



One Laptop per Pacific Child



Supporting OLPC Oceania a multi-stakeholder partnership

Concept Note

Brief for governments and prospective donors

Initiating Partners:

OLPC Foundation

and the

Secretariat of the Pacific Community.

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Today's six year olds graduate in 2020...

*“Why would a child in a developing country need a laptop?
Would we ask if they needed an education? “*

– Nicholas Negroponte.

In 1996, internet access was restricted and novel in global terms, today it is wireless and approaching potential ubiquity. So much has changed in technology in the last 12 years, how can we know what will 2020 look like? In education, how do we prepare children for a world we cannot predict? What should education be when information is just a few clicks away?

Here are some things we do know about the school leavers of 2020:

- They will be competing for jobs on a global market
- They will be working with as yet undeveloped computational devices, many in still to be imagined industries, in digitally connected communities;
- They will need 21st century skills to succeed: information literacy; critical thinking; innovation & creativity; open-ended problem solving; technological fluency...

In 2008 the people of the Pacific are facing challenges from poverty, climate change, globalization, natural and human-made disasters, rapid population growth and increasing rates of urbanization¹. These forces are impacting the natural environment, traditional cultures and practices, food security, local markets and livelihoods, communities and families .

Countries that fail to equip their children to meet these challenges will be at an even greater disadvantage when that future day comes. They will hand the baton to a new generation less able to support and raise their own families, and more vulnerable social disintegration. As adults, they will risk being left behind, a legacy they will pass on to their own children.

However we have options. We can choose the future. We can help the children of the Pacific secure their future livelihoods. We can give a child a laptop today which can extend her education, broaden her knowledge, expand her skills, and unlock her creative potential. We can provide a laptop to every child to help them make own extraordinary contributions to our complex world. In many Pacific societies this means being better able contribute to the communal well-being of the family, the clan and the group.

It is up to today's leaders to ensure that this aspiration becomes reality. In this context laptops are not the answer but instead pose the question: Do the children of the Pacific deserve an education that will equip them for 2020? Here in 2008, at a time when Australia, for example, is rolling out its Digital Education Revolution, the question for Pacific leaders is not whether laptops for children are appropriate, but whether they are going to be early or late in supplying them.

Under the auspices of the Pacific Plan, the Secretariat of the Pacific Community is working with countries and donor partners to deliver One Laptop per Pacific Child.

THE VISION

The concept of creating useful, inexpensive, and sturdy computers for school children in the developing world was initially introduced by the Massachusetts Institute of Technology's Media Lab in late 2005, the brainchild of Media Lab Director Nicholas Negroponte. His vision is to extend access to basic education by getting a laptop in the hands of every child on the planet, starting with those most in need.

This daring concept called for a new kind of machine and a new generation of software aimed specifically at children aged 6 to 12 years in the world's poorest countries: children on the wrong side of the digital divide, who have no or limited access to education, who live in communities of extreme poverty, often in the most remote, rural locations.

As Mr. Negroponte has often said, One Laptop per Child is an education project, not a computer or technology project. OLPC is about better learning opportunities for children, about unlocking their creative and intellectual capacity; and about improved educational outcomes for communities and developing nations.

THE 'XO' LAPTOP

After two years of intense development, a prototype called the XO Laptop was unveiled at the World Economic Forum in Davos, Switzerland, January 2006. Two years on and the XO supports a sophisticated learning environment where children's natural inclination to create and explore is given full expression through a comprehensive suite of activities built on an open source software platform.

Hotwired into this package is the principle of collaboration: the machines and applications are designed to work together, from the revolutionary wireless "mesh" networking, to the software applications which allow children to collaborate on producing music, visual art, video and digital photography, poetry, even basic computer programming.

Designed for children, the XO can survive being dropped, liquid spills, dust storms, extreme heat, and can be powered by human devices in areas without electricity! It also doubles as an e-book reader, meaning a nation's entire curricula can now be delivered digitally via satellite, saving millions of dollars (and trees) in printing new textbooks.



The mesh network allows users to collaborate within a 1-2 km radius and also leverages web access: one XO connected to the net can share its connection with all others on the mesh. The importance of this alone for remote communities is compelling.

EDUCATION OUTCOMES FOR CHILDREN

We are all aware of the core goal of basic education to develop numeracy and literacy in children. The XO's collaborative model and suite of "on-board" software applications is specifically designed to enhance and strengthen the capacity of countries to deliver this basic outcome. The XO is a tool with which children will acquire the skill which educators have identified will be as necessary in the 21st century as reading and writing: Information literacy: the ability to locate, understand, evaluate, utilize, and convey information at home, at school, and in the community.

Outcomes associated with deployment of the XO in schools include an immediate reduction in absenteeism and truancy, greater engagement on the part of children, reduced need to apply discipline, increased engagement of parents in school life, a greater focus on the school at the centre of the community.

DEVELOPMENT OUTCOMES FOR COUNTRIES AND COMMUNITIES

OLPC has been identified as a "Base of the Pyramid" initiative, aiming to help poor and developing countries, acting as a catalyst for economic development, reducing vulnerability, stimulating local markets and safeguarding livelihoods. In the Pacific there are six of world's "least developed countries": Kiribati, Samoa, Solomon Islands, Tuvalu, Vanuatu and Papua New Guinea. Deploying the XO in such countries can:

- drive and facilitate development of a knowledge and skills economy
- unlock the productive capacity of individuals and entire communities;
- stimulate the creation of new jobs and markets in hardware and software support, providing maintenance, repairs, spare parts etc
- act as a catalyst for governments to extend the provision of power and ICT infrastructure;
- provide a tool to kickstart local and regional e-commerce and support microfinance and microcredit markets
- support livelihoods by providing a new channel for rural and remote poor to access critical information on health, nutrition, emergency preparedness, and markets

GLOBAL AND REGIONAL POLICY FRAMEWORK

In the Pacific, OLPC is guided by several core policy touchstones:

1990 Convention on the Rights of the Child	2005-14 UN Decade of Education for Sustainable Development
2000 Education for All (UNESCO)	
2000 Millennium Development Goals	2005, 2007 Pacific Plan, Pacific Islands Forum
MDG 1 – poverty and hunger	2007 Pacific Regional Digital Strategy
MDG 2 – universal primary education	2007 PIF Leaders' Communiqué
MDG 3 – gender equality	
2005 Tunis Commitment to bridge the digital divide, WSIS	2007 Cape Town Open Education Declaration

OLPC COMES TO THE PACIFIC

OLPC Foundation is a non-profit organisation based in Cambridge, Mass., which negotiates with national governments to deliver the XO through existing education systems. The XO Laptop has been deployed in more than 15 countries including Rwanda, Haiti, Mexico, Peru, Uruguay, Afghanistan, Cambodia, Mongolia, Ethiopia and Thailand. Trials and small implementations of the XO are also now underway in the Pacific, a region which includes six of the world's Least Developed Nations (LDCs), and is home to around 1.7 million children in the target age group.

NEW PARTNERS: OLPC, SPC and PIFS

At the 2007 Pacific Islands Forum Leaders Summit, the leaders of 21 nations noted:

“the potential utility of the One Laptop Per Child initiative and the need for education authorities ... to assess the priority to be accorded to it in their countries as a tool for education and disseminating information to rural and remote communities...”

In 2008 OLPC donated 5000 XO laptops to the children of the Pacific and began working with the Secretariat of the Pacific Community (SPC) to bring them new learning and educational opportunities.

OLPC's activities in the region are coordinated by SPC with additional guidance from members of the Pacific Islands Forum Secretariat (PIFS), primarily through SPC's Rural Internet Connectivity System (RICS). RICS is highly complementary with OLPC, and enables any rural community to have full and safe Internet connectivity (protected from inappropriate use). RICS provides the broad infrastructure to accommodate large-scale rollout of the XO.

PILOTS IN PROGRESS

Initial pilot countries are **Papua New Guinea, Solomon Islands, Nauru, Niue, Tonga, Kiribati, New Caledonia, and Vanuatu**. The first RICS/XO site to be deployed was in June 2008 in the town of Gaire, an hour southeast of Port Moresby, PNG. There are two more

Every RICS site is an OLPC hub

• OLPC has donated 5000 XO Laptops to the Pacific

- The Secretariat of the Pacific Community is connecting remote Pacific communities to the internet with 100 VSAT sites under the *Rural Internet Connectivity System (RICS)*
- RICS is mandated by the Pacific Plan and the Pacific Regional Digital Strategy. OLPC was praised in the 2007 PIF Leaders Communiqué.
- In 2008, SPC is conducting trials in 8 PIF countries of joint deployments of RICS and the XO.
- By mid 2009, RICS/XO trials will be extended to all 21 PIF programme countries.
- On the average, one RICS site will most likely support 500 school children.
- 80 RICS/XO sites will be rolled out in PNG alone covering 40,000 children.
- SPC has employed a senior project coordinator and engaged an ICT development expert to manage deployment trials.
- SPC urgently needs resources to build capacity to meet demands and extend trials to all PIF member states.

trials in PNG underway, three in the Solomon Islands, one each in Nauru and Cook Islands and, in August 2008, the tiny island nation of Niue (pop. 1500) made history by becoming the first nation to deploy the XO laptop to its entire school population:



[Niue becomes first country to issue OLPC laptops to every child](#)

TECH.BLORGE.com, Australia - 13 hours ago

By Dave Parrack The tiny South Pacific island of **Niue** has become the first nation to make the OLPC programme live up to its name, with every child now ...

[Island of Niue snaps up \\$100 laptops](#) Times Online

[Tiny nation of Niue gets laptop for every child](#) AFP

[Niue becomes first country with one laptop computer per child](#) Xinhua

[BBC News - BetaNews](#)

[all 38 news articles »](#)

A Pacific approach to rollout, evaluation and measuring impact

Lessons learnedⁱⁱ from early national deployments outside the region attest that to fully realize the potential of the OLPC concept simultaneous work is required in four areas:

1. digital content development
2. teacher preparation
3. network and power infrastructure development
4. government capacity development

These lessons have also arrived at a consensus on the best model for implementation, and it is this model that we will adopt in the Pacific. The big advantage for Oceania is that we are adopting a cooperative regional approach, where smaller countries (eg. Niue) will benefit from the scale able to be attempted by the international (and intergovernmental) deployment partners involved.

This regional cooperative approach to deployment starts with the pilot phase, in which partners and stakeholders proceed by learning to solve implementation challenges, incorporating and developing systems of evaluation, gradually scaling up to proceed to nationwide, or in the case of Oceania, region-wide expansion.

The pilot phase allows countries to measure the impact against existing indicators, using the performance of rest of the school system as the baseline, or control group.

Some countries in Oceania, such as the Solomon Islands, have already developed monitoring and evaluation frameworks specific to the XO laptop. (see Annex 3).

However, where no criteria exists OLPC Oceania will promote the SMART approach to developing indicators;

5 core principles

1. Child ownership

The child is the custodian of the laptop, it is theirs to use at school and at home.

2. Low ages

XO is designed specifically for children aged 6 to 12

3. Saturation.

XO should be deployed on the basis of One Laptop for EVERY child in a class or a school.

4. Connection

Anything the child does on the XO can be done together with others, as a learning experience.

5. Free and open source

Students and educators can share learning materials in a spirit of free and open collaboration

that is, indicators which are: Specific, Measurable, Attainable, Realistic, and Time-bound. We will also be recommending countries align with UNESCO's new *Asia-Pacific Guidelines for the Development of National Education for Sustainable Development Indicators*ⁱⁱⁱ. These have been developed by UNESCO and Macquarie University in Australia in wide consultation with Pacific countries as part of the Decade of Education for Sustainable Development (2005-14).

Local communities, teachers and participants also have a crucial role to play in M&E. At the SPC/OLPC trial begun in June 2008 in the PNG village of Dreikikir, the teachers came up with their own criteria:

- ✓ Teachers would keep a log book/diary and update it with any feedback on how the laptops are being used, new ideas on classroom integration as they develop, and feedback on student's uses.
- ✓ Every morning, the first lesson is an "oral session" where teachers can discuss the laptops with the children. This session will be used to get daily feedback.
- ✓ Parents evenings and staff meetings will also be used to get feedback and share ideas.
- ✓ The district school standards officer and education advisor have been trained and fully participated in the deployment. This is very important, as they are available "on the ground" to make evaluations and carry reports from the school to the Province and Department.

The role and effectiveness of such grass-roots efforts cannot be underestimated.

Ensuring participation of parents, families and communities

Bringing new technology and access to the internet into remote and/or traditional communities should only proceed in partnership and cooperation with the local community. The XO Laptop should only be deployed through a process of community consultation; taking account of the needs and concerns of local populations and integrated with sensitivity into existing practices, conventions, systems and tools.

Without compromising the education of the child or the integrity of the OLPC project, access to the XO should be available not just for the child, but the family and the community. The XO should be a tool to enhance social inclusion and open up gateways to accessing knowledge and information for the whole community. To this end OLPC and SPC have developed^{iv} guidelines for deployment at the community level which should be followed wherever an XO project is to be implemented. (see Annex 1)

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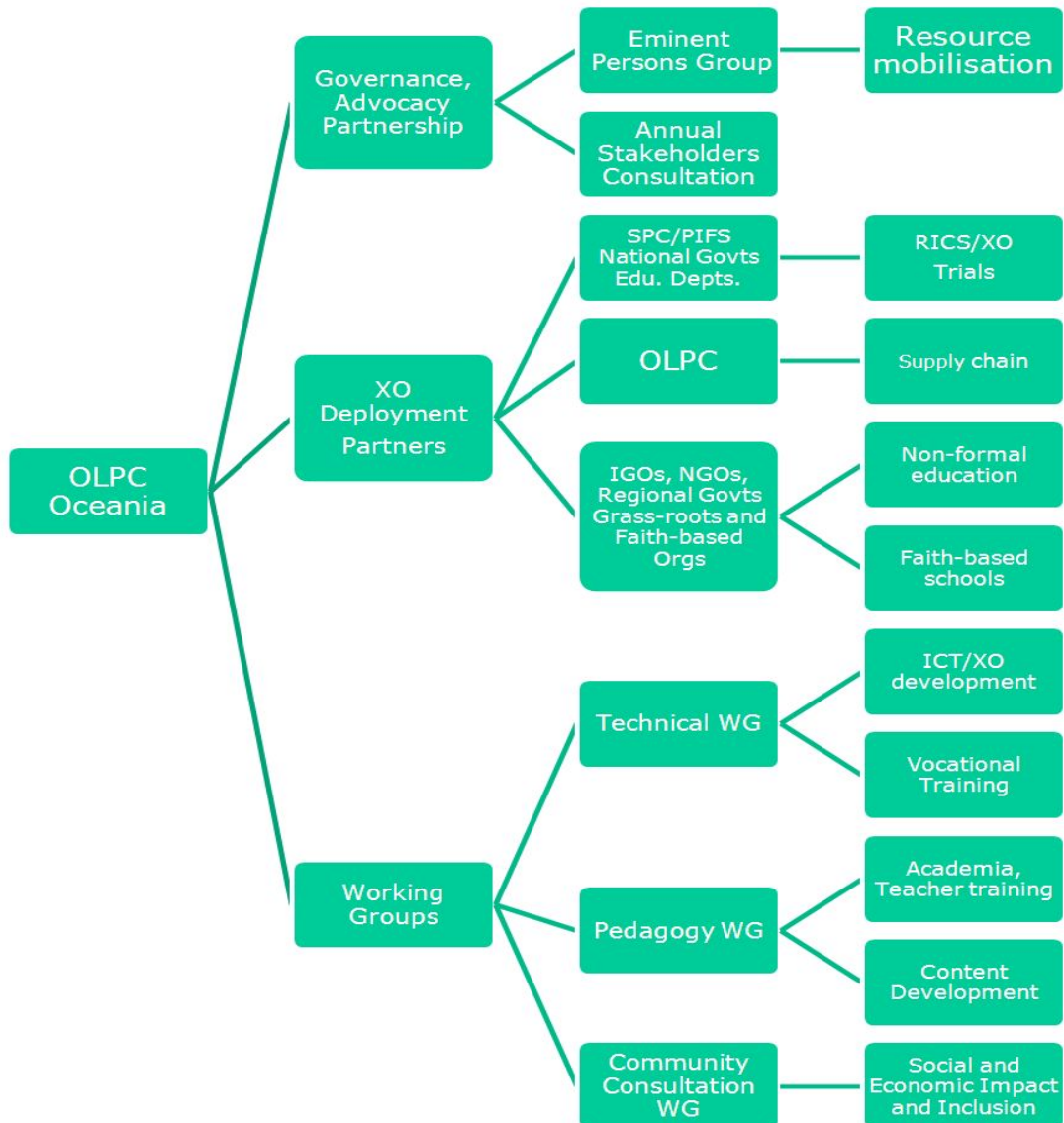
OLPC Oceania Strategic Plan 2008-2015 – Overview

One goal	One laptop per Pacific child by 2015			
Two objectives	<ol style="list-style-type: none"> 1. Meet objectives of regional agreements: Pacific Plan, Pacific Regional Digital Strategy (esp. RICS) 2. Contribute to progress on international initiatives: Education for all by 2015 (Dakar) Millennium Development Goals 			
Three strategic approaches	<p>Partnership: (a) build a broad coalition of partners to facilitate sustainable deployment of laptops for children. (b) support existing regional partnerships to deliver universal primary education. forge strong national, CS and private sector alliances; establish linkages across regions, countries and sectors;</p> <p>Operational: partner with governments and education departments to trial, monitor, evaluate and scale-up XO laptops in the Pacific; support national capacity to scale-up deployment of the XO and deliver better measurable educational outcomes; partner with third party orgs to ensure reliable supply chain to support deployment; establish strong systems of evaluation;</p> <p>Advocacy: raise awareness among decision-makers and policymakers of the opportunities and benefits for children and communities afforded by XO deployment and of ICT for education for sustainable development in general; conversely, raise awareness of the long-term economic cost of not investing in ICT for education; promote incorporation of the XO into existing policies and programs; align with existing regional and national efforts on ICT for development.</p>			
Four intended outcomes	<ol style="list-style-type: none"> 1. strengthened national education programs for K-6 children 2. increased access to knowledge, skills, technology and information for children, their families and communities 3. increased capacity of countries and communities to support basic education and the delivery of better educational outcomes 4. more effective, efficient and accountability region-wide efforts on education for sustainable development 			
Targets: % of 6-12s with laptops:	2009: 5 percent	2010: 30 percent	2012: 75 percent	2015: 100 percent.

OLPC Oceania: Building a multi-stakeholder partnership

Over the coming months OLPC Oceania will be looking to build a broad coalition of key stakeholders, consisting of national governments, local communities and families, ministries of education, donor agencies, IGOs, NGOs, civil society and the private sector, academic and technical experts in ICT and education, advocates, enthusiasts and volunteers. Together this coalition will undertake the sustainable rollout of the XO across the entire region.

Governance model



Scope of work: 2008-09

1. **Build a broad coalition** of partners to oversee sustainable deployment of the XO
2. **Roll out XO trials** in all 22 PIFS program countries and territories.
3. **Establish** three bodies to take the initiative forward:
 - a. OLPC Stakeholders Consultative Group, convened by end of Q4, 2008, to meet bi-annually. Forum for managing and reporting back on the workplans of the three working groups (see c.).
 - b. OLPC Oceania (Eminent persons group), convened in Q1, 2009, to meet annually. Provides broad oversight, integrity assurance and advocacy.
 - c. Three working groups: (1) technical, (2) pedagogical, and (3) community participation. Should coordinate electronically and virtually.
4. **Stage** two public events:
 - a. Inaugural meeting of the OLPC Oceania Stakeholders Consultative Group in Q4 2008, where stakeholders will be asked to consider and support the OLPC Oceania Strategic Plan 2008-2015
 - b. Inaugural meeting of the OLPC Oceania Eminent Persons Group

How Governments can participate...

1. **Set up a cross-cutting Task Force, led by your Dept of Education, to:**
 - a. liaise with SPC to identify schools suitable for trials
 - b. engage partners from education, civil society and private sectors
 - c. lead resource mobilisation including donor engagement
 - d. integrate OLPC into existing systems of education monitoring and evaluation
 - e. use the trial process to develop new core indicators for measuring the impact of the XO and build the evidence base to support scale up
 - f. Work with other government departments to ensure adequate finance and to harmonise infrastructure development (esp. supply of power systems to remote communities)
2. **Engage local communities affected by trials**
 - a. adopt the draft 'Guidelines for Deployment at Community Level' (see Annex 1)
 - b. form a locally-led community deployment committee
3. **Lead the deployment of trials with the technical assistance of SPC**
 - a. Take a lead role, through your Task Force, to ensure skills and knowledge transfer at each level of engagement: national, regional, community and individual

How donors can help...

Funds are most urgently sought to support startup and pilot phase activities through to the end of 2009. Donors can help by:

1. Matching OLPC's gift of 5000 XO's to the Pacific

- a. SPC is using these gifted machines to fulfill its mandate to rollout trials in all 22 Pacific member nations and territories (excluding traditional donor countries).

2. Providing support to governments and SPC to rollout OLPC trials in 22 Pacific nations

- a. Assist countries to undertake key tasks such as costing, partnership development, resource mobilisation and the development of M&E systems (This can be through directly building the capacity of government-led OLPC task forces.)
- b. Support SPC to engage four ICT-for-Development specialists as Pilot Coordination Officers on one year contracts to rollout trials.
- c. Provide funds to supply peripherals to 10000 XO's in pilots in 22 Pacific nations
- d. Support in-country and external technical support and capacity building

3. Providing support to develop pre-service teacher training and vocational skills education:

- a. Support the establishment of a Community ICT Course and/or vocational training program at an appropriate institution to develop the technical support base to support the XO within communities
- b. Support incorporation of OLPC teacher training into teacher education institutions in 22 Pacific nations.
- c. Support strategic establishment of training of trainers (TOT) courses in selected teacher education institutions.

4. Providing support for regional oversight, governance and coordination

- a. Support establishment and conduct of OLPC Oceania, its eminent persons group, and working groups
- b. Support administration costs, including funding the secondment of the Regional Director OLPC Oceania to SPC (TOR: coordinate and work with SPC and to act as secretary to OLPC Oceania)

5. Providing support to policy advocacy to build political momentum to scale up

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Find out more

http://wiki.laptop.org/go/OLPC_Oceania

<http://www.spc.int/ac/olpc.htm>

ANNEX 1:

Draft principles for the deploying the XO laptop in communities

- The XO Laptop should be deployed through a process of community consultation; should only proceed with assent of the entire community, taking account of their needs and concerns; and should be fully integrated into existing systems and tools
- Without compromising child ownership or education, access to the XO Laptop should be available not just for the child, but the family and the community
- Communities should develop their own principles and guidance for coordinating communal use of the XO Laptop
- Where appropriate, children should be included and encouraged to actively participate in using the technology for whole-of-community actions and projects
- The technology should be available to contribute to community efforts and solve community problems and not be leveraged for private personal profit or commercial gain
- Knowledge and data generated with the laptop is in the public domain, and needs to be freely available and shared
- Without discouraging community-level market activity which support sustainability – such as microfinance, technical services, spare parts repairs and maintenance – communities should put in place disincentives to the emergence of a secondary commercial market for the XO.
- Communities should share local knowledge, best practices and lessons learned with like communities and within their sub-regional, national and regional contexts.
- Deployment should, wherever possible, proceed in alignment and harmony with existing regional and national efforts on education for sustainable development, and should be designed to strengthen and enhance those efforts.
- An "end of life" program should be put in place to recover derelict laptops to avoid environmental damage and hazard.
- An Internet Safety program should be established wherever the XO is deployed.

- Developed at OLPC Asia Learning Workshop, Bangkok August 2008, and adapted for the Pacific context by SPC,

ANNEX 2: Monitoring & Evaluation model co-developed by OLPC and Govt of Solomon Islands

Objectives	Expected outputs	Indicators and instruments
Awareness raised about OLPC and the objectives of the trial in Western Province	Ministry, teachers, sector partners and communities aware of: <ul style="list-style-type: none"> The vision of OLPC The function of OLPC/XO/XS Objectives trial in the Western Province. 	<ul style="list-style-type: none"> Consultation and briefing meetings held with the Ministry, schools and communities Interviews and survey
To assess the impact of OLPC in the area of Teaching and Learning (In each sub-sector: Early Childhood, Primary, Secondary, TVET)	<ul style="list-style-type: none"> The XO is used in T & L at schools and centres The XO is utilised in particular for some of the subjects The XO is integrated into normal/formal T & L-formal education delivery Teaching methods are affected positively through the use of the XO in T & L, including more/improved: <ol style="list-style-type: none"> Learning by Doing Child-focused teaching Group work/sharing/collaboration Inclusion / engagement of all students Curriculum changes as a result of the XO/OLPC project Impacts seen in all sub-sectors, but mostly with early age education (ECE and PE) Assess any possible negative or non-impact; learners and teachers not using XO or only after school hours 	<ul style="list-style-type: none"> Interviews and surveys with school managers, teachers, students, students, community members Teacher log books/diaries Class observations Demonstrations by teachers about the workings of XO Increased use of XO by learners in formal lessons and after school hours
To assess impact of OLPC on enrolment or attendance	<ul style="list-style-type: none"> Increased enrolment or improved attendance at selected schools compared to schools where OLPC or XO has not been introduced 	<ul style="list-style-type: none"> Attendance register
To assess impact of OLPC or XO in delivering/producing new curriculum materials/learning content	<ul style="list-style-type: none"> New electronic content made available (in schools) The school server is an effective source of content 'Wiki Educator' more frequently used 	<ul style="list-style-type: none"> Materials provided by School Ministry/curriculum NGOs / partners of education sector OLPC Oceania / SPC
To assess if OLPC/XO-technology is technically feasible and sustainable	<ul style="list-style-type: none"> Teachers and students are able to use and continue to use the laptops Power supplies are feasible , affordable Good quality Internet connectivity Required level of technical support, maintenance is available XO-Equipment is reliable, functional and still working Interviews, consultations and surveys 	<ul style="list-style-type: none"> Demonstrations by students, teachers Technical report on power and connectivity infrastructure Options, performance, cost, Number and type of equipment failures
To assess impact of capacity building for teachers (and learners) in the OLPC project	<ul style="list-style-type: none"> Training (for XO) has built sustained capacity Training system/schedule and methodology is effective Teachers are able to integrate the use of XO in formal and informal class-work Teachers have improved access to resources and training support 	<ul style="list-style-type: none"> Interviews, consultations and surveys with trainers, teachers and learners Evaluations of training, capacity building
To assess the impact of OLPC on the learning, and school environment	<ul style="list-style-type: none"> Teachers and students regard the XO and OLPC project positively School seen more positively by the community Teachers have improved morale Absenteeism under teachers and learners is reduced Higher demand / enrolment / retention (teachers and students) 	<ul style="list-style-type: none"> Interviews, consultations and surveys with teachers, learners and community members School records, minutes of school board/committee meetings Public meetings Parents meetings Inspectorate visits Note: OLPC/SPC will provide advice on survey instruments/questionnaires/inspections
To assess the impact of OLPC, XO's on the community	<ul style="list-style-type: none"> To assess the impact of OLPC, XO's on the community Also community members involved in the use of XO's Community regards the OLPC positively or negatively Community have improved access to information and communication services More involvement or active participation of parents in the school 	<ul style="list-style-type: none"> Interviews, consultations, surveys with community members, teachers, learners Minutes of school committees and boards Group interviews with community members Demonstrations of parents using these XO's

ⁱ *Cities, Seas & Storms: Managing Change in the Pacific Islands Economies*, World Bank, 2004.

ⁱⁱ *Tackling the Problems of Quality and Disparity in Nepal's School Education: The OLPC Model*, Saurav Dev Bhatta; University of Illinois, Chicago, USA

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^{iv} Developed for further discussion at OLPC Asia Learning Workshop, Bangkok and SPC, August 2008