing what you take or receive, reciprocity
- Kaitiakitanga: stewardship or guardianship of the environment
- Te Aoturoa: the interdependence with the natural environment, the cosmological relationship and responsibilities of Maori in relation to the whole and parts of the environment.
- Taonga tuku iho: the notion of recognizing and holding on to the treasures and knowledge passed on from ancestors. Includes preservation of taonga to look after, house, protect and manage taonga, such as natural resources, te reo Maori and whakaaro on behalf of iwi, hapū and whānau.

Traditional values and knowledge are at the heart of Maori society - “*if our collective goal is a more sustainable present and future, we must manifest, encourage and input values that contribute toward that goal.*” Orr, 1991. It is thus not enough to simply give the knowledge / experience (the Hands aspect of Transformative Sustainability Learning), but to include the Heart.

“ It comes down to the education of our children, making changes in our lifestyle and restoring our resources.” Manaia Hui 2001

Community Garden Findings

Community Gardens are a piece of land gardened collectively by a group of volunteers. Gardens can be one large communal plot or many individual plots alongside each other. *“Now everyone gardens together. Anyone who wants a bed can have it, but now everyone just joins in.”* Community Garden Volunteer. Two of the community gardens visited had been operating for a relatively short time of just over a year, whilst the third garden had operated for 6 years, using land which was either council or church owned.

A Memorandum of Understanding was made between different groups utilizing one of the gardens, whilst another group formed a Trust. These documents ascertain the philosophy and vision of the garden, which differed from group to group depending on the community in which it was situated.

Ideas included:

- To encourage, educate and empower individuals and groups within the town to make it more sustainable.
- To provide somewhere for people of mixed abilities to meet and work with others in the community.
- To share knowledge with others about organic gardening principles and methods – community supported agriculture
- A social opportunity for different people within the community – an opportunity to meet new people (eg: people new to the town, migrants), and form connections (eg: Home School Parents – a place for children to learn and play with other children).
- A place for people to care – mental health issues, unemployment

Community Gardens obtained funding from different sources including:

- Grants
- Donations eg: glasshouse, materials
- Workshops – eg: construction of adobe garden beds and adobe shed, compost making came from workshops, where people pay to attend workshop to learn how to do things. Is demonstrated / constructed at the Community Gardens

Each of the gardens had 2 -3 coordinators, who were paid for a number of hours per week. Hours varied from 3 – 8 hours per week. The coordinators generally had a set day/s and time during the week, in which they were available in the garden. The number of hours actually worked far exceeded that for which the coordinators were paid. All of the coordinators had an extensive gardening knowledge and background – often working in a gardening related business eg: organic seedling business, environmental consultancy etc. The coordinators were not expected to “do the work” in the garden, rather they had a mentor role where their roles may include:

- Ensure the vision is implemented
- Organize workshops
- Ensure projects are happening each week
- Making sure produce is available all week
- Supervising people

- Communicating with all groups. One group uses a website to inform and communicate with people. This included a weekly blog covering weekly diary reminders for your garden and grown to over 1,000 members. Another group uses a monthly column in the local newspaper. Communication also involves informing neighbors or other interest groups about what is happening in the garden. One group gave presentations about their garden to the local rest home, in order to encourage people to volunteer a little of their time.
- Being there each week - *“you know someone is always going to be there on Thursdays!”*

Different volunteers work in the garden giving *“as much time as they are able to give”* - varying from family groups, supported lifestylers, home school parents & children to an *“87 year old lady comes in every week with all her food scraps, baking for morning tea etc.”*. Other volunteers included:

- Volunteering Waikato organization
- Businesses such as Fonterra and The Warehouse who run Community Support days, with their staff volunteering their time to an organization
- Periodic Detention and community workers.
- Schools: One school group had done a Technology unit within the garden, designing and constructing a garden bed.

People are involved in the planting, weeding and harvesting of crops, each contributing their own expertise eg: one volunteer put in the watering system in the garden. Working bees were held, where volunteers painted signs and the shed and carried out weeding and planting activities.

Gardens distribute their produce in different ways. Some of it may be given away to organizations such as Food Bank, schools, rest homes etc, some will be taken home by those who volunteer.

“In the early days, we had a Corn Harvest Community Picnic. People took some produce home and made something to contribute to the picnic.”

Coordinator

The main barriers encountered have been:

- Volunteers –
“At the beginning there were lots of people. There have been lots of “ups and downs” – sometimes there have only been 1 – 2 stable people.” *Coordinator*
In one garden, which operates individual family style plots, the longest volunteer had lasted 3 months. Volunteers there had seen the community garden as a way of gaining knowledge and experience, whilst one other community garden, still had volunteers returning from the gardens inception.
- Soil contamination has affected way the garden can be used. *“Parents were concerned about the soil – children eating it etc, so interest in the community garden from the group dwindled.”* *Coordinator*
- People bringing things onto the site which were detrimental (eg: grass clippings containing kikuyu which spread through the garden)
- People picking things too early.

Different people involved in community gardens were positive about the concept of running a community garden within the grounds of a school because:

- Great links to curriculum eg: science.
- Opportunity for the children and their families, together with the community to interact and develop connections with one another.
- Good hands-on learning, with children being able to physically participate in activities within the garden.
- Able to grow different types of crops that may not be grown in own home gardens.
- People able to learn more about gardening, and have the opportunity to ask questions and seek advice.
- *“We need to involve children when they’re young.” Home School Volunteer*

Practical advice was given about starting up a community garden:

- Think carefully about the type of garden beds you use. One community garden has deliberately not used raised garden beds. There is the philosophy that if it gets to the stage where the gardens are no longer being used, the land can be left to revert to nature. Having structures in place would be obstructive. Sticks and string are used to make the boundaries.
- Start small – with perhaps each class / family having their own garden bed.
- Keep watering to a minimum, as it encourages the roots to go deeper.
- Chip paths and use mulch.
- Consider bulk planting of a crop, rather than small, year round plantings.
- Consider the planting of a Fruit orchard, with planned planting, so that two fruit can be available at any month of the school year.

School Findings

At each of the six schools visited, Environmental Education is recognized as being a “point of difference” for the school. It is recognized as an “*element that is a bit different to other schools.*” *Principal* Environmental Education has been included in each school’s strategic planning, and in the majority of schools, the environmental vision or journey the school has taken has a strong visual presence in an important part of the school.

Other reasons schools have chosen to be involved in environmental education include:

- Future thinking. “*Kids are going to be living in a different world than the one we have now.*” *Principal*
- Opens students minds up and may lead to a career pathway – a practical job.
- “*Food brings the community together*”. *Principal*

All schools visited are a part of the Enviroschools programme, and ranged from Bronze to Green-Gold Award Schools. Each of the schools programmes were supported and complemented by initiatives from other external agencies that included:

- Project Energise
- Paper for Trees
- Rangers of the Earth
- Garden to Table
- Trees for Survival
- Waikato Environment Council

Schools all use inquiry based themes in classes or school wide, focusing on children’s’ interests as the basis for their environmental education. “*We integrate inquiry learning so it doesn’t become an extra.*” *Principal* Children are actively involved in making choices of what they would like to do and be involved in. The five guiding Enviroschools principles form the basis of the programmes, and students themselves were able to tie in these principles to the work they were doing in the school.

In addition to class and school wide programmes, the larger schools all have an Enviroschool group who meet regularly during class time, and who may also, when it is needed, volunteer their time during interval / lunch. In each of the schools’, the feeling is that it is not just up to the Envirogroup to get things done – it is a whole school responsibility. In one school, the Enviroschool group were seen as the “organizers” – they see a need, liaise with class teachers and volunteers to get things done. Each of the schools’ groups were working on a project with the lead teacher. At the smaller schools, the Enviroschool team was the whole school – at some stages, the senior class leading an initiative, at others, in “house groups”, where children of all ages participated. House groups were given the responsibility of an area for 1 – 2 terms, before moving on to another area.

Each school had a lead teacher with responsibility for Enviroschools. This person was generally someone with a passion and commitment to the programme, and had been involved with the programme over a number of years. In most cases, time during class was created for this teacher to work with students. Professional development opportunities were taken as budgets allowed.

Other key factors contributing to the success of the programmes included:

- Communication and working together as a school rather than isolated units. Use of assemblies (eg: presenting skits about Nude Food), awards for children who have spotted being environmentally friendly, regular newsletter columns, blogs and wikis,
- Outside agencies – trained facilitators to take student or facilitate programmes (Enviroschools, Rangers of the Earth, Project Energise), support with resources, manuals, curriculum plans (Garden to Table, Trees for Survival)
- A place for the Envirogroup to work and to store things (included a whiteboard for reminders / tasks, meeting minutes, enviro-scrapbooks and materials to “scrapbook” current projects etc)
- Passionate and committed volunteers, who had sustained their involvement with projects over a period of time
- Universal staff engagement and support of the programme. *“You have to have the whole staff on board, or it couldn’t work. If one teacher said, “no, I don’t want the kids leaving the classroom, then none of it could work. Even the caretaker has to be on board, because it’s an organic garden. So it has to be everyone.”* *Principal*
- Utilization of community links, expertise and networks. Eg; students at one school went to their local engineering business, who helped them develop and make their unique and funky garden sculptures on display in the school gardens.

Barriers encountered included:

1. *“Finding volunteers is the most problematic area. We need volunteers who can work within a school timeframe with students.”* *Lead Teacher*
2. *“It is important to have a coordinator – someone who can liaise with volunteers etc. This needs to be outside the classroom teacher. The funding for personnel is where the problem lies. I am currently looking at different ways how I can do this.”* *Principal*
3. National Standards has affected the amount of time teachers have had to “get on board” the programme. *“You need some form of balance in the programme you are running.”* *Principal*
4. Changing Staff: new staff often do not have any knowledge of the Enviroschools programme, *“with 4 – 5 new staff, we need to go back and bring everyone up to speed”* *Principal*, or at another school, which

had a change of principal and senior school staff member, “ we have had to start all over again with re-visionning.” *Principal*

5. Time:

“We needed to create different timetabling to enable things to happen. Pulling children out of class to carry out activities is negative for the student returning to class, and disruptive for the class teacher and the class learning programme.” Principal

“The time of year can be difficult eg: during winter term, outside activities are more difficult to undertake. You need a place to store things and for children to be able to carry out activities in inclement weather.” Parent Volunteer

6. Student Management issues:

“ It can be difficult to have a whole class involved in gardening at one time – need a bigger area of garden to work in than one that is there now. “. Parent Volunteer

7. Other Issues:

eg: “The soil contamination in our area has had a considerable impact – it stopped the programme. It has now been mostly resolved, and only now are the gardens being re-established. There was no produce to run the kitchen programme. It has effected what can grow, where it can be planted etc, and the children’s use of different areas. A lot of time was spent resolving this issue with MoE, Council etc.” Principal

Innovative Ideas were used in schools to involve the community in environmental education and initiatives:

- International Food Days – at one school with limited kitchen facilities, a parent took a group of students home to prepare the dish and bring it back for all to sample.
- “Boys & Blokes” and “Mums & Sons” evenings – held 3 – 4 times per year. Seen as an opportunity for parents and their children to do something together. Had 2 chefs in, they explained what to do – shared kai afterwards,
- My Kitchen Rulz – 4 students / 1 adult – plan a healthy lunch menu to a set budget. Prepare and serve! Judged by students, parents etc.
- New children / families to school donating and planting a native tree
- Use of Pou to show cultural diversity – different families given materials to create their own pou depicting their cultural identity.

Implications for Waikino School

Creating a strong environmental vision for Waikino School, which is highly visible and supported by the students, staff, Board of Trustees and community, is essential. This vision needs to be recognized as something that happens over time and needs effort to sustain through strategic policy, time and commitment. Essential elements of the vision involve:

Learning for Sustainability

- To integrate environmental education into the core curriculum, rather than one-off stand alone activities.

The way in which the programme is taught is vital if it is to make a difference to pupils learning. This may involve further professional development for teachers and re-looking at the Waikino School inquiry model and Enviroschools kaupapa and guiding principles so that teachers have a better understanding of the pedagogy behind their practices and actions.

Facilitators, outside agencies / expertise and volunteers are recognized as critical supports to the environmental education programmes at Waikino School. Where such people come to work with students or classes, it is important that they actively work alongside class teachers or lead teachers. Teachers need to work with the facilitator to bring depth into the learning – to make links with students and their families and community, links with things that are happening at school (eg: assembly presentations, newsletters, make links with other curriculum areas (eg: reading / writing about the activity etc) - in other words, put the Head and Heart into the Hands activity.

- To continue to foster co-curricular environmental opportunities outside normal class time eg: Twin Kauri / Waitewheta Walks, Planting Day, Keep Waikino Beautiful, outdoor education camps with some focus on learning about sustaining the environment.
- To raise the profile of environment at school – eg: display of the vision and journey taken, assemblies, awards, “invisible steps” (recycling of juice and coffee cups to plant seedlings, use of potato plates) etc
- To work collaboratively:
 - * Consider use of house groups to undertake regular Enviroschool key tasks and responsibilities.
 - * Create timetabling for regular meetings – eg: use of electives, singing & other activities taken with rest during this time.
- For the Board of Trustees to establish targets for:
 - * Personnel – employment criteria & job descriptions.

- * Property - targets for energy & water, maintenance of Native Area etc (pest and weed control).
 - * Curriculum – the inclusion of environment in these policies and procedures.
- To continue to develop and sustain volunteer help within the school. Volunteer support is essential to a programmes establishment and continuity. To help link the people into programmes and places, a paid coordinators role should be established. In addition, it may include:
 - * Establishing a resource base list with parents, community members etc to raise awareness of local people who may be able to support / help.
 - * Continuing to run social community events such as Harvest Festival, Hangi Night etc, that encourages wider community participation.

Sustainable Communities

- Consideration as to whether a community garden concept or a fruit orchard is sustainable in Waikino. Consideration of critical factors:
 - Shared philosophy and vision for garden i.e.: a year round venture, bulk crops, fruit orchard, gardening methods etc.
 - Funding and resourcing - including donations, grants, funding of paid coordinators, support from other sources eg: Pathways Trust, Waihi Resource Centre, Waikino Liaison Society, Hauraki District Council etc.
 - Management, coordination and planning – establishment of a committee, which may include BOT representative, coordinator / gardener, student representative, teaching representative, community, iwi.
 - Having and establishing sufficient volunteers and interest.
 - Establishing and maintaining the link between school and garden/orchard – to include: children’s’ recognition or their learning, the contribution to Healthy Eating in our school.
- To consider the way in which Waikino School is participating and making a positive difference to the wider community. Consideration could be given to joining the “Trees for Survival Trust” and to work with Karangahake School on a combined long term project to propagate seedlings and plant along the Ohinemuri River. This project may also incorporate a focus on waterways and water care.
- To maintain and sustain the work in the Native Area, through regular maintenance, weed control, planting, mulching of new plants and predator control.
- To continue to improve and embed energy and waste minimization and use in the school and community.

Incorporate Maori Perspectives

- To consider the use of significant Waihi / Hauraki plants (refer Appendix 1) to Hauraki Maori, using locally sourced seed / plant stock.
- To establish communication with the Hauraki Maori Trust Board to:
 - Seek opportunities to wānanga on the tikanga and activities associated with any environmental initiative.
 - Refer and use the Hauraki Maori Trust Board toolbox when developing any restoration programme.

Student Empowerment

- Ensuring our students have the opportunity, and are being actively involved in the planning and decision making – both at school and BOT level.
- Organize timetabling so that students are able to involved in the Envirogroup and have sufficient support to do so (whether in personnel, meeting place etc)

Respect for the Diversity of People and Cultures

- Recognize, reflect and celebrate the cultural diversity of our school and the community. *“Culture may incorporate ethnic, religious, social, academic, sporting, artistic etc ideals, which are important to the school and its community.” NZ Curriculum pg. 9.* For example, this may be reflected in the different types of vegetables grown in a vegetable garden, way things are cooked, prepared and served etc.

Steps for the next 5 years

1. Develop a vision for Waikino School for the next 5 years, with specific strategic targets in relation to the surveys, sabbatical findings and EnviroSchool guiding principles. This may include exploring with the community, iwi and council, ways in which the schools' efforts could be reflected, supported and established in the wider community of Waikino (eg: tree planting programme, establishment of community garden).

This plan must be owned by all and committed to, and have a high visibility in and around the school. Consultation with the EnviroSchool facilitator is essential.

2. Identify the immediate priorities to form an annual plan at management and school level. These plans need to show:
 - Integration into the school curriculum.
 - Incorporation of key criteria into property and personnel policy and procedures eg: job descriptions, employment criteria etc.
3. Establish costs, funding needs (i.e.: property, personnel, professional development) and prepare a budget. Seek community and business partnerships to support the five-year strategy and long-term vision for the school.
4. Present plans to the BOT and community for further input and endorsement.
5. Identify and recruit staff to support the plan.
6. Identify and recruit students, parents, and community members (eg: Maori, Pacifica) who would like to be part of the team.
7. Work with teaching staff to identify ways in which inquiry learning can be used to build action competencies within the vision.

Conclusion

“Rethinking and revising education from nursery school through university, to include a clear focus on the development of knowledge, skills, perspectives and values resulting to sustainability is important to current and future societies.” (UNESCO, 2006)

Waikino School has made a definite start on its environmental journey, with students, staff, the Board of Trustees, parents and the community all playing a positive and contributing part. One parent summed it up with her contribution:

“I feel that our school is a very healthy and positive natural environment in a very unique place. Our family has watched it grow under your vision and we are pleased the kids can embrace the place they learn in. I think it is really neat that they can go and look at wetas, skinks and other creepy crawlies and to watch tuis and keruru fly past while playing on the field.

If my time allowed, I would make a lot more bird feeders and houses, even cook up some more cows insides, if it meant one child had the chance to see the wonder of nature and be amazed by the natural world. “

As part of this sabbatical, I have had the opportunity to stand back and reflect on, what we are doing, how we are doing it and who is doing it – even what “it” is. If our collective goal is a more sustainable present and future, we must establish, encourage and input principles, values and actions that contribute towards that goal and develop the vision to support our actions.

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Appendix 1: Significant Waihi / Hauraki Plants

In the past, Waihi was renowned for the medicinal type plants that could be found within the area. The Ngāhere (forest / bush) and Moana (sea) were like a pharmacy, where the Māori people could use the plants to create rongoa to cure many ailments. Some of these plants were scarce and difficult to find, and it was rare to be able to source the plants from one place. However in and around Waihi there was an abundance of all the plants required to make rongoā, and the area was known as a place to where the rongoā could be easily gathered.

The aute or paper mulberry tree that is used for making tapa (bark cloth) is a native plant that became an important symbol of the fertility and mana of the Hauraki area. Its importance is reflected in the tribal saying: “Haere mai ki Hauraki, he aute hē awhea. *Come to Hauraki, where the aute plant endured.*”

The importance of kumara is indicated by the number of storage pa sited in the region and pa used to protect the harvested kumara (from Volume 3: Archaeology in the Hauraki Region: A Summary)